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A Paradigm Synthesis Of The Relevance Of Fieldwork In Geographic Research

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ABSTRACT

This paper examined the concept of fieldwork and its relevance in geographic studies. In particular, the paper evaluates the pros and cons of fieldwork, and gave reasons why fieldwork is important in geographic research. It was further reiterated that like the laboratory of pure sciences, the field is the laboratory of the geographers as well as other related earth science disciplines because it affords the researcher the opportunity to collect first-hand data and relevant information that may eventually assist in carrying out a reliable research. The stages, benefits and the different approaches to fieldwork are examined. Constraints associated with fieldwork and solutions are provided. It was re-emphasized that although fieldwork is capital intensive and time consuming, early preparations together with a well-articulated aim and objectives, scope and methodology will eventually ensure a successful fieldwork. As a proof of concept, an evaluation of the empirical field studies of Charles Darwin that involved detailed fieldwork in its execution reaffirmed that the field remains a major source of data for any successful geographic research.

Keyword: Deductive, Geography, Geographic Studies, Fieldwork, Inductive.

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1. Introduction

There has long been confusion not only about the nature of Geography, geographic elements and the scope of Geography *per se* but also about the claim of Geography both as an academic discipline and an applied science (Akinbode, 1996: 1). Understanding conceptual or theoretical issues in geographic studies have been well articulated in literature (Bello and Ufuah, 2018). Akinbode (1996) assert that the confusion regarding the scientific nature of the geographic (or geospatial) discipline has further accentuated within the last quarter of a century as Geography and other related earth sciences have struggled to assert their places in the realm of applied sciences. This stems from the fact that a common denominator of all the sciences is the source and method of data collection on one hand, and methods of data analysis on the other hand. The field is seen as a major source of data collection in geographic research. To Obadan (2012: 3), research means 'to seek, to search for, or to look for'. Thus, seeking knowledge leads the geographer to the field.

Lonergan and Andresen (1988) define `the field' as any place where supervised learning can take place via first-hand experience, outside the constraints of the four-wall classroom setting. Fieldwork can be described as the practical aspect of Geography where researchers go out of the classroom to study geographical features (Gerber and Chuan, 2000). Arising from the peculiarities of phenomena examined during fieldwork, Ajaegbu and Faniran (1976) divided fieldwork into three types; field trip or field excursion, field study or field teaching, and field research or field enquiry. The range of fieldwork delivery methods and styles varies considerably and the type and style of fieldwork within geography has changed rapidly since the 1950s (Kent, Gilbertson and Hunt, 1997). While field research or enquiry may involve only the researcher, fieldtrip or excursion involves both the students and their teachers (Lambert and Reiss, 2014). The latter is very common in Nigeria universities such as the Nasarawa State University, Keffi.

Historically, geographical frontiers and discoveries were made possible through various fieldwork embarked upon by ancient, medieval and modern geographers (Onokerhoraye, 1994). Ancient geographers such as Eratosthenes, Strabo, Ptolemy, Homer and the renaissances and modern geographers such as Vasco Dagama, Christopher Columbus, Mangellan and De Cano, Mungo Park and Charles Darwin etc., all made different trips in their time and their fieldwork eventually shaped their geographic understanding and later publications. Their emphases centered around explaining the spatial differences and similarities in observed features on earth especially in describing the known world in the case of Homer Odyssey and Eratosthenes measurement of the known world in their time (Onokerhoraye, 1994).

The relevance of fieldwork in various earth sciences such as geography, environmental studies and Geographic Information Science knows no bound. In Geography, the field is popularly referred to as the laboratory of the geographer and the planner (Rilwani, 2004: 3) because it offers the researcher the opportunity to study the environment, by making relevant observations, collecting samples and even analysing some of them in-situ (Kent, Gilbert & Hunt, 1997). In addition, fieldwork plays a core role in astronomy, in biology, in environmental science/studies and in earth science (Lambert and Reiss, 2014). For instance in Biology and Chemistry, fieldwork is an integral part of specimen collection and the laboratory serves the purpose of analyses and interpretation of samples collected in the field (Lamber and Reiss, 2014). Its relevance in Geospatial Modeling and Analysis of Environmental Quality Indicators has further lay credence to a renewed paradigm (Bello and Omoyajowo, 2015).

From the foregoing, one can assert that, up till today, and despite paradigm shift due to the advancement in technology especially in Satellite Remote Sensing (SRS) and

Geographic Information Science/System (GIS), Collaborative Web Mapping (CWM) and Volunteered Geographic Information (VGI) (Bello and Ojigi, 2013), fieldwork still presents the researcher enormous idea and data which he/she may not have thought of while embarking on a field study. This is true because, as posited by Rilwani (2004), it enables the researcher to gather information on spatial patterns, structure and processes of geographical features in their natural form. In addition, location, distribution, arrangements and associations are basic concepts which when applied to phenomena on the earth's surface, constitute the elements of geographic study (Akinbode, 1996: 2). The spatial distribution and variation in natural and man-made features and the changes that have occurred over the years can better be studied and understood by visiting the field to validate literatures and assumptions previously made. As at today, Geometric correction or auto-rectification of satellite images and hard copy maps requires ground control points (GCPs) and supervised classification also requires some sample sets and field validation (Bello and Rilwani, 2016)

The aim of this paper, therefore, is to examine the concept of fieldwork and its relevance in geospatial research. The objectives are to present the rationale behind embarking on fieldwork, the approaches to fieldwork, the major relevance of fieldwork in geographic research, constraints and solutions to fieldwork, and an experimental application of fieldwork in a geographic research.

2. Why Go For a Fieldwork in Geographic Research: A Literature Review

There would hardly be any geography or other earth or environmental sciences at all if all physical and human phenomena were distributed uniformly over the earth's surface as one of the unique attributes that Geography has as a discipline for empirical data collection is fieldwork (AKinbode, 1996). Rilwani (2004) remarked that fieldwork is not just an important part of studying geography (in terms of areal differences and similarities study); it also offers a wonderful way of seeing the world, and a chance for personal development. In Nigeria Universities for example, fieldwork is a component part of the Nigerian Universities Commission (NUC) approved curriculum for the award of the Bachelor of Science degree in the Department of Geography (Rilwani, 2004). The rationale behind the requirements of fieldwork for a Bachelor in geography is that fieldwork make learning experience becomes richer, more textured, and memorable and even more vocationally applicable (Lambert and Reiss, 2014). In the corporate environment, fieldwork is seen as a good preparation for the workplace (Fryer, 1991; Garver, 1992; Slater, 1993). It is widely accepted that skills can only be taught and learned effectively by participation in that activity (Crothers, 1987).

In literature, a number of reasons have been adduce for embarking on a particular fieldwork, however, a deeper understanding of concepts have been claimed for process-based fieldwork by Wiley and Humphreys (1985) and Wheater (1989). Wiley and Humphreys (1985) and Kern and Carpenter (1986) claimed that abstract topics and higher-level concepts are easier to teach in the field than in class. McElroy (1981) and Haigh (1986) explain this by stating that fieldwork enables students to connect theory with real experience. Hoffmann and Fetter (1975) did not, however, find appreciable differences in learning between fieldwork and classwork, but found that field-educated students were generally more motivated.

According to Kent, Gilbertson and Hunt (1997), many authors have commented that students respond well to fieldwork, especially fieldwork based on `active learning' and project-based strategies. Amongst others, Keene (1982), Andresen (1984), Crothers (1987), Markovics (1990), and McQueen *et al.* (1990) stated that students preferred problem-based fieldwork to "Cook' s Tours". As for researchers, the fieldwork becomes an authentic source of primary information. In other words, fieldwork

can be embarked upon either for educative or teaching purpose (student/teacher) or for actual scientific study or an enquiry (Ajaegbu and Faniran, 1976). The findings are aimed at adding to knowledge and thus suitable for publication in journals or conference proceedings (Kent, Gilbertson and Hunt, 1997).

As noted by Rilwani (2004: 13), the basic components of the field research are:

a. A clear statement of the research problem
b. Formulation of the research objectives
c. Formulation of hypotheses
d. Determination and description of the area of study
e. Conceptual or theoretical framework (see Bello and Ufuah, 2018)
f. Literature review
g. Methodology
h. Discussion of results, and
i. Conclusion

3. Stages, Characteristics and Benefits of Fieldwork

3.1 Three stages of field work

1. Pre-fieldwork (preparation) stage
2. Fieldwork proper stage
3. Follow-up (post-field) stage

i) Pre-fieldwork (Preparation) stage. This stage occurs before the actual fieldwork activities. In this stage one makes preparation for the field study by doing the following:

a) Conducting a pilot study or a reconnaissance survey (using maps, satellite images, site visiting, testing instruments, etc.)

b) Formulating the topic and objectives of study.

c) Designing the methods to use.

d) Selecting the equipment to use (e.g., GPS, questionnaire, field compass, field computer, etc.)

e) Seeking permission from relevant authority and from where you could wish to visit.

f) Making other preparations such as organizing transport, eats and drinks, protective gear, etc.

ii) Fieldwork Proper Stage. This is the actual stage when and where fieldwork activities are carried out right on the field. It involves gathering data and information using the various methods and techniques such as asking questions, observing, sketching, taking notes etc.

iii) Follow-Up (Post-Fieldwork) Stage. This is the stage when one is back from the field. During the follow-up stage, one analyses the raw information collected and writes a report after interpreting the information. In the report, one also polishes the sketch diagrams drawn and other relevant presentations.

3.2 Characteristics of an Effective Fieldwork

To be effective, fieldwork should:

i. be well planned, interesting, cost effective and represent an effective use of the time available,

ii. target specific syllabus and topic outcomes,

iii. provide opportunities for students or researcher to develop a range of cognitive and manipulative skills,

iv. be integrated with the subject matter to ensure that students or researcher take full advantage of enhanced understanding that is achieved through direct observation, data collection/recording and inquiry learning, and

v. where and when necessary, be supported by pre-and post-excursion activities that establish the context for learning and provide the necessary follow-up and reinforcement.

3.3 Some of the benefits of fieldwork

As identified by the Royal Geographical Society, the following are some of the benefits of fieldwork:

a) Seeing geography and theories come to life: Improving researcher's knowledge of geography and understanding.
b) Developing your skills: Giving a chance to learn skills in data collection and analysis, map work, observational and investigative skills, computer and technology skills, communication and mathematical skills.
c) Appreciating environments: Giving a chance to experience and enjoy a wide range of environments and landscapes.
d) Opinions and views: Helping to understand other peoples and cultures, and one's views about social, political or environmental issues.
e) Taking responsibility for one's learning, gaining confidence and develop personal skills: such as leadership and teamwork
f) It is enjoyable

The major cons of Fieldwork is that it is tedious. In fact fieldwork data collection constitutes take more chunk of geospatial researcher's total time as emphasized in section 4.

4. Scientific Approaches to Fieldwork

Previous studies show that fieldwork provide the opportunity to experiment with a wide variety of different modes of course delivery and it also has a valuable role as a vehicle for the integration of many theoretical and practical concepts taught within a geography degree (Kern and Carpenter, 1984, 1986; Lonergan and Andreson, 1988; McQueen *et al.,* 1990; Gold *et al.,* 1991; Gold and Haigh, 1992; McEwen, 1996). However, there are different approaches to a fieldwork and this can be classified into (i) Deductive, (ii) Inductive, and (iii) Inquiry-Centered. Depending on the adopted approach, every fieldwork has its undertone in terms of the means of achieving set aim and objectives and more recently, emphasis is increasingly shifting to problem solving field research (Rilwani, 2004: 9). According to Gerber and Chuan (2000), the two dominant methodologies of fieldwork practice, the traditional and the scientific, have different aims implicit within them. The traditional approaches, sometimes termed 'fieldwork excursions' have aims rooted in the development of content knowledge. The scientific approach of data collection/hypothesis testing and field enquiry extends the learning opportunities available and promotes the application of learning objectives to the planning of fieldwork. Gerber and Chuan (Op. Cit) further stated that a given geographic research may adopt any of the approaches or methods presented below.

4.1 The Deductive Approach

The deductive method works from the more general to the more specific. For example, we might begin with a theory about expected downstream changes in river channel characteristics (Bello, Adzandeh and Rilwani, 2014). We then narrow that down into more specific hypotheses that we can test. We narrow down even further when we collect data to address the hypotheses. This ultimately leads us to be able to test the hypotheses with specific data - a confirmation (or not) of the original theory (Fig. 1).

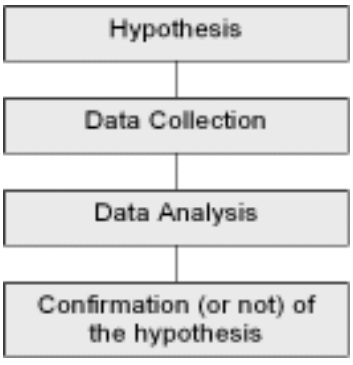

Figure 1: The deductive field study method

4.2 The Inductive Approach

Inductive reasoning we move from specific observations to broader generalizations and theories. Gerber and Chuan (2000) argued that this approach works well with many issues-based studies, for example, an investigation of the impact of urban renewal schemes in inner-city of Abuja. Furthermore, in inductive reasoning, we begin with the exploration of an

area, recording specific observations and data. An analysis of the data enables the identification of patterns and the formulation of some tentative hypotheses that we can explore. The inductive approach ends with the development of some general conclusions or theories (Fig. 2).

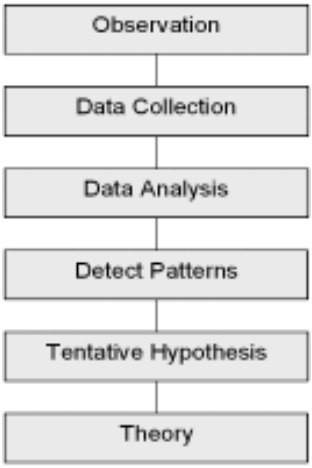

Figure 2: The inductive field study method

Inductive reasoning, by its very nature, is more open-ended and exploratory. Deductive reasoning is narrower in nature and tends to be focused explicitly on testing or confirming hypotheses. Many students enjoy a more exploratory approach, yet limited time and examination board requirements often lead teachers to prefer the deductive route. The inductive method can be more intellectually satisfying, lending itself to a wide range of student study topics and where a field study has been piloted, risk assessed and has known outcomes; the approach can also be a very effective use of the time available.

Even though a particular study may look purely deductive, most geographical research involves both inductive and deductive reasoning at some point. Even in the most constrained studies, researchers may observe patterns in the data that lead them to develop new theories.

4.3 Inquiry Centred Learning Approach

According to Gerber and Chuan (2000), this approach has a number of stages, but should not be viewed as a rigid formula. The intent is to enable a research to become adept scientific investigators. The steps are as follows:

a) stating the problem;
b) formulating the hypotheses;
c) designing the experiment or fieldwork;
d) making observations;
e) interpreting the data; and
f) proposing conclusions.

For example, Bartlett and Cox (1982 in Gerber and Chuan, 2000) applied the scientific inquiry process to field study and developed a schema for field based inquiry. The strength of the schema is that it results in two forms of field based analysis of spatial information. One is the enhanced knowledge and understanding of a particular problem or issue, whilst the other is the enhanced knowledge and explanation of a particular problem or issue leading to theory building or modeling with far greater reaching explanatory powers.

5. Relevance of Fieldwork in Geographic Research (Pros)

As argued by Rilwani (2004), fieldwork is based on specific geographical problems or issues in the locality of the researcher. In other words, local knowledge of the study area is important in carrying out a successful fieldwork (Slater, 1993). Presented below are some of the major relevancies of fieldwork in geographic research.

a) Collection of empirical data in the field allows a researcher to test and challenge established theories. This may reveal more detail and prompt alternative ways of understanding the geographies of interest (Herrick, 2009).
b) Fieldwork fosters analytical skills, research design, team work and adapting research to unpredictable conditions and outcomes. In other words, it improves observation skills and a better understanding of the processes that contributed to the development of environmental features. Experiencing real-life research helps in developing investigative, communicative and participatory skills (Lambert and Reiss, 2014).
c) Fieldwork experiences provide an important teamwork element, with social benefits

derived from working cooperatively with others in a setting outside the classroom (Kent *et al.,* 1997)

d) It enables researchers to obtain original information or data about a geographical feature or aspect. Such information may not exist in a documented form. This leads to increasing geographical interest through interaction with the environment (Akinbode, 1996)

e) Fieldwork helps us understand abstract and theoretical material by placing classroom theories in a real-world context (Herrick, 2009). Because in developing and applying analytical skills: fieldwork relies on a range of skills, many of which are not used in the classroom (Kent *et al.,* 1997).

f) It enables the researchers to carryout practical measurements and obtains up-to-date information (Alakpodia, 2000). This information becomes more reliable in view of the fact that the research is directly involved in the collection using best method available. In other words, fieldwork enables the researchers to gather first-hand information that may not be distorted in any way.

g) It enables the researchers to relate what has been studied in class with real examples in the field in order to understand them better. This means that fieldwork provides opportunities to learn through direct, concrete experiences, enhancing the understanding that comes from observing 'real world' manifestations of abstract geographical concepts and processes (Lambert and Reiss, 2014; Kent *et al.,* 1997).

h) It enables the researchers to obtain and acquire skills in research methods (Haigh, 1986). Skills such as interviewing, observation, questionnaire method, etc. Skill development also includes observation, synthesis, evaluation, reasoning, instrumentation skills, practical problem solving, adaptability to new demands that call upon creative solutions, etc. (Rilwani, 2004; Fadare, 1984; Woodridge and Eat, 1958)

i) It enables the researchers to obtain and acquire skills in the use of geographical equipment such as GPS, Noise measuring equipment, etc. This includes applying modern technology in investigating problems (Rilwani, 2004).

j) It enables the researchers to obtain and acquire skills in map drawing or cartography (Onokerhoraye, 1994)

k) It exposes the researcher to a variety of environments and socio-economic conditions which eventually broaden his/her experience.

l) Fieldwork helps the researcher in developing environmental ethics and increasing the appreciation of the aesthetic qualities of the biophysical and built environments (Gerber and Chuan, 2000; Kent *et al.,* 1997).

5.1 Constraints (Cons) or Challenges Associated with Fieldwork in Geographic Research

Lambert and Reiss (2014) argued that geography and science can be done without venturing into the field and as such fieldwork is therefore perceived by some as expendable; desirable but not a core requirement. They, however, asserted that fieldwork is sometimes seen by school management as expensive in terms of monetary cost and curriculum time and remarked that some scholars also maintain that the opportunity costs are too high in terms of risk management and organisation. From different literatures (Lambert and Reiss, 2014; Rilwani 2004; Gerber and Chuan, 2000; Kent *et al.*, 1997*;* Akinbode, 1996, Onokerhoraye, 1994; Ajaegbe and Faniran, 1976, etc.), listed below are the specific challenges (cons) or constraints associated with most geographic fieldwork:

a) It tends to be time consuming i.e. a lot of time is taken to gather information (Lambert and Reiss, 2014). In most case, classifying and grouping derived information also takes additional time and if one is not careful, by the time the report is out, the essence of the study may have been overtaken by event. This is particularly evidential with students'

research that span more than two to three years.

b) Language barrier may hinder communication with the local people in the area being studied especially when carrying out studies that involves the administration of questionnaire or Focus Group Discussions (FGDs).

c) It is expensive in terms of transport, equipment and other expenses.

d) It may be hindered by poor or bad weather conditions such as rain, fog, hot sunshine.

e) There is a risk of accidents and danger from wild animals or insects.

f) Tall trees or obstacles like tall buildings may obstruct observation e.g., in using GPS.

g) Noise in the field may disrupt interviewing during field work.

h) Some people or respondents in the field are uncooperative; i.e. may refuse to give information. This may hamper the study and as such important information main not be obtained.

i) Lack of adequate equipment or tools e.g. Survey maps, Cameras, Weather instruments, etc., may also reduce the quality of the research

j) The school administrators, head of organizations or community leaders may sometimes not allow fieldwork on the grounds that is time consuming and tends to interfere with the other programme as corroborated by Lambert and Reiss (2014), and Kent *et al.,* (1997).

5.2 Solutions to Fieldwork Challenges

Generally, fieldwork is tedious and time consuming and other extraneous problems may make the entire exercise boring, uninteresting and not yielding the expected result. To avoid such failures, the following measures should be taken into consideration before embarking on a fieldwork research:

a) Decide from the beginning the scope of study and ensure that it is achievable within a reasonable time frame.

b) Factor in cost for transportation, accommodation, feeding, miscellaneous, lobbying, health/accident challenges, equipment purchase or rent and allowances to field assistants.

c) Ensure all stake holders are properly briefed on the *modus operandi* of the fieldwork exercise

d) If possible, try to carry out a pilot fieldwork or recognisance survey before embarking on the actual fieldwork

e) Ensure materials such as base maps, equipment, Camera, field notes, sample collection instruments (including bottles, plastic bags, etc.) to be used during the fieldwork are ready before embarking on fieldwork

f) Test your measuring instruments before going to the field to avoid embarrassment resulting from malfunctioning gadgets

g) Make necessary plans for contingency issues such as security breach and attack from any source (locals, wild animals, etc.).

h) Above all, take every step serious and ensure personal safety by not involving in anything that is capable of endangering lives and properties.

6. Empirical Application of Fieldwork in Geographic Research

6.1 Geographic Fieldwork of Charles Darwin Between 1831 – 1836 And Its Implications

Charles Darwin's fieldwork to South America and Pacific Islands (Fig. 3) as a naturalist (biologist and geologist) in 1831 actually provided his background and knowledge in geographic variation of phenomena (Darwin, 1839; 1845). The objective of his five years *voyage of the Beagle* (1831–1836) was to survey the wildlife of the west coast of South America (Darwin, 1839). The wildlife survey can be likened to Biogeography in modern day specialization in geography. During this five year trip, Darwin became convinced of the

gradual evolution of species, and puzzled by the geographical distribution of wildlife and fossils he collected on the voyage, he returned to England only to spend another 20 years refining his findings and subsequent publications (Stoddart, 1966).

Figure 4: Darwin's Voyage of the *Beagle*, 1831–1836

(Source: Charles Darwin - Wikipedia, the free encyclopedia.html)

6.2 The Voyage Of The Beagle, 1831–1836 And Its Main Achievements

The Voyage of the Beagle began on 27 December 1831; it lasted almost five years. Darwin spent most of that time on land investigating geology and making natural history collections, while the Beagle surveyed and charted coasts (Darwin, 1839; 1845). He kept careful notes of his observations and theoretical speculations, and at intervals during the voyage his specimens were sent to Cambridge together with letters including a copy of his journal for his family. He had some expertise in geology, beetle collecting and dissecting marine invertebrates. Despite suffering badly from seasickness, Darwin wrote copious notes while on board the ship. Most of his zoology notes are about marine invertebrates, starting with plankton collected in a calm spell (Darwin, 1859; 18 68). Darwin made the following geographic observations cum achievements during his fieldwork:

i. On their first stop ashore at St. Jago, Darwin found that a white band high in the volcanic rock cliffs included seashells.
ii. When they reached Brazil Darwin was delighted by the tropical forest, but detested the sight of slavery.
iii. The survey continued to the south in Patagonia. They stopped at Bahía Blanca, and in cliffs near Punta Alta, Darwin made a major find of fossil bones of huge extinct mammals beside modern seashells, indicating recent extinction with no signs of change in climate or catastrophe.
iv. On rides with gauchos into the interior to explore geology and collect more fossils, Darwin gained social, political and anthropological insights into both native and colonial people at a time of revolution, and learnt that two types of rhea had separate but overlapping territories. Further south he saw stepped plains of shingle and seashells as raised beaches showing a series of elevations.
v. Darwin experienced an earthquake in Chile and saw signs that the land had just been raised, including mussel-beds

stranded above high tide. High in the Andes he saw seashells, and several fossil trees that had grown on a sand beach. He theorised that as the land rose, oceanic islands sank, and coral reefs round them grew to form atolls.

vi. On the geologically new Galápagos Islands, Darwin looked for evidence attaching wildlife to an older "centre of creation", and found mockingbirds allied to those in Chile but differing from island to island.

vii. Relating to human Geography, Darwin asserted that in Australia the marsupial rat-kangaroo and the platypus seemed so unusual and thought it was almost as though two distinct Creators had been at work. He found the Aborigines "good-humoured and pleasant", and noted their depletion by European settlement.

The implications of Darwin's finding in relation to the aim of this paper is that if he had not embarked on a fieldwork cum studies, he wouldn't have been able to make first-hand judgement of his findings. In other words, the fieldwork provided him with the requisite knowledge of his geospatial odyssey which is still as relevant as ever up till today.

7. Summary and Conclusion

In this paper, the concepts of field and fieldwork are discussed and the rationale behind a geographic fieldwork research eventually examined. It was reiterated that the 'field' is any place where supervised or controlled learning can take place via first-hand experience outside the constraints of the four-wall classroom setting. Fieldwork could be divided into pre-fieldwork, actual fieldwork and post-fieldwork. The benefits of and approaches to fieldwork was examined. Fieldwork may adopt the deductive, inductive or enquiry-led approaches. Thus, the relevance of fieldwork in geographic research is to gather first-hand data and information necessary for carrying out a successful study. A major advantage of fieldwork is that it helps to validate or invalidate earlier stated hypotheses, build on existing theories and reach a conclusion on expected findings.

Despite the benefits of fieldwork stated above, it is however noted that fieldwork cost money, time and also require a lot of logistic support in terms of involving stakeholders and in sample collections. The possibility of wild animals attack and the need to handle language barrier, instrument/equipment used in the field were also identified as major constraints in fieldwork. Therefore, to carry out a successful fieldwork research; cost, time, and study scope, aim, objectives and instrument/equipment usage should be properly taken into consideration. Likewise, all stakeholders in the fieldwork such as the community leader(s), funding organisation, fieldwork assistants and materials needed for a particular fieldwork should be sorted out before embarking on it. Pilot study or recognisance survey before the actual fieldwork commences is also recommended so as to get acquainted with the possible challenges that may be encountered while providing mitigative measures. From the fieldwork carried out by Charles Darwin, it is pertinent to note that there are differences and similarities in the distribution of phenomena in space. And, that most organisms (plant and animals) have changed with time as a result of competition for common resources available in the environment hence, the principle of "survival of the fittest". This, Darwin called "the theory of evolution due to Natural selection". One major relevance of Darwin's five-year fieldwork is in his publications as influenced by his first-hand observation of geographic phenomena in South America and other parts of the pacific world.

In conclusion, it is pertinent to state that the field remains the laboratory of the geographers and related earth sciences and that fieldwork of any kind is very instrumental in geographic research and thus remain an indispensable part of a research as corroborated by Bello and Rilwani (2016), Lambert and Reiss (2014), Rilwani (2004), Kent *et al.,* (1997), Ajaegbu and Faniran (1976), and Darwing (1839) respectively.

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