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Adequacy of Data as an Obstacle to Sustainable Development in the Global South

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Abstract
The developing or less developed nations that make up the Global South include, but are not limited to, Latin America and Africa. These nations lack the resources necessary for their development to keep pace with that of the Global North. This study took into account data sources in the Global South, the suitability of the data already in existence, and its potential to enhance sustainability. Inadequate census Data, Violence / Terrorism, Data colonialism/Data hoarding, Lack of Technological competency, and Lack of public awareness to enable dwellers of the Global South to understand the importance of data are among the difficulties encountered in data gathering in the Global South. The research approach is based on a comprehensive Literature review of textbooks, published journals, research libraries, and conferences. Conclusively, the paper recognizes that the cultural view of volunteerism, open data, orientation towards Government, and organizational hierarchy would be best done through consultation and partnership with partners in the Global South, to ensure that the end results reflect the need for Data sourcing and can be sustained.
Keywords*: Challenges, Data Sourcing, Global South, Sustainability*

1.0 Introduction

The Global South consists of developing countries or developing countries, including but not limited to Latin America and Africa. These countries lack the necessary resources to develop as rapidly as others (https://medium.com/@antoniaperezbravo/the-global-south-6d066634e037, Woon, 2013). Unfortunately, the global South suffers from poverty, lack of human rights, exploitation, and depletion of natural resources. (Kowalski, 2020). Until both internal and external causes enhance the environment and the welfare of the inhabitants, these countries won't advance. Despite the fact that it is easier for wealthier countries to implement policies that foster sustainable development, countries in the Global South face obstacles that prohibit them from doing so (Countries, 2020a).

Figure 1-. Global South in **Red** & Global North in **Blue**

The economies of the Global South suffer negative effects from their reliance on fossil fuels as their main source of energy. Ministers (2021) put it forward that, if a country's economy is built on fossil fuels, environmental damage will also quicken. Environmental degradation has a number of negative effects, including air pollution, a shortage of fresh water, degraded soil, forest destruction, a decline in biodiversity, and declining fisheries (By, n.d.). All of these undesirable outcomes are attributable to the use of fossil fuels. The Global South is unable to shift away from its reliance on fossil fuels due to a lack of resources, which results in both immediate and long-term problems that limit its ability to advance.

In the planning and development of southern regions, the trustworthiness of data has long been a challenge. To understand the numerous dimensions needed to advance progress, high-quality data are essential (Choumert-nkolo, Phélinas, & Phélinas, 2018). Obtaining timely, accurate information regarding security, health, income, service delivery, and many other areas in Africa is challenging (Hoogeveen & Pape, n.d.). These factors make it common to collect such data via national census data, in-person household surveys, and academic research projects. These surveys take a lot of time and money; thus, they aren't utilized very often. Providing current, reliable, and accurate information should be a key component of every advanced civilization because there is a great need for it (Arku & Marais, 2021). Policymakers require these facts to construct sustainable development plans for their communities.

2.0 Literature Review

2.1 Sources of Data for Sustainable Development

The national level is seen as the most significant and acceptable level of reporting for gauging success in achieving the SDGs with information from both the National Statistics Office survey and census data (Sustainable & Goals, 2021). The measurement of development in the Global North frequently relies on reliable sources and data that are current. In contrast, registers are frequently erroneous, inadequate, or nonexistent in the Global South, making it difficult to make decisions that will contribute to development (Countries, 2020b). Data from national censuses or surveys are frequently the only data sources available for development planning in the absence of additional data sources. However, in the context of the Global South, the generation of trustworthy information faces unique challenges (*U n i t e d n at i o n s c o n f e r e n c e o n t r a d e a n d d e v e l o p m e n T*, n.d.). The information required to deliver answers, analyze business performance or other results and forecast future trends, actions, and scenarios are made available through effective data collecting. The following under listed are the available data sources in the global South.

2.1.1 National Statistics Office (NSOS)

The National Statistics Office is in charge of carrying out and managing the Civil Registry Law's provisions as well as gathering, compiling, categorizing, creating, publishing, and disseminating general purpose statistics (*Handbook on Civil Registration and Vital Statistics Systems Handbook on Civil Registration and Vital Management , Operation and Maintenance*, n.d.). The agency improves accountability by providing public access to data on economic and social growth, enabling evaluation of the effects of governmental actions.

2.1.2 Panel Survey

Panel surveys is a survey method that involves interviewing the units of observation on several occasions over time with a long history in the social sciences. As a result, panel surveys can produce longitudinal individual-level data, which has significant advantages over cross-sectional data for data analysis. In panel research in various industries, panel surveys are used to gather information on

customer behavior, corporate performance, and other topics (Pforr & Schröder, 2016). It offers more accurate statistics that make it possible for researchers to gather a huge, diverse amount of data. Panel surveys are used by news organizations to gather information about public policy or elections.

Traditional Face-To-Face Survey

Traditional face-to-face surveys involve an interviewer calling the respondent or meeting them in person to conduct the interview. In developing countries, much of this data is collected through traditional face-to-face household interviews. The interviewer records the respondent's responses after reading out the interview questions. In order to conduct face-to-face surveys with respondents, survey research in the Global South typically necessitates huge funding and extensive fieldwork (Schröder, 2016). Due to limited phone and internet connectivity and low electricity coverage in the past, there haven't been many options to in-person hiring. Designs that aim to understand the behaviour of particular groups of individuals typically concentrate on particular factors, frequently demographics and other tendencies that will affect the respondent's conduct (Rosenzweig et al., 2020). They further opined about a recent body of literature has started to investigate and assess Facebook as a platform for gathering survey participants. Facebook has been used to target users from demographic groups who exhibit certain traits or behaviors, such as young smokers, political activists in Germany and Thailand, Polish immigrants in Austria, Ireland, Switzerland, and the UK, and primary voters in local elections.

Household Survey

Many populations in developing countries are dispersed in remote areas, and because of the complexity of many survey questionnaires, collecting timely welfare data is often costly and logistically challenging. (Engelhardt, n.d.). Since the 1980s, statistical household surveys have been increasingly popular in the Global South countries and are readily available online through national statistics offices, international organizations, and open-access data platforms (Choumert-nkolo, Phélinas, & Choumert-nkolo, 2018). The survey is typically carried out to monitor the socioeconomic status, demography, and living conditions of each home in a certain area. When these surveys were carried out manually in the past, field scientists would frequently go door to door to gather data, carry out research, observe homes, and gain expertise. Online household surveys are more widely available today, making it easier for respondents to take part whenever it is convenient for them and cutting overall expenses.

Mobile Phone Surveys

Utilizing a mobile phone survey, you can collect data from participants who are using portable electronic devices to respond. Compared to person-to-person surveys, phone surveys are quicker, cheaper, and safer to use for collecting direct consumer data. Surveys at the national and sub-national levels are crucial for tracking illness burden, allocating resources according to priority, and assessing public health programs. Even while the number of people owning mobile phones is rising quickly, many nations still have a long way to go before everyone has one. According to data from the baseline surveys Listening to Dar and Sauti za Wananchi, mobile phone ownership is more prevalent among wealthier households than it is among poorer households in Tanzania (Engelhardt, n.d.). Mobile phone surveys (MPSs) offer a chance to complement conventional public health household surveys as mobile phone availability and ownership grow increasingly widespread globally.

Spatial Survey

Three years after the Sustainable Development Goals (SDGs) were introduced, the Global South still lacks high-quality data to report on the SDG. This anxiety was reduced with the introduction of

"New" geographical data services. Big Data is a word used to indicate a significant amount of information that has been gathered in both structured and unstructured forms (Sustainable & Goals, 2021). Due to the exponential growth of this data over a very short time, it cannot be processed using conventional software databases (center for internet & society). Experts noted that while most countries in the Global South conduct censuses every ten years and the SDGs only cover fifteen years, making data from censuses a snapshot, national censuses have constraints that make them inappropriate for reporting on the SDGs. Census data is rarely updated, which results in a lack of a good baseline, making it difficult for governments in the Global South to demonstrate developments in their nations and making change difficult to represent. Geoinformation helps track SDGs in the Global South since it can be used to visualize where water sources are and where people reside. It can also be used to estimate the average travel distance or time to the closest water point.

2.1.3 Population Census

Collecting population data is essential in several vital areas. Taking a census is a difficult task for any national statistical office, but it is especially difficult in Africa. Governments frequently find themselves unable to fully fund this project due to the length of time needed to complete it (Fanoe, 2011). Decision-makers can better anticipate future needs by understanding how the community is changing with the use of population census data. A population and housing census counts every person in a nation and provides information on their numbers, geographic distribution, age and sex composition, living circumstances, and other important socioeconomic factors. Such information is essential for market research, infrastructure distribution, election planning, tracking Sustainable Development Goals (SDG) progress, and national and subnational development planning (Fanoe, 2011).

2.1.4 Academics Research

To improve societal progress, the academic study aims to unearth fresh knowledge and the truth. Conducting such research is one of a faculty member's core responsibilities when engaged by an academic institution. However, its common knowledge that African colleges don't have enough money to cover the costs of foreign journal subscriptions. This further restricts their researchers' ability to stay informed about and draw from current thinking in their fields by preventing them from accessing their international disciplinary journals (Fanoe, 2011). Fransman (2018) expressed that in comparison to their counterparts in the global North, universities and higher education institutions in the global South receive less public funding; all countries for which data are available that enjoy the highest expenditure on research and development (over 2.46% of GDP) are located in the global North.

2.1.5 Crowdsourcing

Crowdsourcing is typically described as a participatory way of gathering data or inputs from several people who are not paid employees (the crowd) and using ICTs, despite minor variances in how it is conceptualized. It entails a sizable number of scattered individuals creating or giving goods or services, including ideas, votes, tiny chores, and money, for pay or as volunteers. It enables businesses or organizations to collaborate with individuals from the public or private sector (often customers or die-hard fans) to produce ideas for brand-new goods, services, and systems. Additionally, crowdsourcing has the potential to be used by nonprofits and the government to solve issues. Since the Haitian earthquake, considerable additional thought has uncovered some crucial insights and recommendations. Crowd mapping creates substantial obstacles for humanitarian assistance networks and organizations (Williams, 2013). This has not fully developed in the Global South countries.

2.1.6 Nighttime Light

Access to reliable and sustainable energy remains a major problem in many parts of the world. Over 500 million people, or 85% of the population, live in rural Africa without access to electricity (World Bank/IEA, 2015). To meet their everyday energy needs for essentials like cooking, information access, and lighting, they must rely on conventional energy sources. For decades, people have used candles or kerosene in wick lamps and hurricane lanterns to provide basic lighting services (Bensch et al., 2017). The satellite nighttime light data offers a unique window into every region of the globe, allowing for the detection of gaps in energy access and quality as well as patterns in economic activity. Images of the nighttime light capture how bright the Earth's surface is, revealing the breadth and intensity of human activity (Hu & Zhang, 2020). Satellites have been observing the Earth at night for more than 50 years, but it is especially since the National Oceanic and Atmospheric Administration (NOAA) established the digital archive of nighttime lights (NTL) in 1992 that researchers have discovered an ever-growing set of uses for these data. NTL data from the Defense Meteorological Satellite Program (DMSP) was first utilized to estimate sub-national measures of economic activity and per capita incomes, according to a number of important early studies conducted by non-economists (Gibson & Boe-Gibson, 2021). However, countries in the global South are yet too maximal this due to power challenge.

3.0 Methodology

Empirical reviews of different works of literature, including journals, conferences and books was conducted. The study used a descriptive research design, which aids in addressing the what, where, when, who, and how of questions on data sources in the global south. This study examines the adequacy of the data currently available and how it affects the achievement of sustainable development in the Global South. To accomplish this, the study concentrated on examination of the sources of data in the global south, challenges of data collection, causes and effects of inadequate data and quality of available data for cities' growth and sustainable development.

4.0 Challenges of Data Sourcing in The Global South

Numerous socio-economic and environmental issues plague the global south and its urban centers, some of which include the growth of slum and peri-urban populations, air and water pollution, the quick depletion of resources, and rising poverty rates.

4.1 Inaccurate Census

In the vast majority of Global South nations, a census is taken every ten years. Censuses only offer an once or twice-yearly view because the SDGs span a 15-year time frame. Additionally, indications frequently lack a sufficient baseline due to the sparse update of census data (Moultrie, 2018). Censuses so inadequately reflect the change, making it challenging for governments to demonstrate development. The last census taken in Nigeria was in 2003, hence development programs there are dependent on forecasts. Other communities, such as nomads, urban migrants, and refugees, are often absent from official figures. This administration is unable to provide the necessary social and infrastructure facilities for its citizens.

4.2 Fragility, Conflict, And Violence (FCV)

To eradicate extreme poverty and advance shared prosperity, fragility, conflict, and violence (FCV) pose a serious development challenge. There are two billion people who reside in nations where FCV has an impact on development outcomes, including several African nations. Twenty of the thirty-eight nations on the 2018 FCV list published by the World Bank are in Africa. Additionally, whereas 20% of the world's extremely poor live in conflict-affected areas, Africa has a far greater percentage

roughly 32%. In reality, Africa is home to almost 80% of all poor people who live in conflict-affected areas. Enumerators are unable to conduct face-to-face surveys in some areas due to war and violence (Hoogeveen & Pape, n.d.).

4.3 Data Colonialism

The practice of governments, non-governmental organizations, and businesses claiming ownership of and privatizing the data generated by their users and citizens is known as "data colonialism." Thatcher et al. (2016) refer to this process as "capitalist accumulation by dispossession." Personal facets of our lives are now gathered thanks to the incorporation of smartphones and other portable technologies into our daily lives. The majority of the time, the data creators are deprived of their ownership and control over this resource. For instance, end-user license agreements that permit the privatization of user data may be used to affect this eviction. Data colonialism as it relates to DNA data, specifically biological data gathered from indigenous peoples for medical, political, and social goals, is highlighted by (Reardon & TallBear, 2012). Due to worries that potential competitors could be able to access and use the data, private firms have been hesitant to share it. Make data unavailable for development and planning.

4.4 Inequalities of Growth

The global economic and social imbalances are mirrored by the digital divide. Compared to about 75% of people in the global North, just over 40% of the population (or roughly 2.6 billion people) that lives in the global South are online (ITU in partnership with UN-OHRLLS, 2018). Providing accessible, all-encompassing internet in the least developed nations. This prevents quick access to knowledge, which in turn slows socioeconomic development.

4.5 Access to Electricity

Another significant barrier is that only 39% of people in the Global South nations have access to power. (“Handb. Least Dev. Ctry. Categ.,” 2015). The infrastructure that meets the country's residents' needs for electricity is made up of the daily experience of energy access across the various urban areas in the Global South, their noisy and polluting generators, the various household appliances and equipment, the intertwining wires, as well as the complex routines and day-to-day strategies adopted by people to accommodate power outages (Kumar et al., 2021).

5.0 Conclusion

No meaningful development will be experienced in the Global south countries if required data that will inform the basis for them are not gathered. Conscious steps must be taken to overcome the obstacles to sustainable development in the Global South, it would be ideal to talk with and work in conjunction with partners to understand cultural perspectives of volunteerism, open data, and orientations toward the government or organizational hierarchy. Once gathered, the problem of processing and interpretation of massive data must be overcome to translate to information for policy formation. These data offer an extremely exciting opportunity that has the power to change millions of people's lives, inform the private sector, and impact government policy, achieving this potential requires the development of a sustainable foundational framework that can address the various difficulties that arise in this situation. In light of this, for the global south to be sustainable, it is important to embrace user-generated content while gathering data due to its inclusive character and the fact that it involves residents in planning rather than doing it for them. If the Global South nations are able to overcome these structural barriers, they may graduate.

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