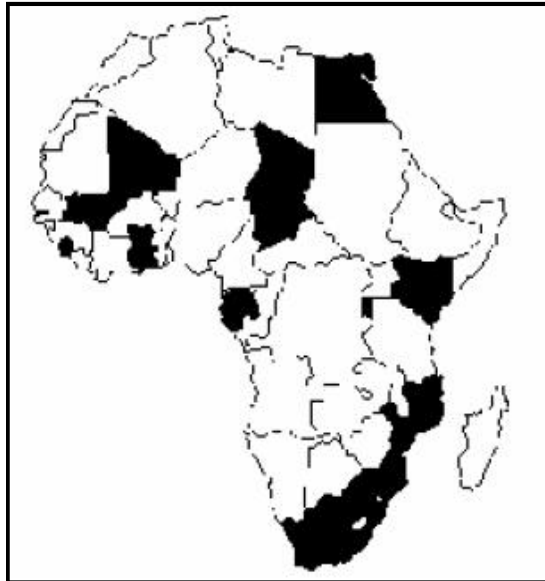


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STATISTICS FOR SUSTAINABLE DEVELOPMENT

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ABSTRACT

The paper looked at the importance of statistics in sustaining and maintaining development and it started with the words of Hon. Prof. Peter Anyang' Nyongo of Kenya. The paper stressed the role, power and importance of statistics in providing scientific information for modern decision making. Different developmental policies ranging from promoting more productive agriculture and industrialization to the well promoted and accepted structural adjustment programme were briefly discussed. Also discussed were sustainable development and its indicators with the establishment of the United Nations Commission on Sustainable Development (UNCSD) to monitor countries' efforts in developing and using sustainable development indicators so that appropriate data and information would be provided. Of course the challenges were highlighted and it was recommended that national statistical offices should always take the lead in the development and publication of sustainable development indicators and the consideration of social capital, the role of the state, and the importance of local government and non-governmental organizations in sustainable development indicators.

Keywords: *Statistics and Sustainable development.*

INTRODUCTION

Starting with the quotation of the Honourable Minister for Planning and National Development in Kenya, Hon. Prof. Peter Anyang' Nyongo on the role of statistics in world development, who said an essential component of any developmental planning, is data. Without data, a country's efforts to plan for future growth and welfare of its people cannot be grounded in reality and therefore may be severely flawed. The world are planning, and will continue to plan, to have a sustainable development which many countries, especially the developed countries are realising the importance of statistics in the big task ahead of them.

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We are in a global society where the amount of information and its flow to society is increasing tremendously. Many are now realising that statistics

plays a major role in shaping and providing scientific information that is useful in almost every aspect of human life. Modern decision making, whether done by a national government or an international agency, is increasingly using statistical methods to improve the quality of information. As such the society is increasingly appreciating the role, power and importance of statistics leading to a higher priority being attached to statistical capacity development in many developing countries. This however has led to a call for a data revolution for sustainable development with a new international initiative to improve the quality of statistics and information available to citizens.

IMPORTANCE OF STATISTICS

The role of statistics in national and sustainable development cannot be over emphasised. Shangodoyin and Lasisi (2011) stated that statistics is an indispensable tool for national development, growth and planning and a government without viable infrastructure for information generation, dissemination and usage is severely handicapped. This is because proper planning, monitoring and evaluation of development programmes and projects as well as arriving at good decision with respect to their government policy formation will be difficult if not impossible.

They further stated that in national development, the aspirations of a policy should be to attain such goals as full employment, price stability, economic growth, equilibrium in the balance of payment, equitable distribution of income, educational development, social security, political stability and so on. To achieve a fair measure of success in the goals stated, there is need to map out strategic plans, set up machinery for execution of the plans and monitor the implementation process; this is exactly the point at which the role of statistics is vital and relevant.

Ward (2004) saw statistics as a pathfinder for solution as well as a veritable tool in assessing the extent or level of national development of an economy in a given period. The national economic policies and complex interactions among various sectors of the economy make it imperative for building up macroeconomic planning models. Therefore investment in statistics will pay for itself many times by improving how resources are allocated.

Subbotina (2004) stated that it is a powerful tool for learning about development. They can help paint a more accurate picture of reality, identify issues and problems, and suggest possible explanations and solutions. Data for Development (2015) pointed out that data are derived from the following eight sources:

i. Census Data: A census is a procedure of systematically acquiring and recording information from all the members of a given population. It is a regularly occurring and official count of a particular population.

ii. Household Surveys: Household surveys are designed to provide reliable data on demographic and socio-economic characteristics of the population.

iii. Agricultural Surveys: Surveys of agriculture include farms and ranches and the people who operate them. Such surveys generally look at land use and ownership, operator characteristics, production practices, crop yields and productivity, income, and expenditures. Agricultural surveys can be a vital source of data on environmental and climatic events, crop productivity, soil quality, horticultural practices, and inputs and outputs and operating results.

iv. Administrative Data: Administrative data refers to information collected primarily for administrative or management purposes. Government departments and other organizations collect this type of data for the purposes of registration, transaction, and record keeping, usually during service delivery.

V. Civil Registration and Vital Statistics: Civil registration is a form of administrative data that records vital events in a person's life (including birth, marriage, divorce, adoption, and death) and is therefore a fundamental function of governments.

Vi. Economic Statistics, including Labour Force and establishment Surveys and Trade Statistics: Economic statistics measure the financial performance of economic agents in relation to global, national and local markets, as well as the economic status of individuals. These kinds of economic statistics are captured, predominantly, through labour force surveys (which measure individuals' employment status), establishment surveys (which measure inputs, investments, and outputs of organizations), and trade statistics recorded by custom services.

Vii. Geospatial Data: Geospatial data refers to any environmental and socioeconomic data, including data in all of the previous categories that include specific location information to which the data apply.

Viii. Other Environmental Data: Geospatial data encompasses and enables a wide-range of environmental monitoring, but there are a few environmental dimensions that require additional and more targeted measurements, using ground-technologies or surveys. Data collection for these indicators is often paired with geospatial tools such as remote sensing, but for the purposes of this costing exercise we consider them a distinct category of expenditure. Measures considered include biodiversity, air quality, hydrological monitoring, and forest and land use change.

SUSTAINABLE DEVELOPMENT AND ITS INDICATORS

Over the years, the world have been struggling with different development policies ranging from promoting more productive agriculture and industrialization to the well promoted and accepted structural adjustment programme. However they were all found very deficient especially the more promoted structural adjustment programme as stressed by Harris (2000). Market-oriented reforms have often lead to greater inequality and hardship for the poor even as economic efficiency improved. Furthermore, they pointed out that globally, most countries have made significant advances both in GDP and in Human Development Index measures but overall, the record of development on a world scale is open to two major criticisms:

The benefits of development have been distributed unevenly, with income inequalities which remain persistent and sometimes increasing over time. The global numbers of extremely poor and malnourished people have remained high.

There have been major negative impacts of development on the environment and on existing social structures. Many traditional societies have been devastated by development of forests, water systems, and intensive fisheries. Urban areas in developing countries commonly suffer from extreme pollution and inadequate transportation, water, and sewer infrastructure. Environmental damage, if unchecked, may undermine the achievements of development and even lead to collapse of essential ecosystems.

Due to the criticism of the old policies, the new developmental programme called sustainable development was widely accepted because it was believed to protect the environment and promotes social justice. In the wards of Brundtland and his group in the World Commission on Environment and Development, the concept of “sustainable development” is a development that “meets the needs of the present without compromising the ability of future generations to meet their own needs” The definition was found to be deficient since development must also be measured accurately in terms of

increasing per capita income or Gross Domestic Product (GDP) from the point of view of an economist or increasing benefits an individual derives from consuming goods, services and natural endowment across the members of a society within a specific period of time (United Nations, 2008). This means that justice must be done to economic, environmental and social systems to have a sustainable development.

Despite the fact that sustainable development is seen as dynamic, it is widely accepted as a desirable policy objective amongst many institutions concerned with the future development of the resources of the globe (Elliot, 2006). To sustain development, some variables, yardsticks or indicators must be measured. For this reason, the United Nations Commission on Sustainable Development (UNCSD) was established and one of its main objectives was to monitor countries' efforts in developing and using sustainable development indicators and 22 countries were able to develop their indicators for sustainable development but unfortunately, Nigeria was not among them.

However, sustainable development indicators and their underlying data should adhere to the fundamental principles of official statistics established by the United Nations as below:

Methods and procedures for the collection, processing, storage and presentation of statistical data should be decided strictly according to professional considerations, including scientific principles and professional ethics;

Information on the sources, methods and procedures used in the preparation of statistical data need to be presented according to scientific standards in order to facilitate their correct interpretation;

Internationally accepted concepts, classifications and methods should be used in the compilation of statistical data to promote the consistency and efficiency of statistical systems at all official levels.

If the above listed principles are adhered to, official statistics would provide the followings:

Provide objective information to inform decision making; for example, for national

- strategies on sustainable development;
- Have a scientifically defensible underpinning;
- Are consistent over time and from one country to the next; and
- Meet pre-defined quality standards.

Achieving sustainable development will require deep structural changes and new ways of working in all areas of economic, social and political life. Economic growth patterns that actively favour the poor should be promoted.

Fiscal policies that negatively affect the poor or promote environmental damage will need to be reformed. In the longer term, countries will want to ensure that their net wealth, including natural, man-made and human capital, remains constant or increases. Dalal-Clayton and Bass (2002)

Most of the developed indicator sets were however based on economy, society and the environment but were tailored towards each country's policy or policies. Determining the most common indicators across countries was challenging because of the various ways in which an indicator of a specific issue can be expressed. Sustainable development is currently being pursued in the context of an increasingly globalised world, but one which is also characterised by poverty. The global challenge of sustainable development lies in complex interdependencies of environment, social and economic development. (Elliot, 2006)

He further pointed out that most common sustainable development indicators in policy-based sets are as given below:

1. Greenhouse gas emissions
2. Education attainment
3. GDP per capita
4. Collection and disposal of waste
5. Biodiversity
6. Official Development Assistance
7. Unemployment rate
8. Life expectancy (or Healthy Life Years)
9. Share of energy from renewable sources
10. Risk of poverty
11. Air pollution
12. Energy use and intensity
13. Water quality
14. General government net debt
15. Research & Development expenditure
16. Organic farming
17. Area of protected land
18. Mortality due to selected key illnesses
19. Energy consumption
20. Employment rate
21. Emission of ozone precursors
22. Fishing stock within safe biological limits
23. Use of fertilisers and pesticides
24. Freight transport by mode
25. Passenger transport by mode
26. Intensity of water use
27. Forest area and its utilisation

THE CHALLENGES OF SUSTAINABLE DEVELOPMENT

Hardly do we have a system that does not face one challenge or the other, from the inclusion indicator sets to measuring the sets themselves is facing one problem or the other. However, Elliot (2006) summerises them as follows:

Whilst the challenge of sustainable development is a global one, the unsustainable nature of past patterns and processes of development have had marked geographical patterns.

Human development (including freedom from conflict) continues to be linked closely to natural resources.

There are multiple dimensions to 'poverty' and the relationship between poverty and environmental degradation is complex.

Questions of power and voice are central in understanding the persistence of environmental degradation and the prospects for sustainable development in the future.

Many processes of globalisation work through existing patterns of environmental difference and can make them worse

CONCLUSION

In conclusion, statistics has been very successful in making its mark in astronomy to administration, from business to biology, from housing to health, from engineering to environment, from commerce to community, from manufacturing to ministry, from marketing to management, from industry to infrastructure, from politics to policy, from tourism to trade-union and from sports to strategy. Modern decision making, be it for an individual or a business or any national, government or an international agency, is increasingly using statistical methods to improve the quality of information/decision (Khan, 2007).

It is now been recognised by many that statistics plays a major role in shaping and providing scientific information that is useful in almost every aspect of human life. Modern decision making, whether done by a national government or an international agency, is increasingly using statistical methods to improve the quality of information. Therefore statistics is the bedrock on which any sustainable development should lay.

RECOMMENDATIONS

Since the indicators have often been strongly dependent on the outputs of national statistical offices, requiring their engagement, and the indicators are themselves in some instances regarded as official statistics, national statistical offices should always take the lead in the development and publication of sustainable development indicators because in many countries, the leading organizations have been a policy department or agency, or indeed a non-governmental organization.

The importance of social capital, the role of the state, and the importance of local government and non-governmental organizations in sustainable development should be considered.

REFERENCES

Dalal-Clayton B. and Bass, S (2002). *Unsustainable development strategies: A resource book*. USA, Earthscan Publications Ltd.

Data for Development: A needs assessment for SDG monitoring and statistical capacity development. April 17, 2015.

Elliot, J. A. (2006). *An introduction to sustainable development*. 3rd ed. Routledge New York 270 Madison Ave, NY 10016 2006.

Harris, J. M. (2000). *Basic principles of sustainable development* Khan, S. (2007). *Importance of statistics for development*. A keynote presentation at First Arab Statistics Conference (FASC) Organised by Arab Institute for Training & Research In Statistics (AITRS). Retrieved 01/09/2014 Shangodoyin, D. K. & Lasisi, T. A. (2011). *The role of statistics in national development with reference to Botswana and Nigeria statistical systems*. *Journal of Sustainable Development*. 4(3). www.ccsenet.org/jsd

Soubbotina, T. P. (2004). *Beyond economic growth: An Introduction to sustainable development*. 2nd ed. The International Bank for Reconstruction and Development/THE WORLD BANK, U.S.A.

The Role of Statistics The Role of statistics in world development.

Published by Canadian Center of Science and Education. www.paris21.org

United Nations (2008). *Measuring sustainable development*. report of the joint UNECE/OECD/Eurostat working group on statistics for sustainable development. New York and Geneva, 2008.

Ward, M. (2004). *Quantifying the world - UN ideas and statistics*. United Nations Intellectual History project series. Indiana University Press, USA.

World Commission on Environment and Development (1987). *Our common future*.

