DATA COLLECTION METHODS AND PRACTICES IN BOTSWANA: A REPLENISHMENT ON CONCEPTS IN RELATION TO ACHIEVING MILLENIUM-DEVELOPMENT-GOALS (MDGs) TARGETS

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Extended Abstract

Data collection and analysis, which can be traced as far back as before 300 B.C as an organised framework of registration of births and deaths in India (Gupta & Kapoor, 1973) and an organised collection of facts on land in Egypt as far back as 1400 B.C. (Medhi, 1992), is operationally vital to every aspect of developmental decision-making. However, many experts – including those in population and statistics - tend to understate the importance of the conceptual frameworks of data collection and analysis; which has led to either a stagnated development of related methods and practices or inconsistencies between the methods and practices and the achievement of developmental goals for which the data is compiled and analysed. In this paper we interrogate these conceptual frameworks, and then relate the frameworks to the data collection and analysis methods and practices in Botswana.

As in Mutabihirwa (2003), we first define *original facts* as *facts on specified characteristics of phenomena arising from the activities of human interaction with nature in an environment, which are required for a specified purpose in the environment*. On the other hand, we note that the original facts recorded and kept in an environment would normally not be in a form that when analysed would lead to effective and time-efficient realisation of the specified purpose in the environment. In other words, we would normally need to put the original facts in the form useful for analysis, and this useful form of original facts is what we refer to as information. That is to say, we define *information* as the *form of original facts in an environment, which when analysed lead to effective and time-efficient realisation of the specified purpose*.

We refer to either original facts or information or both as data. Thus, *data* is defined *as facts on specified characteristics of phenomena arising from the activities of human interaction with nature in an environment, which are required for a specified purpose, and intended to be used for the effective and time-efficient realisation of the specified purpose in the*

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environment. We observe from the definition that data items are purposeful compiled facts, and neither are they figures nor description nor numbers. Further, we note that the individual or individuals compiling data do not create the data but compile the facts in a specified form.

Then, we define *measurement* as *a process of generating data items, basing on an entity of reference and in a specified form, for an identified characteristic of a given phenomenon such that on each of such entity of reference one and only one data item is generated on the characteristic*. We refer to the entity of reference in measurement as the object of measurement, and the specified form in which each data item is to be expressed in the process of measurement as a scale of measurement. We observe that the concept of population fall in place as collection of all objects of measurement in relation to the specified purpose, and so does the concept of sample as part of the population.

It is imperative that any framework of data collection and analysis - together with the emerging methods and practices – has to be in relation to a specified purpose, and it will be built on and has to operate within the concepts of measurement and data as given above. That is to say for example, a clear and an ambiguous operational definition of the object of measurement need to exist in the data collection and analysis, and so have the characteristics to be measured to be clearly identified for the specified purpose to be realised. And, this scenario has to be maintained and sustained in both space and time.

In Botswana data needs have changed over time in terms of detail and complexity as the economy grew at the rate it continues to grow. In addition to the diversified national data requirements for the routine planning purposes are the needs to fulfil the mandates set for the Millennium Development Goals, which have set in motion a need to address the crucial challenges of the global society, that of poverty and sustainable human development. These goals clearly spell out what member states intend to do to eradicate many dimensions of poverty and to achieve sustainable human development. Associated with these goals are sets of 18 targets together with 48 assessment indicators, which are to be used to monitor and evaluate progress towards achieving the targets. All the 18 targets are to be achieved by the year 2015. Furthermore, according to the requirements, the developing countries should have had produced their first report on the status regarding the progress in achieving the goals by 2004, four years after the summit.

The Millennium Development Goals, ratified by the UN member states including Botswana, came at the time when Botswana had already set herself a target for the year 2016 popularly referred to in Botswana as "Vision 2016"; the aspiration for Batswana when Botswana will have been an independent nation for 50 years (Botswana's Golden Jubilee). These two visions need data for assessment and monitoring purposes.

In most cases in the compilation of data needed for monitoring the two visions a household is used as a unit of measurement, which is defined as people living under one roof and eating from the same pot (Central Statistics office, 2001). This definition is not comparable to the normal family structure as the UN (1969) recommended over 35 years ago when households were less complicated in nature, and it does not conform to the living arrangements in Botswana as characterised by the UN definition (Mukamaambo, 2002). Consequently, for Botswana the measurement of characteristics using a household as defined may not produce valid indicators because of the residential arrangements, which Fako (1994) refers to as "a traditional" pattern of multiple and scattered residence which separates the core unit from the minor residences. The energies and resources of members of a household are divided among various activities in all the residences belonging to the core according to the needs of that residence, and as such a household as a concept does not always correspond with the physical structure in Botswana. Further currently contributing to the problem of household as a unit of measurement, is the rate of employment-related spousal separation; which was estimated at 36% in 1984 (Botswana Family Health Survey Report, 1984), and has increased with an increase in female labour force participation rate.

Apart from this conceptual problem of a household, even with the advent of the MDGs and Vision 2016, all national surveys including the census are carried out every ten years. This situation that is not conducive for assessing progress made towards the two vision of interest to Botswana.

In this paper, while we contend that abiding to the current data collection and analysis methods and practices will adversely affect the monitoring and evaluation of progress made in relation to MDGs targets, we inter alia: interrogate the concepts of data, measurement and household in terms of the conceptual frameworks of data collection and analysis as they relate to the MDGs goals and targets as well as the vision 2016 requirements; assess the current operational frameworks of data collection and analysis in terms of the sensitivity of

the resulting methods and practices to the requirements of the two visions; assess the existing data in relation to the MDGs and Vision 2016 needs; and suggest changes in the operational frameworks and associated methods and practices which will lead to effective and time efficient meeting of data needs for the two visions.

The main source of data for the analysis is the Botswana 2004 MDGs status report. In addition, we source from official statistics (from several government departments and ministries) and other relevant reports.