



Skills development to assist data usage for policymaking in Africa

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Abstract

The collection of national statistics via regular surveys and censuses to provide the raw material for evidence-based policymaking can be seen as a key component of good governance. Where research feeds into public policy, re-examination of this initial data is vital. Re-analysis of official data can prevent inappropriate policy decisions based on inaccurate research and ensure that policy formulation arises from sound survey research. Effective management of this official information to further research to support evidence-based policymaking requires a cadre of properly trained information professionals in each country. A core body of data managers exists in Europe and North America to ensure the preservation and sharing of survey statistics. However, in Africa survey data management is such a novel task that there are only a handful of practitioners in the field. The paucity of skilled data professionals to assist data discovery and data sharing in African countries mitigates the use of survey data in social science curriculums at African universities and limits the usage of survey information in government planning. Policies aimed at knowledge utilisation for growth could support the allocation of resources to advance both technical and intellectual capacities in Africa for data usage. Education ministries in African countries could develop existing curricula and facilities at local universities to include courses relevant to the field of data management. Professional associations of data managers would also benefit from official support to encourage a vibrant community of practice in the field. The allocation of official funds to advance data management skills would need to be initiated and promoted by African leaders who appreciate the value of information as a development resource and are committed to its usage for the betterment of their societies.

1. The value of national data for government planning

Empirical data from survey research can be used for public policy formulation, with direct impact on national social and economic development. The collection of national statistics via regular surveys and censuses to provide the raw material for evidence-based policymaking can be seen as a vital component of good governance. Public policy formation based on empirical data can lead to more informed decision-making by government authorities (Clubb et al., 1985:4, 10). Where research feeds into public policy, re-examination of this initial data is vital. Re-analysis of official data can prevent inappropriate policy decisions based on inaccurate research, thus ensuring that policy formulation arises from sound survey research (Fienberg, Martin & Straf, 1985:4, 10). A belief in statistics as a valuable development resource leads international donor organisations to fund capacity building projects and donate to the establishment of data management institutions in Africa (Mudesir Seid, 2006; Welch, 2007). Donor organisations place value on the collection and dissemination of sound statistical information to advance societies.

Sound data management to further research to support evidence-based policymaking is an established practice in some European and North American countries. In these countries the sharing of empirical data is formalised by government policies and facilitated by National Statistics Offices (NSOs). The use and re-use of survey statistics in these countries is often assisted by Survey Data Archives staffed by information professionals. These archives of survey data are either components of national research support structures or units attached to academic institutions. Examples of the former include the National Survey Data Archives which exist in most countries in Europe. An example of the latter is the archive of the Inter-University Consortium for Political and Social Research (ICPSR) at the University of Michigan in the United States (Inter-University Consortium for Political and Social Research, [2009?]).

2. Skills limitations as obstacles to empirical decision-making in African countries

National data producers such as government statistical offices and research support organisations such as data archives require properly trained staff to support their data

management activities. However, government statisticians focus on the collection and analysis of national survey data, rather than the long-term preservation of official data products. Academic institutions also do not prioritise the preservation and sharing of the data from their research projects. This is due partly to the technical and logistical demands of good practice in data management and to some extent to the dissuading motivations inherent in academic research, which is an environment in which exclusive access to original data can give researchers advantages over rivals in an academic field. Thus dedicated data professionals are required in these institutions to ensure the long-term archiving and accurate usage and secondary usage of data as a national development resource.

Evidence exists for the advantages of the presence of skilled data professionals to support data re-use. Lubanski in 1996 attempted to provide some empirical evidence for the continued funding of data support services at research institutions. In his research he quotes article content analysis studies indicating extensive growth in empirically-based journal articles to back his view that data repurposing will continue to escalate, and demand for data support services will increase (Lubanski, 1996:17). He details the results of a 1995 Fulbright Study undertaken to assess data support services at research institutions. The investigation involved interviews with researchers, data service staff and IT staff at seventeen research universities and eight research centres in North America, who were asked to assess the extent to which they utilise and value data services at their institutions. Opinions from data support staff were that there had been an exponential increase in demand for both survey data and data services. This research also showed that improved data support services correlated with increased research output, and researchers participating in the study expressed the view that data support was an essential component of a productive research environment (Lubanski, 1996:17-18).

3. Current training programmes for data managers

A core body of data managers exists in Europe and North America to ensure the preservation and sharing of survey statistics. Skills in this area are advanced through formal training programmes at universities and colleges, for example the course on

Social and Economic Data available in the Information Science Department at Cornell University in the US

(INFO 4470: Social and economic data. 2009. [Online].

Available: <http://www.infosci.cornell.edu/courses/courses.asp?cnumber=INFO4470>.

Accessed 2009, December 9). Communities of practice such as the International Association for Social Science Information Service and Technology (IASSIST) also support knowledge exchange in the field (About IASSIST. 2009. [Online]. Available: <http://www.iassistdata.org/membership/about.html>. Accessed 2009, December 9).

However, in Africa survey data management is such a novel task that there are only a handful of practitioners in the field. Although surveys have been conducted since colonial times, the preservation of survey results as microdata files has only been made possible in the last decades, through advances in technology which have facilitated the efficient and cost-effective storage and sharing of this information. Decision-makers in African countries have also only recently begun to see the value of long term preservation of data, and its management and dissemination according to international standards to facilitate its repurposing for research and policymaking. They have thus not supported the introduction of any national training programmes to foster skills in this regard. Therefore, while established University courses in data management are part of the curriculum in some European and North American universities, similar courses do not exist in Information Science or Statistics Departments of African universities and colleges (Selematsela, 2009). Data management training in Africa takes the form of short courses or workshops, or technical assistance as part of the international statistical advancement programmes of the United Nations and the World Bank.

Except in South Africa, university courses in data analysis are also not aimed at future policy-analysts and policymakers (Bailey, 2005:540). The paucity of skilled data professionals to assist data discovery and data sharing in African countries mitigates the use of survey microdata in social science curriculums at African universities. This is exacerbated by and contributes to the low levels of empirical research in the region and the limited usage of survey information to support government planning.

4. Professional Associations

The first professional Association for African data managers, the African Association of Statistical Data Archivists (AASDA) was established in 2008. The launch of this body was supported by IASSIST and the World Bank funded International Household Survey Network (IHSN), an organisation promoting the effective usage of survey information in developing countries. International donor organisations fostered the establishment of an African Association of survey data professionals in the belief that this community of practice will be able to advance the objectives of knowledge utilisation on the continent. Members of the Association should be in a position to provide mutual encouragement with regard to the preservation and sharing of data and can form a “pressure group” to influence producers and funders to encourage and sustain data usage in the region to support social and economic development. The development of this African community of practice has, however, is currently hampered by limited financial and human resources.

5. Future possibilities

A precondition for the development of effective information usage is an educated and skilled population. The shortage of skills for data archiving is an obstacle to data management in African countries. Policies aimed at knowledge utilisation for growth could support the allocation of resources to advance both technical and intellectual capacities in Africa for data usage. Education ministries in African countries could develop existing curricula and facilities at local universities to introduce new courses relevant to the field of data management. The recent nature of data management as a research support activity in Africa means innovative strategies for effective training programmes may need to be adopted. Training syllabi could aim to produce graduates who are adaptable as this is vital in an environment with fast-changing technologies.

Professional associations of data managers could also benefit from official support to encourage a vibrant community of practice in the field. African governments could provide support for the establishment of national and regional associations of data

managers to benefit data management on the continent. AASDA, launched in 2008, could be an important agency for statistical advancement and could at least be partially supported by public funds. A robust professional association of data managers in Africa could provide practitioners with access to a pool of expertise and allow the sharing of scarce resources and collaboration with regard to regional data management systems.

These developments would require a change in the current situation in which meagre government resources are made available to support information utilisation in African countries. The major impediment to effective data management in the region is the lack of appreciation for evidence-based decision-making by the governments of these countries. The allocation of official funds to advance data management skills would need to be initiated and promoted by African leaders who appreciate the value of information as a development resource and are committed to its usage for the betterment of their societies.

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