

# Defining a Local Government Information Processing Standard for Tanzania

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## 1. Introduction

As the governance structure of a country becomes more decentralized, it becomes increasingly important that an accurate and consistent data base is available of the demographic, social, economic and fiscal characteristics of subnational government entities. The presence of accurate local government data allows policy analysts and local government officials to engage in accurate comparative analyses between different local government areas. The analyses based on such data could serve as the basis for competitive behavior between local government authorities, for instance, by demonstrating the effectiveness of local government expenditures. Likewise, as pointed out by Boex et. al. (2003) it is crucial that accurate fiscal and socio-economic data be available for local governments in order to introduce an objective formula-based grant system.<sup>25</sup>

A pre-requisite to assure the systematic collection of data for subnational government entities is the establishment of a consistent information processing standard for sunational government entities. In the absence of a uniform standard, different government agencies could use different identifiers (such as telephone codes, postal codes, census enumeration areas, etc.) to collect and categorize subnational data, which would not necessarily provide a consistent basis for comparisons between local governments. For instance, in the Russian Federation, data on household characteristics are compiled by the Federal Statistical Agency by postal code area, which does not correspond to local government finance data collected by the Ministry of Finance by local government area. Among others, such mismatches of crucial data sources prevent policy makers and analysts from analyzing how well local governments are serving the needs of their constituents. Furthermore, a consistent subnational government data processing standard would underscore the availability (or unavailability) of certain variables. For instance, data on certain variables such as poverty or household income levels are currently only available at the regional level in Tanzania, whereas such information would be extremely useful at

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<sup>25</sup> Jameson Boex, Roy Bahl, Jorge Martinez-Vazquez and Longinus Rutasitara. 2003. Final Report: Developing A System Of Intergovernmental Grants In Tanzania. Local Government Reform Programme / Georgia State University.

the local government level in order to support key policy analyses and in order to make financial allocation decisions.

Ultimately, the introduction of government-wide local government information processing standard would assure that data collected by any government agency (for instance, income tax data) could be easily and accurately matched to data from other government sources (for instance, household budget survey data). Likewise, a processing standard would facilitate the matching of local fiscal data (such as local sectoral expenditure), and sectoral indicators, such as local enrollment statistics.

## **2. Two types of information processing standards: Area-based versus Point-based Geographic Information Systems (GIS)**

Broadly speaking, there are two ways in which geographical data can be used in statistics, each one dependent on the national administrative set-up in question (Nael and Nordström 1998).<sup>26</sup>

The first set of approaches are area-based, where statistics for small- and large-scale areas are linked to polygons or regions, over-laid onto a topographic background map in a discrete system. In other words, depending on the number of government tiers or levels that exist in a country, the national territory could be subdivided into a discrete number of regional or state governments, districts or county governments, and sub-district entities that are named and populated, such as wards, villages, and so on. Areas-based approaches would code each data observation into a specific jurisdictional area, such as a specific local government unit.

The second GIS approach is a point-based approach, in which statistical micro data are linked to x/y coordinates in a continuous system. Whereas the point-based approaches are potentially more accurate and far more “exciting” in a conceptual sense, the data requirements for point-based GIS approaches typically far exceed the intensity of data available in the context of developing countries. Whereas point-based GIS mapping can in fact help make certain local government decisions in the context of developing countries (for instance, where to construct a bore-hole or where to build a road or school), point-based GIS is likely not cost-effective for many applications, particularly given the relatively high cost of point-based GIS systems and the availability of alternative practical (and often more cost-efficient, sometimes even non-computerized) methods. Another disadvantage of point-based GIS system -in addition to the general absence of necessary data- is that the excessive reliance on computerized policy decision-making

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<sup>26</sup> Inge Nael and Lennart Nordström. 1998. *Register Data, Point-Based Statistics And Gis In The Swedish And The Estonian Statistical Systems*. Working Paper No. 26: Statistical Commission And Economic Commission For Europe / Conference Of European Statisticians.

tools often tends to de-emphasize other key factors that play a role in local government decision-making processes, such as local politics or local government finance systems.

### **3. Defining a Subnational Government Information Processing Standard for Tanzania**

For many local government policy applications, the basic information need in Tanzania is simply the need to have key demographic, economic, social and fiscal characteristics collected and reported at the local government level. While many government agencies do report many variables at the local government (district) level, many of these data series are inaccurate, incomplete, or inconsistent. For instance:

- Basic statistics such as data on land area for local government jurisdictions are not readily available for all local governments.
- Sectoral government reports (for instance, Education Statistics) are often incomplete, excluding a significant number of local government units.
- Virtually every data source codes and sorts the available local government data differently. For instance, the ordering of local governments in the national budget votes appears to be illogical and rather *ad hoc*.
- The lack of uniform identifiers for local government entities, together with the absence of a consistent process standard, make consistently combining data from different sources either difficult or outright impossible.

In order to fill the existing void, this technical note formulates and defines a subnational government information processing standard for Tanzania. This objective is achieved by defining a consistent system of numerical codes for identifying local governments (the Local Government Information Processing Standard, LIPS) and regional data (the Regional Information Processing Standard, RIPS). Desirable features of the proposed standard are, first, that the local government areas are geographically and politically well-defined; second, each local government area is provided with a numerical code that allows comparison of data sets; and third, that the system is logically and hierarchically structured which allows for the creation of new regions or districts.<sup>27</sup>

Regional Information Processing Standard. A proposed Regional Information Processing Standard (RIPS) provides a naming and coding convention to represent the regional subdivision of mainland Tanzania. Because regional governments are an administrative subdivision of the mainland central governments, regions were assigned a separate coding structure altogether independent from the local government coding structure. All

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<sup>27</sup> For instance, see: U.S. National Institute of Standards and Technology. 2003. Codes for the Identification of the States, the District of Columbia and the Outlying Areas of the United States, and Associated Areas. FIPS Publication 5-2. Also see: U.S. National Institute of Standards and Technology. 2003. Counties and Equivalent Entities Of The United States, Its Possessions, And Associated Areas. FIPS Publication 6-4.

regions were sorted alphabetically and incrementally assigned a two-digit, odd-numbered numerical code, thus ranging from 01 (Arusha Region) and 03 (Dar es Salaam), through 41 (Tanga Region). The even-numbered codes are reserved for the possible creation of future districts.

At current count, there are 21 regional subdivisions in mainland Tanzania, including Manyara Region which was created in 2002 by splitting several districts off from Arusha Region. In accordance with its Kiswahili name, Pwani (Coast) Region was listed between Mwanza and Rukwa Regions. Assigning each local government a RIPS facilitates the presentation of local government data by region (for instance, for comparative purposes) and allows for the easy statistical aggregation of local government data at the regional level.

Local Government Information Processing Standard. A Local Government Information Processing Standard (LIPS) would provide a naming and coding convention to represent the local government districts and other entities treated as equivalent legal and/or statistical subdivisions of mainland Tanzania.<sup>28</sup> As mentioned above, since regional administrations in Tanzania have the status of deconcentrated units of the central government rather than a government level in their own right, local government districts should be considered to be the “first-order” territorial subdivisions of the State (or statistically equivalent entities), regardless of their designation such as rural district, urban district, town council, and so on.<sup>29</sup>

The starting point for the proposed LIPS code is the listing of those local government authorities in existence on January 1, 2003. At current count, there are 114 such local government entities in Tanzania. For illustrative purposes, a LIPS code was developed as presented in the Appendix. All local government units in Tanzania were sorted alphabetically and assigned a three-digit numerical code in increments of five, thus ranging from 005 (Arumeru District, Arusha) through 570 (Urambo District, Tabora).

The following issues should be noted:

- In some cases, it is uncertain whether the boundaries of local government jurisdictions are clearly defined. This particularly concerns: (a) the boundaries between urban and rural districts, and (b) recently created districts

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<sup>28</sup> Since Zanzibar’s local government structure is (both politically and structurally) different from that of mainland Tanzania and falls beyond the realm of the national government, local government units in Zanzibar have been excluded from the current processing standard.

<sup>29</sup> Multi-tiered government structures could rely on a hierarchical coding structure, whereby each district would be uniquely identified by the combination of a regional code and local code. For instance, in the United States, each county district is uniquely identified by the combination of the two-digit State FIPS Code and a three-digit county FIPS Code.

(particularly, district created since the 1982 census). Action should be taken to authoritatively resolve this issue.

- As a matter of convention, if a rural local government (rural council) and an urban local government (for instance, city, town or municipal authorities) share the same name, then the rural area is always listed first in alphabetical ordering (regardless of whether the urban council is a city, municipality, and so on).
- Local government units were not consecutively numbered in order to allow for the creation of additional local governments in the future without disrupting the logic of the processing standard.<sup>30</sup>
- It is crucial that every future change in the local government structure (creation of a new district, and so on) is reported and recorded as an annex to processing standard. The formal authority to maintain and update the processing standard should lie with the President's Office – Regional Administration and Local Government.
- Although Kibaha comprises an urban council and a rural council in the budget process, population data for Kibaha is not reported separately of Kibaha Urban and Kibaha Rural. Per convention, data for the entire Kibaha local government area will be reported as Kibaha Rural.
- The Dar es Salaam Special District –which covers all local government jurisdictions in Dar es Salaam region- is recorded separately with LIPS code 995, as this metropolitan district takes on the nature of a special district rather than a separate government level.

Sub-District Information Processing Standard. Currently, much of the emphasis in Tanzania is on constructing a processing standard for regional and district-level data. It is possible that the need to process sub-district level data will become more important as the system of intergovernmental fiscal relations further evolves in Tanzania. At that time, it would be appropriate to extend the subnational processing standard with a classification system for sub-district entities such as wards, villages, hamlets and neighborhoods.

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<sup>30</sup> For instance, RALG is in the process of creating six additional LGAs beginning January 1, 2004. Local administrations will be set up to run the new districts under appointed commissions from January 1, 2004. Subsequently, local government councils will be elected locally. These following new districts will have to be assigned new LIPS codes: Ilemela and Nyamagana (previously Mwanza CC); Kilindi (previously part of Handeni DC); Kilolo (previously part of Iringa DC); Kishapu (previously part of Shinyanga DC); Mvomero (previously part of Morogoro DC); and Namtumbo (previously part of Songea DC).

#### **4. Concluding remarks**

This technical note has laid out a specific proposal for a Local Government Information Processing Standard (LIPS) for Tanzania. The note clarified the coding conventions used by the research team in sorting and processing data used to guide the development of a local government data base for the system of formula-based grants. In addition, this note hopes to achieve three secondary goals:

- First, by defining an illustrative but functioning Local Government Information Processing Standard (LIPS) for Tanzania, this note enables policy analysts and government agencies to voluntarily adopt the LIPS as a consistent standard for reporting local government data.
- Second, by emphasizing some of the weaknesses of the current approaches to collecting and processing local government data in Tanzania, this technical note hopes to stimulate the more systematic collection and reporting of relevant local government statistics.
- Third, the development of an illustrative Local Government Information Processing Standard (LIPS) is the first step in having the Government of Tanzania define and impose an authoritatively binding local government information processing standard that will bind all government agencies in their data reporting.