Subnational data system: a case study in the communes of Manga and Ténado in Burkina Faso.

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Summary :

At the start of the evaluation of the Sustainable Development Goals (SDGs), the need to have reliable data at the finest possible geographic and/or administrative scales is one of the challenges for African statistical systems. This communication shares the experience of setting up a subnational data system in two communes (urban and rural) in Burkina Faso. Co-created with each municipality and local and community administrative actors through an integrated and participatory approach, these information systems provide population, civil status, health and education statistics. Also integrating geographic information systems (GIS), these systems make it possible to monitor geographic disparities at finer scales and at desired intervals (monthly, quarterly, half-yearly and annually). The results obtained show that these subnational data systems constitute excellent tools for effective governance for the municipalities that have them.

Context and rationale

One of the shortcomings of African national statistical systems remains the non-existence of modern, efficient and effective civil status systems capable of establishing a continuous and exhaustive recording of civil status events and information from administrative sources, which is nevertheless a guarantee a fairly robust and reliable source of statistical data such as those relating to health, education, employment, migration, tourism, etc. This state of affairs leads to the use of census and survey data whose collection protocols are quite complex. These operations sometimes remain general in the themes addressed and mobilize sufficient human and financial resources. This most often gives rise to data quality problems. To the high costs of collection operations, we must add the inadequacies linked to their periodicities and their representativeness on smaller scales as recommended by the SDGs for better political targeting actions. Sample surveys, although having the merit of addressing certain themes in more detail, they are generally not representative beyond the second administrative division of the country (the region).

In Burkina Faso, existing mechanisms make it possible to continuously record data from administrative sources such as births, deaths and their immediate causes (depending on whether these events took place in health centers), school system statistics , legally celebrated marriage certificates, information on hotel and tourist establishments, etc. This collected data is aggregated and centralized at the level of

General Directorates of Studies and Sector Statistics (DGESS) of the ministries concerned and are the subject of the production of annual statistical directories. The fact remains that these systems are obsolete due to a lack of innovation and do not offer statistics at finer scales (municipality, village).

Furthermore, population observatories such as those of Ouagadougou and Nouna which respectively cover an urban area and a rural area offer possibilities for analysis of many socio-demographic and economic phenomena (health, migration, education, employment, etc.) . However, the latter remain limited by their non-exhaustive nature of the overall situation of the country and even that of the provinces in which they are established. Thus, although most of the factors favorable to a catalytic supply of data are already in place in Burkina Faso, notably the production and dissemination of data under the leadership of the National Institute of Statistics and Demography (INSD), efforts to facilitate learning between different sectors (e.g. health, education, agriculture, employment, mining, etc.) at all levels of different administrative entities remain challenges to raise. It is with this in mind to fill the obvious gaps in national data ecosystems that the ISSP, in collaboration with the APHRC in Dakar, implemented catalytic micro-examples in the communes of Manga and Ténado. These micro-examples aim to strengthen subnational data systems for planning and decision-making at the national and subnational level in Burkina Faso. In this communication, the digital platforms put in place, the trends and levels of use and coverage of civil registration, education and health services are presented based on subnational data collected through these platforms. .

Data and method

As part of this research, the data used comes from collection platforms implemented in the municipalities of Manga and Ténado. In terms of analysis, univariate and/or bivariate analyzes are implemented. In this study the indicators of interest presented are the coverage rate of prenatal consultations (4 visits or more), the pentavalent 3 vaccination coverage for the health sector, the rate of birth declaration within the legal deadlines for the marital status and gross primary school enrollment rate for education. The CPN4+ coverage rate is defined as the number of pregnant women seen for the fourth time in prenatal consultation during a year compared to the number of expected pregnancies. Pentavalent 3 coverage is the number of children aged 0 to 11 months having received the 3rd dose of DPT HepB-Hib during a given period compared to the number of children aged 0 to 11 months per year. The birth declaration rate is defined as the percentage of birth certificates established within the normal time frame (2 months after birth). The gross enrollment rate is the ratio between the total number of students enrolled in an education cycle regardless of their ages and the total population of official primary school age.

Description of the information system

The data collection system is based on an integrated and participatory approach. It mobilizes upstream, sectoral and decentralized actors responsible for collecting and centralizing data from their sectors of action. These primary data are

transferred and integrated into the data compilation platform. Once the data is centralized in the local database, it is continuously transferred to a central storage server. These data are processed and analyzed then validated before being distributed on the web distribution platform in order to allow wide accessibility to users (see diagram 1). They cover three themes: civil status, education and health. Health data is obtained from health facilities through the monthly activity report made by each health facility. The reports are entered and then transferred to the central level. This data is extracted from DHIS 2 each quarter and then loaded directly into the database of the different municipalities. Education data comes from primary collection from educational establishments supplemented by analysis of monthly and annual reports from primary and secondary schools. As for civil status data, they are integrated and updated through entry of the various registers accessible to the town hall, the place where the subnational system is installed.

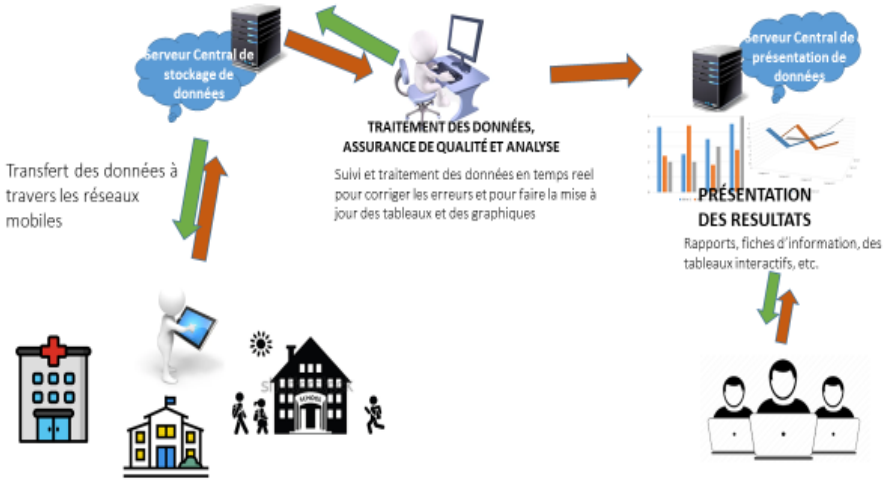

Diagram 1: Illustrative diagram of the general subnational data system

Description of the IT platform ecosystem

The IT platform is composed of a local data entry web application, a central web application and a web application (website). The local web application allows you to enter data or integrate data imported from other external databases. It is installed at the subnational level and available offline. The central web application for data processing allows locally entered data to be centralized. This facilitates the processing of data to produce the indicators. The web application (website), for its part, allows the dissemination of product indicators across the internet. Internet users remotely access subnational data in graphic format (bar, histogram, curve, etc.), they can download the data in several formats (graphic image, csv, txt, etc.). The main functionalities of the website are, among others, the interfaces for setting up basic data, the interfaces for entering data on health, education and civil status, the interfaces for information and importing data, the interfaces statistics visualization (Dashboard), advanced data query interfaces, dynamic statistics visualization interfaces per user and data transfer action interfaces to the central server.

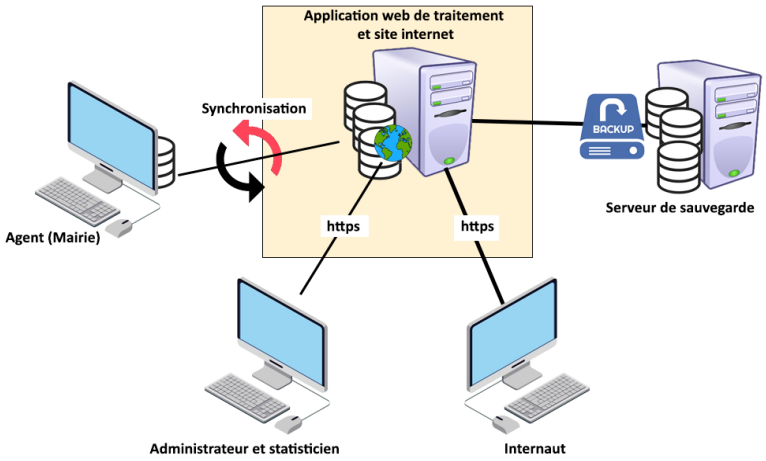

Diagram 2: Technical architecture of the IT ecosystem

Results

Trends in the birth declaration rate in the communes of Manga and Ténado

The rate of declaration of births to the civil registry in the two months following the birth improved between 2018 and 2022 in each of the two municipalities. The declaration rate increased from 16% in 2018 to 76% in the municipality of Ténado and from 44% in 2018 to 62% in 2022. See Figure 3. This improvement is the result of the creation of state secondary centers civil in the sector and attached villages of the municipality, the compulsory registration of any birth taking place in a health establishment with the health agent who is responsible for transferring the information to the town hall and also that of NGOs organizing campaigns for the mass establishment and delivery of birth certificate extracts.

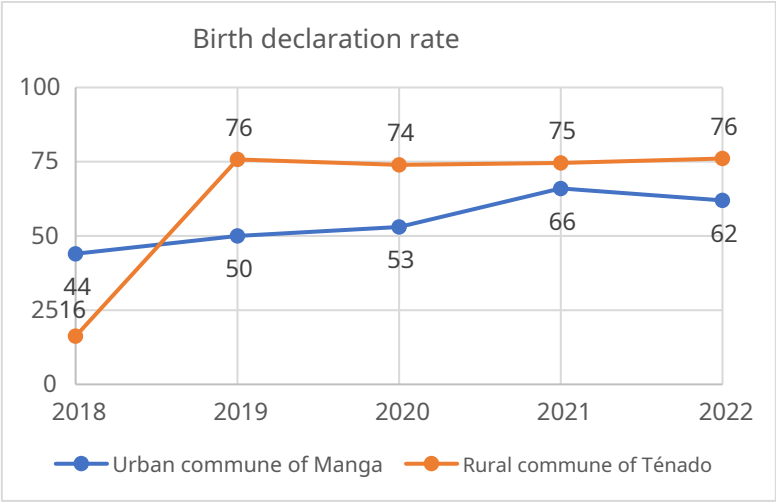

Figure 1: Trends in the birth declaration rate by municipality

Trends in CPN4+ coverage in the communes of Manga and Ténado.

Significant progress in pregnancy care coverage has been recorded in the communes of Manga and Ténado. In fact, the proportion of pregnant women who have made at least four prenatal visits is increasing. It increased from 16% in 2013 to 62% in 2022 in the commune of Manga, an average annual increase of 18.2%. In the municipality of Ténado, it increased from 39% in 2016 to 53% in 2022, an annual increase.

average of 5.1%. See Figure 1. The increase was more rapid from 2017 and could be attributable to the policy of free healthcare for pregnant women and children under five, adopted in 2016.

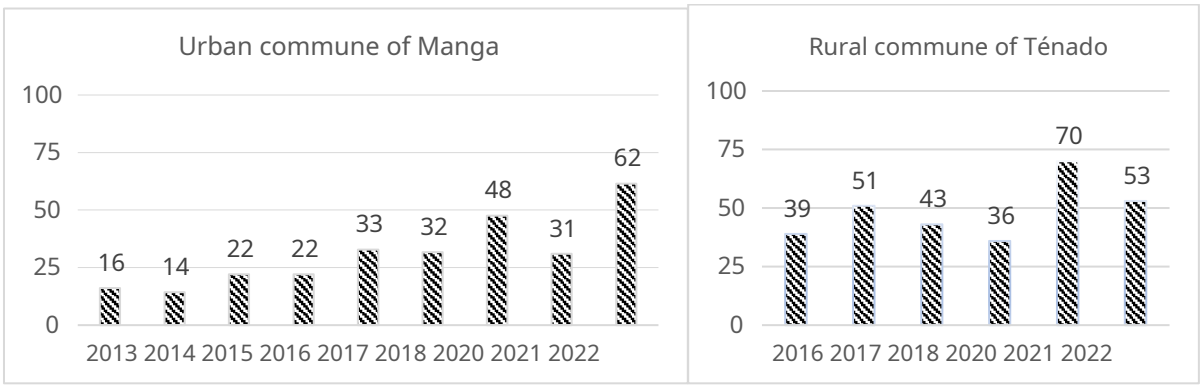

Figure 2: Trend in CPN4+ coverage rate by municipality

Trends in pentavalent 3 coverage in the communes of Manga and Ténado.

The level of pentavalent 3 vaccination coverage among children aged 0 to 11 months has increased in the commune of Manga from 2017 while paradoxically a continued decline in this coverage is observed in the commune of Ténado, even if the coverage is higher in Ténado than in Manga until 2021. In the commune of Manga, vaccination coverage increased from 55% in 2016 to 87% in 2022, a gain of 32 points over the period 2016-2022. In Ténado, vaccination coverage fell from 99% in 2016 to 81% in 2022, a drop of 18 points over the period.

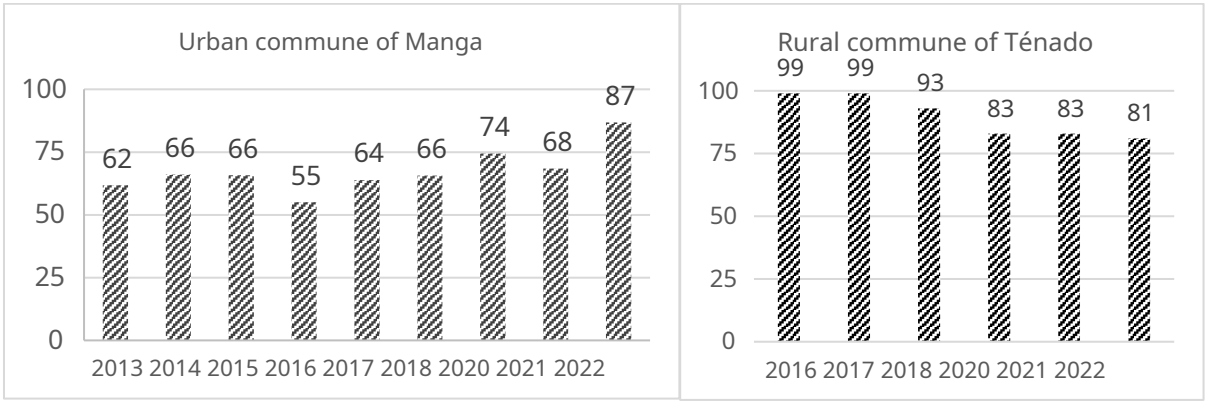

Figure 3: Trends in pentavalent 3 coverage by municipality

Gross enrollment rate in the communes of Manga and Ténado

The gross enrollment rate (GER) at primary level is estimated at 125% in 2022 then at 122.7% in the commune of Manga. In other words, the school system absorbs in addition to children aged 6 to 11, children aged over 11. In the municipality of Ténado, the GER went from 99.7% in 2022 to 97.4% in 2023, a drop of 2.3 points. See Figure 4. The school system in the municipality of Ténado does not absorb all of the school-age children.

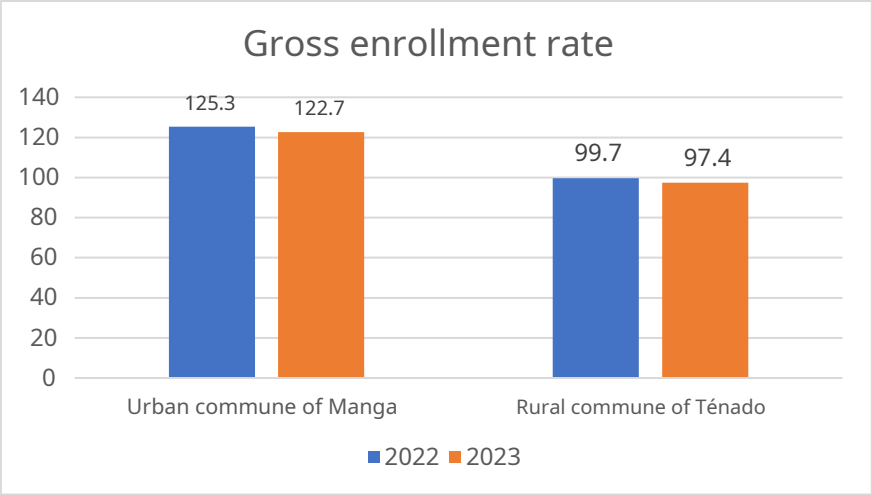

Figure 4: Gross enrollment rate by municipality

Number of primary school dropouts by sex and by school in the commune of Manga in 2022

Figure 5: mapping of school dropouts by gender in the commune of Manga

Number of primary school dropouts by sex and by school in the municipality of Ténado in 2022

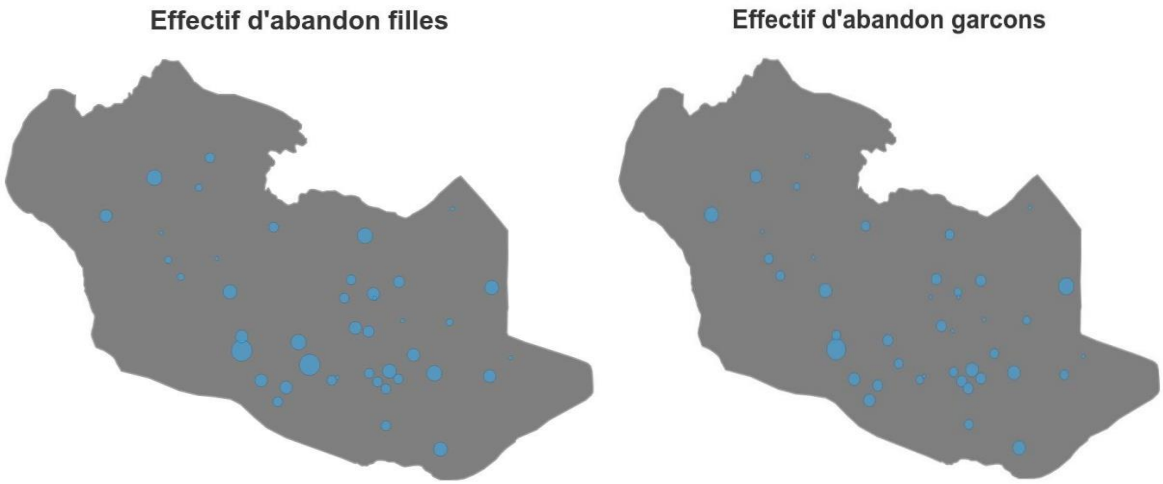

Figure 5: mapping of school dropouts by gender in the commune of Ténado