The Nigeria Millennium Development Goals Information System

The Presidency

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The Nigeria Millennium Development Goals Information System: what it is and how you can use it

A new open access database to inform policy and planning for poverty reduction

The Nigeria Millennium Development Goals Information System (NMIS) captures baseline data on the majority of public and private health and education facilities, as well as water facilities situated within or close to the two sector facilities across the country. The NMIS database records the facility location, management, available services, infrastructure, staff and proximity to settlements, and allows users to examine facilities by state and Local Government Area (LGA) and to download raw data in order to conduct various kinds of analyses.

The development of the NMIS began in 2010 by the Office of the Senior Special Adviser to the President on Millennium Development Goals (OSSAP-MDGs) with technical support from the Earth Institute of Columbia University, New York, USA and the State Partnership for Accountability, Responsiveness and Capability (SPARC) programme. The OSSAP-MDGs uses the NMIS to plan and implement the Conditional Grants Scheme (CGS) Local Government Track. On the 19th of August 2014, the NMIS was publicly unveiled and access to the system was opened to the public.

Individuals and institutions may now use the NMIS data for development planning. The NMIS can be accessed at http://nmis.mdgs.gov.ng.

What does NMIS contain?

NMIS contains two main types of information:

- **Indicators for tracking the MDGs** which help to show the degree to which the MDGs have been achieved, including, in the education sector; levels of enrolment in education, completion rates for the full cycle of primary school education, gender parity in school enrolment, and literacy rates.

- **NMIS data on facilities**
  - Data is provided on over 260,000 LGA health, education and water facilities and includes, for each facility:
    - Facility name
    - Facility level: for health (health post, health clinic, primary health centre or hospital) and for education (primary only, junior secondary, senior secondary only, or a combination)
    - Location
    - Management (public, private or faith-based)
    - Available services (such as, in the health sector, antenatal, family planning services, C-Sections, ACT malaria treatment)
    - Infrastructure (such as those with access to improved water source, improved sanitation, access to alternative source of electricity)
    - Map showing proximity to settlements.

- **NMIS data sources**
  - OSSAP-Earth Institute collected data by:
    - 2011 survey of 113 LGAs
    - 2012 survey of 661 LGAs
    - 2014 mop-up survey to capture facilities omitted and new ones built since the conduct of the first 2 surveys.
  - NMIS also contains external data used to generate the MDGs status of each LGA and State:
    - Nigeria Demographic and Health Survey (2008, 2013)
    - Population Census (2006)

Users can download raw data sets for 2011, 2012 and 2014 as well as the NBS Reports from http://nmis.mdgs.gov.ng/download
Indicators for planning and budgeting which measure government inputs that contribute to the achievement of the MDG targets and also guide interventions to areas of greatest need, in terms of infrastructure, furniture, personnel, teaching and learning.

The indicators for planning and budgeting:

- **Show the number and status** of existing health, education and water and sanitation facilities in the 774 LGAs of the country. Figure 1 gives an example of Wushishi LGA, Niger State.
- **Give the location and a description** of all facilities, indicating the services offered, the management structure and the capacity in terms of available human resources. Figure 2 gives an example showing the location and description of Maisamari Primary school in Wushishi LGA, Niger State.

**Figure 1: A screen shot from NMIS showing the number and status of existing health, education, and water and sanitation facilities in Wushishi LGA in Niger State** – to access this data click on “Explore Data”, select State, and select LGA.

**Figure 2: A screen shot from NMIS showing the location and summary details of Maisamari Primary school in Wushishi LGA, Niger State using the map feature** – to access this data click on “Explore Data”, select State, select LGA and click on the facilities icon top right.

The NMIS also provides:

- **Planning tools**, such as:
  - **Gap sheets for health and education**, which compare available LGA data and national standards in each sector
  - **Indicator definitions for health, education and water**, which define the terms used in the data sets and surveys
  - **Health and education policy packages**, which contain recommendations for interventions to target progress towards specific goals in health and education.
  - **Downloadable data sets**, which were used to generate all the information in the NMIS including the survey tools (questionnaires), used to collect the data.

New users can take a tour of the NMIS using the visual guide on the website.

**The NMIS – a powerful tool for planning and advocacy**

The NMIS has been instrumental to planning the CGS to LGA track and with the new focus on data revolution as an integral part of sustainable development, the NMIS is well positioned for use as a powerful tool in implementing the post-2015 development agenda.

To date, the NMIS has been useful in two main ways:

- In ensuring that resources are directed to the areas of greatest need
- In reducing waste by preventing project duplication.

**LGA planning under the CGS**

NMIS provides LGA planners with templates for comparing LGA data in health and education with national standards and calculating the percentage gap. LGA planning officers can use gap sheets to ensure that all selected projects respond to areas of greatest need (Figure 3). Coloured buttons on a gap sheet indicate the areas of greatest need:

- **Green**: >90% – on track to achieving target
- **Amber**: 50–90% – needs additional attention
- **Red**: <50% – off track and needs urgent attention.

To qualify for CGS funding, projects must target priority areas. The CGS evaluation team uses gap sheets as the basis for approving projects, thus helping to ensure that resources are channelled to areas of greatest need. Figure 3 shows the education gap sheet for Ado LGA in Benue State.
Editable gap sheets for education and health can be downloaded from the NMIS via the "Planning Tools" tab and populated using either available data on the NMIS or already existing state data.

The NMIS also presents a snapshot of these percentage gaps by showing facilities benefitting from specific inputs as a percentage of the total. For example, Figure 4 shows infrastructure gaps in primary schools in Ado LGA, Benue State.

To avoid duplication, CGS evaluation teams can check the NMIS for the status of those facilities selected by LGAs for renovation, or communities selected for new projects, to check whether similar projects or facilities already exist.

Potential of NMIS for planning sector programmes at the state level

Although states have existing databases for planning, the NMIS presents information that can provide a cross check for existing data or which can supplement it.

Data can be accessed by state planners to identify projects and programmes for inclusion in medium-term sector plans and strategies (for example, an MTSS) that target the areas of greatest need. Central ministries, such as planning ministries, can also use NMIS to examine proposed projects and check for duplication. For example, the Health Ministry in Enugu State could use the data in Figure 5 to channel resources to LGAs with the greatest need for emergency transport. States can also use the system for monitoring progress.

To use another example, this time from the education sector: where a policy thrust outlined in the State Plan is to improve teaching and learning quality with a target of 90% improvement of public primary and junior secondary schools' infrastructure and facilities, a planning officer can use the NMIS to:

- Ascertain what percentage of the total education facilities in a particular LGA are public, primary only, junior secondary only or combined
- View the status of each educational facility. For example, the percentage of classrooms needing major repairs, availability of improved functional water point, pupil to class ratio, pupil to toilet ratio, and availability of a useable chalkboard. This will enable an informed decision to ensure that resources are channelled to areas of greatest need
- Run different types of analysis that can help inform an evidence based approach to identifying strategy options for inclusion in the Sector Strategies.

1 For more information on how to develop an MTSS please see How to Prepare a Medium-Term Sector Strategy: A Step-by-Step Guide www.sparc-nigeria.com/RC/files/1.2.3_Guide_Developing_MTSSs.pdf
**Other ways the NMIS may be useful for State Planning**

The gap sheets which benchmark available facilities against minimum standards can also be a useful state wide planning tool if adapted for other sectors. As gaps are filled, data should be updated which can also help with performance monitoring.

States can also adopt strategies from the planning packages (also accessible via the "Planning Tools" tab) which are targeted at improving progress towards the achievement of specific goals in the health and education sectors.

Finally, the survey instruments on the NMIS can also guide states in developing similar surveys for capturing relevant data.

**Using the NMIS for Monitoring and Evaluation (M&E) in States**

The NMIS can be used during performance reviews, scorecard preparation and key performance indicator (KPI) reporting. All three processes involve assessing, measuring and comparing the targeted or planned KPI values to the actual values.

To demonstrate how the NMIS data can be used during these processes, sample targets and KPIs are detailed in Table 1 below from a 2014–2016 State X Education Sector Strategy.

The state officer responsible for M&E can first use the NMIS to confirm that indicators being tracked by the Ministries Departments and Agencies (MDAs) or Sectors include those on the NMIS: the NMIS has only facility-related indicators for education, health and water but not for all possible indicators in the sectors. The "Planning Tools" menu contains a section with downloadable PDFs of indicator definition tables for the sectors.

The "Explore Data" section of NMIS allows the officer to view the data on the above indicators by LGA. Data can also be downloaded into an Excel spreadsheet (via "Download Data") and aggregated by state or zone.

While exploring data by LGA, the officer can look at the KPI values for the year under review and establish the performance variance whether positive, negative or neutral (Table 2 below).

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**Table 1: Sample education sector targets and KPIs**

<table>
<thead>
<tr>
<th>Targets</th>
<th>KPIs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve pupil to teacher ratio (qualified teachers) from 79:1 (2011 baseline) to 50:1 in primary schools, and sustain the ratio of 30:1 in junior secondary schools by 2015</td>
<td>Pupil to qualified teachers ratio</td>
</tr>
<tr>
<td></td>
<td>Percentage of non-qualified teachers that have now qualified</td>
</tr>
<tr>
<td></td>
<td>Number of qualified teachers recruited annually</td>
</tr>
<tr>
<td>Increase the proportion of nomadic pupil enrolment to 12% of primary schools' gross enrolment by 2015</td>
<td>Proportion of primary school enrolment that is nomadic</td>
</tr>
</tbody>
</table>

**Table 2: Education sector performance variance by KPI**

<table>
<thead>
<tr>
<th>Targets</th>
<th>KPIs</th>
<th>KPI Baseline Value in 2011</th>
<th>KPI 2014 Value from NMIS</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve pupil to teacher ratio (qualified teachers) from 79:1 (2011 baseline) to 50:1 in primary schools and sustain the ratio of 30:1 in junior secondary schools by 2015</td>
<td>Pupil to qualified teachers ratio (primary)</td>
<td>79:1</td>
<td>62:1</td>
<td>41% improvement in performance compared to the target: positive change</td>
</tr>
<tr>
<td></td>
<td>Pupil to qualified teachers ratio (junior secondary)</td>
<td>30:1</td>
<td>33:1</td>
<td>10% reduction in performance: negative change</td>
</tr>
<tr>
<td>1.1.2 Increase the proportion of nomadic pupil enrolment to 12% of primary schools' gross enrolment by 2015</td>
<td>Proportion of primary school enrolment that is nomadic</td>
<td>Unknown</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The values obtained from the analysis can also be compared to standards within the sector. For example, the pupil to qualified teacher ratio above can be compared to the education sector standard to assess agreement or deviation from the standard and necessary improvements.

The above analysis can be presented as a scorecard, by using arrows and traffic lights to depict the direction of change – positive, negative or neutral.

It is helpful to narrate the KPI assessment by stating the key strategies that were implemented to have yielded the (positive or negative) results under each KPI.

Planning at the federal level
Data is available in NMIS on all states, allowing for analysis and planning at the federal level. For example, Federal MDAs in the education sector are able to plan teacher deployment using available data on the NMIS.

Figure 6 shows the male to female pupil ratio and the male to female teacher ratio for ten sample states.

Figure 6: Indicator: male–female pupil ratio and male–female teacher ratio*

States with values >1 have more male pupils/teachers while those with values <1 have more female pupils/teachers. Figure 6 below shows that:

- Jigawa, Kano, Kaduna, Katsina, Niger, Zamfara and Yobe have more male teachers and less girls attending schools
- Anambra, Enugu and Lagos have more female teachers/girls in school.

This demonstrates a correlation between the gender of teachers and the corresponding gender balance of pupil enrolment in schools. This sort of analysis is able to inform decisions on teacher deployment to states depending on state needs.

As mentioned above planners and researchers can also access PDFs of sector policy packages in the "Planning Tools" section of the NMIS, for recommendations on interventions that can help target progress towards specific goals in health and education.

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Figure 6: Indicator: male–female pupil ratio and male–female teacher ratio*

Figure 6 shows the male to female pupil ratio and the male to female teacher ratio for ten sample states.

*Note: This data is for primary and junior secondary schools

www.sparc-nigeria.com
Similar analysis can also be done to assess pupil to toilet ratio and availability of improved water supply and sanitation in schools by zone (Figures 7 and 8). This can inform rapid response strategies during disease outbreaks, such as the recent Ebola outbreak.

Figure 7: Improved and functional water supply and sanitation in primary schools by geo-political zone

This sort of analyses can also foster synergy and cooperation among sectors, in this case, the health and education sectors.

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Advocacy is an area most Civil Society Organisations (CSOs) have as part of their mandate in Nigeria, and relies on facts, figures and data. To be effective, CSOs must therefore build their arguments and efforts from an informed position, but traditionally access to relevant information has been an impeding factor.

While the recently passed Freedom of Information (FOI) Law has partly addressed the knowledge gap, there are still barriers to activating FOI such as non-disclosure of information by government officials which has led to several time-consuming and costly law suits.

The NMIS therefore presents an alternative data source with scientifically generated, and immediately available, information.

CSOs can extract and use data from NMIS, for example to compare indicators in LGAs with similar populations to make a case for more equitable distribution of income among LGAs and states.

Figure 9 makes a comparison between two LGAs with a similar population, using data from indicators in Table 3. Such analysis can be conducted by CSOs and used for evidence-based advocacy.

Data on the NMIS also empowers citizens to demand better accountability from government.
Table 3: Data used for comparison of two LGAs in Anambra State

<table>
<thead>
<tr>
<th>Indicators</th>
<th>LGA 1</th>
<th>LGA 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name and Senatorial District</td>
<td>Ayamelum, Anambra North</td>
<td>Ekwusigo, Anambra South</td>
</tr>
<tr>
<td>Total number of health facilities including hospitals</td>
<td>20</td>
<td>58</td>
</tr>
<tr>
<td>Percentage of facilities that offer ante-natal care</td>
<td>85%</td>
<td>79%</td>
</tr>
<tr>
<td>Percentage of facilities connected to Power Holding Company of Nigeria (PHCN) grid</td>
<td>18%</td>
<td>88%</td>
</tr>
<tr>
<td>Percentage of facilities that have emergency transport available for referrals</td>
<td>5%</td>
<td>21%</td>
</tr>
<tr>
<td>Facilities that offer family planning services</td>
<td>35%</td>
<td>64%</td>
</tr>
</tbody>
</table>
The NMIS at a glance

- The Nigeria Millennium Development Goals Information System (NMIS) is a powerful tool for planning and for promoting accountability and advocacy (especially in states)
- It contains 2011, 2012 and 2014 survey data on health and education in LGAs and indicators of progress towards the Millennium Development Goals (MDGs) collected in three phases
- Data collection in 2014 was done using a Mop-up survey to capture omitted and newly built facilities
- Raw data sets collected over these three phases/years are downloadable separately from the NMIS using the “Download data” tab
- Since the development of the System NMIS in 2010, the OSSAP-MDGs has used the system for planning and implementing the Conditional Grants Scheme (CGS) in LGAs
- NMIS gap sheets provide state and federal planners with information on the gap between facilities in LGAs and national standards that allows them to channel resources to the areas of greatest need
- The NMIS allows users to view facilities and communities where the facilities are situated
- NMIS is now open access, allowing planners and researchers at state and federal levels, as well as community-based and civil society organisations, to use it for development planning
- The NMIS contains a great majority of facilities in the 774 LGAs in Nigeria. For more information on data caveats, please see the Data caveats page using the “About” Tab.

Feedback

For the purpose of updating the NMIS, it is envisaged that up-to-date data regularly produced by States could be used. The CGS Unit will be engaging with States to agree on the best way to coordinate this.

For the NMIS to meet the needs of diverse stakeholders, collaboration and ongoing conversations about the database are much needed. States, CSOs and other stakeholders are therefore invited to provide feedback to the CGS on the usefulness of the data in their day to day work and on possible ways of improving the database as a whole.

To provide feedback, please contact OSSAP-MDGs: cgs.lga@mdgs.gov.ng
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