

WaSH Sector, 2017

WaSH PiN Methodology

Narrative of methodology used for deriving WaSH PiN as part of the 2018 HNO process, North Eastern Nigeria (Adamawa, Bauchi, Borno, Gombe, Taraba, and Yobe States) . Total PiN = 3.2m

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Overview

A triangulation of data from various WaSH needs assessments, Vaccination Tracking Matrix (VTS) population data, and severity points of inter-sectoral indicators (GAM rate and flood vulnerability) was used to come up with the People in Need for WaSH facilities in five North Eastern States (Adamawa, Bauchi, Borno, Gombe, Taraba, and Yobe). By multiplying the affected population by a severity index for each WaSH indicator. The PiN Index for each LGA was computed by prioritizing six different WaSH needs data sources (Please see the file [data_core.xlsx](#), in the worksheet titled [PiN Index Unnormalized without HP](#))

This document summarizes the methodology used for estimating the affected population and computing severity indices (estimated proportion of people in need of WaSH Humanitarian Response) in each LGA.

Methodology

The approach for developing the methodology can be viewed as two steps:

1. Identify affected population (i.e. vulnerable population in need of humanitarian services)
2. Generate the PiN (per LGA) by multiplying the affected population by a severity index for each WaSH indicator. The PiN Index for each LGA was computed by prioritizing six different WaSH needs data sources (Please see the file [data_core.xlsx](#), in the worksheet titled [PiN Index Unnormalized without HP](#))

Baseline Population

Affected Population

The affected population (total people living in the five North Eastern) states identified through the VTS, which is already disaggregated by sex and age.

Vulnerable Population

The vulnerable population was derived from the DTM XVIII population data (IDPs, returnees, population in inaccessible areas) and population of communities hosting IDPs. The DTM provides population for all aforementioned categories apart from the host communities.

Estimating Host Communities

To compute the host community, the WaSH 5Ws population data (for May, June and July) was used to compute the ratio of IDPs to Host Communities. The ratio of IDPs to Host Communities for each state, according to the data reported by partners through the 5Ws is shown in the table below.

Table 1: Ratio of IDPs to Host Communities per State

	Host Communities	IDPs	% Host Community to IDPs
Borno	1392820.205	1011771.778	1.376614998
Adamawa	27786.34568	13455.79818	2.0650091
Yobe	58952.20973	19837.64902	2.97173368
Taraba			1
Gombe			1
Bauchi			1

It was important to consider that the number of IDPs in host communities varied for each LGA (which can be seen by referring to the DTM XVIII baseline assessment data). For example, only 1, out of 11 sites in Dikwa LGA has IDPs in host communities; it will be necessary to factor in the contribution of each LGA to the host community population.

Thus, after estimating the number of host communities per state (using the ratio index shown in table 1 above), the number of people in the host community for each LGA was computed by calculating the contribution of each LGA to the host community population. The proportion of the number of host communities in an LGA (to the total number of host communities in the state) was used to calculate the number of the host community population per LGA (refer to *host_community_index.xls* in the zip folder).

A summary of the affected population per LGA after the application of the above method can be seen in the Excel workbook titled [pin_review_24oct_without_HP.xlsx](#) (the excel sheet named "affected_population_adjstd").

NOTE: The total vulnerable population was compared with the VTS population. When the computed vulnerable population was greater than the VTS population, the host community was computed as the difference between the VTS population and the sum other population categories (i.e. Host Community = VTS population – DTM XVIII IDPs population). This was observed in 10 LGAs in Borno (*Bama, Damboa, Dikwa, Gwoza, Jere, Kala Balge, Konduga, Monguno, Ngala and Nganzai*). The entire inaccessible population (as per accessibility data) was considered vulnerable.

In three LGAs in Yobe State (*Karasuwa, Machina and Yunusari*), only children (1-5yrs) and women (18 to 50) were considered as the vulnerable population.

PiN Index from OCHA/WaSH – REACH Needs Assessment

With funding support from Global WASH Cluster, Nigeria WASH Sector, through REACH, conducted a baseline WASH Assessment in Borno State. In the same vein and through OCHA-REACH partnership, Multi-Sectoral Assessments were undertaken in Adamawa and Yobe States.

This assessment was conducted from September to October 2017 and was the preferred data source for estimating the WaSH PiN.

The PiN index for each LGA was estimated as the highest estimated proportion of people without either:

- Sufficient water
- Improved water source
- Access/use to sanitation

This method was applied in Borno State (*Askira Uba, Bayo, Biu, Chibok, Konduga, Kwaya-Kusar, Mobbar and Mafa*), Adamawa (*Gombi, Hong, Madagali, Maiha, Michika, Mubi North and Mubi South, Fufore, Girei, Yola North and Yola South*) and Yobe State (*Gujba, Gulani, Geidam, Yunusari, Potiskum, Nguru, Jakusko and Fune*).

Cholera Vulnerability - WaSH Hotspot Gap Analysis – EU Funded Basic Needs Assessment

In LGAs where the WaSH -REACH Assessment was not conducted, the cholera vulnerability data was used as the preferred source for computing the PiN index. First, the LGAs with any recorded cholera outbreak (in the last 5 years) were identified as the cholera vulnerable LGAs.

The current WaSH situation of each of the LGAs (highlighted in the WaSH Hotspots Gap Analysis) was used to compute the PiN Index. The WaSH Hotspot Gap Analysis covers six LGAs in Borno (Bama, Dikwa, Gwoza, Kala/Balge, Monguno and Ngala).

Thus, the WaSH Hotspots Gap Analysis was updated using information as at July, 2017 and was considered the second preferred PiN index data source.

With neither the WaSH - REACH Needs Assessment no WaSH Gap Analysis covering Jere and Maiduguri (also important cholera hotspot LGAs), the EU Funded Basic Needs Assessment (by OCHA, CaLP, DRC, MC, SCI) was used as the preferred PiN Indices source for Jere and Maiduguri.

A PiN index of 0.18 (18%) was considered for this two LGAs based on the Basic Needs Assessment report.

PiN Index from Nutrition Needs (GAM >15%)

The need for WaSH in Nutrition was also considered when computing the WaSH PiN. LGAs with GAM rates >15% were considered. Where there was no *OCHA/WaSH Assessment – REACH PiN Needs Assessment*, the People in Need was computed as 100% (PiN index = 1) of the People in Need of nutrition response. By applying this method, the WaSH PiN is the same as the Nutrition PiN in three LGAs (Karasuwa, Machina and Yunusari) in Yobe State.

PiN Index from Flood Vulnerability (LGAs with High Flood Vulnerability)

For LGAs where none of the previously described PiN sources were available, the flood vulnerability (as highlighted by the DMS/CCCM IDP Site flood vulnerability analysis) was considered as the PiN Index source. LGAs where any IDP camp was at high risk of flooding was assigned a PiN index = 1. The People in Need in such LGAs are therefore all categories of the vulnerable population (IDPs, Returnees, Host Community). By applying this method, the PiN Indices for four LGAs (Damboa, Kaga, Magumeri and Nganzai) were computed using the Flood vulnerability analysis.

PiN Index from DTM XVIII

Finally, in LGAs where there was no data about any of the previously discussed PiN Index sources, the highest vulnerability from the three WaSH indicators in the DTM were considered. The PiN was computed by considering the highest PiN across the following WaSH indicators:

- Water Access
- Water Quality
- Sanitation

Water Access PIN:

- The number of people not getting sufficient water per the minimum Sphere Standards (2.5 to 7.5 litres).
- This was calculated by multiplying the computed affected population (shown in table 2) by a Water Access index.

- The Water Access Index was calculated as the proportion of the population receiving <5 litres of water per day according to the DTM XVIII (e.g. for Maiduguri shown in Table 3 below).

Table 3: Water Access PiN Index for Maiduguri

LGA	Population of IDPs (DTM XVIII)	# of people getting less than 5ltrs/day	% of people in Need	Water Quantity PiN Index
Maiduguri	308,784	4,287	4,287/308,784= 01.388%	0.013883491

- The Water Access Index for Maiduguri LGA is 0.013883491.
- The PiN (for Water Access) in Maiduguri is 0.013883491* 525,296 (the affected people in Maiduguri)
- The PiN (Water Access) in Maiduguri = **7,293**
- This process was repeated for all LGAs across the six states.

Water Quality PiN:

- The PiN for improved water quality refers to the number of people not accessing an improved water source.
- This was calculated by multiplying the total affected population by a Water Quality index.
- The water quality index is the proportion of people not getting improved water (piped water, hand pump, water trucking) as reported in DTM XVIII (e.g. for Maiduguri shown in Table 3 below).

Table 4: Water Quality PiN Index for Maiduguri

LGA	Population of IDPs (DTM XVIII)	# people without improved water	% people without improved water	Water Quality PiN Index
Maiduguri	308,784	0	0%	0

- The Water Quality Index for Maiduguri LGA is 0.
- The PiN (for Water Quality) in Maiduguri is 0* 525,296 (the affected people in Maiduguri)
- The PiN (Water Quality) in Maiduguri = **0**
- This process was repeated for all LGAs across the six states.

Sanitation PiN

- The PiN based on the indicator for sanitation refers to the number of people not accessing/using sanitation facilities.
- This was calculated by multiplying the affected population by a Sanitation Access PiN Index.
- The Sanitation Access PiN Index was calculated by the proportion of people not accessing minimal sanitation requirements as per the Sphere Standards for latrine access (max. of 50 people per latrine).
- The proportion of people reported in DTM XVIII with below minimal latrine conditions is the Sanitation Access PiN Index (e.g. for Maiduguri shown in Table 4 below).

Table 4: Sanitation PiN Index for Maiduguri

LGA	Population of IDPs (DTM XVIII)	# people without improved minimal sanitation conditions	% people without minimal sanitation conditions	Sanitation PiN Index
Maiduguri	308,784	280,301	86.6509%	.866509

- The Sanitation PiN Index for Maiduguri LGA is 0.866509
- The PiN (for sanitation) in Maiduguri is $0.866509 * 525,296$ (the affected people in Maiduguri)
- The PiN (for sanitation) in Maiduguri = **455,174**
- This process was repeated for all LGAs across the six states.

Findings (WaSH People in Need)

- The highest PiN Index for any of the prioritized vulnerability indicators, calculated as data was available, was multiplied by the vulnerable population to derive the PiN for each LGA.
- The total People in Need for WaSH Humanitarian response was estimated = **3.2m**.