NIPN Learnings: Data Visualisation Tools for Nutrition

C4N-NIPN Global Coordination

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NiPN
National Information Platforms for Nutrition

Content

1. Introduction and methodology

Introduction

- National Information Platforms for Nutrition (NIPN) is an initiative of the European Commission and The German Federal Ministry for Economic Development and Cooperation to provide support to countries to strengthen their **information systems for nutrition** and to improve the analysis of data to **better inform the strategic decisions** they are faced with to prevent malnutrition and its consequences.

- From the onset of the initiative in 2015, **data visualization tools (DVT)** were identified as a powerful way to **better communicate on nutrition** data to policy makers. Each NIPN platform developed its own tool with specific objectives, approach, and methodology.

- The NIPN Contribution Study conducted by N4D in 2023 recommended to capture NIPN's valuable and diverse experiences developing and managing DVTs.

- In 2025 NIPN Global Coordination conducted a **review of the DVT experience accross NIPN countries**. The DVT comparative analysis combined a review of existing documentation with 18 interviews with DVT designers from eight countries and six interviews with DVT users from four countries.

- The objective of this review is to describe the experiences of NIPNs when developing and maintaining their DVT.

DVTs reviewed

- The following NIPN platforms were interviewed:
  - Burkina Faso
  - Côte d'Ivoire
  - Ethiopia
  - Guatemala
  - Kenya
  - Lao PDR
  - Niger
  - Uganda
- The DVT in Uganda is not fully operational and therefore not included in this review.
- Similarly, NIPN Zambia doesn't have any DVTs, therefore not included in this review.
- The Government of Sierra Leone was also supported by C4N to develop a DVT and their experience is included in this review.

Methodology

- A team of **C4N Consultants** (J. Chalimbaud, M. Agbendech, and M. Kebe) lead the review supported by **NIPN Global Coordination colleagues** (B. Baille, K. Rambaud, Y. Keita, T. Gill, and I. Neu).
- The team conducted a **desk review of existing documentation** on nutrition DVT and on the online DVT when accessible. Mobile applications were not included in this review.
- The **coordinators and technical team** of each platform were interviewed.
- Some **users of the DVT** (policy makers, M&E officials) were also interviewed when feasible.
- The interviewed were focused on: objectives of DVT, data flow, indicators, human and financial resources, communication, practical uses, and best practices and challenges.
- Interviews were conducted between March and May 2025.

Review of documentation and online DVT

Interviews of DVT designers (NIPN teams)
18 persons interviewed from 7 countries

Interviews of DVT users (national stakeholders)
6 persons interviewed from 4 countries

Synthesis

2. DVT objectives

DVT overview

All the tools reviewed:

- are developed with the intention to **communicate better on existing nutrition information** to national policy makers and to planning and M&E government officials. Most of the DVT are also available to the public for **transparency and accountability** of the government actions.
- have a **multisectoral approach** of nutrition.
- are based on **national strategies and priorities** and are unique to each country.
- are mostly used for <u>two specific objectives</u>:

  1) Monitor the progress of the national multi sectoral plans (MSP): through score cards or dashboards of trends, the national objectives of the MSP are visualised against the progress measured based on the latest evidence available. This monitoring provides a clear visualisation of where the progress have been on track or off track. These DVT are designed for government officials from different sectors to be accountable for their contribution to the improvement of the nutrition situation.

  2) Provide an overview of the nutrition situation: through visualisation of trends at national and sub-national levels, these DVT provide the latest picture of the nutrition status in the country and the contributing factors. These DVT are useful to identifies priorities for interventions, policies and action plans.

Some platforms have also used DVT to monitor the **progress of the N4G national commitments** when preparing for the N4G summit in Paris, 2025.

DVT objectives

Objectives:	Monitor the multi-sectoral plan	Monitor objective achievement (scorecard)	Overview of the nutrition situation	Monitor N4G commitments
Guatemala	✓	✓	X	X
Sierra Leone	✓	✓	✓	✓
Côte d'Ivoire	✓	✓	✓	✓
Burkina Faso	✓	✓	✓	X
Niger	✓	X	✓	X
Ethiopia	X	X	✓	X
Kenya	✓	✓	✓	✓
Lao PDR	✓	✓	✓	X

Most of the platforms have developed more than one DVT, as one DVT cannot fulfil all intended objectives. For example, in Kenya, there is one DVT with trends of nutrition indicators to provide an overview of the nutrition situation and another DVT in the form of a scorecard to monitor the progress of the multisectoral plan.

Highlights from countries

Three countries have developed unique functions for their visualisation tools:

Sub-national dashboards in Kenya

The Kenyan NIPFN dashboard displays information at national and district levels, when available. Two county dashboards and webpages have been developed. The DVT offers clear visuals of the county situation, and it compares it with the national value. This DVT is targeting County officials that have the mandate to prioritise interventions and can decide on budget allocation in their area. This DVT helps them to prioritise intervention in their county.

Inter-operability between information platforms in Lao PDR

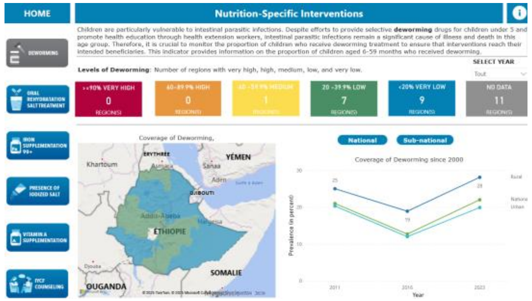
In Lao PDR, a specific DVT was developed called the VIVID tool. It uses AI to track violation of the breastfeeding code of conduct and reports directly online.

Interactive dashboard in Sierra Leone

In Sierra Leone, the national information dashboard provides an updated nutrition stakeholder mapping online. Stakeholders are invited to regularly update their nutrition activities and area of interventions.

Examples: Ethiopia and Kenya

Ethiopia dashboard

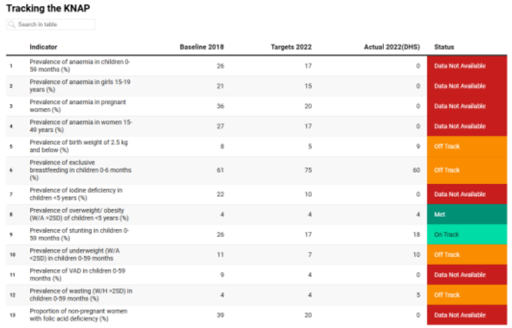


To improve nutrition in Ethiopia, the government developed a Food and Nutrition Strategy. The Food and Nutrition Strategy describes the key priorities to prevent and treat malnutrition. In 2023, a national baseline survey was conducted. A final survey will be conducted towards the end of the Food and Nutrition Strategy to observe the progress made.

The NIPN platform in Ethiopia developed a DVT to explore the information collected during the baseline survey. The objective is to improve the communication and knowledge of the results of the baseline survey. It will be completed with the results from the final survey.

The tool is designed for policy makers engaged in the Food and Nutrition Strategy but also to a broader audience interested in the nutrition situation at sub-national level.

Kenya scorecard



Tracking the KNAP

Search in table

	Indicator	Baseline 2018	Targets 2022	Actual 2022(DHS)	Status
1	Prevalence of anaemia in children 0-59 months (%)	26	17	0	Data Not Available
2	Prevalence of anaemia in girls 15-19 years (%)	21	15	0	Data Not Available
3	Prevalence of anaemia in pregnant women (%)	36	20	0	Data Not Available
4	Prevalence of anaemia in women 15-49 years (%)	27	17	0	Data Not Available
5	Prevalence of birth weight of 2.5 kg and below (%)	8	5	9	Off Track
6	Prevalence of exclusive breastfeeding in children 0-6 months (%)	61	75	60	Off Track
7	Prevalence of iodine deficiency in children <5 years (%)	22	10	0	Data Not Available
8	Prevalence of overweight/ obesity (W/A >2SD) of children <5 years (%)	4	4	4	Met
9	Prevalence of stunting in children 0-59 months (%)	26	17	18	On Track
10	Prevalence of underweight (W/A <2SD) in children 0-59 months	11	7	10	Off Track
11	Prevalence of VAD in children 0-59 months (%)	9	4	0	Data Not Available
12	Prevalence of wasting (W/H >2SD) in children 0-59 months (%)	4	4	5	Off Track
13	Proportion of non-pregnant women with folic acid deficiency (%)	39	20	0	Data Not Available

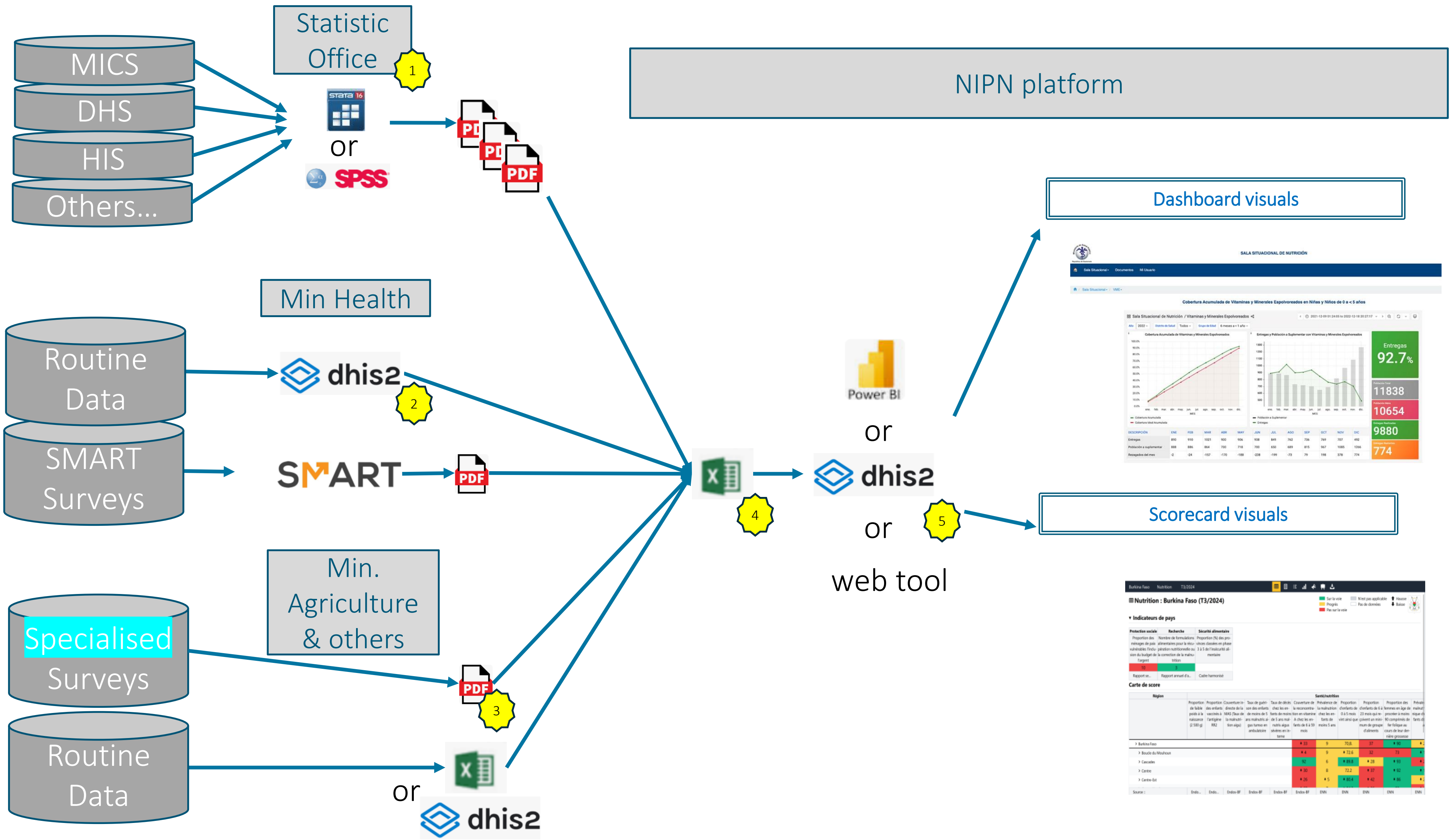
In Kenya, the NIPFN developed a specific DVT to monitor the progress of the Kenya Nutrition Action Plan (KNAP). The KNAP has a list of M&E indicators to track the progress made in the key sectors involved in Nutrition, but the high number of indicators makes it difficult to have a clear overview of the status. With a simple Scorecard system established, it is now possible for policy makers and M&E specialists to spot areas of progress. Another DVT was developed to explore trends of some key indicators.

Objectives: Lessons learnt

- Developing **one DVT for each specific objective** (one objective, one tool) is a good way to deliver clear visuals. The visuals are then specifically designed for the objective intended. If the objective is to describe the nutrition situation, then graphics of trends are well suited, while scorecard tools are more adapted to the objective of monitoring progress of interventions.
    - For example, the Government of Sierra Leone developed three DVTs: one for the monitoring of the N4G (speed meters visuals), one DVT for monitoring the MSP (scorecard table), and another one to look at trends of nutrition outcomes and determinants (trend lines graphs).
- DVT are more likely to be used when they are fully aligned **with national priorities**, using the MSP as a reference to assess performances. All the NIPN DVTs are different as their objectives are based on national priorities.

3. Data flow

Standard data flow



Data flow country examples

Examples from Niger and Lao PDR of data collection practices from different institutions

Niger

NIPN Niger is hosted by the National Statistic Office which bodes several advantages when developing the nutrition DVT:

- The NIPN platform has the mandate to request information from the different M&E departments of the 8 sectors involved in nutrition.
- The Statistic Office has direct access to microdata from national surveys. In Niger, all the National Surveys (even thematic surveys) are under the supervision of the Statistic Office.
- The Statistic Office has also the capacity to host the website (through AFRISTAT support) and has technical knowledge for developing and maintaining DVT using PBI (no need of external consultancy firm).

In addition, the NIPN platforms directly financed short-term positions in key sectoral M&E departments at the start of the project, to support with the harmonization of their information system. This early connection and support facilitate the sharing of data with the NIPN platform which happens during dedicated workshops organised by the NIPN team.

Lao PDR

In Lao PDR, the DVT was developed by the Lao Statistic Bureau (LSB) which has the mandate to centralise the information from three different sectors: Health, Education, and Agriculture. LSB is also directly in charge of national surveys. Therefore, all the information required for the DVT is directly accessible by the LSB.

- The DVT is currently using DHIS-2 but it will soon shift to PBI that is identified as a more adapted tool in their context (see resources chapter) and to increase the chance of sustainability with easier updates.

Key findings on data flow

- To develop a DVT, NIPN platforms need to collect data from multiple sources and from multiple organisations.
- The data flow presented in the previous slide represents the standard process necessary to collect, harmonise and utilise the data.
- The data flow indicates commonly used software (excel, Stata, SPSS, DHIS-2, PBI, web application).

1 National surveys are usually analysed using a statistical software (Stata or SPSS). Data visualisation software like PBI can be directly connected to SPSS, Stata or other statistical software. However, it is often necessary to use the PDF reports of these surveys to inform the database that will be used for the visualisation for several reasons:

  - the statistical database cannot be easily shared if not anonymised as it contains individual data.
  - the statistical micro datasets contains many variables. Calculating the indicators can be challenging (data management, sampling coefficients) and can generate errors. Taking the values of the indicators from the official report in PDF format is time consuming but considered as more practical by the team.

- One way to optimise the data flow would be to request to the Statistical Office an Excel file with the indicators generated by the statistical software (instead of copying the values from the PDF file). This would simplify the updating process.

2 Routine data from the Ministry of Health are generally managed through a DHIS-2 system. DHIS-2 is also sometimes used by other ministries like the Ministry of Water and Sanitation in Sierra Leone. It is also technically possible to connect the DHIS-2 system directly with the DVT database through an API connection, but it is rarely the case because:

  - The DHIS-2 database is usually restricted to a controlled number of users while the DVT is meant to be public.
  - The DHIS-2 database is constantly updated by health workers. Values are changing as new data is entered. To be aligned with sectoral statistics, the NIPN team is favouriting the quarterly official statistics from the ministry of health which shares (fixed values).

3 Other sectorial national surveys can be directly managed by the lead ministry (Annual Agricultural Survey for example). Most of these surveys are supported by UN agencies and other financial and technical partners. Ideally, Each ministry should store and manage the database of these surveys in a secured government owned platform, but it is not often the case. The NIPN platforms have usually granted access to this database.

Key findings on data flow (cont.)

4

- Most platforms have developed an Excel dataset to compile the information from different sources. This dataset is then used to inform a DVT software. Connecting with several ministries and organisations to access, collect and check for quality is time consuming and challenging. In Côte d'Ivoire, more than 10 sectors are involved in the DVT. A good practice used by several platforms is to use nutrition focal points in ministries and organise workshops to update the latest information available. For surveys, the official reports are usually freely accessible but often released several months after the survey was conducted. For routine data, the access depends on the data sharing practices in each country.

- Some platforms have designed a specific web application to directly collect the data from line ministries. M&E officers connect to the application with a password, and upload directly the information. It is more efficient, but it requires a specific application, and it relies on the contribution from the sectors.

- Financial data is difficult to access as nutrition activities are not often tagged in the system.

5

- The DVT developed by the NIPN platforms use different software:

  - PBI is now commonly used as it is designed for this type of interactive visualisation. It is a powerful tool, but it requires specific skills and is not free. PBI is powerful for updating the dataset: additional excel files can be compiled and organised automatically and be easily integrated in the dataset. It requires some efforts at the start, but the updates are efficient.

  - DHIS-2 is also used for its dashboard tool. It is a powerful tool within an institution, but it is not designed to incorporate several data sources with different formatting.

  - Web applications were specifically developed for the DVT by some NIPN platforms. This is the case in Côte d'Ivoire for their dashboard that monitors the MSP. The added value is that nutrition focal points from line ministries directly input their data in the web application to update the dashboard. Burkina Faso has a similar system inspired from the Malaria Scorecard.

Data flow: Lessons learnt

Being clear on the final output is the starting point.

- As shown in the data flow, the process to collect and compile multiple data sources and to produce data visualisation tools can become complicated quickly. Several options are possible. To identify the most efficient and realistic option, it is important to first be clear on the final output. Once the expected visuals are validated, the data sources can be identified, the software can be selected, and the dataset organised.

Hosting the DVT in the National Statistical Office (NSO) can offer several advantages.

- All the DVT reviewed include data from national surveys (DHS, MICS, Income surveys) that are generally managed and stored by the NSO.
- All the NSO are already producing interactive dashboards (for SDGs portals, Census, National Development Plan) and have websites and webservers in house with the technical capacity associated.
- Most of the NSO have the mandate to request the information from different sectors.
- In some contexts, some institutions can also have these capacities and can develop their own DVT.

4. DVT description

Description overview

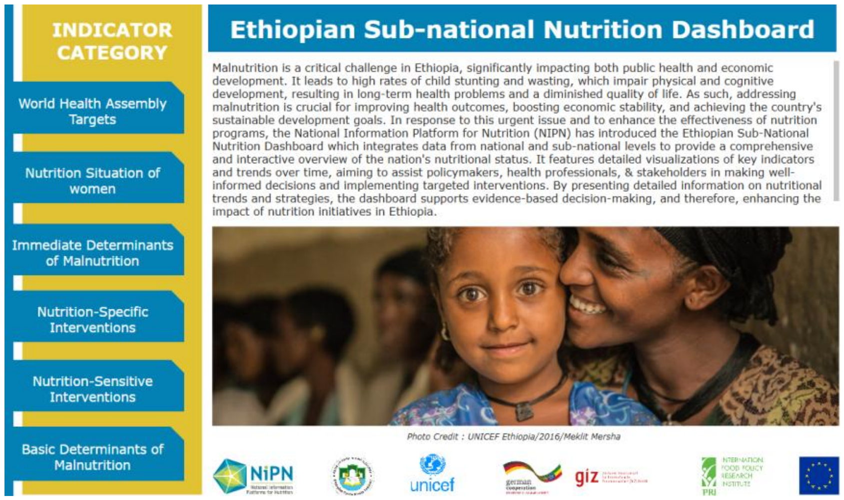
- Most of the platforms (5 out of 8) have developed more than one DVT. Each DVT is dedicated to a specific objective.
- Most of the DVT (12 out the 15) are publicly accessible through the dedicated website.
- The NIPN platforms in Guatemala and Burkina Faso decided to have a restricted access. The target audience is not the public but government officials who have access through individual credentials.
- Depending on the purpose of the DVT, the number of indicators displayed varies a lot:
  - Typically, a national plan for nutrition includes around 100 indicators. NIPN DVT are displaying from 13 to 30 indicators out of these 100. The approach chosen by the NIPN team was to focus on a short-list of priority indicators to avoid overloading the audience.
  - Niger has used an interesting approach. They developed one dashboard with 400 indicators available, designed for a technical audience. Another dashboard with 10 priority indicators displays the main national targets and most updated status to provide a very quick snapshot of the nutrition situation in the country.
- All the NIPN platforms have developed multisectoral DVT. They are complementary to the sectoral DVT developed by the different ministries.
- An important added value of these DVT is also the availability of sub-national data. Most of the data sources used (from routine data or survey data) are designed to provide information at sub-national level. This feature is particularly relevant as the drivers of malnutrition vary a lot from one region / district to another. The NIPFN platform in Kenya went a step ahead and have developed a specific DVT designed for the one county Isiolo. Officials from this county can directly explore the drivers of malnutrition in their area and compare them with the national values; this supports adequate budget allocations.

DVT description

Country	Data visualisation tool	Publicly available	Number of indicators available	Number of sectors covered	Sub-national disaggregation	Interactive
Guatemala	1-Dashboard	✗	123	10	✓	✓
Sierra Leone	1-NNC Dashboard	✓	11	6	✓	✓
Sierra Leone	2-MSP Dashboard	✓	36	5	✓	✓
Sierra Leone	3-MSP Scorecard	✓	30	5	✓	✓
Côte d'Ivoire	1-Dashboard	✓	123	10	✓	✓
Burkina Faso	1-Dashboard	✓	26	4	✓	✓
Burkina Faso	2-Scorecard	✗	25	4	✓	✓
Niger	1-Dashboard	✓	403	7	✓	✓
Niger	2-Dashboard	✓	10	2	✗	✗
Ethiopia	1-Dashboard	✗	53	5	✓	✓
Kenya	1-Dashboard	✓	130	6	✓	✓
Kenya	2-KNAP Scorecard	✓	13	1	✗	✗
Kenya	3-County Dashboard	✓	19	4	✓	✗
Lao PDR	1-Dashboard	✓	19	3	✓	✓
Lao PDR	2-Scorecard	✓	17	1	✓	✓

Country example: Ethiopia

The Ethiopian sub-national nutrition dashboard displays the results of the food and nutrition baseline survey. The NIPN platform selected 53 indicators to be displayed.



The visual is clear, and a text box explains the context and the objective of the DVT

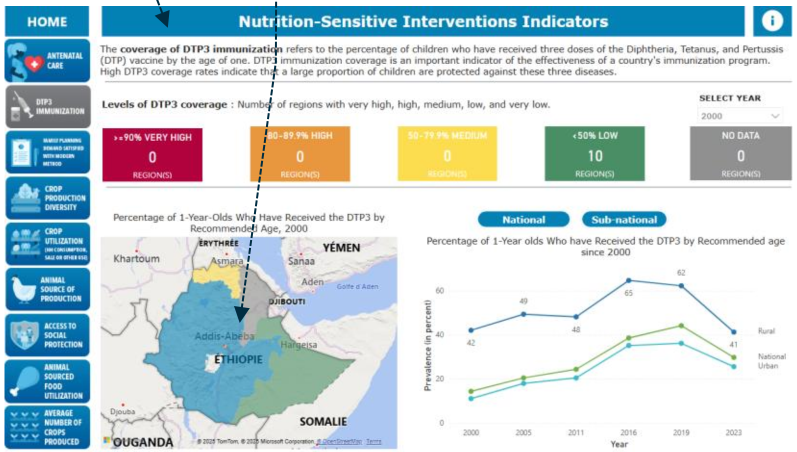
For each indicator, a text box guide the viewer on its definition and its importance for nutrition

A map clearly displays the diversity of the situations, and which regions are most affected.

A simple graph clearly displays the latest trend of the indicator, the national value and the rural / urban values.

The viewer is invited to click on categories classified along the well-known Nutrition Causal Framework.

For each category, a clear list of indicators from different sectors is proposed



Country example: Sierra Leone

The Government of Sierra Leone recently developed a nutrition information management system that includes 4 DVT. One of the tool is a scorecard that monitors progress of key indicators of the Multisectoral Strategic Plan for Nutrition (MSP).

The indicators are classified by government priorities. The MSP has indeed 13 strategic areas that can easily be tracked in this DVT.

The MSP has more than 150 indicators, but only key indicators are displayed in this score card to keep the visual accessible.

The visual is clear, and a text box explains the context and the objective of the DVT

A colour code indicates whether the MSP target is met or not met.

A dashboard tool is also available to explore the trends and the district variations of a specific indicator.

For each indicator, the latest value available is displayed as well as the year data collection, and the national target set in the MSP.

ScalingUp NUTRITION SIERRA LEONE ENGAGE • INSPIRE • INVEST

MSP TRACKER

Tracks progress on 24 priority areas outlined in the Government of Sierra Leone's Multi-Sector Plan to Reduce Malnutrition (2019-2025), using 53 indicators with associated targets and the latest data.

Government Priority: Tout
Indicator: Tout

MSP Dashboard

NNC Tracker

Government Priority	Indicator	National Value	Year	National Target 2025	Status
Child protection	Percentage of children involved in child labor	39,0%	2017	20,2%	NOT MET
Child protection	Violent discipline of children 1-14 years of age	86,5%	2017	15,4%	NOT MET
Complementary feeding (CF)	Minimum dietary diversity	22,9%	2021	49,8%	NOT MET
Complementary feeding (CF)	Minimum meal frequency	33,0%	2021	59,6%	NOT MET
Complementary feeding (CF)	Timely initiation of complementary feeding	60,2%	2021	94,6%	NOT MET
Dietary diversification	Household dietary diversity score	5,3%	2017	8,0%	NOT MET
Disease prevention and management	Deworming coverage among children under 5	91,6%	2021	77,0%	MET
Disease prevention and management	Pregnant women receiving at least 3 doses of IPTp	26,8%	2017	79,6%	NOT MET
Disease prevention and management	Prevalence of diarrhoea in children under 5	7,5%	2019	4,2%	NOT MET
Disease prevention and management	Prevalence of malaria in children under 5	52,7%	2016	35,2%	NOT MET
Disease prevention and management	Prevalence of malaria in pregnant women	28,6%	2013	20,2%	NOT MET
Early child development (ECD)	Enrollment in ECD/Early childhood development index	51,4%	2017	24,8%	MET
Feeding behaviours and stimulation	Overweight prevalence in non pregnant women	21,4%	2021	9,0%	NOT MET
Feeding behaviours and stimulation	Prevalence of overweight among children under 5	2,0%	2021	9,0%	MET
Food Security	Household food consumption score	25,0%	2024	74,6%	NOT MET
Food Security	Percentage of household income spent on food	17,8%	2017	45,2%	MET
Health and Family Planning (FP) services	Modern method of family planning demand met	53,1%	2019	74,6%	MET
Improve Breastfeeding practices	Early initiation of breastfeeding	68,7%	2021	94,6%	NOT MET
Improve Breastfeeding practices	Exclusive breastfeeding	52,7%	2021	75,0%	NOT MET
Improve Breastfeeding practices	Prevalence of anaemia in children	68,0%	2019	25,2%	NOT MET
Improve Breastfeeding practices	Vitamin A supplementation coverage among children under 5	93,9%	2021	79,6%	MET
Maternal dietary supplementation	Low Birth Weight	5,0%	2019	5,2%	MET

DVT description: Lessons learnt

- Displaying a limited number of key performance indicators (KPIs) is a good practice to avoid overloading of information. The selection of KPIs to display in the DVT is an important part of the process and should not be underestimated.
- Displaying sub-national data is key to show the diversity of the situation in the country, maps visuals are efficient for this.

National Information Platforms for Nutrition

5. Resources required

Resources: Design process

The process to develop the DVT is often underestimated

- The DVT are by nature **multi-sectoral** and the **consultation and validation** process can take a long period to reach a consensus.
- DVT can only accommodate a **limited number of indicators and visuals** to remain readable and understandable. A **selection process** of key data to display is necessary as national plans often have more than 100 indicators. This process has been described as **time consuming** by NIPN platforms. Some sectors may push to have more indicators from their sector (so that they can use the DVT for their own monitoring) and it is **sometimes difficult to reach a consensus**. This is why regular consultations with the sectors in TWG is useful to balance the needs between having detailed information and keeping the visuals clear.
- The nutrition **data mapping exercises** undertaken by NIPN platforms in Phase I, which identified what and where indicators were available, have been instrumental in facilitating this process.

Preliminary necessary steps	Guatemala	Sierra Leone	Côte d'Ivoire	Burkina Faso	Niger	Ethiopia	Kenya	Lao PDR
Data mapping of indicators	X	X	X	X	X		X	X
Multisectoral workshop to clarify the objectives and develop a prototype		X			X		X	
Consultation for adjustments					X		X	
Selection of key indicators	X	X	X	X	X	X	X	X
Harmonisation & quality control	X	X	X		X	X	X	X
Validation from NIPN Advisory							X	
Dashboard design & uploading	X	X	X	X	X	X	X	X

Resources: Human and financial

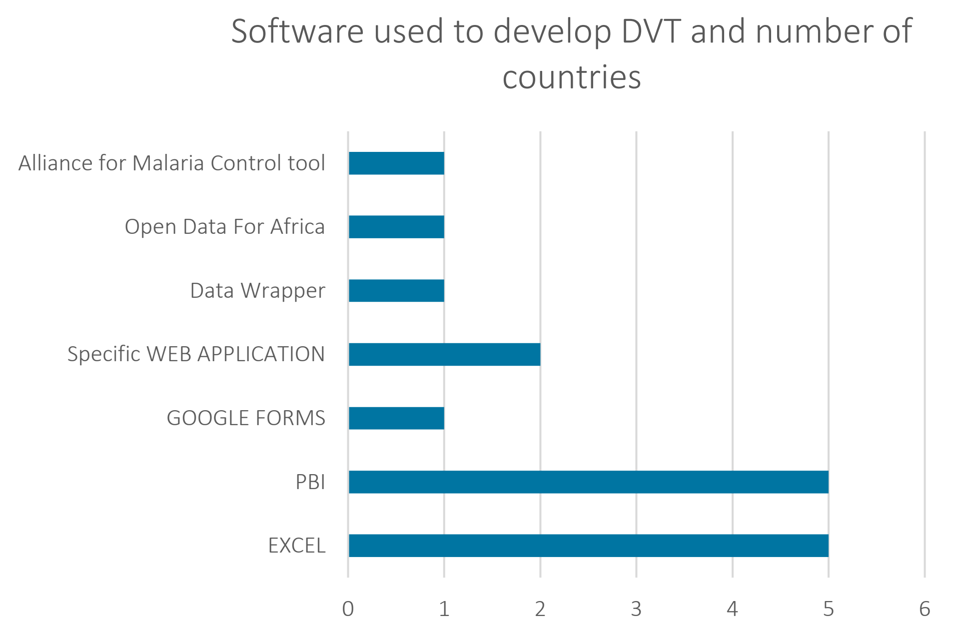
It is **hard to estimate the human and financial resources** used by the platforms to develop their DVT. Typically, **developing the DVT required:**

- Part-time Data Analysts and Managers (two people over 5-12 months)
- IT consultant or support to design the tool itself (2–3-month contract, <10,000 USD)
- Technical working groups (TWG) and multisectoral coordination to reach a consensus with the different sectors involved
- NIPN Guatemala estimated the initial cost at 25,000 USD the first year and 5,000 USD per year for maintenance

Human resources needed to develop the DVT	Guatemala	Sierra Leone	Côte d'Ivoire	Burkina Faso	Niger	Ethiopia	Kenya	Lao PDR
M&E specialist		Yes						
Data analyst / manager	Yes	PT over 5 months	Yes	Yes	Yes	Yes	PT over 6-12 months	
Data manager in ministries					Yes (2 months / sector)			
TA support	Yes	Yes			Yes		Yes	
IT consultant		2 months	Yes		Yes	2 months	3 months	
Government IT department	Yes		Yes	Yes			Yes	
TWG, multisectoral coordination		Yes	Yes	Yes	Yes		Monthly meetings	
Financial cost (when available)	25,000 USD + 5,000 USD/year						7,500 USD for IT consultant	

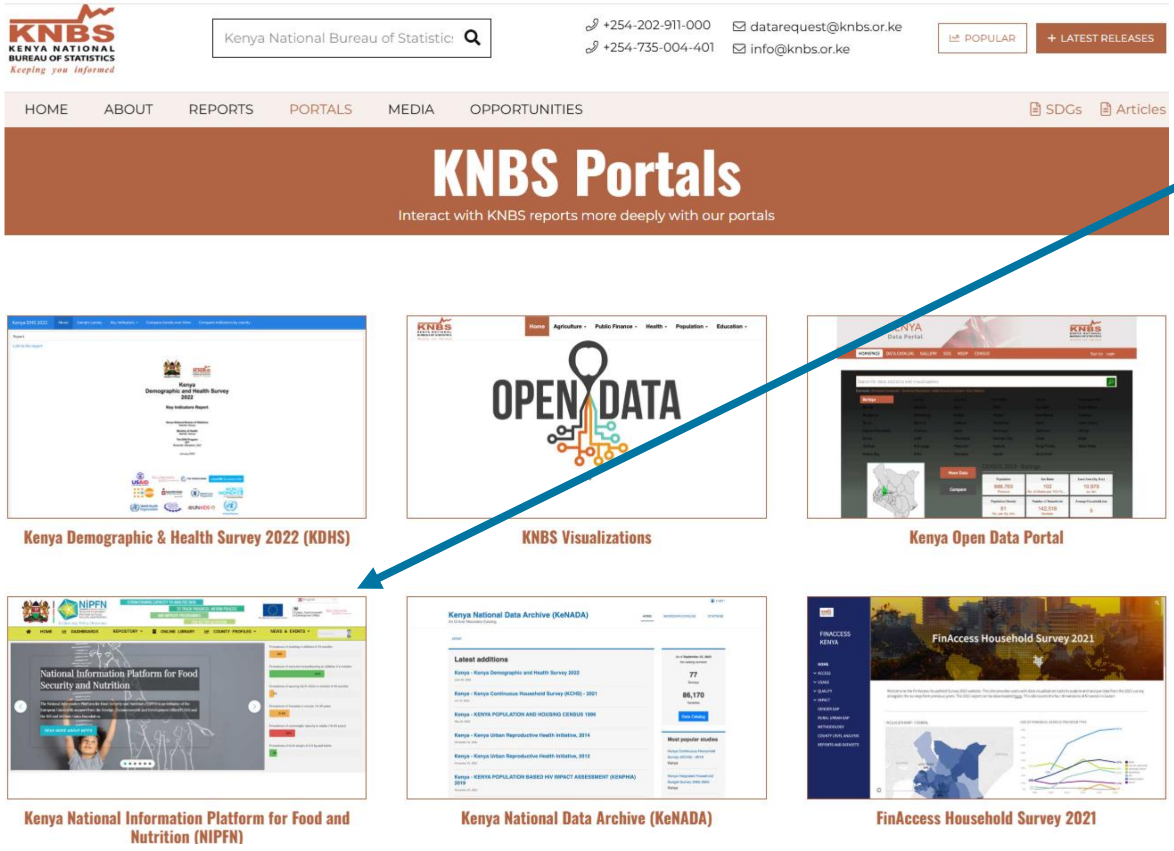
Resources: Software and applications

Most of the platforms, 5 out of 7, are using a combination of Excel and PBI (Power BI) to develop their DVT. The other 2 platforms (Côte d'Ivoire and Guatemala) have developed a specific web application. Kenya also used Data Wrapper, an open source and free software with data visualisation functions.



	PBI	Web application
Pros	• Designed for data visualisation and sharing • Can handle multiple data sources format • Updating the data sources can be systematised and efficient	• Can be designed specifically to the needs • Partners can directly update the data sources on the web
Cons	• Need a subscription fee (20 USD/month) • Need an IT/trained staff to design and maintain the DVT	• Need long-term IT trained staff to develop and maintain the app (6-12months) • Need IT personnel to maintain the DVT

Country example: Kenya



- The Nutrition Data Portal is embedded in the Kenya National Bureau of Statistics website and includes 3 DVT (dashboard, scorecard, county dashboard). Its location within KNBS corporate website gives more visibility to nutrition as the DVT is next to other important information portals on finance, SDG, and financial data.
- The DVT took around eight months overall to be developed. Two KNBS staff contributed part of their time. One external IT consultant was contracted for three months to design the tool. KNBS has the human technical expertise and capacity to maintain the multiple DVT (experts in PBI software and webservers).
- KNBS has also the mandate to request data from different sectors and centralise them which facilitate to gathering of all the necessary information in one place.
- National stakeholders and county officials were enthusiastic about the DVT to monitor KNAP and the nutrition situation; it triggered an interest from KNBS senior officials as it is aligned with KNBS policy and strategy.

KNBS Portals

Country example: Guatemala

- The DVT developed in Guatemala aimed to support the implementation, transparency, and accountability of Food and Nutrition Assistance Programme. The DVT monitors in real time the progress and achievements of the programme.
- The two ministries involved, Health and Agriculture, each developed their own DVT within, who are then accountable to select priority indicators. This was shown to facilitate the process, reduce costs, and improves ownership. The DVT for the Ministry of Health built upon the tool was already used within their ministry.
- The data mapping exercise conducted in Phase I facilitated much of the design of the tool and the selection of key indicators.
- The data quality control is implemented by another government organisation following ISO 8000 international norms that is used across the government institutions.
- The NIPN platform at SESAN, supports the ministry for indicators that are not harmonised within the sector.
- Overall, the development of the DVT involved statisticians, IT experts, and technical team from the sectors. The knowledge and technical expertise remains in house.
- In total the cost of design is estimated at 25,000 USD for the first year and 5,000 USD per year for its maintenance.

Resources: Lessons learnt

- Conducting a **data mapping exercise** is most useful prior to designing the DVT.
- **Multisectoral process** to select, harmonise and control for the quality is not to be underestimated. It takes six to 12 months to build a consensus on the content of the DVT.
- **Clarify the objectives and content** of the DVT **before contracting an IT** consultant company is a good idea.
- **Building on in-house expertise** (within ministries like in Guatemala or within Statistical Office like KNBS or INS in Niger) saves resources, increases ownership, and facilitates the maintenance of the tool.

6. Communication

Communication activities

The NIPN platforms have implemented a variety of communication activities to inform the target audience on the availability of the DVT, the data available, and how they can be used.

Communication activities	Guatemala	Sierra Leone	Côte d'Ivoire	Burkina Faso	Niger	Ethiopia	Kenya	Lao PDR
Communication strategy for DVT				Yes				Yes
Communication on platform website	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Article in newsletters				Yes				
Presentation during a nutrtion workshop/training			Yes		Yes			
DVT demonstration sessions	Yes				Yes			
Video presentation		Yes						
Presentation during a nutrition event			Yes				Yes	
Launch event		Yes				Yes (tbc)		
Presentation during a technical working group		Yes		Yes		Yes		

Country examples: Burkina Faso and Sierra Leone

Burkina Faso:

- The NIPN communication strategy was updated to include the DVT.
- Several opportunities were identified to further disseminate:
  - Leaflets were distributed during regular nutrition meetings;
  - Nutrition bulletin actively shared, and;
  - Promotion on the NIPN website itself.
- The DVT are well known by the target audience, government officials from key ministries.

Sierra Leone:

- A launch event was organised when the DVT was made public on the website.
- The DVT have been presented during technical working groups related to nutrition.
- A video showing the DVT and how to use it was developed and shared in a WhatsApp group that includes key stakeholders.

Communication: Lessons learnt

- A DVT user from Niger pointed out the importance of the first visit to the DVT website. If some of the information displayed is not robust or if some interactions with the data are dysfunctional, the user may not come back (experience collected from a user). It seems **better to publish the DVT once it is functional** with robust and clear information. The DVT can evolve but the content of the first version should be of excellent quality.

- Any opportunity to **communicate about the DVT** is valuable: working groups, nutrition event, workshops. The DVT is an appealing product that can interest a wide audience.

- Most of the DVT listed are **interactive**. It is a good practice to guide the user on how to use the data available through a quick video or guidance.

- If there is a high turn over of government officials, **communication** on the DVT should be continuous to **target the new hires**.

7. Capacity development

Capacity development overview

Capacity development activities are essential to:

- **Familiarise DVT users with the tool:**
  - The DVT are meant to be interactive and easy to use, but an introduction to the tool (how it was built, its purpose and how the data is updated and checked for quality) was considered as important to build trust with the user.
- **Encourage M&E officers in key ministries to update the data:**
  - Inviting sectoral M&E officers to trainings or workshops has been identified as a good practice to support data sharing. In some countries, the DVT were developed so that the sectoral M&E officers can directly update their data into the tool once they have received an adequate training.
- **Build internal maintenance capabilities:**
  - The organisation in charge of the DVT need internal capacity to maintain a website, data server as well as managing the software used for the DVT.

Country examples: Lao PDR and Burkina Faso

Lao PDR

- The NIPN platform in Lao PDR carried out **staff training** for the Lao Statistic Bureau on management of data servers, cyber security, and management of dashboards.
- The dashboards were deployed **province** by province through hands on trainings.
- The NIPN team was also conscient of the importance of user experience and conducted **annual consultations with stakeholders** to identify weaknesses and opportunities to improve the DVT.

Burkina Faso

- A **training of trainers'** approach was used to improve the capacity of stakeholders to use the DVT.
- Cascading trainings were conducted to reach all **13 regions** in the country.
- Priority was given to key ministries: **health, education, WASH, and food security**, in each region.
- The NIPN team collaborated with the **Alliance Against Malaria** as they have developed relevant DVT for Malaria. They took advantage of the knowledge and best practices learnt from their experience and applied it to NIPN.

Capacity development: Lessons learnt

- It is helpful to carry out **annual DVT user consultation** to collect their feedback and improve the DVT to better fit their needs.

- **Training of trainers, workshops, learning by doing** are common capacity development activities implemented by the NIPN teams. It is important to maintain the efforts to consider the turn-over of the target audience and to reach the sub-national levels.

- **Building DVT using the existing human capacities and tools**, when possible, is a good practice. In Burkina Faso, getting support from the successful Malaria Dashboard was an efficient way to take advantage of existing national capacities.

8. Practical examples

Practical examples: Niger

- In Niger, DVT developed are used for several purposes:
- The Ministry of Health reported using the DVT (a database of updated nutrition related indicators) to update the situation analysis of:
  - the National Health Strategy;
  - the revision of the Micronutrient Deficiencies Strategy;
  - the National Strategy for the reduction of Chronic Malnutrition, and;
  - the national protocol for the treatment of acute malnutrition.
- The SUN annual report was completed using the NIPN DVT.
- Contribute to the monitoring of the implementation of interventions defined in:
  - the National Policy of Nutrition Security (PNSN);
  - N4G commitments, and;
  - Humanitarian development and peace nexus.
- The database is also used by the NIPN platform to quickly answer requests from government officials (ex. preparation of speech, regional information requests, etc.).

Practical examples: Burkina Faso

- The NIPN platform in Burkina Faso developed a **scorecard** that monitors key indicators of the national strategy and a **dashboard**. They are used for several purposes:

- The **Ministry of Health** is using the scorecard to identify health districts with high levels of mortality rates. Corrective actions are taken.

- The presentation of the scorecard in 2023 revealed that School Feeding Programme was not well implemented. The Ministry of Education took **corrective measures** (situation analysis, advocacy, creation of a budget line of 18,9 billion CFA (28M €) funded by the government, PTF, and communities). **Progress indicators improved** from red to yellow, although there is still much to be done.

- The **monitoring of the National Nutrition Action Plan** during National Nutrition Council meetings

9. Sustainability

Sustainability overview

- The NIPN initiative supported financially the governments to develop nutrition DVTs. Countries are now at different stages of internalisation of costs linked to design and development of the tools.
- The table below lists the sources of funding for the maintenance of the DVT.

Resources needed for the maintenance of the DVT	Currently funded by NIPN project	Currently funded by NIPN & governments	Currently funded by Governments	Currently funded by other funds
Human resources for the maintenance of the tool	GTM, BFA, LAO	KEN, NER	SLE, CIV	
Workshops for updating the data from contributing sectors	GTM, CIV, BFA, NER			SLE
Website subscription	GTM, BFA, LAO		SLE, CIV, KEN	NER
Software subscription	BFA, NER, KEN		SLE	

- Most of the DVT reviewed still rely heavily on the funding from the NIPN initiative.
- This table also shows that quite a lot of effort is still needed to convince governments to maintain the DVT .
- When the DVT is hosted by the Statistic Office, the web server and software subscription is more likely to be continued.
- The main challenges are the software financial subscription, the availability of trained staff to maintain and update the tool and the time and efforts needed to collect and update the data from different sources. Data updates require time and often physical multisectoral workshops
- The case in Sierra Leone is unique, the DVT was designed from the beginning by the government with a national budget & complementary funds and C4N-NIPN provided short-term TA support.

Country examples: Côte d'Ivoire and Guatemala

Côte d'Ivoire:

- The DVT is hosted for free by the National IT Development Society of the Government. It offers web hosting and data protection.
- The DVT is used for the monitoring of the Multisectoral Nutrition Action Plan
- The NIPN platform is fully integrated within the CONANUT in charge of the coordination and monitoring of the plan. The CONANUT has a government budget and long-term trained staff dedicated to the monitoring and coordination of the plan.

Guatemala:

- The DVT is embedded within the sectoral information systems of Health and Agriculture (IT departments).
- The Health and Agriculture ministries are totally autonomous on their information system.
- A governmental organisation has the specific mandate to control for data quality of data produced by the government following international ISO norms.

Sustainability: Lessons learnt

- Sustainability is much more likely when the DVT is hosted by an existing institution that already has similar tools and has therefore the capacity to maintain and update the tool (most statistical offices have DVT for various multisectoral purposes).

- Some government agencies are dedicated to provide webserver services and web security for ministries (ex. the National Society for IT Development in Côte d'Ivoire).

- The African Development Bank is also supporting National Statistics Offices to develop DVT using open data for Africa services for free (ex. used by NIPN in Burkina Faso).

- Sustainability is more likely if the DVT is used and requested by government officials. It can be embedded within the M&E budget of the National Nutrition Action Plan.

10. Conclusions: Challenges and recommendations

Main challenges

Main challenges	Description	Examples
Up-to-date data mapping for nutrition	The data mapping exercise (listing all the nutrition related indicators available in the sectors) is needed for the design of the DVT and it needs to be rigorous and updated.	LAO, GTM
Accurate estimation of resources needed	The time needed to design and develop the DVT was under-estimated.	ETH, SLE, KEN
Availability of data	The DVT updates relies on data availability that can be limited. As the data is getting old, the interest for the DVT decreases. The time between data collection and validation of the results can be long.	SLE, KEN, ETH, BFA
Selection of indicators to be displayed in the DVT	Long exchanges with sectors to select the indicators and reach a consensus: Some sectors requested to have a larger number of indicators for their specific needs. Need to find a balance between the need of multisectoral nutrition and the needs of sectors. The M&E framework for the Nutrition Action Plan has a lot of indicators that cannot be all displayed on one DVT.	KEN, BFA, CIV
Staff turnover	Target users of the DVT are often government officials with a high turn over. Communication and capacity building activities need to be repeated.	LAO, BFA
Updating the DVT	Collecting and compiling all the data is time consuming. Keeping the dynamic with sectors to update the DVT. Need to update the list of indicators selected for the DVT when the National Plan is updated.	SLE, KEN, CIV
Financial sustainability	The financial sustainability of the DVT is uncertain. Updating the DVT requires regular maintenance, software subscription, update of data.	LAO, CIV, BFA, NER, KEN

Challenges

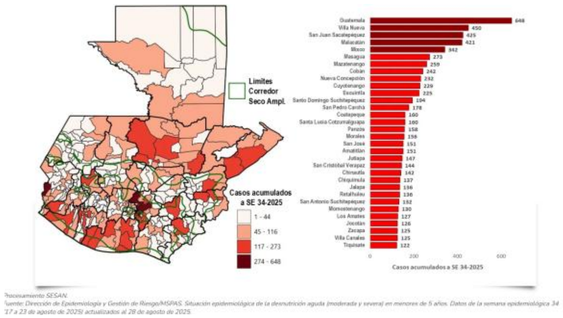
The below challenges below were mentioned by one country:

- It is challenging to **control for the data quality** of the information collected.
- Target audience is **not sufficiently aware of the DVT.**
- There have been issues of webserver **hacking.**
- A **duplication** risk remains with other DVTs.
- Some national targets and baseline values **not clearly identified in the National Plan** of Action for Nutrition.
- The **interaction** with the visuals can always be improved.

Recommendations

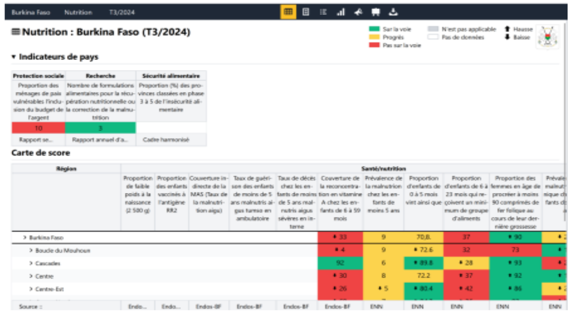
- **DVT based on national and sub national priorities**: Stakeholders are frequently using the DVT when it is based on their specific needs and priorities. DVT specifically designed to monitor the national policies or programmes (ex. Burkina Faso or Côte d'Ivoire) or to support sub-national nutrition committees (ex. Kenya) are useful and effectively used.
- **One objective, one tool:** To keep the DVT user friendly and clear, it is a good practice to design one DVT for each objective and target audience (ex. Ethiopia).
- **Build on what exists to increase possibility of sustainability:** For many DVT, the financial sustainability of the DVT is a main challenge despite the strong interest from stakeholders. At the design stage, there are ways to minimise the costs of maintenance: building on sectoral dashboards like in Guatemala or building on existing DVT of the National Statistic Office like in Kenya.
- **User experience matters:** The visuals, the interactive tools, the completeness and quality of the data presented need to be of excellent quality for the first experience of the user to keep their interest in the DVT. (ex. Ethiopia and Niger).
- **Continued communication and capacity development:** Continuous efforts in capacity development and communication are needed to reach a large target audience at national and sub-national levels and to cope with staff turn-over (ex. Lao PDR and Sierra Leone).
- **Reinforce coordination:** DVTs require dynamic coordination with multiple sectors or ministries and the DVT is a powerful tool to reinforce coordination between sectors.

Links to DVTs reviewed

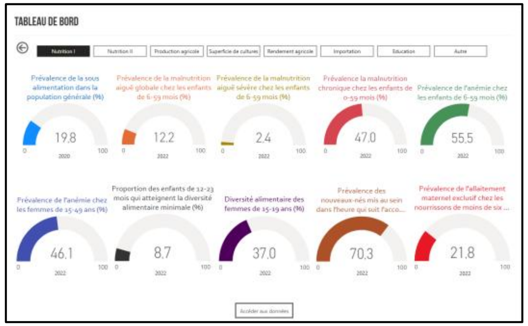


Guatemala

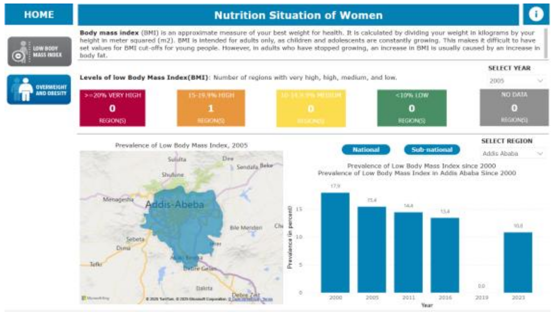
Côte d'Ivoire



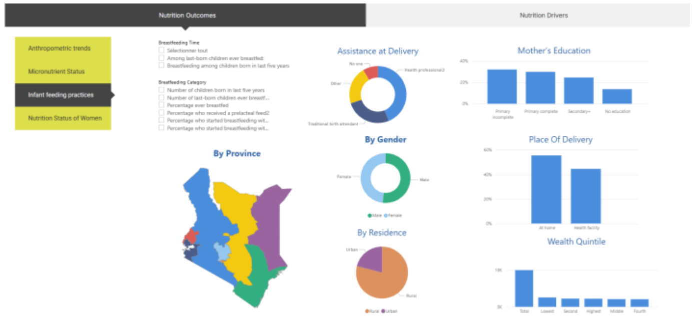
Burkina Faso



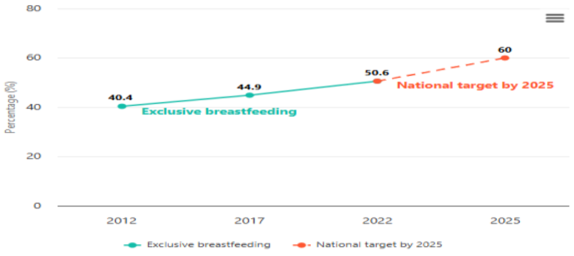
Niger



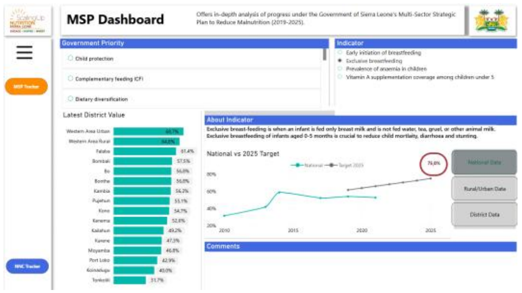
Ethiopia



Kenya

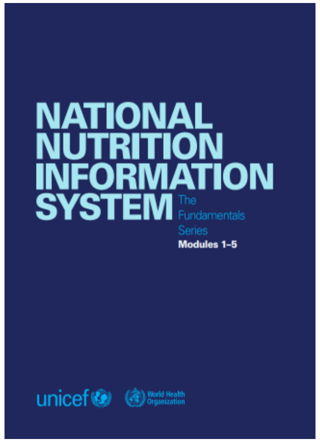


Lao PDR

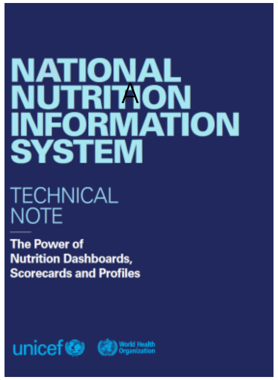


Sierra Leone

Useful resources on DVT for Nutrition



The WHO-UNICEF Technical Expert Advisory group on nutrition Monitoring (TEAM) developed the first-ever global guidance on NNIS . This guidance will help countries establish a NNIS and/or integrate nutrition information system in the existing health management information system. Countries will be able to generate required quality and timely data for nutrition policies and programmes to address nutrition vulnerabilities of people.



A Technical Note on the "Power of Nutrition Dashboards, Scorecards and Profiles" is part of the NNIS guidance and provides interesting recommendations for Nutrition DVT.

Results for Development conducted a landscaping of Global DVTs for nutrition for the Data DENT initiatives.

NIPN website contains a section on Nutrition Dashboards.

Acronyms

C4N: Capacity for Nutrition

CONANUT: Comité National pour la Nutrition (Côte d'Ivoire)

DATADENT: Data for Decision in Nutrition

DHS: Demographic and Health Survey

DHIS-2: District Health Information Software

DVT: Data Visualisation Tool

GIZ: Deutsche Gesellschaft für Internationale Zusammenarbeit

HIS: Household Incomes Survey

IT: Information Technologies

KNAP: Kenya Nutrition Action Plan

KNBS: Kenya National Bureau of Statistics

LSB: Lao Statistic Bureau

M&E: Monitoring and Evaluation

MAGA: Ministerio de Agricultura Ganadería y Alimentación, Guatemala.

- **MICS**: Multiple Indicators Cluster Survey
- **MSP:** Multisectoral Strategic Plan for Nutrition
- **N4G**: Nutrition for Growth
- **NIPN**: National Information Platform for Nutrition
- **NSO**: National Statistical Office
- **PBI**: Power Business Intelligence (Software)
- **SMART Surveys**: Standardized Monitoring and Assessment of Relief and Transitions Surveys
- **TA**: Technical Assistance
- **TWG**: Technical Working Group
- **UNICEF**: United Nations Children's Fund
- **WHO**: World Health Organisation