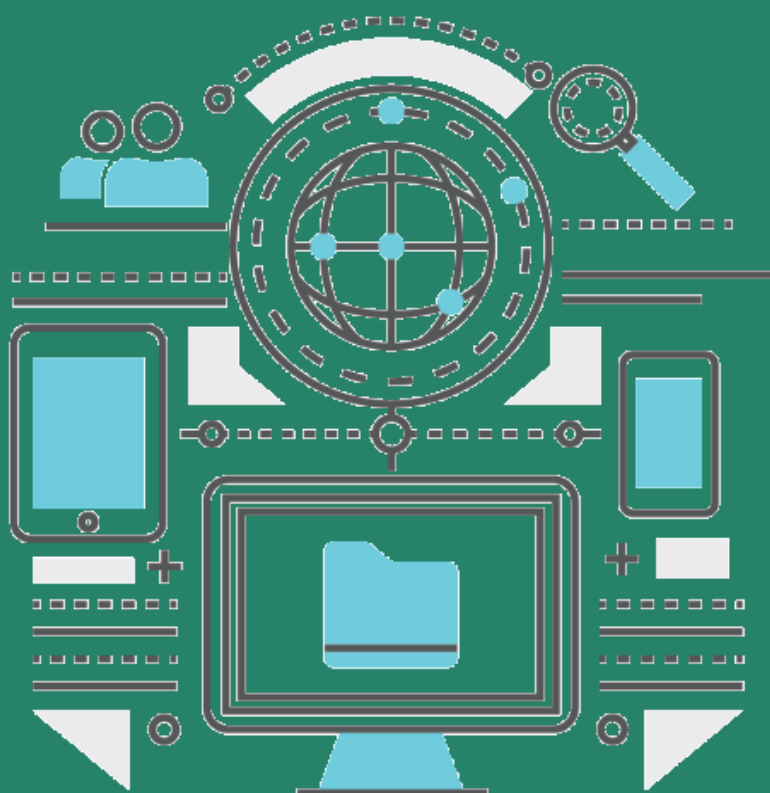




Overview of the Nutrition Information System in Guatemala

DURE Technology



ABOUT THE NIPN INITIATIVE

National Information Platforms for Nutrition (NIPN) is an initiative of the European Commission supported by the United Kingdom Department for International Development and the Bill & Melinda Gates Foundation. The initiative aims to strengthen national capacity to manage and analyse information and data from all sectors which have an influence on nutrition and to disseminate and use information so as to better inform the strategic decisions countries are faced with to prevent undernutrition and its consequences. A Global Support Facility has been set up by the European Commission to coordinate the NIPN initiative, managed by the Agrinatura alliance and hosted by Agropolis International.

DISCLAIMER

This publication has been commissioned by the Global Support Facility for the National Information Platforms for Nutrition initiative. The findings, interpretations, conclusions, advice and recommendations expressed in this work are those of the authors and do not necessarily reflect the views of the organizations that host, manage or fund the Global Support Facility.

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RECOMMENDED CITATION

DURE Technology. Overview of the nutrition information system in Guatemala. Montpellier, France: Agropolis International, Global Support Facility for the National Information Platforms for Nutrition initiative. 2019.

PUBLICATION DATE

August 2019

The report can be downloaded here: <http://www.NIPN-nutrition-platforms.org/IMG/pdf/nutrition-info-system-guatemala.pdf>

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Introduction

This report presents the findings for Guatemala of a study undertaken by Dure Technology (<http://www.duretechnologies.com/>), commissioned by the Global Support Facility of the National Information Platforms for Nutrition (NiPN) initiative.

The summarized findings are presented in 4 sections:

- **Section 1: Global parameters**

Key parameters of the Nutrition Information System have been assessed and are presented in a synthetic table.

- **Section II: Mapping of existing information systems**

Sectoral and multi-sectoral information systems that can be relevant to nutrition have been identified and are described in this section. A table summarizes the findings.

- **Section III: Indicator mapping**

17 multisectoral “key indicators” were arbitrary selected to represent multi-sectoral information important for Nutrition. For those indicators, the institution(s) in charge of data collection / quality review / analysis and dissemination were identified.

- **Section IV: Mapping of the main stakeholders identified**

The assessment followed key steps:

1. Creation of a questionnaire
2. Pre-populating the questionnaire with available country-specific information (including the work undertaken by SUN available here: <https://scalingupnutrition.org/share-learn/planning-and-implementation/information-systems-for-nutrition/>)
3. Interviews with main stakeholders (held between 1st - 30th Sep 2018)
4. Thorough investigation of open access/publicly available information
5. Report compilation

Section I: Global Parameters

Parameters assessed	Situation in Guatemala		
Existence of any IT system for Central Data Repository	Yes, SIINSAN		
Access to raw data/ metadata across IT systems	Sub-optimal		
Frequency of Data updation on existing IT systems	Just about satisfactory		
Analysis of available nutrition-related data	Partial		
Data exchange capability between IT systems	Partial (exists for SIINSAN)		
Presentation of summary statistics on existing IT systems	Available for some IT systems		
Existence of IT systems	Available		
Infrastructure for efficient data reporting (Computers/ Internet)	Limited computer equipment (hardware and software)		
Availability of Standard Reporting Tools	Likely existing (No gaps highlighted)		
Type of Data collection- (Hardcopy-based/ Digital)	Digitized to a considerable level (SIGSA, SICOIN, MS-Excel)		
Tools used for nutrition-related Data Consolidation	MS Excel	SPSS	SIGSA, STATcompiler, SIINSAN
Data Analytics/ Reporting & Dashboard	SIGSA, SICOIN, SIINSAN, STATcompiler, MS-Excel		
Level of Program Coverage across the country	Satisfactory		
Plan for a Multi-sectoral nutrition-related Data repository in place	Yes, PINN		
Existence of Data sharing law/ Policy	Not yet (except for SIINSAN)		
A compliant data exchange mechanism/ guideline	Not yet		
National Budget allocated for Nutrition-related interventions	Yes		
Major sources of nutrition-related Data	Survey (DHS, National Health and Nutrition Survey), Population Census, Routine data collection through HIS		
Presence of a Governing body for inter-sectoral coordination of nutrition	Yes, potentially CONASAN (National Council of SAN)		

Section II: Mapping of existing information systems

Current Nutrition Environment in Guatemala

Owing to chronic malnutrition still being the most poignant problem, nutrition continues to be a priority issue to be addressed by the Republican Government of Guatemala.

To combat this, Guatemala has worked on making substantial progress in establishing a legal, political and institutional framework for Food and Nutrition Security (SAN), creating a favorable environment for the fight against chronic malnutrition. In line with this objective, 'The National Food and Nutritional Security System: SINASAN' was created and designated to be the strategic institutional framework for organizing and coordinating SAN actions.

The SINASAN is constituted by three levels of action:

- Level of direction and political decision, constituted by the National Council of SAN (CONASAN).
- Level of coordination and technical planning, constituted by the Secretary of Food and Nutritional Security (SESAN) that among its functions is to design, implement and operate the National Information System of SAN (SIINSAN), which allows the monitoring of the situation of SAN, the progress and effects of strategic plans and programs, as well as the Early Warning System to identify situations of food and nutritional insecurity.
- Execution level, constituted by those responsible for the direct execution of actions in SAN at all levels.

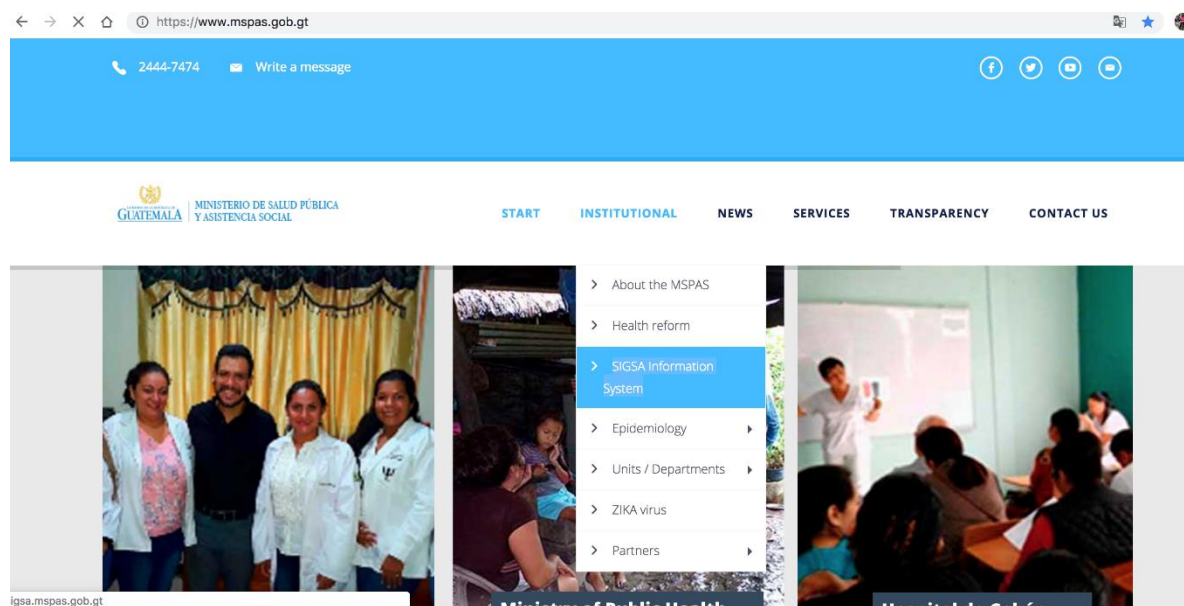
These instruments and the national commitment to reduce chronic malnutrition have been promoted in the current government plan (2016-2020).

Although implemented, SIINSAN and other sectoral IT systems face vulnerabilities that limit their usefulness in informing effective policy level decision making, therefore, improvising on the existing IT systems, is one of major engagements of the Govt. of Guatemala that it would likely focus on in the upcoming future.

Presented next is a brief overview of the existing IT systems, the associated technical details and the information (indicators) captured by these systems (wherever accessible).

Health Management Information System (SIGSA Information System)

- ➔ **Description of the IT system:** SIGSA Information System is the official health management information system of the Ministry of Public Health and Social Assistance (MSPAS) of Guatemala. In 2009, MSPAS took the initiative to computerize the individual patient and encounter records of the SIGSA department in an integrated online system, 'SIGSA Web'. This system became a working tool that MSPAS and the Ministry of Finance use for outcome monitoring in the context of the 'financing for outcomes strategy'.
- ➔ **Technical Details:** The data system, rolled out on a national level, is being managed by MSPAS <https://www.mspas.gob.gt/> Data on this portal was last updated in 2017. The system is hosted within country premises. Presented data is disaggregated, has restricted access, and is primarily used for internal use.



The SIGSA portal can be found here: <http://sigsa.mspas.gob.gt/>. However, please note that the SIGSA web-link does not seem functionally operational (as experienced multiple times from our end, despite using different internet browsers).

- ➔ **Indicators:** As for the 17 SUN MEAL Indicators, a total of 10 indicators are reported on SIGSA. Four indicators each belonging to Lists 3 and 7 each, and one indicator each belonging to Lists 5 and 6 are presented on this portal.

Information, Planning, Monitoring and Evaluation System (SIPSE)

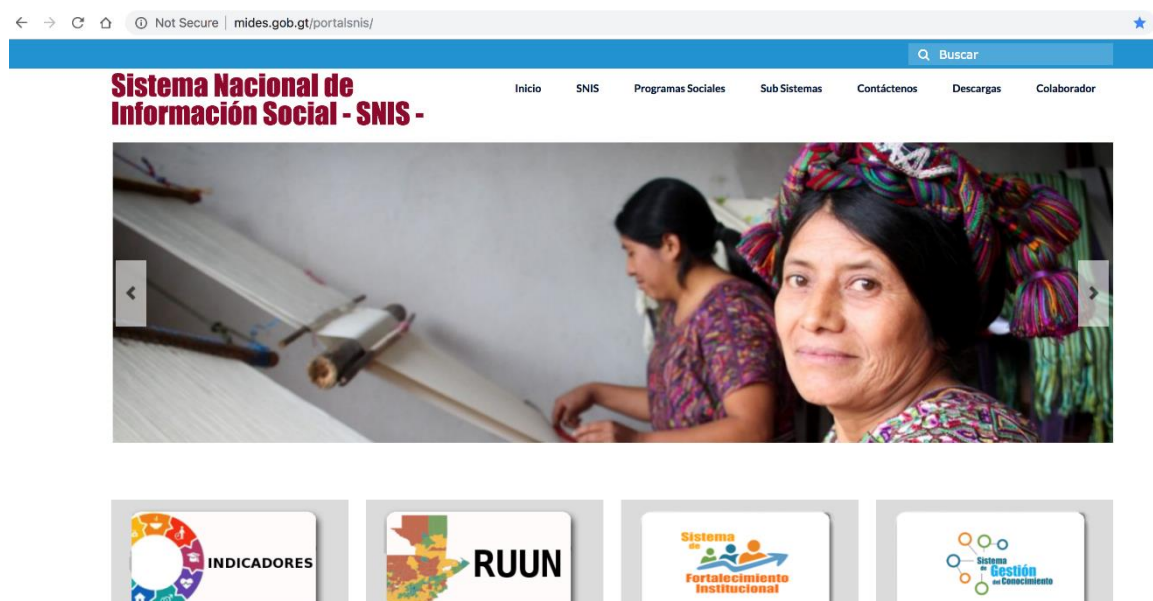
- ➔ **Description of the IT system:** SIPSE is an IT system that facilitates online monitoring of processes which allows the management of operations to keep track of the progress and actions, to improve the national agricultural scenario, the results of the actions and their corresponding effects and impacts. The IT system, rolled out on a national level is being managed by the Ministry of Agriculture, Livestock and Food (MAGA).
- ➔ **Technical Details:** Presented data is disaggregated, has restricted access, and is primarily used for internal use. Data on this portal was last updated in 2015. The system is hosted within country premises. The IT system can be found here: login.maga.gob.gt/sipse/



- ➔ **Indicators:** As SIPSE has restricted access (as seen above), a detailed list of the indicators being captured by this IT system is unknown.

National Social Information System (SNIS)

- **Description of the system:** SNIS is a strategic tool that establishes and develops technical and administrative mechanisms to integrate, consolidate and present information related to public policies related to social development, and that relevant to social programs executed by public sector entities. It is being managed by the Ministry of Social Development (MIDES).
- **Technical Details:** The system is hosted within country premises. Data is presented in the form of individual and also as aggregated records. Data has restricted access and is primarily for internal use. Data on this portal was last updated in 2017. The IT system can be found here: <http://mides.gob.gt/portalsnis/>



- **Indicators:** The web-link was not indicative of a list of indicators that are presented on this IT system, these are therefore unknown.

National Information System for Food and Nutrition (SIINSAN)

- **Description of the IT system:** SIINSAN, the main repository of multi-sectoral data in Guatemala, is defined as a national Monitoring and Alert System for Food and Nutrition Insecurity (SIINSAN) that facilitates decision making in the different political-administrative areas. A system that includes research actions that allow better characterization of the most vulnerable populations, know the situation of the country's SAN, issue early warnings and measure the effectiveness of the actions implemented. The system is fed continuously (monthly) with information on execution of physical goals of the operational plans of the different sectors involved in SAN, including health, agriculture, social development, education, water and sanitation, and analyzed periodically, with the support of institutions representing different governmental and non-governmental sectors, to produce timely situation reports such as the Food and Nutrition Security Forecast. This information is compatible with the financial execution data reported on the Integrated Accounting System (SICOIN). SIINSAN also has specific monitoring tools such as monitoring the actions of the Thousand Days Window (MONI1000), which provides data on the location of services, type of care provided by health personnel, medications and supplies used and the person responsible for said Service and a monitoring system for the execution of specific and nutrition-sensitive actions.

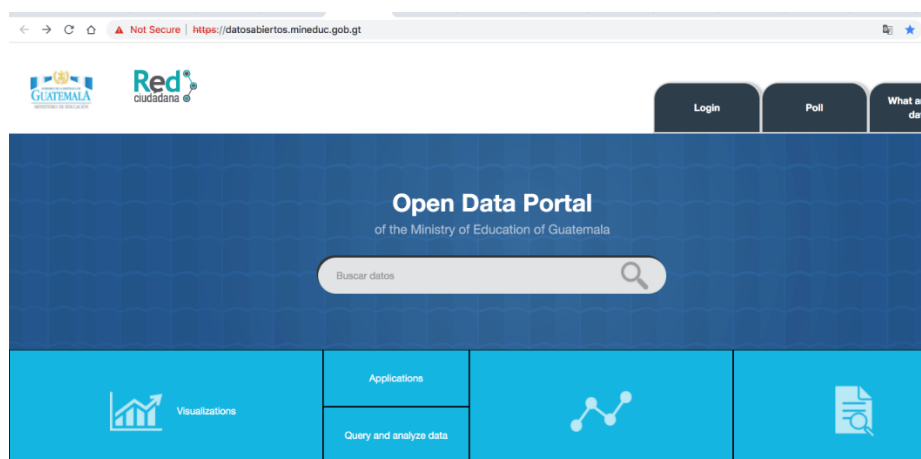
- ➔ **Technical Details:** The conceptual design of the portal is that of a decentralized system, capable of concentrating, managing, using and disseminating information from other entities related to food and nutrition security. The data system is rolled out on a national level and is being managed by SESAN (Secretary of Food and Nutritional Security). The IT system can be found here: <http://www.siinsan.gob.gt/Home>



- ➔ **Indicators:** Indicators spanning multiple sectors such as health, agriculture, social development, education, water and sanitation are presented on this portal.

Open Data Portal

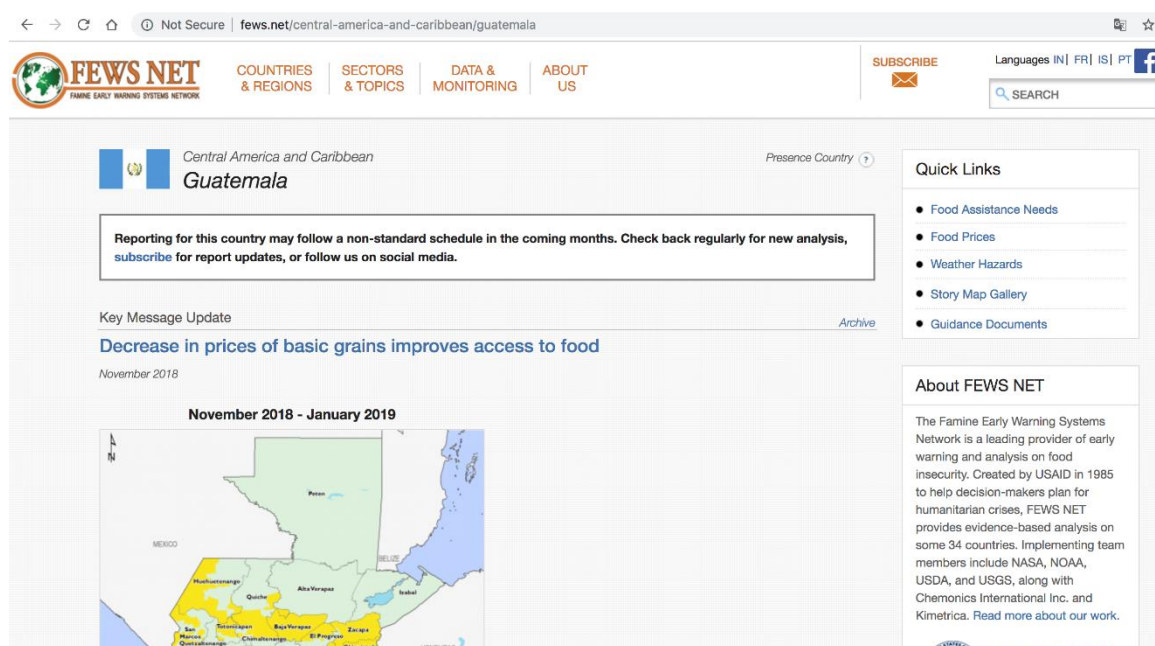
- ➔ **Description of the system:** This national web portal was launched to support decision making in the education sector. The portal is developed to provide government officials, school personnel, groups involved in education, and the general public with updated information on expenditures, student/teacher ratios, and other indicators of educational quality. The portal, rolled out on a national level is being maintained by the Ministry of Education (MINEDUC).
- ➔ **Technical Details:** The IT system can be found here: <https://datosabiertos.mineduc.gob.gt/>



- ➔ **Indicators:** As this data portal has restricted access <https://datosabiertos.mineduc.gob.gt/user/login>, a detailed list of the educational indicators being captured by this IT system is unknown.

Famine Early Warning Systems Network (FEWS NET)

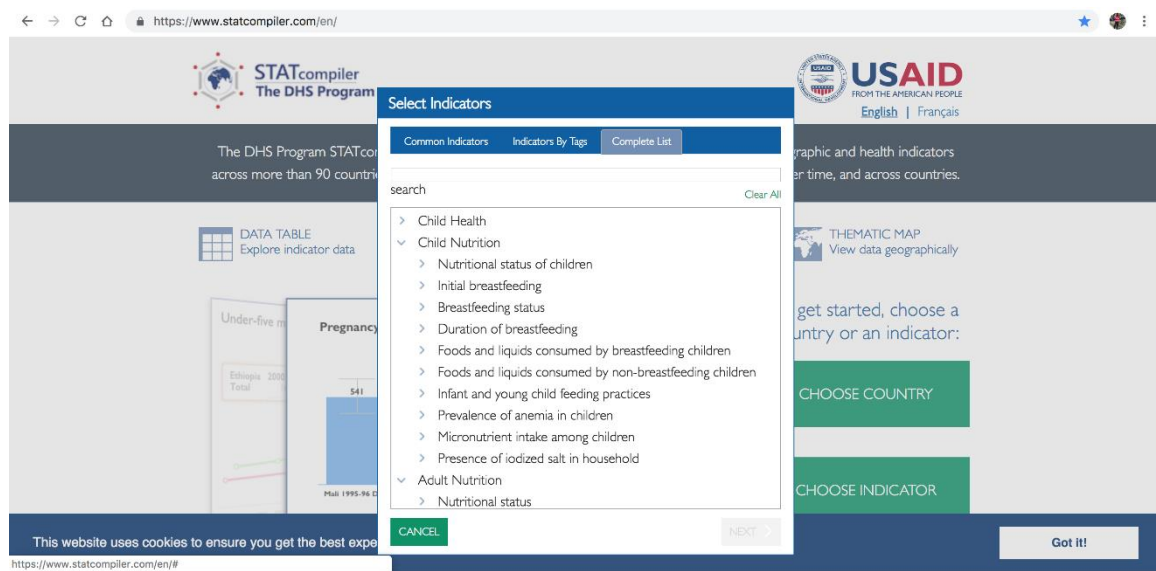
- ➔ **Description of the system:** The Famine Early Warning Systems Network is a leading provider of early warning and analysis on food insecurity. It is created and maintained by USAID and partners to help decision-makers plan for humanitarian crises, FEWS NET provides evidence-based analysis on close to 34 countries including Guatemala. This system collects information from multiple sources for early warning. Data sources are relevant to food security and nutrition as well.
- ➔ **Technical Details:** The FEWS NET represents aggregated data rolled out on a national level and is hosted on out of country premises. Data from multiple sources is used to first estimate future food security outcomes to next predict an early warning on food security situation. FEWS NET can be found here: <http://fews.net/central-america-and-caribbean/guatemala>



- ➔ **Indicators:** None of the core 17 NIPN indicators are captured on FEWS NET. The weblink for FEWS NET was not indicative of a list of indicators that is explicitly considered by this system to make food security projections/ predict warning situations. These are therefore currently unknown.

STATcompiler

- ➔ **Description of the IT system:** STATcompiler is a DHS Program that allows users to make custom tables based on thousands of demographic and health indicators across many countries (90 to be precise), of which Guatemala is one. It allows for customization of tables to view indicators by background characteristics, over time, and across countries.
- ➔ **Technical Details:** STATcompiler (<https://www.statcompiler.com/en/>) represents aggregated DHS (survey) data rolled out on a national level and is hosted on outside country premises. The system is a brainchild of USAID and is being maintained by the same. Data access seems to be of open access.



- ➔ **Indicators:** 10 out of the 17 core NiPN indicators are reported on STATcompiler. These belong to the SUN MEAL indicator Lists 5, 6, 7 and 8. A consolidated list of the indicators that are being captured by STAT compiler is available here: <https://www.statcompiler.com/en/>

Table 1. Summarised overview of existing IT systems

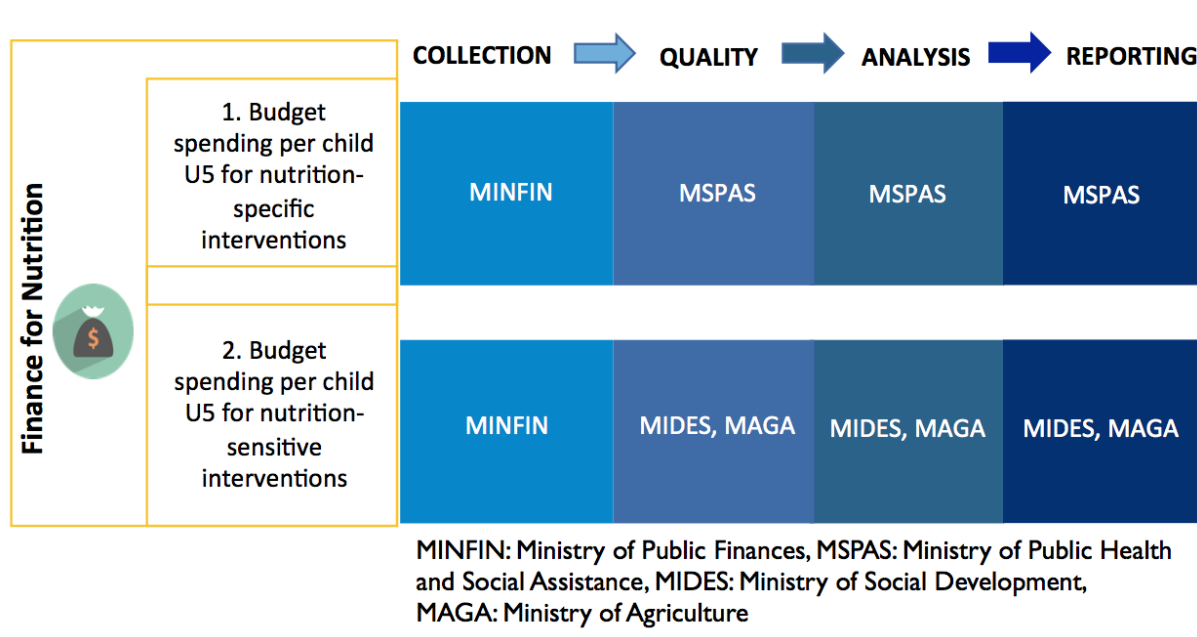
SYSTEM NAME	Scale of rolling out	Data last updated	Individual/Aggregated	Hosted at?	Data Access	Which Ministry/Dept developed it?	Current Status	Indicator coverage (17 SUN MEAL ones)
SIGSA	National	2017	Individual records	Within country premises	Restricted access (Internal Use)	Ministry of Public Health and Social Assistance (MSPAS)	Implemented	10 out of 17
SIPSE	National	2015	Individual records	Within country premises	Restricted access (Internal Use)	Ministry of Livestock and Food (MAGA)	Implemented	Unknown
SNIS	National	2017	Both, individual as well as aggregated	Within country premises	Restricted access (Internal Use)	Ministry of Social Development	Implemented	Unknown
SIINSAN	National	2018	Aggregated	Within country premises	Restricted access (Internal Use)	Secretary of Food and Nutritional Security (SESAN)	Implemented	Unknown
Open Data Portal	National	Unknown	Aggregated	Unknown	Restricted access	Ministry of Education (MINEDUC)	Implemented	Unknown
FEWS NET	National	n/a	Aggregated	n/a	n/a	USAID and Partners	Implemented	Unknown
STATcompiler	National	2014-15 (up to the last DHS)	Aggregated	Out of country	Likely open access	USAID	Implemented	10 out of 17

Section III: Indicator Mapping

The GSF identified an arbitrary list of 17 indicators selected from 6 domains of the SUN MEAL system. The list numbers of these indicators have been kept consistent with that of the numbering used for the SUN meal system found here (<https://scalingupnutrition.org/?s=MEAL>) to avoid any nomenclature related confusion. The objective of this list is ONLY to get a flavor of the multi-sectoral data environment in Guatemala. This section identifies, for each indicator, the institutions responsible for collecting, controlling for quality, analyzing and reporting on those indicators. Data gaps are highlighted as well.

Finance for Nutrition

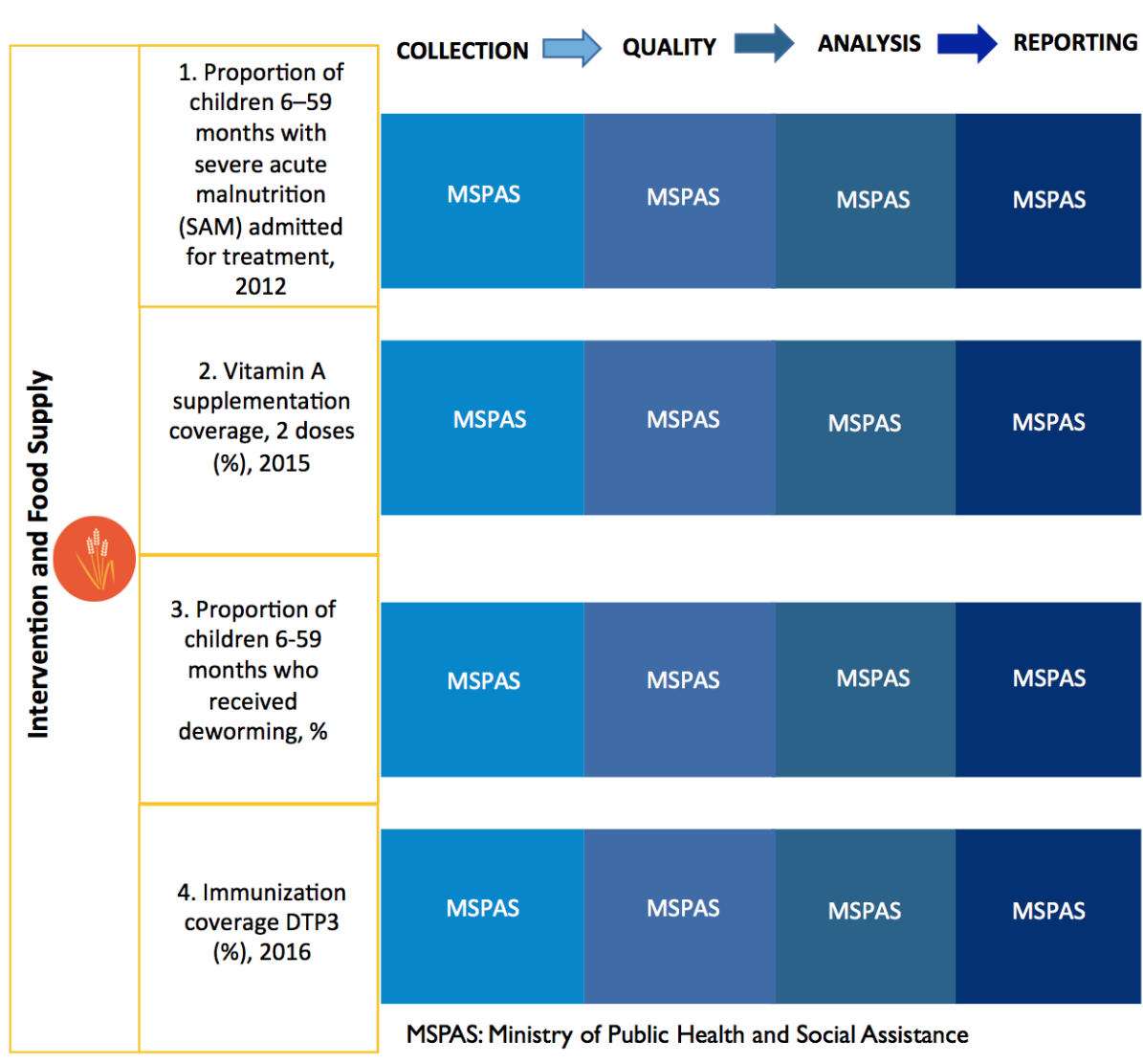
In the current system in Guatemala, both these ‘Finance-associated indicators’ are collected monthly by the routine system, at the Provincial level for indicator 1 and at the national level for indicator 2. Ministry of Public Finances (MINFIN) is responsible for data collection for both the indicators. Ministry of Public Health and Social Assistance (MSPAS) is responsible for data quality and reporting for indicator 1, while the Ministry of Social Development (MIDES) and the Ministry of Agriculture (MAGA) is responsible for data quality and reporting for indicator 2, respectively. Integrated System of Finance Administration (SIAF) and Integrated Accounting System (SICOIN) is being used for data generation/storage for both the indicators, however, these are not calculated and reported on a periodic basis as yet.



- ➔ **Gap(s):** Although data for both the indicators is collected from a macro perspective, it is not calculated and reported on a periodic basis as yet.

Intervention and Food Supply

Data for all indicators is collected both through the routine system (real time/ daily) and also through survey (every 5 to 6 years). Data for indicators 1 and 4 gets reported weekly, while that for indicators 2 and 3 gets reported on an eventual basis, i.e there isn't a periodic frequency for reporting for these two indicators. For all four indicators, SIGSA (Health Information System) is used for data generation/ storage for data generated through the routine system, while 'Tableau Dashboards and Excel' is used for data reporting.



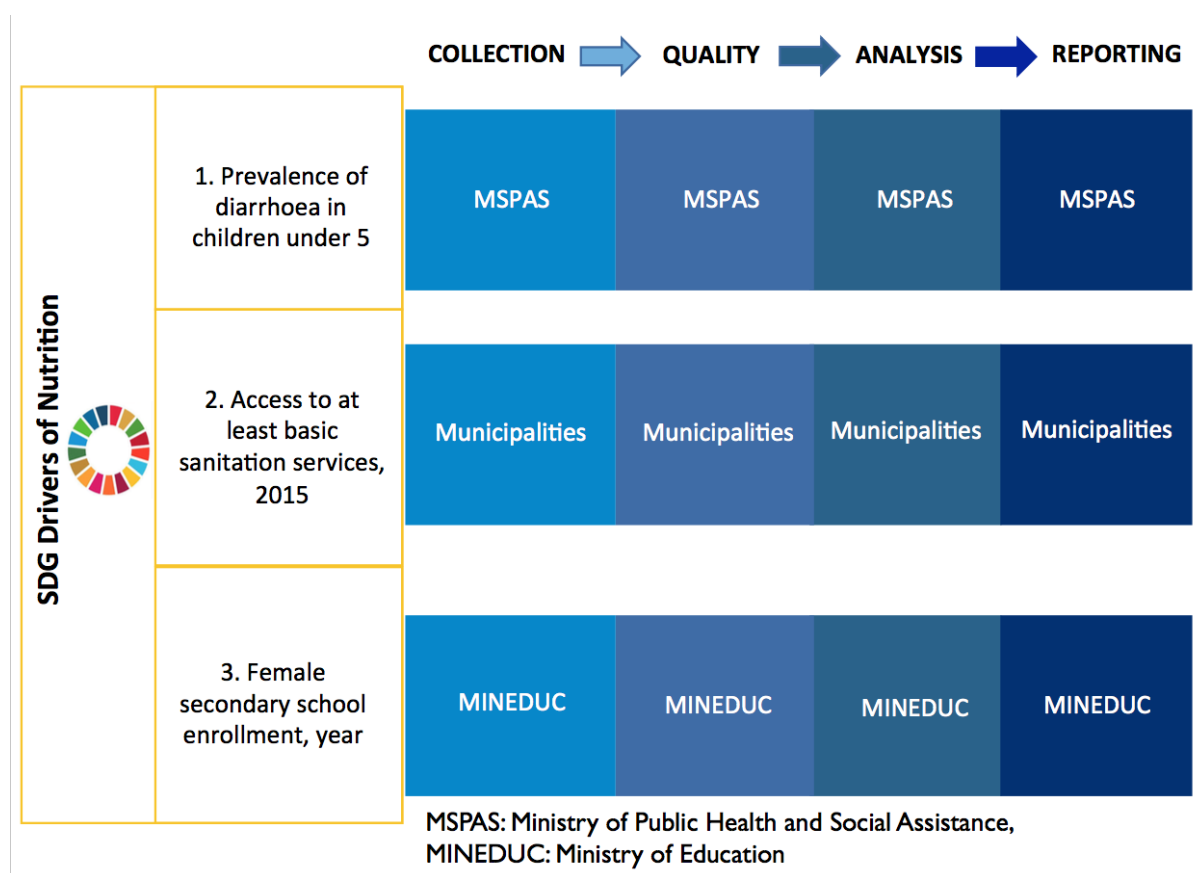
➔ **Gap(s):** On account of inadequate budget, MSPAS is sometimes not able to acquire data for indicators 2 and 3 that gets collected as part of the MSPAS Health Programs.

SDG Drivers of Nutrition

Data for indicator 1 gets collected through the routine system (real time/ daily) and survey (every 5 to 6 years) at the District and Provincial levels. MSPAS is in charge of data collection, quality check and reporting (occurs weekly) for this indicator. SIGSA is used for data generation/ storage for data generated through the routine system, while 'Tableau Dashboards and Excel' is used for data reporting.

Data for indicator 2 gets collected through monitoring and survey (every 5 to 6 years) at the Provincial level. Municipalities are in charge of data collection and quality control. There is no periodic frequency of reporting for this indicator.

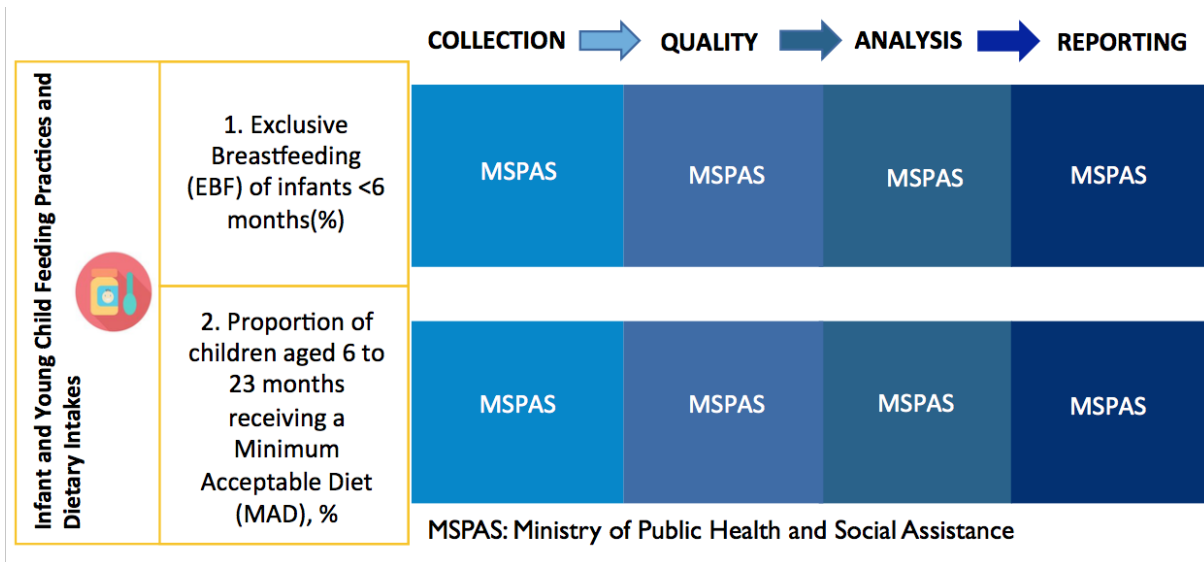
Data for indicator 3 gets collected via monitoring (census, every 5 to 7 years) at the Municipal level. MINEDUC is responsible for data collection, quality control and reporting. Excel is used for data storage, while Dashboards and Excel is used for data reporting.



➔ **Gap(s):** Data for indicator 2 and 3 does not get reported on a periodic frequency. An IT system isn't being used for data storage for these indicators as well. Also, MSPAS, DHS and Municipalities has the data for indicator 2 at different geographic levels.

Infant and Young Child Feeding Practices and Dietary Intakes

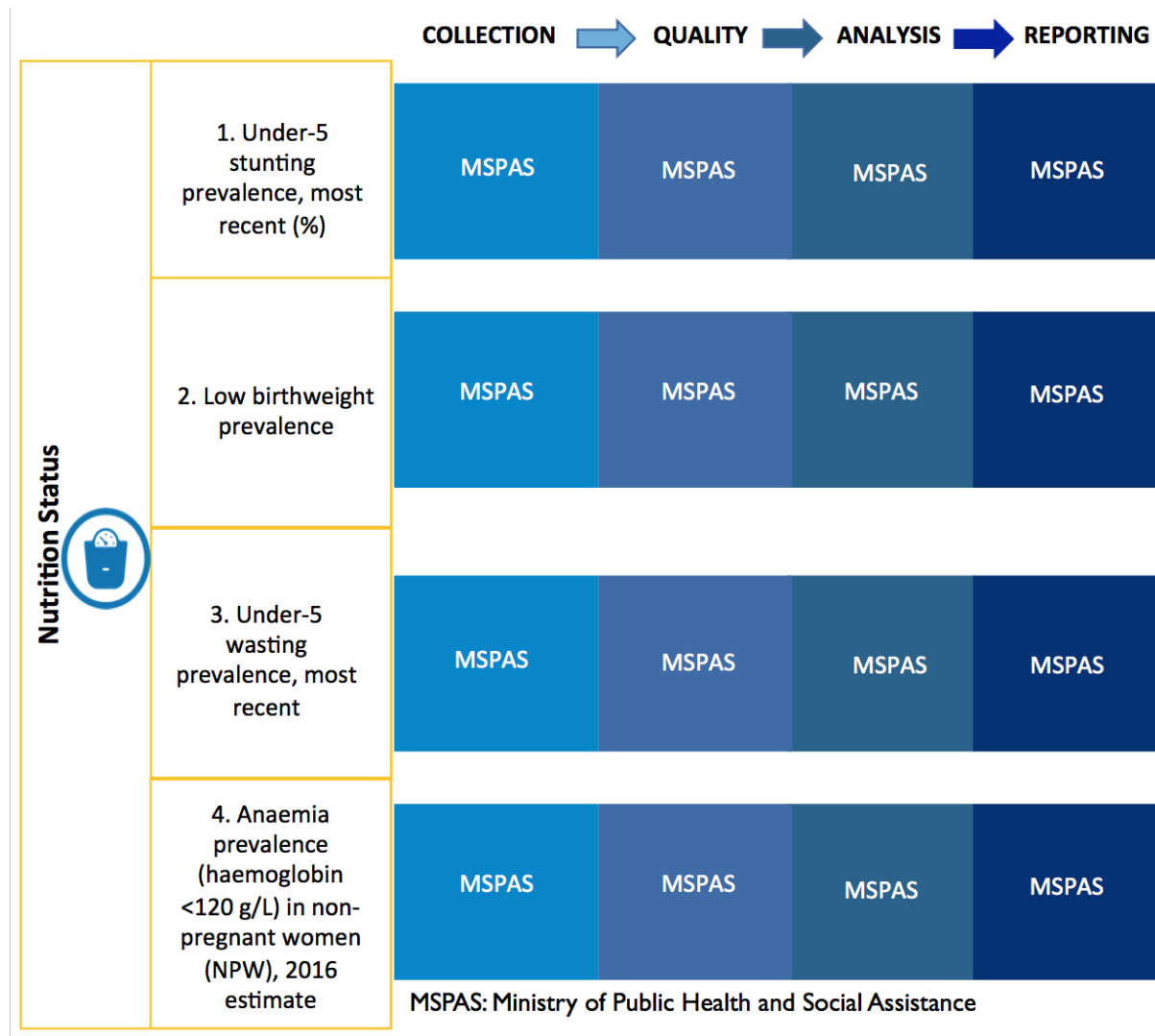
Data for indicator 1 gets collected through survey and the routine collection system at the national level, while that for indicator 2 gets collected only through survey at the Provincial level. MSPAS is in charge of data collection, quality check and reporting for both these indicators. There is no periodic frequency of reporting for indicator 1, happens on an eventual basis. SIGSA is used for data storage while Dashboards/ Excel is used for data reporting for indicator 1. Data for indicator 2 isn't reported periodically as well.



→ Gap(s): There is no frequency of reporting for both these indicators.

Nutrition Status

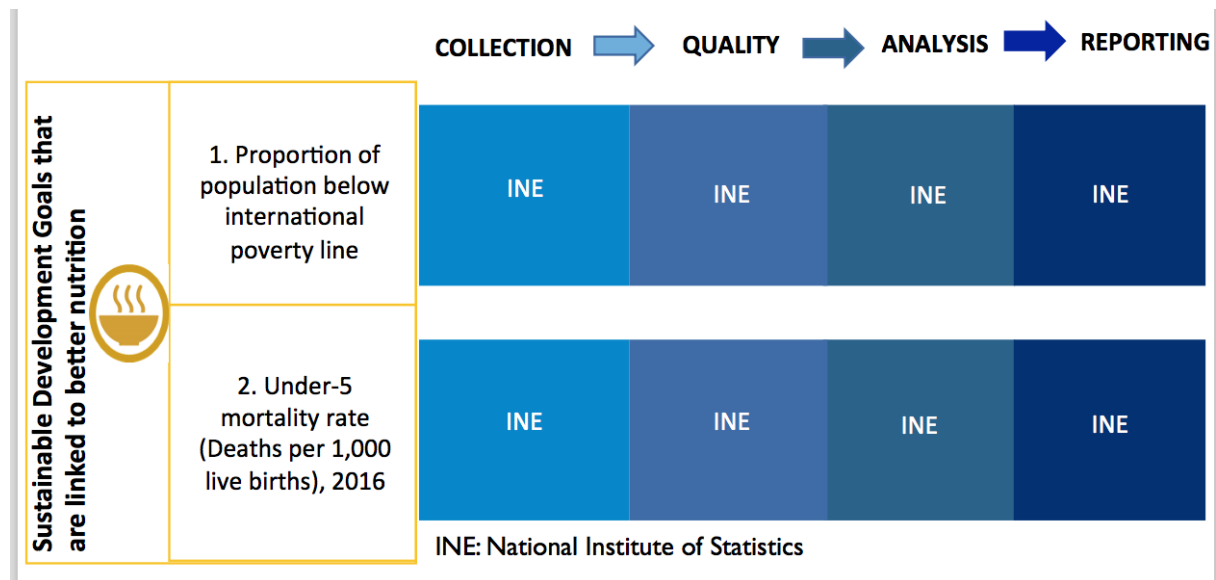
Data for all four indicators gets collected via both the routine collection system (real time/ daily) and also via survey (every 5 to 6 years) at the district and provincial levels. MSPAS is in charge of data collection, quality check and reporting for all four of these indicators. Data for indicator 3 gets reported weekly, while that for indicators 1, 2 and 4 gets reported on an eventual basis, i.e there isn't a periodic frequency for reporting for these three indicators. For all four indicators, SIGSA (Health Information System) is used for data generation/ storage for data generated through the routine system, while 'Tableau Dashboards and Excel' is used for data reporting.



➔ **Gap(s):** Data reporting for indicators 1, 2 and 4 is infrequent.

SDG goals that are linked to better nutrition

Data for indicator 1 gets collected via survey (every 5 to 6 years) at the national and provincial levels, while that for indicator 2 gets collected both via the routine system and survey at the Provincial level. INE (National Institute of Statistics) is responsible for data collection, quality check and reporting for both these indicators. SPSS software is used for data storage and data is reported as PDF documents. For data collected through survey, reporting occurs every 5-6 years while that for data generated through the routine system occurs annually.



- **Gap(s):** An IT system is not being used to store and report data for both these indicators. Also a potential program level gap is that, data for indicator 1 is available at the provincial level, but it isn't available at the district level. Secondly, although data reported for indicator 2 is the official data, however, MSPAS keeps using their own figures, which leads to gaps in the numbers reported officially and those used by MSPAS.

Section IV: Mapping of the main Stakeholders identified

The Secretary of Food and Nutritional Security (SESAN)

→ **Description of the Department/Ministry:** SESAN is responsible for the coordination, integration and monitoring of food and nutrition security interventions between the public sector, society and international cooperation agencies to optimize efforts and resources, in order to achieve greater impact in Guatemala. SESAN's function is to design, implement and operate the National Information System of SAN (SIINSAN), which allows monitoring of the situation of SAN, the progress and effects of strategic plans and programs, as well as the Early Warning System to identify situations of food and nutritional insecurity. In the context of PINN, the Technical Secretariat of SESAN has the leading role in the implementation of PINN. It is designated to host and maintain the central information repository, and also disseminate the products nationally and internationally. The Technical Unit of PINN will be located at the offices of SESAN, and the Director of the Information Systems Unit of SESAN will supervise the management of the hardware and software to be used for the project.

→ **Data Team:** Yes, as SESAN has SIINSAN under its aegis.

The Tropical Agricultural Research and Higher Education Center (CATIE)

→ **Description of the Department/Ministry:** The purpose of the CATIE office in Guatemala is to represent the Center in all its dimensions, providing a timely response to the demands and needs at different levels. This includes the strengthening of training and teaching actions; support for research and development projects; and technical assistance and resource management for technical cooperation and innovation for development in the agricultural sector as well as in natural resource management. CATIE in Guatemala coordinates the actions in the country and is the liaison of the units, programs and technical and administrative departments of the Headquarters. In the context of PINN, CATIE will serve as the coordinating institution of the project that will be receiving the funds, and will be responsible for the management and administration of funds as the subsidy administrator entity. The coordination unit will have its offices at the CATIE location. The training and capacity building requirements of the PINN project also to be led by CATIE. It will support coordination activities in favor of the implementation of the project and will also aid in the strengthening of capacities and technical advice in the agricultural and SAN area. CATIE is also designated to keep continuous touch with the Global Support Facility of the NiPN (GSF) based in Montpellier, France, which was established by the Delegation of EU to monitor the initiative globally and provide information on the progress, achievements and the financial status.

→ **Data Team:** Not applicable keeping in mind the PINN context as it serves the role of a coordination institution in the scope of the PINN initiative.

Ministry of Public Health and Social Assistance (MSPAS)

- ➔ **Description of the Department/Ministry:** MSPAS is responsible for formulating policies and enforcing the legal regime related to preventive and curative health in Guatemala; the actions of protection, promotion, recovery and rehabilitation of the physical and mental health of the inhabitants of the country, and the hygienic preservation of the environment. In the context of PINN, MSPAS is designated to participate in the formulation of information requirements, interpretation of results as part of the Inter-institutional Liaison Technical Committee (CTI), use of PINN products for sectoral decision making and also contribute information and data relevant to the sector.
- ➔ **Data Team:** Available, as MSPAS has SIGSA under its aegis.



NiPN

National Information
Platforms for Nutrition

Summary

This report presents the findings for Guatemala of a study commissioned by the Global Support Facility of the National Information Platforms for Nutrition (NIPN) initiative; to assess the design, processes and practices related to data handling and usage from existing nutrition-related information management systems.

National Information Platforms for Nutrition is an initiative of the European Commission's Directorate General for Cooperation and Development, also supported by the United Kingdom Department for International Development and the Bill & Melinda Gates Foundation.



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GATES foundation

GSF-NIPN

Agropolis International
1000 avenue Agropolis
34394 Montpellier cedex 5
France

www.nipn-nutrition-platforms.org
gsf_nipn@agropolis.fr