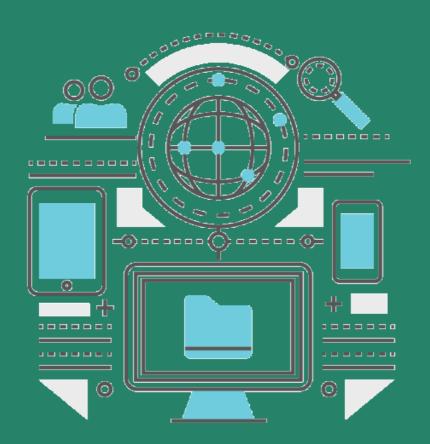


Overview of the Nutrition Information System in Lao PDR

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.

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Introduction

This report presents the findings for Lao PDR 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) global 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 Laos	
Existence of any IT system for Central Data Repository	LaoDECIDEInfo was launched in 2005 (not fully expanded and operationalized though)	
Access to raw data/ metadata across IT systems	Partial	
Frequency of Data updation on existing IT systems	Unsatisfactory (delay in Administrative system from where data is fed into every other system)	
Analysis of available nutrition-related data	Partial	
Data exchange capability between IT systems	Partial (exists for LaoInfo, LaoEDUInfo)	
Presentation of summary statistics on existing IT systems	Available for some IT systems (exists for LaoInfo, LaoEDUInfo, ProvincialInfo, DHIS2)	
Existence of IT systems	Available	
Infrastructure for efficient data reporting (Computers/ Internet)	Limited (internet issues for DHIS2, infrastructure shortage for NIER)	
Availability of Standard Reporting Tools	Likely existing (No gaps highlighted)	
Tools used for nutrition-related Data Consolidation	MS Statistical Sofware: SPSS, CSPro, KoBo Statistical IT System: LaoInfo, DHIS2, ESMIS (LaoEMIS)	
Data Analytics/ Reporting & Dashboard	LaoInfo, DHIS2, LaoEDUinfo, ProvincialInfo	
Level of Program Coverage across the country	Satisfactory	
Plan for a Multi-sectoral nutrition-related Data repository in place	Yes, Laos NiPN	
Existence of Data sharing law/ Policy	Not yet	
A compliant data exchange mechanism/ guideline	Not yet	
National Budget allocated for Nutrition-related interventions	Yes	
Major sources of nutrition-related Data	Survey [Multiple Indicator Cluster Survey (MICS), Lao Social Indicator Survey (LSIS), Lao Expenditure and Consumption Survey, Lao Child Anthropometric Assessment Survey], Routine data collection through HIS	
Presence of a Governing body for inter-sectoral coordination of nutrition	Yes, NNC (National Nutrition Committee)	

Section II: Mapping of existing information systems

Current Nutrition Environment in Laos

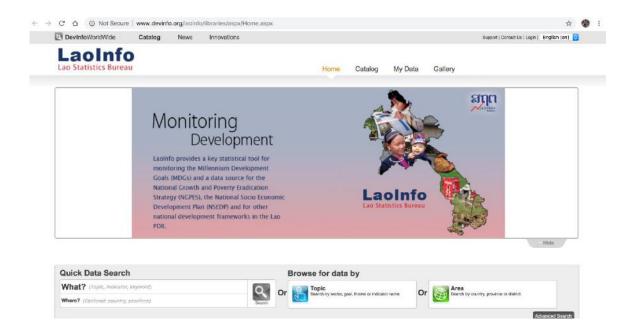
To be able to understand the factors and determinants that influence malnutrition and to strengthen data analysis capabilities to assess progress, inform policies and improve nutrition programs, and better inform the strategic decisions in the best interest of Laos, a Nutrition Centre was established in 2012 which operates under the Ministry of Health (MoH); and in 2013, the multisectoral National Nutrition Committee (NNC) was established, which forms part of the important efforts being made by the GoL to tackle nutrition related problems.

The updated National Nutrition Strategy (NNS) to 2025 and Plan of Action to 2020 (NNSPA) aims to strengthen the multisectoral approach to nutrition and more explicitly, defines the interventions, approaches and institutional arrangements for achieving a more comprehensive action using multisectoral convergent approach. And establishment of a Nutrition Sentinel Surveillance system is envisaged as part of this. The surveillance system is expected to help assess the food and nutrition status in key defined sentinel sites spread along all the 18 provinces of Lao PDR. Setting up the nutrition surveillance system (which is expected to be operational by 2019) as part of NNSPA, is the major nutrition-related initiative the Govt. of Laos will likely focus on in the immediate future.

Presented next is a brief overview of the existing IT systems (that might be of relevance to nutrition-related data), the associated technical details and the information (indicators) captured by these systems (wherever accessible).

LaoInfo

- → Description of the IT system: LaoInfo is a DevInfo adaptation containing data on key socioeconomic indicators for Lao PDR. DevInfo is compliant with international statistical standards to
 support open access and widespread data exchange and operates both as a desktop as well as a
 web application, allowing access from practically anywhere. LaoInfo harnesses the power of
 advanced IT to compile and disseminate data. It is managed by the Department of Data Services
 (DDS), LSB. LaoInfo provides methods to organize, store and display data in a uniform way to
 facilitate data sharing at the country level. It contains simple and user-friendly features that
 produce tables, graphs and maps for inclusion in reports, presentations and advocacy materials.
- → Technical Details: The system is supported by UNICEF in which services for hosting is outsourced to another organization namely 'Community System Foundation' (CSF). The system is hosted in India (open source) with CSF, to which the LSB has a website linkage. LSB uses LaoInfo as the dissemination platform for data collected through the Household surveys, which could be disaggregated up to the provincial level. The most recent update of data on LaoInfo was last done in 2017. Data is open access. The IT system can be found here http://www.devinfo.org/laoinfo/libraries/aspx/Home.aspx
- → Indicators: LaoInfo has 49 indicators (nutrition included) grouped in specific areas and 45 data sources. These were last updated in 2013. Nutrition data are available in 'LaoInfo' where they appear under a specific header 'Nutrition' and as part of other related headers such as 'Environment' and 'Health'. As for the 17 SUN MEAL Indicators, a total of 9 indicators are reported on LaoInfo. Two indicators each belonging to Lists 5 and 6, four indicators belonging to List 7 and one indicator belonging to List 8 are presented on this database.



ProvincialInfo

- → Description of the IT system: ProvincialInfo is based on DevInfo as well. It is infact customised from LaoInfo. In this system, data entry is done at the provincial Statistics Offices through the provincial online system. Presently, only some provinces have managed to develop the database for themselves, as development of this IT system was focused on the UNICEF supported provinces mostly. However, LSB is aiming to expand it for all provinces in the future. It is overall managed by the Department of Data Services (DDS), LSB.
- → Technical Details: The system is hosted in India (open source) with Community System Foundation (CSF), to which the LSB has a website linkage. Presented data is mostly aggregated, as data generated from the routine collection system is reported on ProvincialInfo. Data is open access. The IT system (for the respective available provinces) can be found here:

http://devinfo. org/Saravaneinfo/libraries/aspx/Home. aspx; http://devinfo.
org/attapeuinfo/libraries/aspx/dataview. aspx; http://devinfo.
org/sekonginfo/libraries/aspx/Home. aspx; http://www.devinfo.
org/oudomxayinfo/libraries/aspx/Home. aspx http://www.devinfo.
org/vientianeinfo/libraries/aspx/Home. aspx http://devinfo.
org/Savannakhet/libraries/aspx/Home. aspx http://devinfo.
org/BoriKhamxay/libraries/aspx/Home. aspx
http://www.devinfo.org/phongsaly/libraries/aspx/Home.aspx (development underway)
http://devinfo.org/bokeo/libraries/aspx/home.aspx (development underway)

http://devinfo.org/Xiengkhouang/libraries/aspx/Home.aspx (development underway)

→ Indicators: The number of indicators presented on ProvincialInfo varies in between the different provinces. However, nutrition-related information is mostly contained in headers such as 'Health', 'Agriculture and Forestry', 'Education and Sports' etc.

LaoEDUInfo

→ Description of the system: LaoEDUInfo is based on DevInfo and is customized from LaoInfo as well. In this system, data entry is done at the Central Statistics Office of the Ministry of Education and Sports (MoES) by retrieving data from ESMIS (Education and Sports Management Information System). ESMIS is the primary database of MoES and is hosted under the Education Statistics and Information Technology Centre. Based on the ESMIS data and support from UNICEF, the LaoEDUInfo dashboard has been developed with key indicators and is being used to disseminate information on education indicators. Presented data is mostly aggregated with disaggregation available up to the district level. Data is of open access, and is used for annual report preparation for the ministry of MoES. It is managed by the Education and Sport Statistics Center, Department of Planning, MoES.

This dashboard has been developed to capture key indicators for easy viewing and usage by the users (especially decision makers). In addition, a school map feature has been developed which could be used to track all school facilities across Laos.

Technical Details: The system is hosted in India (open source) with Community System Foundation (CSF), to which LSB has a website linkage. Data from this IT system gets regularly updated to the central database. The IT system can be found here http://sep/www.devinfo.org/laoeduinfo/libraries/aspx/Home.aspx



→ Indicators: These are presented under the header 'Education' and sub-headers 'Early childhood care and education, Primary Education and Secondary Education' on this database. Also, one indicator belonging to List 5 out of the 17 chosen SUN MEAL indicators is presented on this database.

National Health Information System (DHIS-2 based))

- → Description of the IT system: The major routine administrative system for nutrition and health in Laos is the District Health Information System (DHIS2, adopted in 2014) which is an open source database management system. DHIS2 primarily records information on patients who visit health centers and, by its nature, is not representative of the general population. The data system is managed by the Department of Planning and Cooperation, Ministry of Health (MoH). The data system can be found here https://hmis.gov.la/dhis-web-commons/security/login.action
- → Technical Details: DHIS2-Laos represents aggregated data rolled out on a national level and is hosted on Cloud. Data has restricted access and was last updated in 2018. Although implemented, the platform is not yet fully functional due to the lack of reliability, validity and timeliness of available data. MoH with support from Development partners is working on improvising on this data system.



→ Indicators: Incorporation of some key nutrition indicators into DHIS2 for routine reporting is being currently discussed. Four indicators belonging to List 3 out of the 17 chosen SUN MEAL indicators are presented on DHIS2. On account of the data system having restricted access (as seen above), a detailed list of the indicators being captured is unavailable.

The Nutrition Centre

- → **Description of the system:** The Nutrition Centre does not have a separate information management system from DHIS2. Future plans are however underway to revise the tools to improve the interface with DHIS2.
- → Technical Details: DHIS2-Laos represents aggregated data rolled out on a national level and is hosted on Cloud. Data has restricted access and was last updated in 2018. Although implemented, the platform is not yet fully functional due to the lack of reliability, validity and timeliness of available data.
- → Indicators: Although nutrition indicators are included in DHIS2, the scope of indicators is limited and the quality of available data is low due to constraints affecting data entry, timeliness and reliability. Two indicators belonging to List 1 out of the 17 chosen SUN MEAL indicators are presented on this database. Also, due to DHIS2 having restricted access, the indicators covered as part of the Nutrition Centre is unknown.

Education and Sports Management Information System (ESMIS)

→ Description of the system: The Education and Sports Management Information System is the primary database of MoES and is hosted under the Education Statistics and Information Technology centre. This data platform was established long back in 1992. The online data entry system for ESMIS is called LaoEMIS and the dissemination platform is called LaoEDUInfo.

Data for ESMIS was collected in a hard copy format through the distribution of school census questionnaire forms to schools and the generated data was entered by the District Education Bureau/Provincial Education Service, and then exported to MoES. Some of the challenges faced in sustaining this database have been: inadequate expertise of staff, delay in data submission by schools, shortage of infrastructure (half of the districts in the country do not have computers), delay in data entry, lack of check and balance system by district and provincial staffs, and lack of population data at a disaggregated level.

- → Technical Details: The ESMIS database contains aggregated data rolled out on a national level and is hosted on in-country premises. Data has restricted access (with no external access) and is being used for internal purposes of the ministry only.
- → Indicators: A detailed list of the indicators contained in this database is unknown.

Agriculture and Forestry Information System

→ Description of the IT system: In the current scheme of things, data and information required to feed into this IT system is obtained from reports of the district and provincial offices. The IT system is managed by the Statistics Center of Agriculture and Forestry, Department of Planning and Cooperation, Ministry of Agriculture and Forestry.

Generation of data is not yet systematic due to the lack of standardization of statistical concepts and procedures and non-compliance to requirements. Although, data usage has improved at the national level, however, it continues to remain weak at the provincial and district levels on account of the above mentioned reasons.

- → **Technical Details:** This IT system has aggregated data rolled out on a national level. A weblink of the IT system is unavailable.
- → Indicators: A detailed list of the indicators being captured by this IT system is unavailable due to the unavailability of a corresponding weblink.

Table 1. Summarised overview of existing IT systems

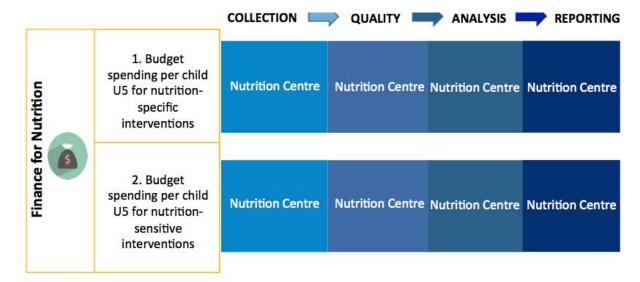
SYSTEM NAME	Scale of rolling out	Data last updated	Individual/Aggre gated	Hosted at?	Data Access	Which Ministry/ Current Status Dept developed it?	Current Status	Indicator coverage (17 SUN MEAL ones)
Laolnfo (DevInfo based)	National	2017	Both	Outside country premises (managed in India)	Open access	Department of Data Services, LSB	Implemented	9 out of 17
ProvincialInfo (DevInfo based)	Provincial	2018	Aggregated	Outside country premises (managed in India)	Open access	Department of Data Services, LSB	Implemented	Varies in between provinces
LaoEDUInfo	National	2017	Both, Disaggregations upto District level	Outside country premises (managed in India)	Open access	MoES	Implemented	l out of 17
DHIS2-Laos	National	2018	Aggregated	Cloud	Limited access	Department of Planning and Cooperation, MoH	Implemented	5 out of 17
The Nutrition Centre	National	2018	Aggregated	Likely Cloud	Limited access	Unknown	Implemented	2 out of 17
ESMIS	National	2018	Aggregated	In country premises	Limited access	MoES	Implemented	Unknown
Agriculture and Forestry Information System	Unknown	Unknown	Aggregated	Unknown	Unknown	Depertment of Planning and Cooperation, Ministry of Agriculture and Forestry	Likely implemented	Unknown

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 Laos. 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

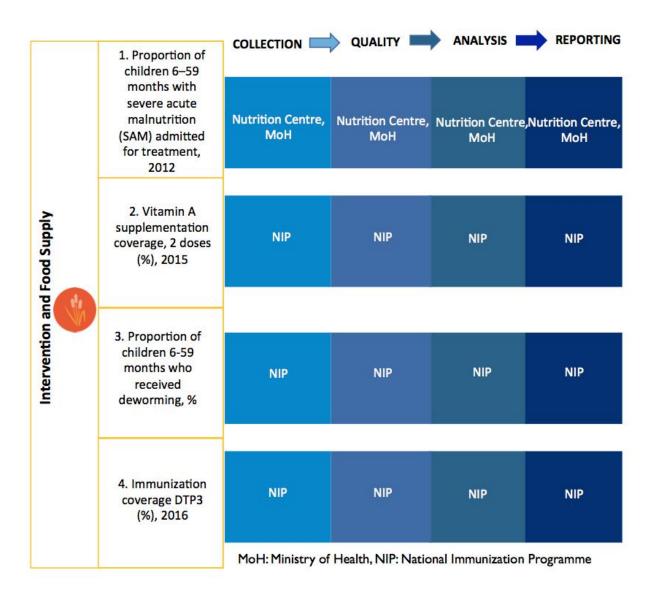
In the current system in Laos, both these 'Finance-associated indicators' are obtained from routine annual reports generated by the sector. Data for these indicators are collected at the district, provincial and national levels, and reported annually by the Nutrition Centre (NC). Excel is used for storing data. NC is overall responsible for data collection, quality control, analysis and their appropriate dissemination.



→ Gap(s): An IT system is not being used to store and report data for these indicators. Also, due to the data being reported by partner departments/ institutes either in relation with a project and/or programme (under which these were collected), data disaggregation by interventions is a challenge. Furthermore, owing to there being no systematic mechanism in tracking the budget spending on nutrition, budget spending at subsector level is problematic and is thus not available to be easily tracked and reported.

Intervention and Food Supply

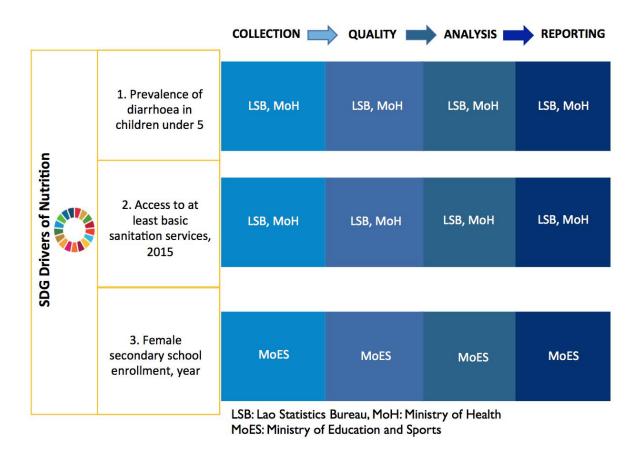
Data for all indicators is collected and reported monthly on DHIS2. The Nutrition center, Ministry of Health is responsible for data collection, storage and reporting for indicator 1 (although this information is not available as yet) while the National Immunization Programme, MoH is responsible for the same for indicators 2, 3 and 4. Data for indicators 2, 3 and 4 is collected through routine collection method (at the health facility level) and Surveys (at the household level). The provision of collection of data for indicator 2 from sentinel sites is also being considered to be included as part of the National Surveillance System implementation in 2019.



→ Gap(s): Data for indicator 1 isn't available as yet. However, it is considered to be included into the upcoming training for health staff, who conduct MUAC screening(s) in every quarter through the integrated outreach activities.

SDG Drivers of Nutrition

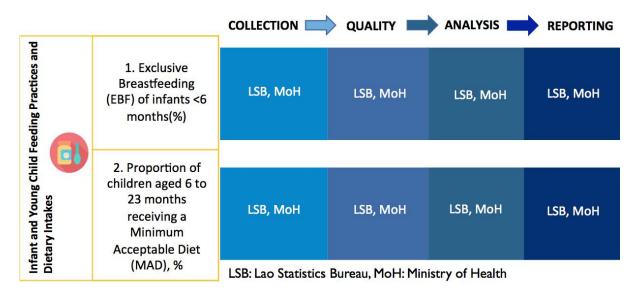
Data for indicators 1 and 2 gets collected via survey every 5 years at the household level. LSB along with MoH is responsible for data collection, storage and reporting for both the indicators. CSPro/SPSS/LaoInfo/Excel is being used for data storage prior to their reporting on the LaoInfo database. The provision of collection of data for indicators 1 and 2 from sentinel sites is also being considered to be included as part of the National Surveillance System implementation in 2019. Data for indicator 3 gets collected via survey and also through the routine collection system annually at the School level. The Education Sport Statistics Information Technology Center, under MoES is responsible for data collection, storage and reporting for this indicator. EMIS is being used for data storage prior to its reporting on the LaoEDUInfo database.



→ Gap(s): None apparent.

Infant and Young Child Feeding Practices and Dietary Intakes

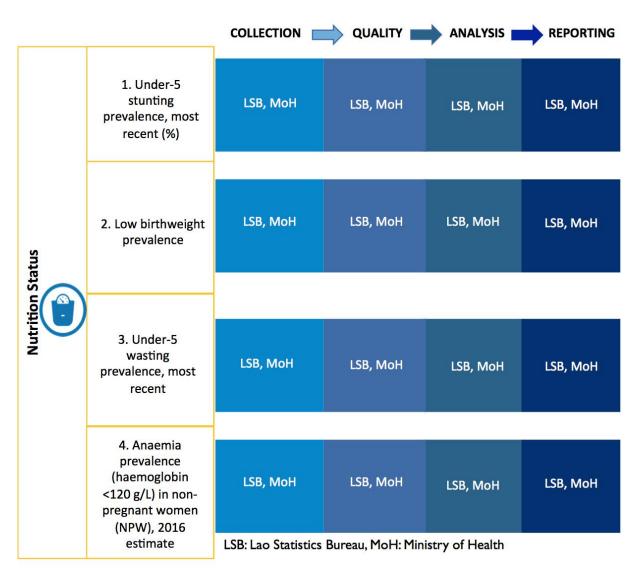
Data for both the indicators gets collected via survey every 5 years at the household level. LSB along with MoH is responsible for data collection, storage and reporting for both the indicators. CSPro/SPSS/LaoInfo/Excel is being used for data storage prior to their reporting on the LaoInfo database. The provision of collection of data for both the indicators from sentinel sites is also being considered to be included as part of the National Surveillance System implementation in 2019.



→ Gap(s): None apparent.

Nutrition Status

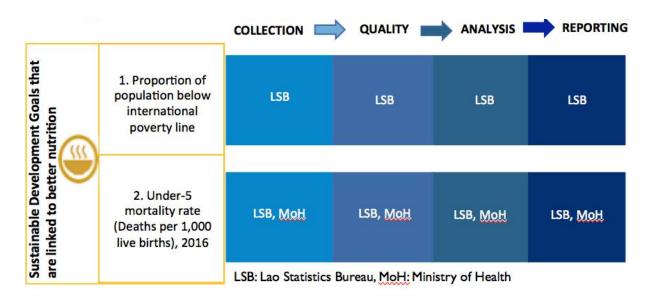
Data for all four indicators gets collected via survey every 5 years at the household level. Data for indicator 2 also gets collected monthly via the routine collection system at the health facility level. LSB along with MoH is responsible for data collection, storage and reporting for all four indicators. CSPro/SPSS/LaoInfo/Excel is being used for data storage prior to their reporting on the LaoInfo database. Data for indicator 2 also gets reported on DHIS2 (that is generated via the routine system). The provision of collection of data for indicators 1 and 3 from sentinel sites is also being considered to be included as part of the National Surveillance System implementation in 2019.



→ Gap(s): None apparent.

SDG goals that are linked to better nutrition

Data for both indicators gets collected via survey every 5 years at the household level. Expenditure Consumption Survey (LECS) is used for data collection for indicator 1 and LSISII and Pop Census surveys are used to collect data for indicator 2. LSB along with MoH, is responsible for data collection, storage and reporting for indicators 1 and 2, respectively. CSPro/SPSS/LaoInfo/Excel is being used for data storage prior to their reporting on the LaoInfo database for indicator 2, while no IT system is being used for storing and reporting data for indicator 1.



→ Gap(s): An IT system is not being used to store and report data for indicator 1.

Section IV: Mapping of the main Stakeholders identified

National Nutrition Committee (NNC)

- → Description of the Department/Ministry: In order to curb high levels of malnutrition, the government of Lao PDR (GoL) has laid out a National Nutrition Strategy (NNS-2025) and a relevant Plan of Action (PA) to implement the devised strategy (NNSPA, 2016 2020). The NNSPA has been created with the aim of accomplishing SDG Goal 2 and also for simultaneously contributing towards attaining the targets of GoL's eighth 5 year NSEDP. To help achieve the goals of NNSPA, a National Nutrition Committee (NNC) was formulated in 2013, with the mandate to provide the necessary overall leadership and guidance for the coordination of NNSPA for the relevant sectors at all levels. The NNC is led by the vice-Prime Minister of GoL. The committee consists of representatives of seven different ministries and several organisations. These include the Ministries of Health, Agriculture, Education, Finance, Industry, Planning, Culture and Information; the National Commission for Women and Children; mass organisations such as Lao Women's Union, Lao Youth Union, Lao Front for National Construction and Lao Trade Union. The Ministry of Health hosts the Secretariat and houses the Government focal point for the SUN movement. The Ministry of Agriculture and Forestry, Ministry of Planning and Investment and Ministry of Education and Sports act as co-chairs of the Secretariat.
- → Data Team: Yes, as the NNC has the Secretariat and the Nutrition Center under its aegis.

Lao Statistics Bureau (LSB), Ministry of Planning and Investment (MPI)

- → Description of the Department/Ministry: Lao Statistics Bureau is a state agency tasked with collection, curation and dissemination of economic, population-based and social statistics relevant to Lao PDR.
- → Data Team: Yes, LSB has the Department of Social Statistics (DSS) and the Department of Data Service (DDS) within its structure.

Center for Development Policy Research (CDR), the Ministry of Planning and Investment (MPI)

- → Description of the Department/Ministry: A 'Center for Development Policy Research (CDR)' has been created within the structure of the Ministry of Planning and Investment (MPI) of GoL wherein the NiPN Data Analysis Unit is expected to be established. The MPI has a mandate to collect data from all line ministries and agencies. Data acquisition and analysis is to be led by CDR together with DSS and DDS of Lao Statistics Bureau, under MPI. CDR is tasked to perform internal quality checks on the data and collaborate surveillance systems; and maintain and update information of the central database on a continuous basis as and when new data becomes available.
- → Data Team: Data Analysis Unit is decided to be formulated by the end of 2018.



Summary

This report presents the findings for Lao PDR 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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