



Expert consultation and meeting on Enhancing Geospatial Information Management Arrangements and Accelerating the Implementation of the Sustainable Development Goals together with the Sub-regional Workshop on United Nations Integrated Geospatial Information Framework (UN-IGIF) for Southern Africa

'Implementing geospatial strategies: challenges and opportunities'

Example of sector specific framework aligned with the IGIF:
The HIS geo-enabling framework

Dr Steeve Ebener (MORU/ Health GeoLab)



The geography of Public Health

“All organized measures (whether public or private) to prevent disease, promote health, and prolong life among the population as a whole.”¹

➔ The three main functions of public health are:

- **Risk assessment** - The assessment and monitoring of the health of communities and populations at risk to identify health problems and priorities
- **Assurance of services** – To ensure that all populations have access to quality, timely, and cost-effective care
- **Policy development** - The formulation of public health policies designed to solve identified health problems and priorities

➔ There is a strong geographic dimension to each of these functions

¹ http://www.euro.who.int/_data/assets/pdf_file/0007/152683/e95877.pdf

A geo-enabled health information system (HIS)

An Information System that fully benefits from the power of **geography**, **geospatial data** and **geospatial technologies** through the proper integration of the geographic and time dimensions across its business processes

➔ Can you think about one piece of data or information within an HIS that has neither a geographic nor a time dimension?

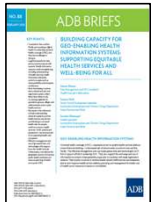
*" Everything happens somewhere
at a given time"*

➔ Properly integrating geography and time in the HIS improves geographically-based decision making and provides a more systemic and systematic approach to solving public health problems.

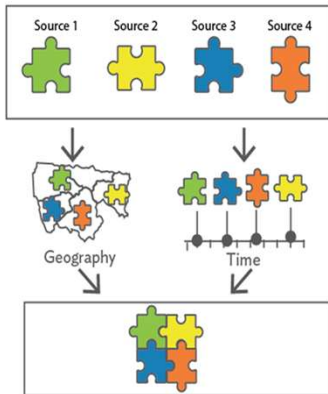
➔ Directly applicable to any public health program or intervention

Benefits of a proper integration of the geographical and temporal dimensions in the HIS, a program or an intervention

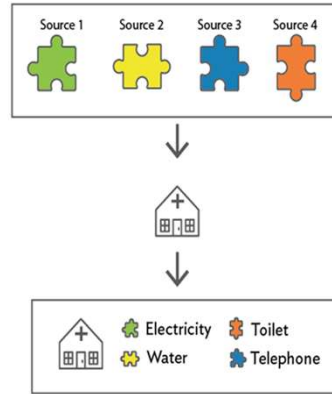
1



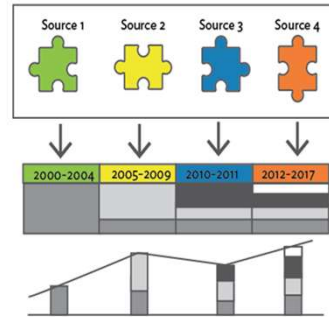
1 Contextualize data from different sources in both space and time



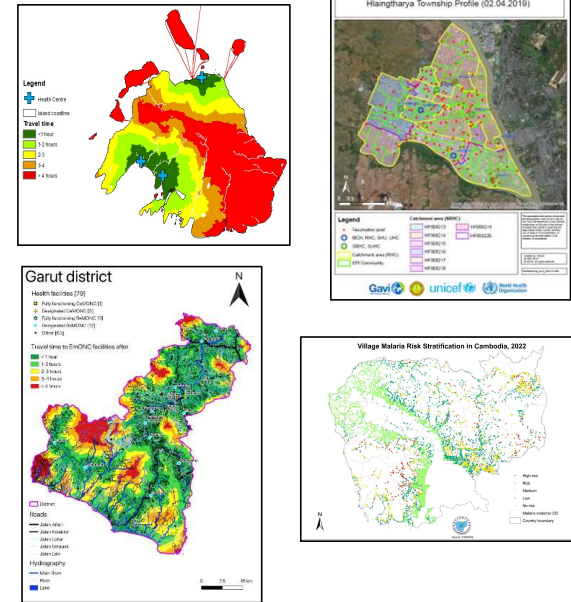
2 Use geographic features (i.e. health facilities) as the common link between data collected by different sources



3 Facilitate trend analysis by taking into account how geography is evolving through time



4 Use a geographic information system (GIS) to create thematic maps, conduct spatial analyses, or apply spatially distributed models



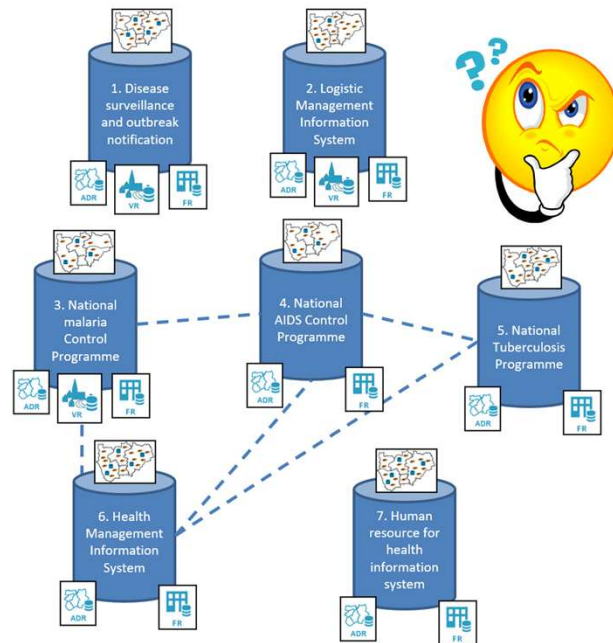
➡ How do you benefit from this in a sustainable way?

➡ By geo-enabling the health information system, programs or interventions

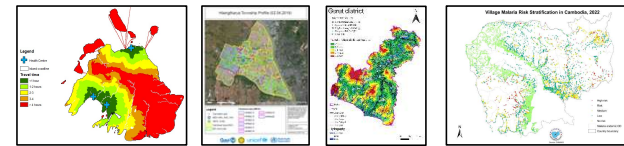
¹ <https://www.adb.org/publications/building-capacity-geo-enabling-health-information-systems>

The vision behind the geo-enablement of the HIS

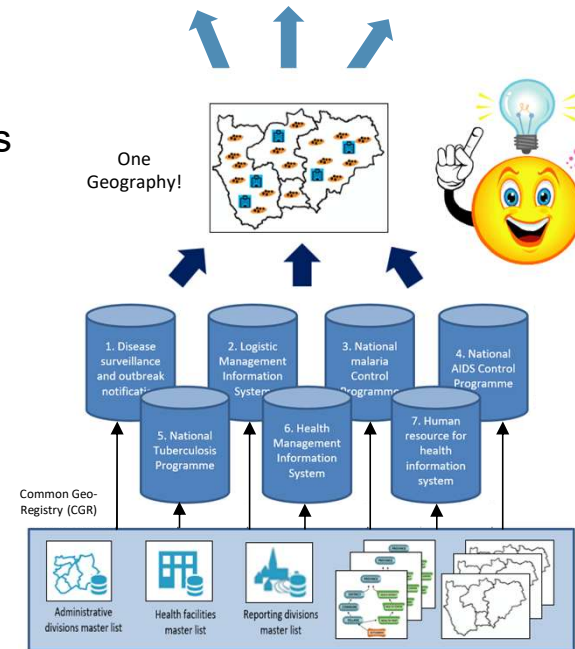
Passing from this ...



Each information system maintains and uses a different geography which is not cost-effective and does not allow benefiting from the power of geography, geospatial data and technologies



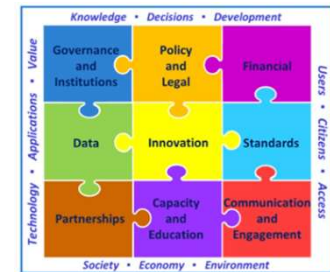
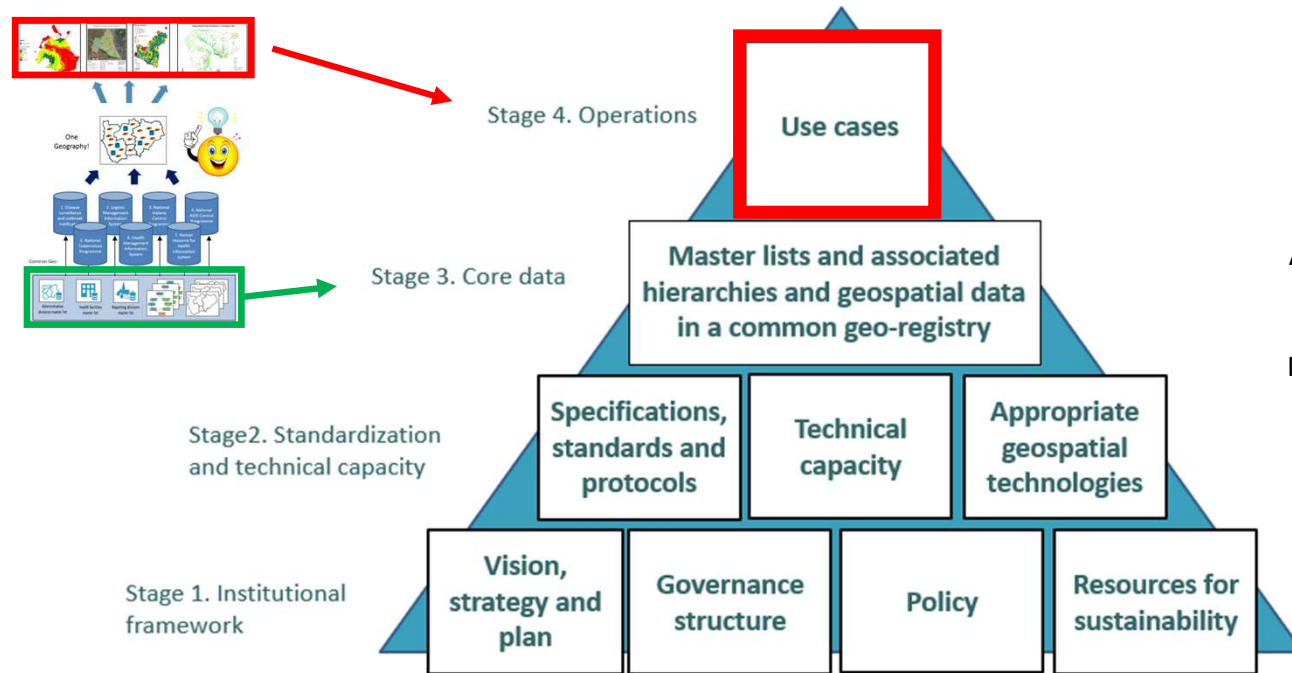
... to this



All information systems use the same geography over time, which not only reduces duplication of effort and costs, but also takes full advantage of the power of geography, geospatial data and technologies

The HIS geo-enabling framework

9 elements that must be in place and sustained over the long term for a HIS, a program or an intervention to be considered geo-enabled

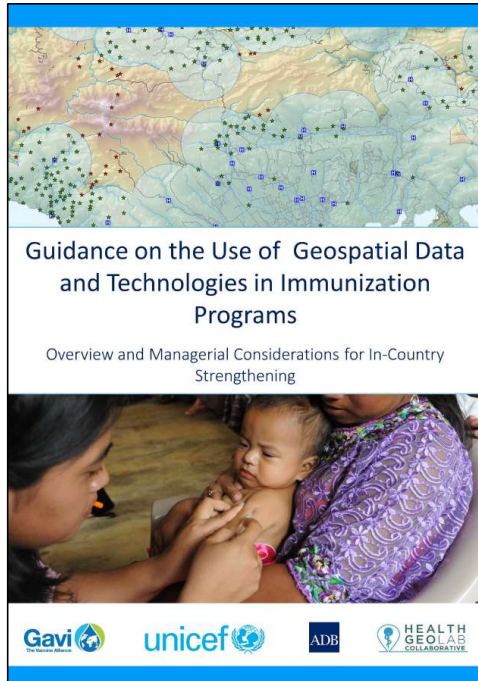


Aligned with the United Nations Integrated Geospatial Information Framework (UN-IGIF) – Cross sectoral framework

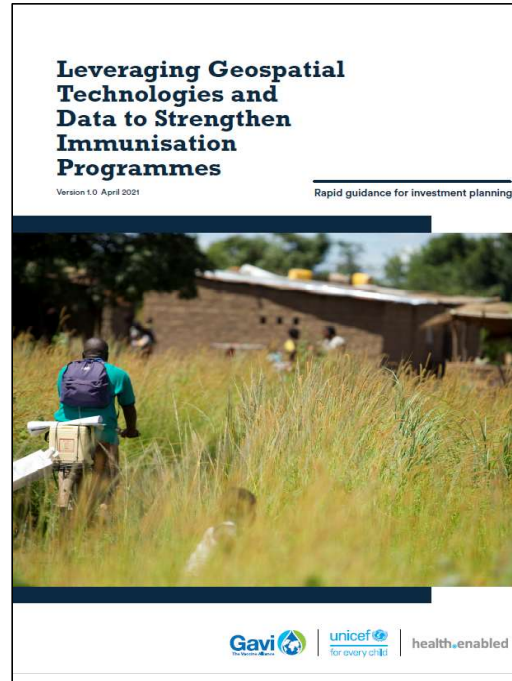
➔ Each stage supports the next one towards an operational use of geography, geospatial data and technologies to support the implementation of health programs

Guidelines including/based on the HIS geo-enabling framework

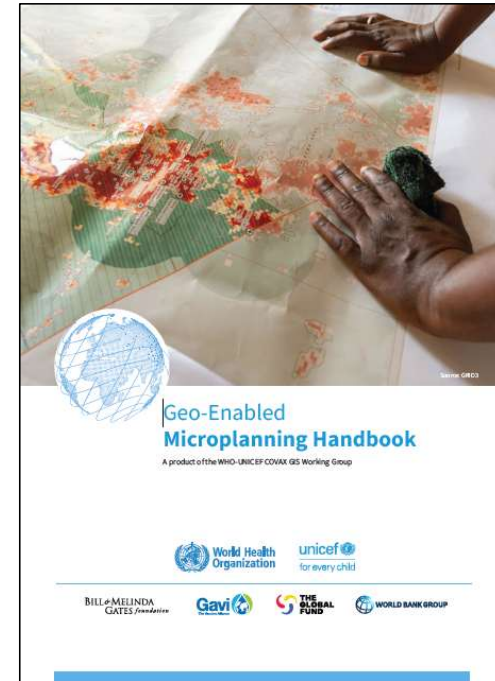
2018



2021



2023



➔ Framework used by UNICEF, GAVI, WHO, the Global Fund and UNFPA to support the management and use of geospatial data and technologies in countries.

1 <https://www.unicef.org/media/58181/file>

2 <https://www.gavi.org/news/document-library/leveraging-geospatial-technologies-and-data-strengthen-immunisation>

3 <https://drive.google.com/file/d/1jj779zww4herWOESAd9mXqVE1YfQeHT/view?usp=sharing>

The HIS geo-enabling framework – Objectives and benchmarks



Element of the framework	Objective	Benchmarks
1. Vision, strategy, and action plan	A vision, a strategy and an action plan have been defined and are implemented to support the geo-enablement of the HIS	1.1 The MOH has a vision, strategy, and plans regarding the management and use of geospatial data and technologies. 1.2 Each key program has a vision, strategy and action plan regarding the management and use of
2. Governance structure	5. Master lists and common geo-registry	5.1. The MOH has a complete, up-to-date, uniquely coded, and geo-referenced (for point type objects) master list for each geographic object key to public health (health facilities, administrative divisions and villages, reporting divisions. 5.2. The government maintains, regularly updates, and share shapefiles containing the boundaries of the administrative and health reporting divisions. 5.3 These master lists and associated spatial data are simultaneously hosted, maintained, regularly updated, and shared using a Common Geo-Registry. 5.4. All the master lists, and especially their officially recognized codes, are being integrated in all the information systems and used for data collection, reporting, and monitoring across all health programs.
3. Technical capacity	6. Appropriate geospatial technologies	6.1. The central level geospatial data management and technologies unit has access to the necessary and appropriate geospatial technologies (GNSS, GIS) to support its mandate. 6.2 The key health programs have access to the necessary and appropriate geospatial technologies (GNSS, GIS) to support the implementation of their activities
4. Data specifications, standards and protocols	7. Documented use cases	7.1. Geospatial data and technologies are recognized as important and their full potential is being used to support the implementation of key health programs towards reaching SDG 3. 7.2 Use cases supporting decision making and/or planning are documented and available.
	8. Policies supporting the geo-enabling process	8.1. A policy/Policies enforcing the following has/have been released: a) The mandate over the guardianship on geospatial data specifications, standards, and protocols as well as over the development, maintenance, update, and sharing of master lists for the geographic objects core to public health using a common geo-registry. b) The use of the developed specifications, standards, protocols, and master lists by all the stakeholders in the health sector.
	9. Resource for sustainability	9.1. The central level geospatial data management and technologies unit has the necessary financial resources to ensure the long-term sustainability of its activities linked to the geo-enablement of the HIS. 9.2 The key health programs have the necessary financial resources to ensure the long-term sustainability of their activities

Used to assess the current level of geo-enablement in each country and as the basis for developing the action plan to fill existing gaps

¹ https://www.healthgeolab.net/DOCUMENTS/HIS_geo-enabling_toolkit.pdf

The HIS geo-enabling framework – Objectives and benchmarks

2. Governance structure	A governance structure supporting the vision, strategy and action plan has been established and is operational	<p>2.1. The MOH has established a governance structure to handle issues pertaining to the management and use of geospatial data and technologies.</p> <p>2.2. All the health program and the stakeholders involved in the management and use of geospatial data and technologies in health are part of the governance structure.</p> <p>2.3 The MOH is on board of the <u>National Spatial Data Infrastructure (NSDI)</u>.</p>
4. Specifications, standards and protocols	All programs use the same data specifications, standards and protocols to ensure geospatial data quality	<p>4.1. <u>The NSDI</u> has defined the geospatial data and technologies related specifications, standards and protocols that should be used by all governmental agencies.</p> <p>4.2. The MOH is using the geospatial data and technologies related specifications, standards and protocols across all key health programs.</p>

- ➔ Prepare the health sector to be involved in the NSDI
- ➔ Promote for health to be one of the drivers of the NSDI process and therefore of the IGIF concept

¹ https://www.healthgeolab.net/DOCUMENTS/HIS_geo-enabling_toolkit.pdf

The HIS geo-enabling framework - Origin

Situation in countries of the Asia-Pacific region (2017)

Géo-enabling components	BGD	BTN	KHM	FJI	IND	IDN	LAO	MMR	MYS	NPL	PHL	LKA	VNM
1. Vision, needs, strategy and plan	Yellow	Green	Yellow	Yellow	Green	Red	Yellow	Yellow	Green	Yellow	Red	Yellow	Red
2a. Governance structure	Yellow	Yellow	Red	Yellow	Green	Red	Yellow	Red	Green	Yellow	Green	Yellow	Yellow
2b. GIS technical capacity	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
3. Data specifications, standards and protocols	Red	Green	Red	Yellow	Yellow	Yellow	Red	Yellow	Yellow	Red	Green	Red	Red
4. Master list	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
5. GIS technology	Yellow	Yellow	Green	Green	Yellow	Green	Green	Green	Green	Green	Green	Green	Green
6. Map production (use)	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
7. Policy	Red	Yellow	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Yellow
8. Resources for sustainability	Yellow	Yellow	Red	Red	Red	Red	Yellow	Red	Red	Red	Red	Red	Red

■ Existing
 ■ In process
 ■ Not existing

BGD = Bangladesh, BTN = Bhutan, KHM = Cambodia, FJI = Fiji, IND = Inde, IDN = Indonésia, LAO = République Démocratique Populaire du Lao, MMR = Myanmar, MYS = Malaisie, NPL = Népal, PHL = Philippines, LKA = Sri Lanka, VNM = Viet Nam.

➔ Important gaps for the elements guaranteeing the quality, effectiveness and long-term sustainability of data and information products

➔ Has received a GIS training (mainly in data collection and thematic mapping)

➔ Has access to a GIS software

➔ Generates thematic maps, but spatial analysis and modelling are very limited



¹ <https://www.adb.org/publications/building-capacity-geo-enabling-health-information-systems>

The HIS geo-enabling framework - Origin

Situation in French speaking African countries (2023)

Element of the HIS geo-enabling framework		BFA	BDI	COG	CIV	GIN	MDG	MLI	CAF	COD	SEN	TGO
Stage 4. Operations	Use cases	HIS	Completed/sufficient	In progress/insufficient	Completed/sufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient
		Malaria	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient
		TB	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient
		HIV	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	Completed/sufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient
Stage 3. Core data	Master lists and geospatial data and Common Geo-Registry (CGR)	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started
	Data specifications, standards and protocols	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started
Stage 2. Standardization and technical capacity	Technical capacity	HIS	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient
		Malaria	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient
		TB	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient
		HIV	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient
Stage 2. Standardization and technical capacity	Geospatial technologies	HIS	In progress/insufficient	In progress/insufficient	Completed/sufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	Completed/sufficient	In progress/insufficient	In progress/insufficient
		Malaria	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient
		TB	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient
		HIV	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient	In progress/insufficient
Stage 1. Institutional framework	Vision, strategy and plan	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started
	Governance mechanism	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started
	Policies	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started
	Financial resources	HIS	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started
Malaria		Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started
TB		Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started
HIV		Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started	Missing / not started

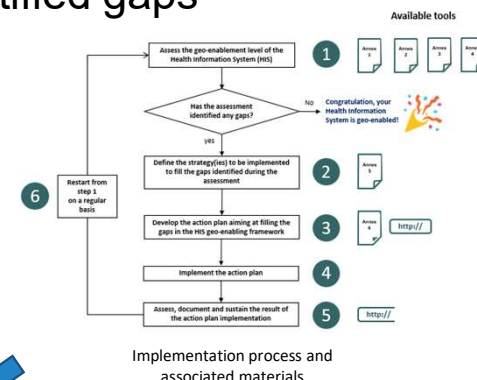
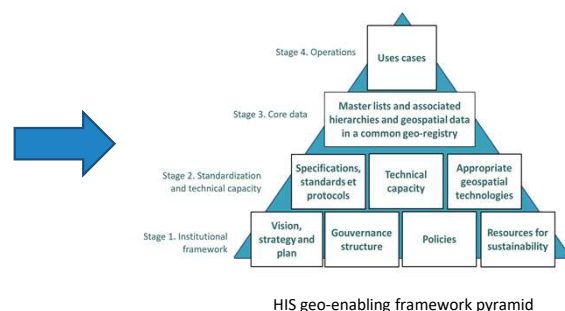
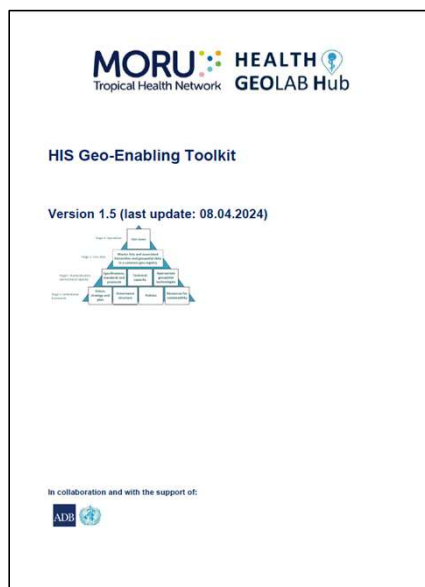
← Series of use cases that have not been institutionalized

BFA = Burkina Faso, BDO = Burundi, COG = Republic of Congo, CIV = Ivory Coast, GIN = Guinea, MDG = Madagascar, MLI = Mali, CAF = Central African Republic, COD = Democratic Republic of the Congo, SEN = Senegal, TGO = Togo

➔ Important gaps for the elements guaranteeing the quality, effectiveness and long-term sustainability of data and information products and this across programs

The HIS Geo-enabling toolkit

Designed to help countries the health sector in countries to assess their level of HIS geo-enabling and develop the action plan aimed at filling the identified gaps



Element of the framework	Benchmarks
1. Vision, strategic, conceptual, and defining plan	1.1. The MOH has a vision, strategic, and plans regarding the management and use of geospatial data and technologies 2.1. The MOH has established a governance structure for health issues pertaining to the management and use of geospatial data and technologies
2. Organizational structure	2.2. All the health programs and the stakeholders involved in the management and use of geospatial data and technologies in health are part of it
3. Technical capacity	3.1. The MOH has a competent, up-to-date, properly trained, and geo-empowered staff that can collect, manage, and use the geospatial data for public health (health facilities, administrative divisions and other reporting divisions) 3.2. These master lists are simultaneously hosted, maintained, regularly updated, and shared through a common geo-registry 3.3. The government maintains, regularly updates, and share strategies concerning the boundaries of the administrative and health reporting divisions
4. Data identifiers, standards and protocols	4.1. All the master lists, and especially their officially recognized codes, are being implemented in all the information systems and used for data collection, reporting, and monitoring across all health programs 4.2. The central and geospatial data management and technologies used has access to the necessary geospatial technologies (GIS, GIS) to support its mandate 4.3. The key health programs have access to the appropriate geospatial technologies (GIS, GIS) to support the implementation of their mandates
5. Appropriate geospatial technologies	5.1. Geospatial data and technologies are recognized as being important and their full potential is being used to support the implementation of key health programs (including testing COVID-19) 5.2. Activities involving the following have been implemented: a) The mandate over the geospatial data specifications, standards, and protocols is well in use (the development, maintenance, update, and sharing of master lists for the geographic objects core to public health through the use of a common geo-registry) b) The use of the geospatial data (statistics, dashboards, protocols, and master lists) of the master lists in the health sector 5.3. The MOH has the appropriate human and financial resources to ensure the long-term sustainability of their geospatial data and technologies related activities
6. Resources for sustainability	6.1. The MOH has the appropriate human and financial resources to ensure the long-term sustainability of their geospatial data and technologies related activities

Benchmarks

Annex 2 - HIS geo-enabling quick assessment questionnaire

Introduction:
The aim of this questionnaire is to collect a picture of the situation in your department regarding its geo-enabling level.
This information will be used as baseline for the development of the action plan.
Please take the time to answer the questions before completing the questionnaire. Help if you're confused!

Respondent contact information:
Full name of the respondent: _____
Full name of the institution: _____
Full name of the department/unit: _____
Address: _____
City: _____
Region: _____
Postal address: _____
Phone number: _____

Priorities and challenges:
Please indicate on a scale of 1 (not a priority/challenge) to 5 (major priority/challenge) the importance of the following issues for your institution (MOH).
Priority 1: _____
Priority 2: _____
Priority 3: _____
Priority 4: _____
Priority 5: _____

HIS Geo-enabling quick assessment questionnaire

Element of the framework	Number	Frequency of use	Importance	Priority
1. Vision, strategic, conceptual, and defining plan	1.1	1	1	1
2. Organizational structure	2.2	1	1	1
3. Technical capacity	3.1	1	1	1
3.2	1	1	1	1
3.3	1	1	1	1
4. Data identifiers, standards and protocols	4.1	1	1	1
4.2	1	1	1	1
5. Appropriate geospatial technologies	5.1	1	1	1
5.2	1	1	1	1
5.3	1	1	1	1
6. Resources for sustainability	6.1	1	1	1

Strategies, stakeholder engagement and level of implementation to address existing gaps

Annex 6 - Fictive HIS geo-enabling action plan

Introduction:
This is a fictive action plan for the purpose of illustration. It is not intended to be used as a template for real action plans.
The action plan is based on the results of the assessment and the identified gaps.
The action plan is divided into four main areas: Vision, Organizational structure, Technical capacity, and Resources for sustainability.
The action plan is based on the results of the assessment and the identified gaps.
The action plan is divided into four main areas: Vision, Organizational structure, Technical capacity, and Resources for sustainability.

Area	Activity	Responsible	Start Date	End Date	Priority	Status
Vision, strategic, conceptual, and defining plan	1.1.1. Develop a vision, strategic, and plans regarding the management and use of geospatial data and technologies	MOH	2024-01-01	2024-03-31	1	Completed
	2.1.1. Establish a governance structure for health issues pertaining to the management and use of geospatial data and technologies	MOH	2024-01-01	2024-03-31	1	Completed
	3.1.1. Develop a competent, up-to-date, properly trained, and geo-empowered staff that can collect, manage, and use the geospatial data for public health	MOH	2024-01-01	2024-03-31	1	Completed
	4.1.1. Develop a common geo-registry for the master lists	MOH	2024-01-01	2024-03-31	1	Completed

Action plan template

¹ https://www.healthgeolab.net/DOCUMENTS/HIS_geo-enabling_toolkit.pdf

HIS Geo-enabling framework implementation process

To achieve the benchmarks of the HIS geo-enabling framework, it is necessary to follow a six-step process described in the HIS geo-enabling toolkit:

Step 1 : Assess the level of geo-enablement of the health information system

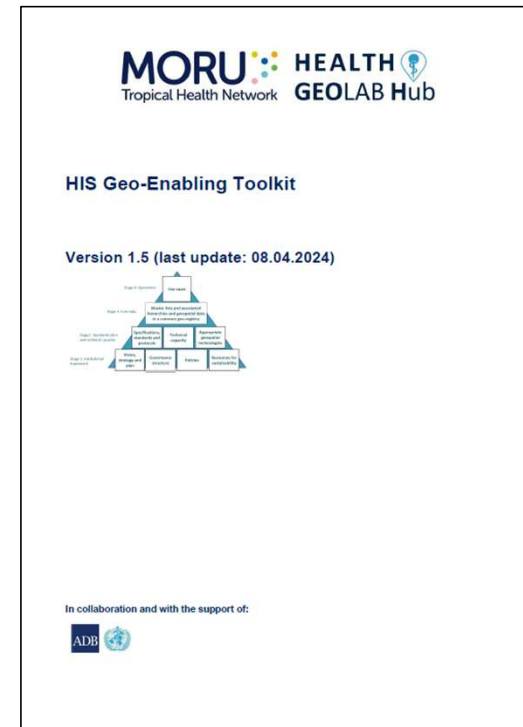
Step 2 : Define the strategy(ies) to be implemented to fill the gaps identified during the assessment

Step 3 : Develop the action plan aiming at filling the gaps in the HIS geo-enabling framework

Step 4 : Implement the action plan

Step 5 : Assess, document and sustain the result of the action plan implementation

Step 6 : Restart from step 1 on a regular basis



http://www.healthgeolab.net/DOCUMENTS/HIS_geo-enabling_toolkit.pdf

HIS geo-enabling technical support to French-speaking African countries

Activity supported by the Global Fund and implemented in collaboration with the University of Geneva and the University Amadou Mahtar MBOW (UAM) of Dakar to help countries geo-enable their Health Information System (HIS)

Enquête pré-atelier sur l'état de géo-activation de votre département/unité

Atelier sur la géo-activation du Système d'Information Sanitaire (SIS) et l'utilisation des Systèmes d'Information Géographique (SIG) en Afrique francophone

steeve.ebener@gmail.com [Switch account](#)

Not shared

Introduction
La présente enquête a pour objectif d'obtenir une première image de la situation dans votre département/unité en ce qui concerne son niveau de géo-activation.

Ces informations serviront à orienter les discussions pendant l'atelier ainsi que le soutien technique qui sera fourni après l'atelier.

Merci de prendre le temps de parcourir le glossaire avant de remplir le questionnaire: <https://bit.ly/3Rt4J05>

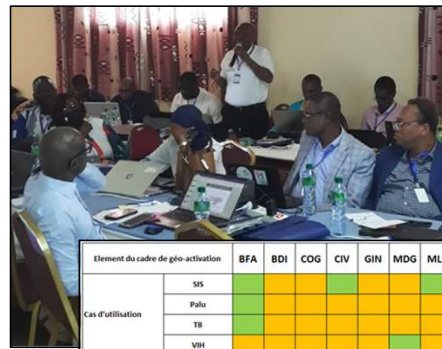
N'hésitez pas à contacter Nicolas Ray (nicolas_ray@unige.ch) si vous avez des questions concernant l'enquête.

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Google Forms



Element du cadre de géo-activation		BFA	BDI	COG	CIV	GIN	MDG	MLI	CAF	COD	SEN	TGO
Cas d'utilisation	SIS											
	Palu											
	TB											
	VIH											
Listes maîtresses, données géospatiales et Registre Géographique Commun (RGC)												
Spécifications des données, normes et protocoles												
Capacité technique	SIS											
	Palu											
	TB											
	VIH											
Technologies	SIS											
	Palu											
	TB											
	VIH											



Congo Brazzaville- Géo-activation du SIS
Abdou, ~Aliou, ~Dr, ~kivoueleth, ~Rabi,...

Abdou (BFA) merci d'utiliser ce lien pour rejoindre la reunion <https://meet.google.com/qpo-veqm-yyb>

Merci 10:54 pm

Abdou (BFA) Re-bonjour Congo, Je tiens à exprimer ma gratitude pour l'organisation de cette réunion qui sera bénéfique pour notre progression collective. Je m'excuse d'avoir effectué plusieurs rappels, particulièrement alors que vous travaillez hors ligne avant de pouvoir télécharger vos données dans le gabarit en ligne. Pour les prochaines étapes de cette réunion, je retiens...

MDG_Gabarit_plan-action_geo-activation_SIS_FR

Menu 100% 10:54 pm

Pays: Madagascar

Vision à court/long terme
D'ici 2035, les données, technologies et services géospatiaux nécessaires seront disponibles, de qualité et accessibles de manière coordonnée pour soutenir la mise en œuvre du Plan Stratégique de Renforcement du Système d'Information Sanitaire (PRSIS) 2023-2027 visant à atteindre "un système d'information sanitaire performant pour la promotion de la santé pour tous et le bien-être de la population Malagasy".

Objectifs du plan d'action
1- Cerner les lacunes identifiées au niveau central pendant l'évaluation du niveau de maturation actuelle de géo-activation du SIS au travers de ses 9 éléments
2- Démontrer les avantages de la géo-activation du SIS au travers de l'implémentation d'un projet pilote
3- Développer un plan d'action commun pour tout financement pour l'extension spatiale du projet pilote au reste du pays, l'institutionnalisation des capacités techniques qui...

Période de mise en œuvre **Chef de projet**

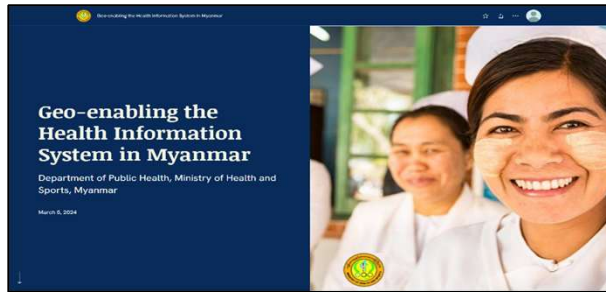
Art #	Description de l'activité	Livrable	Groupe cible	Responsable	Date de début	Date de fin	Budget (USD)
1.1	Préparation de la base de données d'information en géo-activant le plan d'action de la géo-activation du SIS	Plan de réunion	Membres du Sous-Comité Système d'Information	DEPS	Janvier 2024	Juin 2024	
1.2	géo-activation de SIS en identifiant les lacunes actuelles	Rapport d'évaluation	Partenaires techniques/financiers	DEPS	Février 2024	Mars 2024	
1.3	Développer le plan d'action pour soutenir la géo-activation de SIS et ainsi, assurer les lacunes identifiées lors du niveau actuel de géo-activation du SIS	Plan d'action de la géo-activation développé et budgétisé	Membres du Sous-Comité Système d'Information	DEPS	Mars 2024	Avril 2024	

Pre-workshop survey to assess the current level of geo-enablement across Malaria, TB and HIV programs as well as the unit in charge of the Health Information System (HIS)

Workshop (Saly – Senegal, 6-10 November 2023) attended by 55 participants from 11 countries to take them through the HIS geo-enabling concept and process, finalize the assessment and strengthen their technical capacity

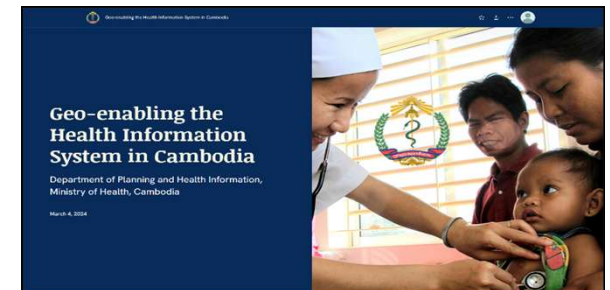
Post-workshop technical support provided to 10 countries to help them develop an action plan aiming at filling the gaps identified during the assessment

Example of in-country implementation



Myanmar
(<https://arcg.is/OCHOz>)

Cambodia
(<https://arcg.is/OuviGj>)



Viet Nam
(<https://arcg.is/1XmLjy>)

Mongolia
(<https://arcg.is/100u4r>)



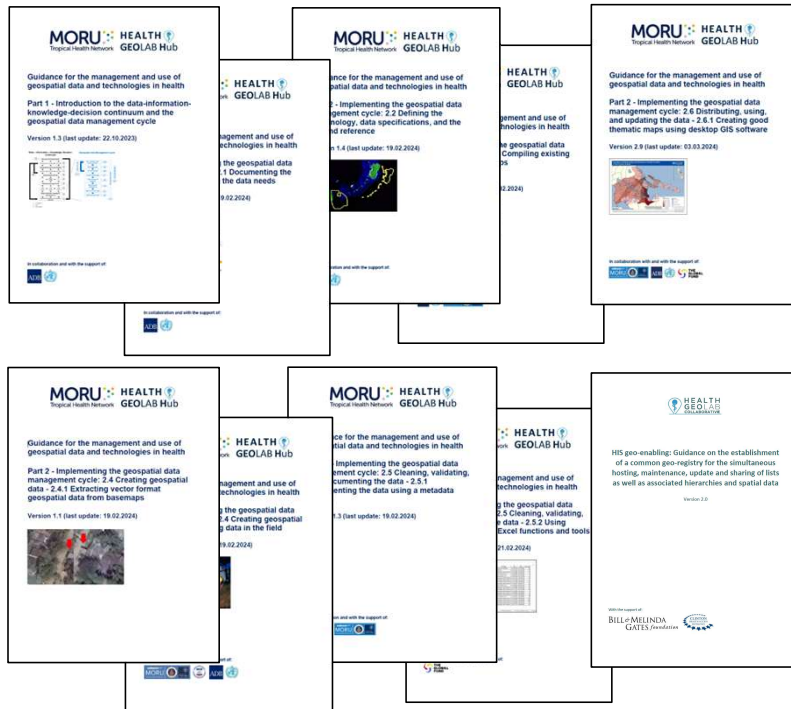
Example of in-country implementation - Myanmar



Free resources accessible from Health GeoLab's web site

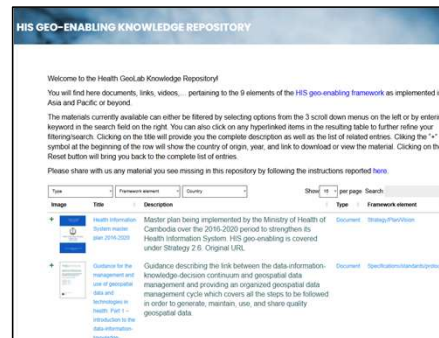
<https://healthgeolab.net/hub/>

Guidance to improve the management and use of geospatial data and technologies in health



Covers all the components of the geospatial data management cycle

Knowledge repository



Organized according to the 9 elements of the HIS geo-enabling framework

Training material



Includes practical exercises (field data collection, thematic mapping,...)

Dr Steeve Ebener
PhD

Health GeoLab coordinator and technical assistance lead

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Thank you!