

Learn how to geo-enable health information systems and programmes

Join us for a bi-weekly web-series starting 19 June 2024

Demonstrate the potential of geospatial data and technologies in public health

Introduce HIS geo-enabling framework and its implementation in countries

Provide knowledge and resources to implement the HIS geo-enabling framework



Go to https://tn21.org/UNICEF-EAPRO or Scan QR Code to Register

Register by: 19 June 2024

Joining any one session also permitted

6 Modules of around 2 hours each

Certificates provided on completion by UNICEF & MORU

Workshop Objectives

Disseminate operational guidance materials that can assist countries in implementing the geo-enablement process for health programs in general and the development and implementation of micro plans in particular

More specifically:

- Demonstrate the potential of geospatial data and technologies in public health
- Introduce the HIS geo-enabling framework and its implementation in countries
- Transfer knowledge, expertise and resources that will allow participants to implement the HIS geo-enabling framework in their respective country
- At the end of this workshop, it is expected that the participants will have a better understanding of what geospatial data and technologies can bring to public health programs and how to geo-enable their health information system in a sustainable way to benefit from this type of data and technologies
- This is not a GIS training















Workshop material



https://bit.ly/4d2nfTS





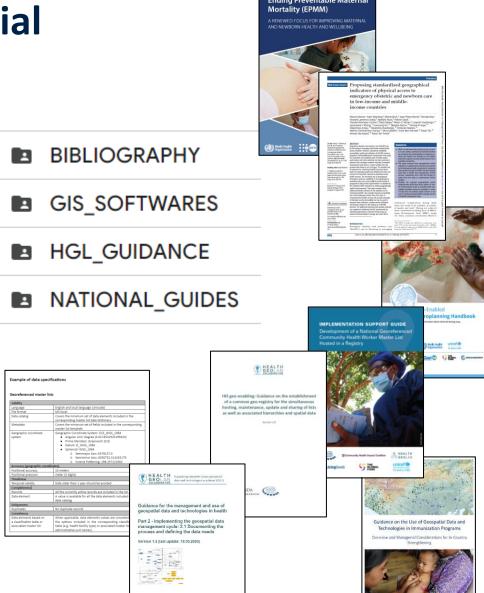




Geo-enabling the Health Information System, programs or interventions training workshop for Asia Pacific

Session 1: The geographic dimension and the potential of geospatial data and technologies in public health

Glossary of terms: https://bit.ly/37Wje0v







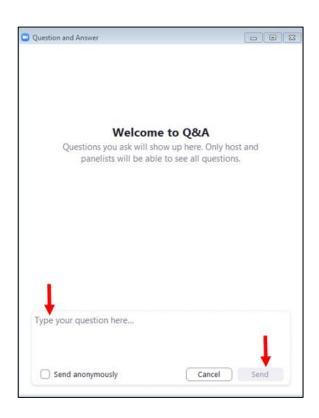






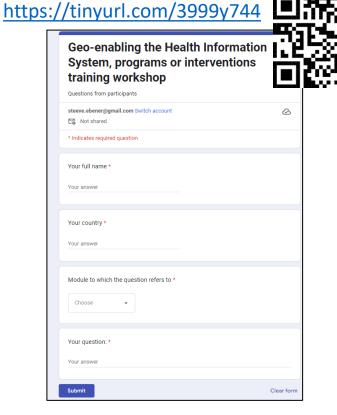


Questions and knowledge sharing during the modules?



Please post your questions in the Zoom Q&A (not the chat)

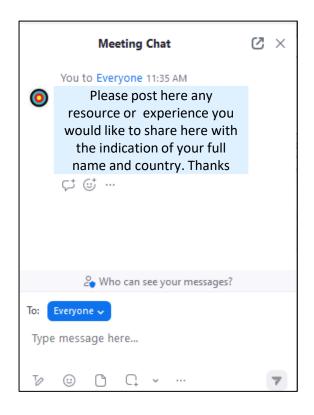




You can also ask questions using this short Google form (between modules for example)



We will answer them as much as possible during the modules



You can share any resource or experience you see relevant to the participants in the chat

We will also be using the chat to share information















HIS geo-enablement level assessment questionnaire – Asia Pacific

- For participants from Ministry of Health programs/units of Asia Pacific: Complete the rapid HIS geo-enablement level assessment questionnaire if not already done (maximum 15 min)
- For other participants from Asia Pacific: Encourage your counterparts in the Ministry of Health to complete the questionnaire



Deadline: July 12th

- The more programs we have, the more concrete and useful the rest of the training will be and the higher the possibility for each country to develop an action plan
 - Thanks to APMEN's support will be provided to up to 3 countries of **Asia Pacific** after the training workshop to develop an action plan aiming at filling the gaps identified during the assessment













Programs/units having completed the questionnaire as of today

Country	HIS unit	Immunization	Malaria	Tuberculosis	HIV/AIDS	Maternal and New Born Health	Other	
Papua New Guinea							Population and family health, Performance, monitoring and research	
Timor-Leste								
Pakistan							National Institute of Health	
Afghanistan								
Bhutan								
Thailand								
Bangladesh								
Cambodia								
China								
Fiji								
Indonesia								
Malaysia								
Philippines								
Solomon Island								
Sri Lanka								



The number of programs/units having completed the questionnaire will be one of the criteria used for the selection of countries that will receive support to develop an action plan





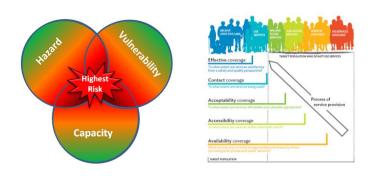


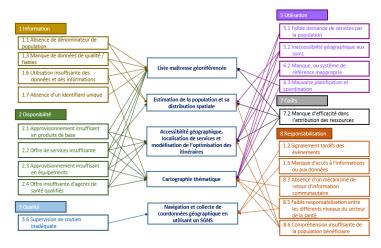




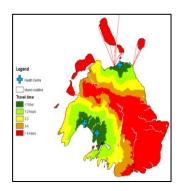


Recap of Module 1

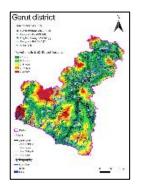


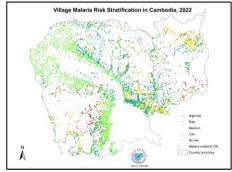


The geographic dimension and the potential of geospatial data and technologies in public health

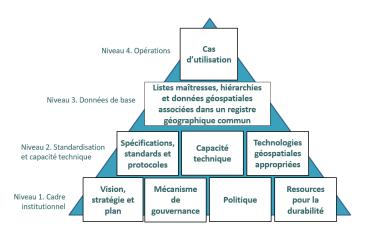


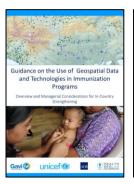


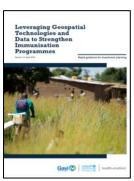




Examples of application of geospatial data and technologies in public health









Introduction to the HIS geoenabling framework

Recording in English: https://youtu.be/kyLvtGKA27Q

Slides: https://tinyurl.com/27nr542z













Geo-enabling the Health Information System, programs or interventions training workshop for Asia Pacific

Module 2













Agenda - Module 2

- 15 min Recap of Module 1 and agenda of Module 2
- 30 min Session 4: In-country implementation of the HIS geo-enabling framework
- 30 min Session 5: Result of the HIS geo-enablement level assessment for Asia and Pacific (priorities and challenges)
- 30 min Session 6: Understand the geography of the program or intervention
 - Implementation of the HIS geo-enabling framework
 - Around 2 hours including Q&A













Geo-enabling the Health Information System, programs or interventions training workshop for Asia Pacific

Session 4: In-country implementation of the HIS geo-enabling framework













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

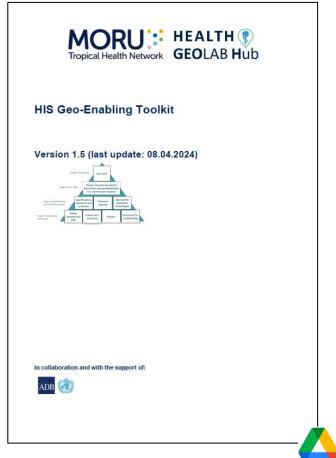
Step 2: Define the strategy(ies) to be implemented to fill the gaps identified during the assessment

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









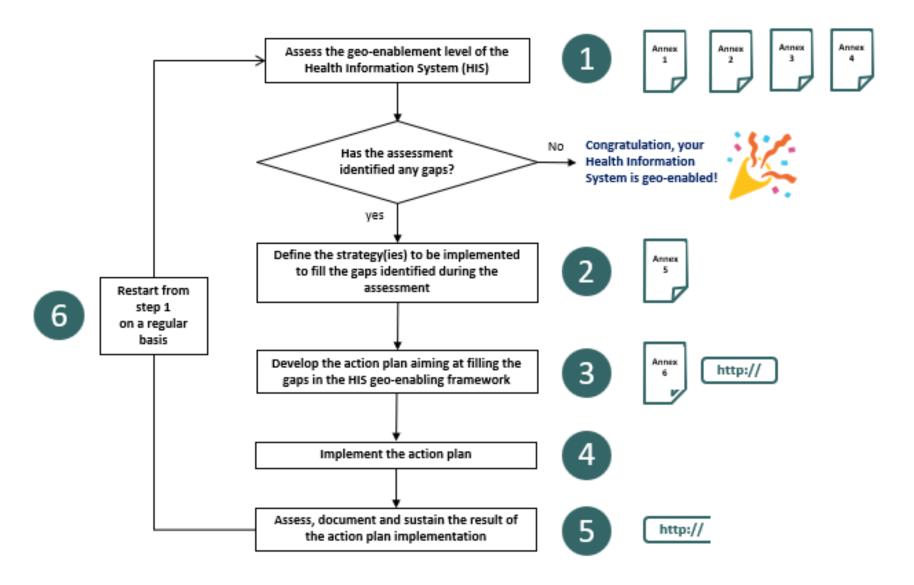
















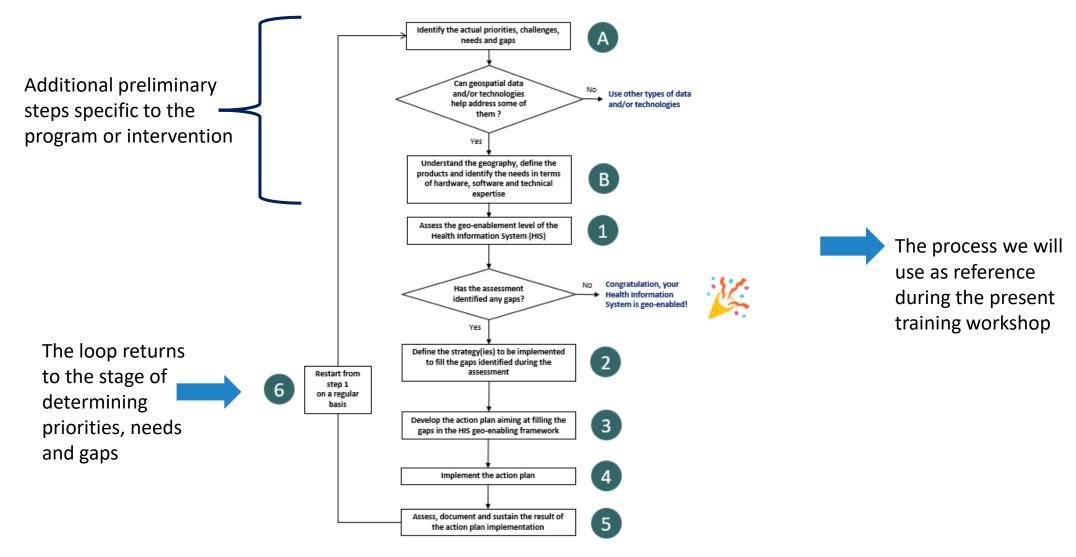








When geo-enabling is specific to a health program or intervention















Step A: Identify the actual priorities, challenges, needs and gaps

<u>Objective</u>: Identify and document the actual priorities, challenges and gaps that could be addressed using geospatial data and technologies

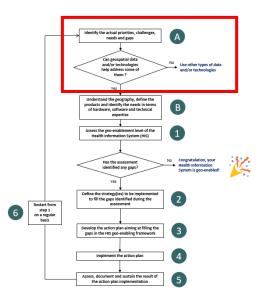
<u>Expected deliverable</u>: A list of priorities, challenges, needs and gaps that could be addressed using geospatial data and technologies

<u>Estimated duration of implementation</u>: 1-2 weeks depending on the approach being used Volume of resources needed: limited

<u>Person to be involved</u>: Representatives from the key health program(s) to benefit from the geo-enablement (communicable diseases, planning, emergency management, immunization,...)

Supporting tool:

- a. First part of the quick HIS geo-enabling assessment questionnaire (Annex 2 in the HIS geo-enabling toolkit) Completed by some of you for this training workshop
- b. Figure C and Table 1 of the geo-enabled microplanning handbook
- c. Figure 3 of GAVI's rapid guidance for investment planning on leveraging geospatial technologies and data to strengthen immunization programs
- a. Section 2.2.1 of UNICEF's guidance on the use of geospatial data and technologies in immunization programs

















Step B: Understand the geography, define the products and identify the needs

Objective:

- Identify and document the geographic features that define the program or intervention's geography
- Define and document the products to be generated to support the programs or the intervention
- Identify and document the needs in terms of equipment and technical capacity to generate the products

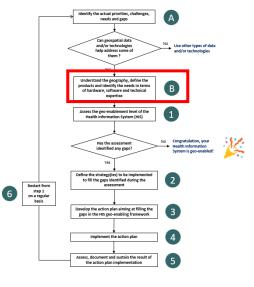
Expected deliverable: Report documenting the geography, products and needs

Estimated duration of implementation: 1-2 weeks

Volume of resources needed: limited

<u>Person to be involved:</u> Head of the geospatial data management and technology unit if any, representatives from the health information system unit and key health program(s) to benefit from the geo-enablement (communicable diseases, planning, emergency management, immunization,...) <u>Supporting tool:</u>

- a. Volume 2.1 of the Health GeoLab guidance for the management and use of geospatial data and technologies in health
- b. Section 1.2.1 of UNICEF's guidance on the use of geospatial data and technologies in immunization programs
- a. Sections 6.2 to 6.5 of the geo-enabled microplanning handbook

















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

<u>Objective</u>: Identify and document the current situation and indirectly potential gaps across the nine (9) elements of the HIS geo-enabling framework

Expected deliverable: A report documenting the current situation

Estimated duration of implementation: 1-2 weeks

Volume of resources needed: Limited

<u>Person to be involved</u>: Head of the geospatial data management and technology unit if any, representatives from key health programs (health information system, communicable diseases, planning, emergency management, and immunization), development partners, external facilitator.

Can peospatial data and/or technologies technologies technologies which was the product and identify the needs in terms of backets and identify the needs in terms of backets and identifies the strategy field to be implemented to fill the product and intermediate the products and identifies any people section of backets and identifies any people section of backets and intermediate the seath information system (HS) Assess the geo-enablement level of the Health information System is governabled to fill the people identified any people section of the seath information system is governabled to fill the people identified any people section of the seath information system is governabled. Define the strategy(ine) to be implemented to fill the people identified any people section in the section plan arising at filling the people in the into governable greater than the people greater than the

Supporting tool:

- a. HIS geo-enabling benchmarks (Annex 1 in the HIS Geo-enabling Toolkit)
- b. Quick HIS geo-enabling assessment questionnaire (Annex 2)
- c. Additional information and documents to be collected in complement to the quick assessment questionnaire (Annex 3)
- d. Resources illustrating the first 7 elements of the HIS geo-enabling framework (Annex 4)
- e. HIS geo-enablement assessment matrix template

Note: When implemented in the context of a program or intervention, this step of the HIS geo-enabling framework process does also involve assessing the availability, quality, and accessibility of additional data needed to generate the products that have been defined during step B.













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

assessment

<u>Objective</u>: Define the strategy(ies) to be implemented to fill each of the gaps identified during the assessment

<u>Expected deliverable</u>: document documenting the strategy(ies) to be implemented to address the gaps identified during the assessment.

Estimated duration of implementation: up to 1 week

Volume of resources needed: Limited

<u>Person to be involved</u>: Head of the geospatial data management and technology unit if any, representatives from key health programs (health information system, communicable diseases, planning, emergency management, immunization,...), development partners, external facilitator.

Supporting tools:

a. Non exhaustive list of strategy(ies), recommended stakeholders to be involved, and implementation level aiming at filling the identified gaps (Annex 5 in the HIS geo-enabling toolkit)



At the end of this second step, the Ministry of Health should have clear strategies to develop an action plan (Step 3).



Session 20 in Module 6













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

framework

Objective: Obtain a budgeted action plan to implement the strategies identified during step 2.

Expected deliverable: HIS geo-enabling action plan

Estimated duration of implementation: 1 month

Volume of resources needed: Limited

<u>Person to be involved</u>: Head of the geospatial data management and technology unit if any, representatives from key health programs (health information system, communicable diseases, planning, emergency management, immunization,...), development partners, external facilitator.

Supporting tools:

- a. Non-exhaustive list of activities to be considered for implementation across the 9 elements of the HIS geo-enabling framework (URL in the HIS geo-enabling toolkit)
- b. Action plan template (URL in the HIS geo-enabling toolkit)
- c. Example of action plan (Annex 6 of the HIS geo-enabling toolkit)
- d. Cost and timeline drivers for activities aimed at strengthening the geo-enabling environment (GAVI's
 Leveraging Geospatial Technologies and Data to Strengthen Immunization Programmes: Rapid guidance for
 investment planning)
 Session 21 in Module 6













Step 4: Implement the action plan

Objective: Complete the activities defined in the action plan

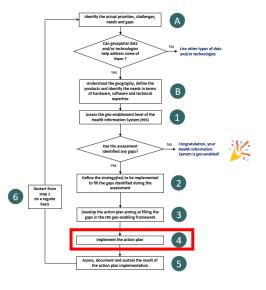
Expected deliverable: Those listed in the action plan

Estimated duration of implementation: 9-12 months

<u>Volume of resources needed</u>: Limited to significant depending on the activities included in the action plan

<u>Person to be involved</u>: All the parties involved in the implementation of the action plan

Supporting tools: None for this step



This step consists of implementing the activities included in the action plan if the necessary resources are available.



If this is not the case, financial resources will first have to be leveraged



Session 22 in Module 6













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

<u>Objective</u>: Evaluate, document, showcase and sustain the result of the action plan implementation

<u>Expected deliverable</u>: After action review report, implementation report, marketing material and sustainability plan

Estimated duration of implementation: 1 month

Volume of resources needed: Moderate

Person to be involved: All the parties involved in the implementation of the action plan

Supporting tools:

- a. After Action Review guides (URLs in the HIS geo-enabling toolkit)
- b. Section 6.8.4 of the geo-enabled microplanning handbook
- c. Example of story maps (URLs in the HIS geo-enabling toolkit)



All these activities are important to ensure that what has been established during the implementation of the action plan continue beyond such implementation



Session 23 in Module 6



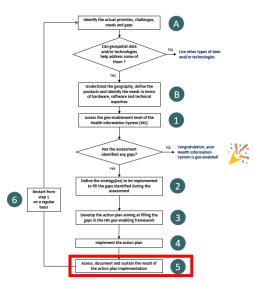






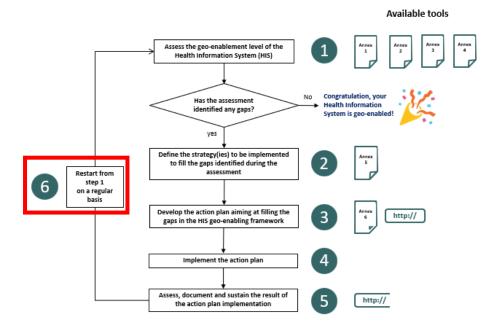




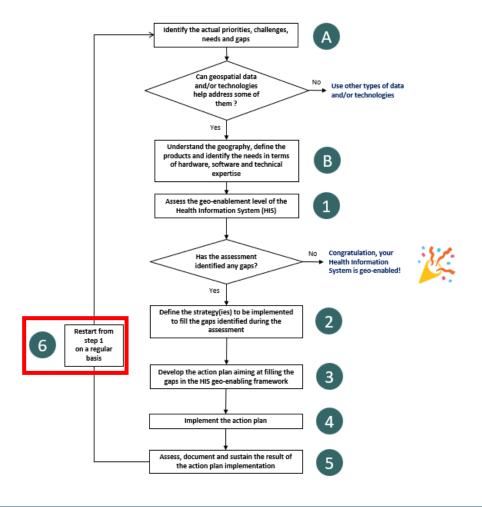


Step 6: Restart from step 1 or A on a regular basis

Geo-enabling the HIS



Geo-enabling a program or intervention















Step 6: Restart from step 1 or A on a regular basis

Objective: Ensure for the process to be implemented on a regular basis until the HIS has been geo-enabled and/or the program/intervention geo-enabled

<u>Expected deliverable</u>: Start of a new cycle of the HIS geo-enabling process

Estimated duration of implementation: 1 day

Volume of resources needed: Limited

<u>Person to be involved</u>: Head of the geospatial data management and technology unit if any, representatives from key health programs (health information system, communicable diseases, planning, emergency management, immunization,...), development partners

Supporting tools: None for this step

This step consists of repeatedly conducting the activities from step 1 to step 5 until the Health Information System is geo-enabled in a sustainable manner or from step A to 5 when it comes to a program or intervention.

This step also considers that several elements are meant to change over time including public health priorities, geospatial technologies, or even the strategy that the government follows regarding information management.



It is important to regularly update the previous version of the assessment to have an updated picture of the geo-enablement level of the HIS, program or intervention, identify the gaps and aim at filling them





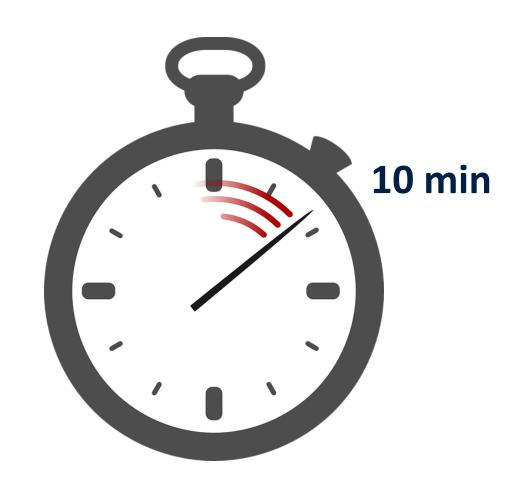








Short break















Geo-enabling the Health Information System, programs or interventions training workshop for Asia Pacific

Session 5: Result of the HIS geo-enablement level assessment (priorities and challenges)





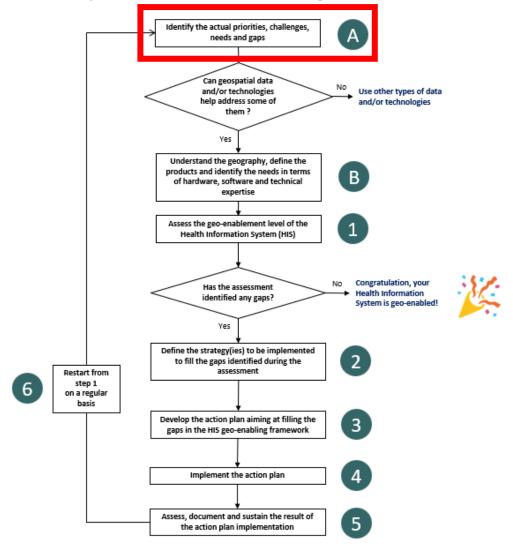








Step A: Identify the actual priorities, challenges, needs and gaps







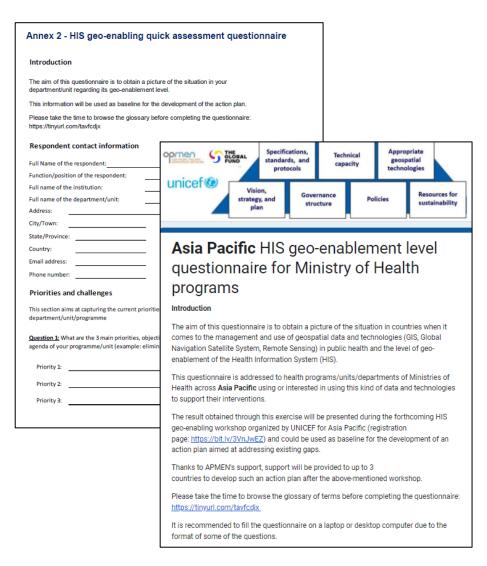








HIS geo-enabling level assessment



Objective: Obtain a high-level picture of the situation observed in different MOH programs/units regarding their current level of geo-enablement and this across the 9 elements of the HIS geo-enabling framework

Two questions related to step A of the HIS geoenabling implementation process :

- 1. What are the current program/unit priorities?
- 2. Which challenges are currently been faced by the program/unit?
- Answers to these two question can be used to identify if geospatial data and/or technologies can address some of priorities and/or challenges

Ideally implemented across as many health programs as possible (e.g. malaria, TB and HIV elimination programs, immunization, maternal and newborn health,....) together with the unit in charge of the HIS/HMIS















Result of the geo-enablement level assessment for Asia and Pacific

36 Respondents

By country

Country name	Nbr of answers
Papua New Guinea	9
Pakistan	6
Indonesia	4
Timor Leste	4
Afghanistan	2
Bhutan	2
Thailand	2
Bangladesh	1
Cambodia	1
Fiji	1
Malaysia	1
Philippines	1
Solomon Islands	1
Sri Lanka	1

By program

Program	Nbr of answers		
Malaria control progran	17		
HIS unit	5		
Population and Family Health	5		
HIV/AIDS control program	3		
Expanded program on immunization	2		
Tuberculosis control program	2		
Monitoring and Evaluation	1		
National Institute of Health	1		



Results mainly driven by the priorities and challenges of the malaria control programs at this stage











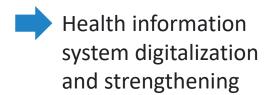


Result of the geo-enablement level assessment for Asia and Pacific

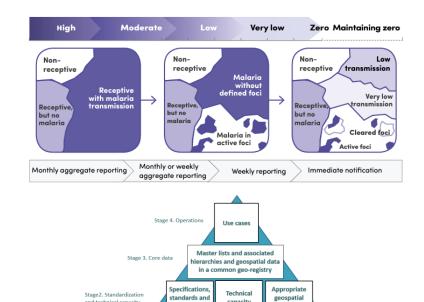
Question 1 - What are the 3 main priorities, objectives, targets or goals that drive the current agenda of your program/unit (example: eliminating malaria by 2030)?

Priority	Nbr of mention
Disease elimination and control	41
Strengthen the health information system	14
Improve access to health services	13
Disease surveillance and response	7
Mortality reduction (MNH, TB)	7
Digitalization of the health system	5
Disease mapping/spatial analysis	5
Case detection and management	5
Disease prevention	3
Other	8

Disease surveillance, response, elimination and control



Accessibility to health services





strategy and



Geography is present across all these priorities









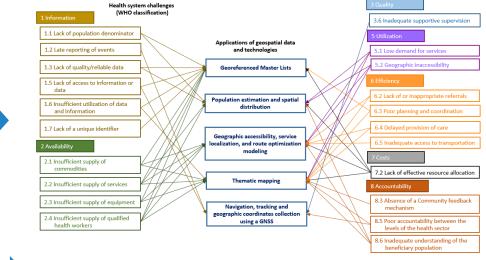




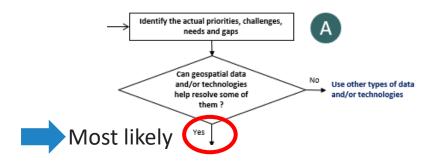
Result of the geo-enablement level assessment for Asia and Pacific

Question 2 - What are the current main challenges encountered by your program/unit when it comes to supporting its operations?

Challenge	Nbr of mention
Delayed reporting of events	25
Geographic inaccessibility	25
Lack of quality/reliable data	23
Insufficient utilization of data and information	22
Absence of community feedback mechanisms	21
Insufficient supply of qualified health workers	19
Lack of effective resource allocation	19
Poor accountability between the levels of the health sector	19
Inadequate supportive supervision	16
Poor planning and coordination	15
Lack of access to information or data	14
Insufficient supply of equipment	14
Insufficient supply of services	14
Lack of population denominator	13
Lack of unique identifier	13
Inadequate understanding of beneficiary population	13
Lack of or inappropriate referrals	11
Insufficient supply of commodity	10
Low demand for services	7



Cover all the health system challenges that geospatial data and/or technologies can help address

















Microplanning challenges





Microplanning process phase	Common challenges to non-geo-enabled microplanning	Geospatial Data and Technology Solutions					
		Georeferenced master list	Population estimates and spatial distribution	Geographic accessibility, service location and route optimization models	Thematic maps	*GNSS navigation and tracking	
Determine target population and its current service coverage	 Lack of population denominator Insufficient utilization of data and information Lack of unique identifier Geographic inaccessibility Lack of, or inappropriate, referral Inadequate understanding of beneficiary population 	~	~	~	~		
2. Estimate service delivery requirements	 Lack of population denominator Insufficient utilization of data and information Lack of unique identifier 	~	~	~	~		
3. Plan for commodities and equipment storage (e.g. vaccines, bed nets, etc.)	 Lack of population denominator Insufficient utilization of data and information Lack of unique identifier Insufficient commodity supply Insufficient equipment supply 	~	~	~	~		
4. Identify and manage human resources	Lack of population denominator Insufficient utilization of data and information Lack of unique identifier Insufficient supply of qualified health workers	~	~	~	~		

Microplanning process phase	Common challenges to non-geo-enabled microplanning	Geospatial Data and Technology Solutions				
		Georeferenced master list	Population estimates and spatial distribution	Geographic accessibility, service location and route optimization models	Thematic maps	*GNSS navigation and tracking
5. Plan service delivery, including preparation of an operational map, and identifying special activities for the hard-to-reach and problem areas	 Lack of population denominator Insufficient utilization of data and information Lack of unique identifier Insufficient supply of services Geographic inaccessibility Lack of appropriate referral Poor planning and coordination Lack of effective resource allocation 	~	~	✓	~	
6. Generate demand and ensure communications, by collaborating with community stakeholders	 Insufficient utilization of data and information Low demand for services Absence of community feedback mechanisms 				~	
7. Support and monitor implementation, and track defaulters	 Insufficient utilization of data and information Inadequate supportive supervision Poor accountability between the levels of the health sector 	✓			~	✓
8. Re-evaluate the microplan	 Lack of quality/reliable data Insufficient utilization of data and information 	✓	~	~	~	~













Immunization needs and gaps

- Inefficient microplans and poor accountability of vaccination teams: Mapping spatial location of
 immunization infrastructure, human resources, population distribution and geographic features at
 district or health area level, using GNSS enabled devices and the interpretation of satellite images, will
 lead to more efficient planning of outreach sessions based on distances, population in need and
 geographic barriers, and improved monitoring and accountability of immunization teams.
- Inefficient use of vaccination resources (human resources, stocks, cold chain): More geographically
 accurate maps of resources versus populations, together with spatial analysis of the barriers between
 supply and demand, can lead to better identification of gaps in the supply based on the distribution of
 demand for services.
- Evidence of chronically missed communities: demonstrated, for example, by pockets of disease despite
 reported high vaccination coverage. More efficient microplans and use of GNSS enabled devices and
 satellite images has demonstrated strong reduction of chronically missed communities in even hard-toreach areas.
- Poor quality of information on location of the target population: improved spatial intelligence on location
 of settlements, hamlets and remote communities, as well as spatially disaggregated population
 products can provide better evidence for allocating resources at sub-district level and within health
 areas. Changes in population denominators can also be improved by capturing population dynamics
 due to growth and migratory flows using innovative spatial technologies (e.g., satellite night time lights
 and mobile phone records).
- Lack of evidence on inequities of vaccination coverage at sub-national, sub-district or health area level to
 identify low performing areas: Identification of spatial patterns in immunization coverage and
 application of geostatistical methods to identify significantly low performing areas can provide
 compelling evidence to prioritize intervention.

- Lack of evidence on geographic barriers and limitations to accessibility and utilization of services:
 Modelling of geographic accessibility to services including realistic travel times, geographic barriers and
 typical modes of transport can support better identification of inequities in service delivery and
 optimization of such delivery.
- Poor understanding of geographic and socio-economic factors determining access to vaccination services, coverage and efficacy: Spatial analysis and modelling techniques can shed light on the interplay between various factors in determining low immunization coverage, and highlight how this interplay can vary between regions of the same country (e.g. areas where geographic accessibility is the main limiting factor to achieving coverage, such as rural areas, versus areas where other factors such as poor economic conditions are the major driver of accessibility to services, such as urban slums).
- Lack of evidence for assessing the impact of future or alternative delivery scenarios: GIS offers powerful
 tools to model service delivery scenarios and optimize location of services and allocation of resources.
 For example, the accessibility to future or alternative facilities can be modeled with respect to the
 target population based on considerations of distances and transport options, supporting evidencebased decision-making on future investment of vaccination resources.
- Need for evidence-based advocacy for program improvement and request for additional resources:
 Maps, charts, and the growing ecosystem of interactive web-mapping tools provide powerful communication tools to bring the analytical insights behind maps to decision-makers and drive change.



Allows identifying if geospatial data and/or technologies can help addressing some of these challenges

















Geo-enabling the Health Information System, programs or interventions training workshop for Asia Pacific

Session 6: Understand the geography of the program or intervention





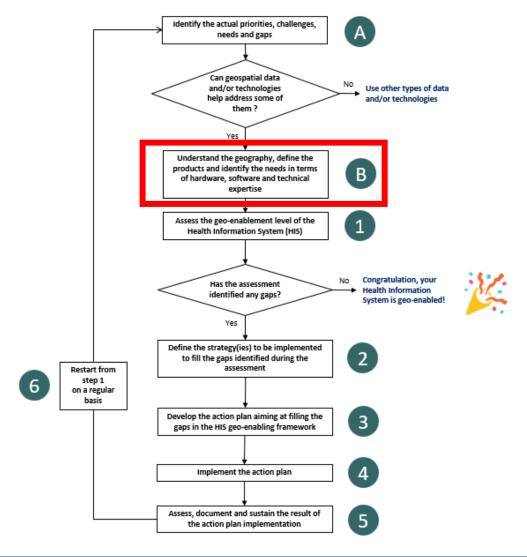








Step B: Understand the geography, define the products and identify the needs







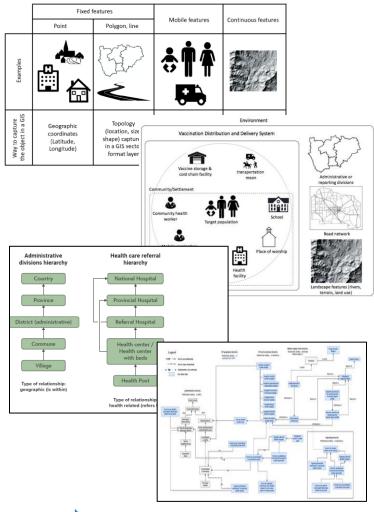






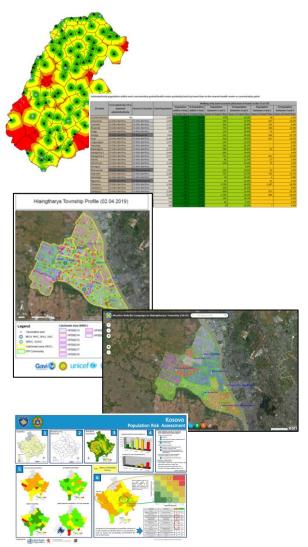


Understand the geography

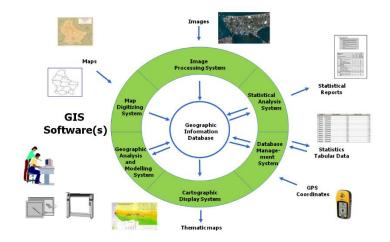


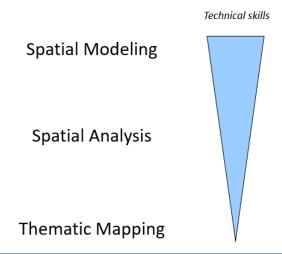
Allow to define the data needs

Define the "geo" products



Identify the needs in terms of hardware, software and technical expertise

















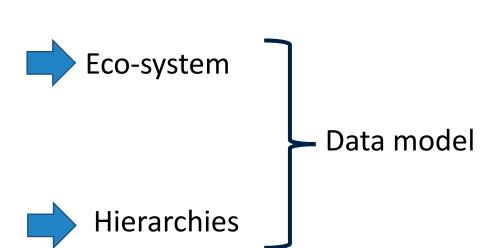
Understanding the geography

This understanding is achieved by identifying and documenting:

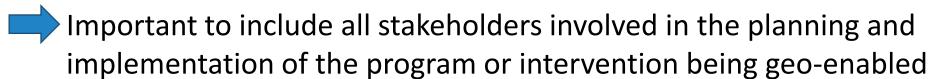
 The program or intervention strategy (e.g., home vaccination)



2. The **geographic features** that are central to the implementation of the program or intervention (list of these features with their definition)



3. The **relationships** that exist between these geographic features



This will directly influence the data needed to generate products

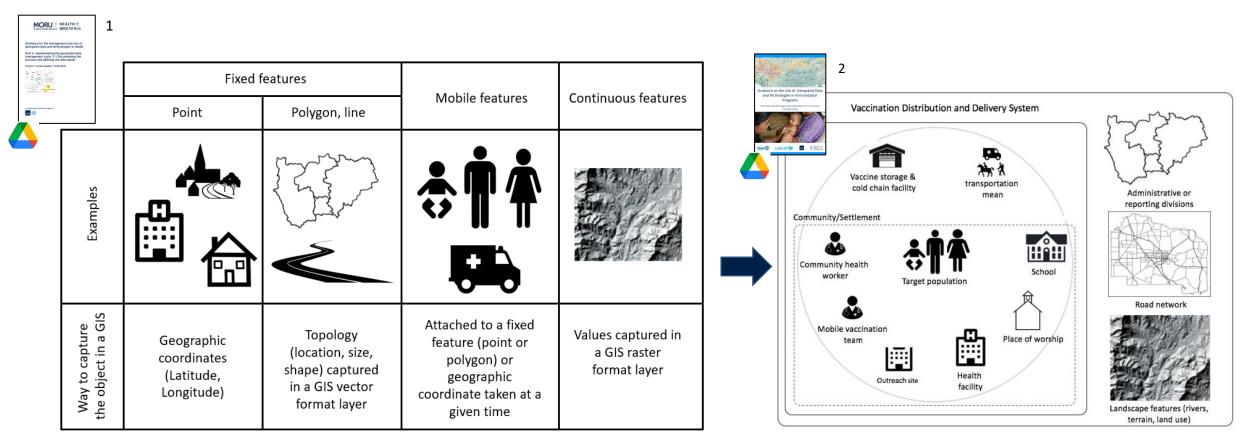








Understanding the geography – Geographic features and objects





Geographic feature = Naturally and artificially-created features on the earth (e.g. house, road, health facility, river, etc.)



Geographic object = Also called a geo-object, computer representation of a geographic feature (e.g. point, line, polygon)

- 1. http://www.healthgeolab.net/DOCUMENTS/Guide HGLC Part2 1.pdf
- 2. https://www.unicef.org/media/58181/file













Understanding the geography – Define each geographic feature

Example: What is a health facility?

Medline Plus: Places that provide health care. They include hospitals, clinics, outpatient care centers, and specialized care centers, such as birthing centers and psychiatric care centers.

Health authority Abu Dhabi: Standalone building with inpatient services for 24 hours use or longer by patients in the treatment of diseases, injuries, deformities, abnormal physical or mental status, maternity cases, nurseries and dispensaries.

Free dictionary: Building where medicine is practiced.

DOH Philippines: A building or physical structure that has amenities, equipment and staffing for the delivery of health care services.

Wikipedia: in general, any location at which medicine is practiced regularly.





The final definition will impact the next steps of the geo-enablement process









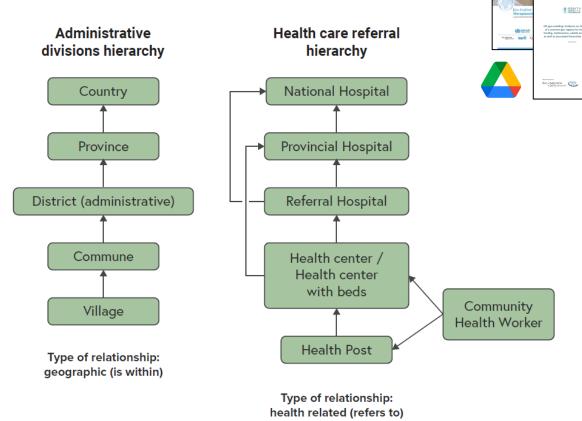




Understanding the geography – Hierarchies

The relationship between geographic features can be of different types. For example:

- 1. Geographic (... is geographically located within..)
- 2. Health (...refers patients to...)
- 3. Administrative (... is administered by...,...is reporting to...)
- 4. Associative (...is part of...)



Identifying and capturing these relationships in the form of hierarchies will influence the information that must be attached to each geographic feature to be in the position to recreate these hierarchies

https://healthgeolab.net/DOCUMENTS/Guidance Common Geo-registry Ve2.pdf













^{1.} https://drive.google.com/file/d/1ii779zww4herWOESAd9mXqVE1YfQehtH/view?usp=sharing

Understanding the geography – Data model

A data model is an abstract model that organizes and document the relationships that exists between geographic features and the data elements attached to each of them

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Three (3) main levels of data model can be differentiated:

- 1. Conceptual data model which captures all the identified geographic features and the relationships between all of them
- 2. Logical data model which also captures the data elements associated to each geographic feature, without regard to how they will be physically implemented in the database
- **3. Physical data model** which captures how the model is being implemented in the information system

Conceptual data model Logical data model Physical data model

1 http://www.healthgeolab.net/DOCUMENTS/Guide_HGLC_Part2_1.pdf













Understanding the geography – Example (Myanmar)

<u>Challenge</u>: Microplanning not covering the whole target population

Immunization ecosystem





EPI community?



Definition: Place where people live in community



Required to define different types of EPI communities and population presence

EPI Communities type

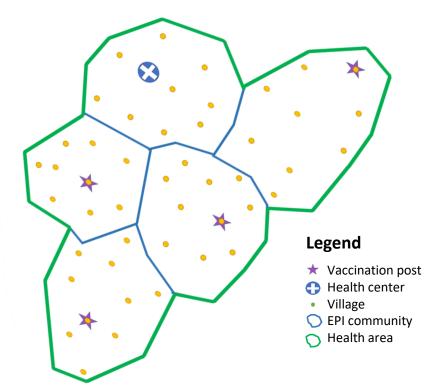
EPI_T_EN	Definition (English)]	Population status type (Emglish)
	4th level administrative divisions	
Ward	encountered in urban areas and officially	long term
	recognized by the GAD	
Village	Long term settlement officially classified	long term
Village	as village by the GAD	long term
Army	Settlement managed by the Ministry of	short term, long term, seasonal
Ailily	Defense	short term, long term, seasonal
	Settlement typically settled for displaced	
Camp	population (refugees or internally	short term, long term
	displaced population for example)	
Workers	Settlement setup by workers to live close	
settlement	to their place of work (plantation, factory,	short term, long term, seasonal
settiement	building site, mining site)	
Other	Any other inhabited place not covered by	short term, long term, seasonal
settlement	the other definitions	short term, long term, seasonal



Population presence classification

PS_T_EN	Defionition (English)
Short term	Settlement setup for a period shorter
Short term	than 1 year
Lang tarm	Settlement setup for a period longer than
Long term	1 year
Seasonal	Settlement setup temporarily over the
Seasonal	same period every year

 Helped identify communities that were not yet covered by vaccination campaigns















Understanding the geography – Example (Mozambique)

<u>Challenge</u>: Microplanning form combining different types of geographic features that were not clearly defined (povoados, community)

Population #		sk' populations,villag	munidades e A ge or Health Facility na					-								
Distrito:			_			Unidade Sa	nitária:				_	Nome do Por	nto focal de R	ED/REC da U	JS:	
			Existencia de Comunidades de	a o Ponto de o(km)	o ao ponto de o (km)	Total	Líder do	povoado	(MFL, M	I comunitário comunitário ntário)		Grupos al	lvos elegiveis pa	ira o ano		
Sl. No	Nome do Ponto de Concentração		alto risco (Dincil alcançar) Especificar a causa ou barreira (Ex. Rio sem ponte)	dat	Distância do Povoado ao po Concentração (km)	População	Nome	Contacto	Nome	Contacto	Crianças menores de 1. ano	Crianças de 6 a 59 meses	Crianças de 12 a 59 anos	Mulberes grāvidas previstas	Mulheres em klade Fértil	Estratégia de prestação de Serviços a usar (Fixa, Móvel, Avançada)
1																

Needed to get a clear definition for both of them and understand how they related to each other







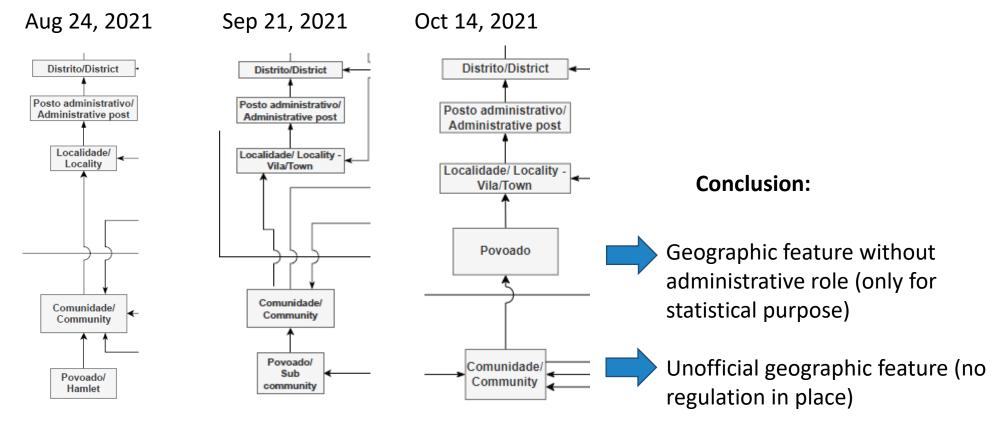






Understanding the geography – Example (Mozambique)

<u>Challenge</u>: Microplanning form combining different types of geographic features that were not clearly defined (povoados, community)





Recommendation made to the Ministry of Health to define and manage the micro-plan at the concentration point (vaccination post) level















Understanding the geography – Example (zone types)

Challenge: Different understanding and use of the concept of catchment area





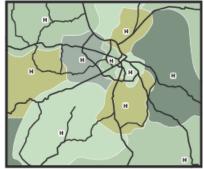
Needed to come up with a common terminology

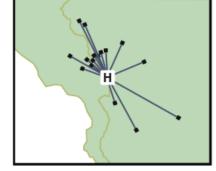
Туре	Definition
Health area	Area around a health facility defined for purposes of cataloging, budgeting and health resource management
Proximity basin	An area around a service delivery point defined such that any location within this area is closer to that service delivery point than to any other service delivery point.
Catchment area	A geographical area delineated around an institution or business, such as a health facility, from where the population utilizes its services
Actual catchment area	Area around a service delivery point based on the location of the patient who received care at that service delivery point
Modeled catchment area	Catchment area modeled based on distance (buffer), travel time, population or a combination of these factors



Health areas

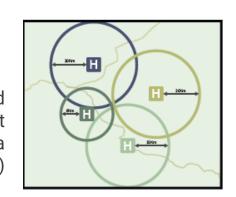






Actual catchment area

Modeled catchment area (distance)















Understanding the geography – Process

Three (3) exercises:

- 1. Identify the geographic features specific to the program or intervention
- 2. Agree upon a definition for each of the geographic features identified during exercise 1
- 3. Capture the relationships between the geographic features identified during exercise 1 and defined during exercise 2
- Exercises ideally conducted (at least started) during a workshop attended by key representative from:
 - The program or intervention being geo-enabled
 - The main producers/consumers of geospatial data (HIS unit, communicable diseases, planning, immunization and emergency management) if the geoenablement of the HIS is being performed















Understanding the geography – Exercise 1 (cross-program)

1. Participants identifying geographic features (1 feature per post it, one color per program)

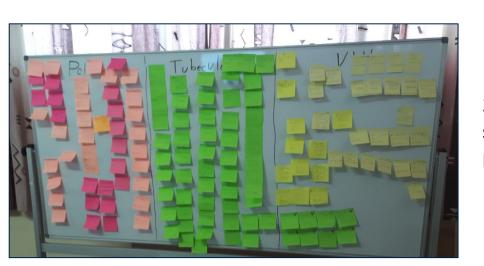


2. Participants placing the post its on a board (one color per program)





4. Post it rearranged by type of geographic feature





3. All the post it submitted by the participants



Defines the ecosystem and demonstrates that most geographic features are in common to all programs















Understanding the geography – Exercise 1 (cross-program)

	Fixed f	eatures	NA 1.11 6 .	
	Point	Polygon, line	Mobile features	Continuous features
Examples	 Health facilities Laboratories Settlements 	 Administrative units Health districts Health areas Hydrographic network Transportation network 	 Patients Health personnel Mobile clinics Ambulances Equipment Medicines 	AltitudeLand cover
Way to capture the object in a GIS	Geographic coordinates (Latitude, Longitude)	Topology (location, size, shape) captured in a GIS vector format layer	Attached to a fixed feature (point or polygon) or geographic coordinate taken at a given time	Values captured in a GIS raster format layer

Often also provide the opportunity to clarify certain concepts or misunderstanding (e.g. data elements versus geographic features)





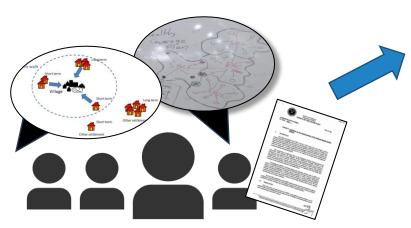








Understanding the geography – Exercise 2 (cross-program)

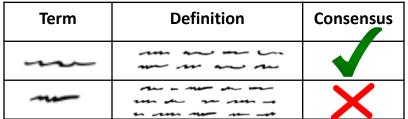


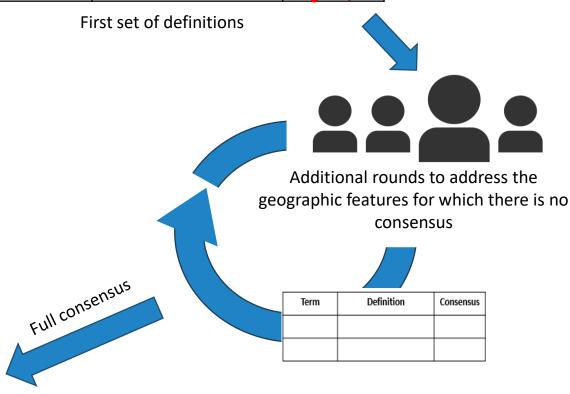
First round during which each participant provide their own definition for the types of geographic features that are not already officially defined

Final agreed upon

definitions

Type of EPI community (English)	Type of EPI community (Myanmar language)	Definition (English)	Definition (Myanmar language)	Population's presence status options		
Ward	ရပ္ကြက္	4th level administrative divisions encountered in urban areas and officially recognized by the General Administration Department (GAD)	အေးတြတြအုပ္ခ်ဳပ္ေရးဦးစီးဌာန၏တရားဝင္သတ္ တွားေသာ ေရရွည္ျမိဳ႕ ျပအေျခခံေနရာမ်ား	long term		
Village	ေက်ရြာ	long term settlement officially recognized by the General Administration Department (GAD)	အေတြေတအုပ္ခ်ဳပ္ေရဦးစီးဌာန၏တရားဝင္တတ္ခ စ္ထားေသာ ေရရွည္ေက်းလိတ္အေျခခ်ေနရာမ်ား	long term		
Acmy	တပ္ဖြဲ႕ (တပ္မေတာ္	Settlement managed by the Ministry of Defense	ကာကြယ္ေရး၀န္ႀကိဳးဌာနမူ သတ္မွတ္ထားေသာအေျခခ်ေနရာမ်ား	short term, long term, seasonal		
Cemp	ယာယီ/စခန္း/ဒုကၡသည္စခန္း	Settlement typically built for displaced population (refugees or internally displaced population for example)	ေသာ့တြင္းေရး႕ ေျပာင္းေနတိုင္တနလူဦးေရမ်ား ေနထိုင္ေသာ ဧအႏွခစ် ေနထုမ်ား(ဥပမာ-၁ကဌသည္ႏွင့္ ေရႊ႕ ေျပာင္းေနထိုင္တူမ်ား)	short term, long term		
Workers settlement	အလုပ္အမားမ်ားယာယီအေျစခေ်နရာ	Settlement setup by workers to live close to their place of work (plantation, factory, building site, mining site)	အလုပ္လုပ္တိုင္ရာေနရာေပၚမွတည္၍အေျခစစ်နတို င္ေသာ့ ေနရာမ်ား (စိုက္ပိုိေရးဖ်က္နံု/ေစာက္လုပ္ေရးမိုင္းလုပ္ငန္း)	short term, long term, seasonal		
Other settlement	အကေးအေျခစစ်နှတုန်ဝ၊	Any other inhabited place not covered by the other definitions	အထက္ပါေနထိုင္စီပံုစံ အဓိပၸကါယ္မ်ားမွလြ၍	short term, long term, seasonal		











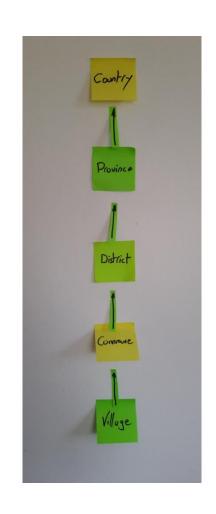


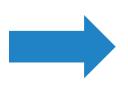




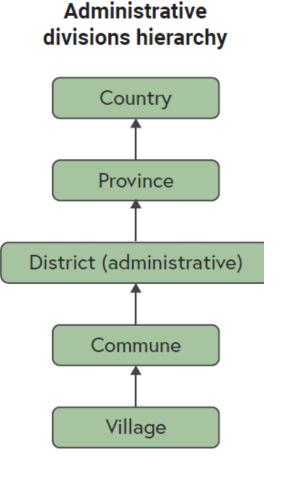
Understanding the geography – Exercise 3 (cross-program)

Use the post its from exercise 1 to get the participants to organize them under the form of hierarchies





Capture the agreed upon hierarchies in an electronic format







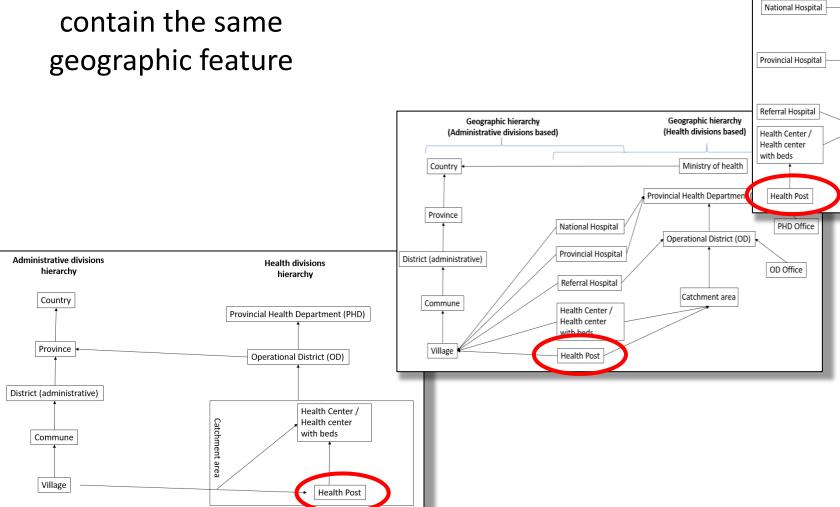


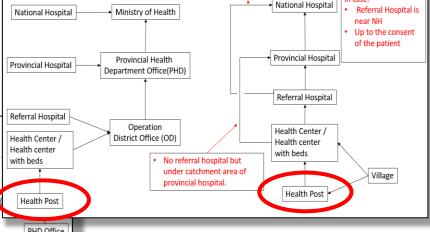




Understanding the geography – Exercise 3 (cross-program)

Several hierarchies can contain the same geographic feature





Administrative/Reporting hierarchy

Example: Cambodia

Referral hierarchy

In case:











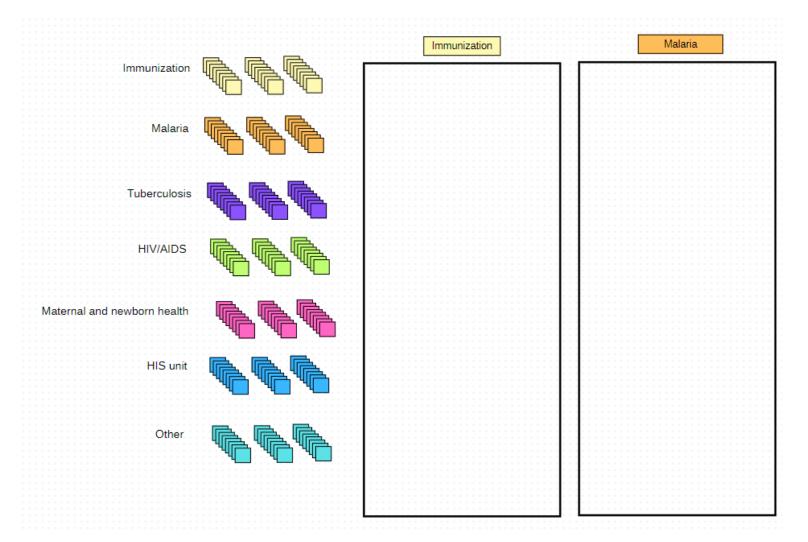


Module 3 – «Homework »

Identification of the geographic features core to each program



Deadline for completing the "homework: July 12th















Module 3 – «Homework »

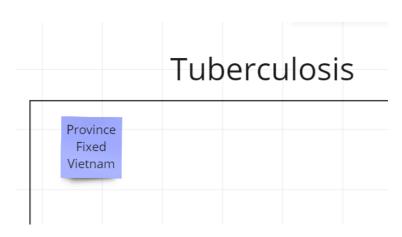
Identification of the geographic features core to each program

Process:

- 1. Click on a post it of the color corresponding to your program (on the left)
- 2. On this post it, write:
 - The name of the geographic feature (one per post it)
 - The type of feature (fixed, mobile, continuous)
 - The name of your country



3. Place the post it on the frame corresponding to your program



4. Repeat steps 1 to 3 until you have covered all the geographic features you can think about

Note: You can create more post it of a given color by clicking on one and then using the Ctrl-C and Ctrl-V combination on your keyboard













HIS geo-enablement level assessment questionnaire – Asia Pacific

- For participants from Ministry of Health programs/units of Asia Pacific: Complete the rapid HIS geo-enablement level assessment questionnaire if not already done (maximum 15 min)
- For other participants from Asia Pacific: Encourage your counterparts in the Ministry of Health to complete the questionnaire



Deadline: July 12th

- The more programs we have, the more concrete and useful the rest of the training will be and the higher the possibility for each country to develop an action plan
 - Thanks to APMEN's support will be provided to up to 3 countries of **Asia Pacific** after the training workshop to develop an action plan aiming at filling the gaps identified during the assessment













Module 3 - Schedule

Schedule Module 3 17 July 2024 (Bangkok 12pm / Geneva 6am / Fiji 6pm)

- 15 min Recap of Module 2 and agenda of Module 3
- 30 min Session 7: Result of the geographic features identification performed by the participants
- 30 min **Session 8:** Define the purpose, audience, content and format of the final products
- 15 min Session 9: Identify needed hardware, software and technical expertise
- 20 min **Session 10:** Assess the geo-enablement level of the HIS, program or intervention
- 30 min **Session 11**: Result of the HIS geo-enablement level assessment for Asia and Pacific (9 elements of the HIS geo-enabling framework)



Products definition and assessment of the current HIS geoenablement level in countries











