

MOMENTUM Routine Immunization Transformation and Equity

Exploring opportunities to strengthen microplanning
for routine immunization in LMICs

September 19, 2024



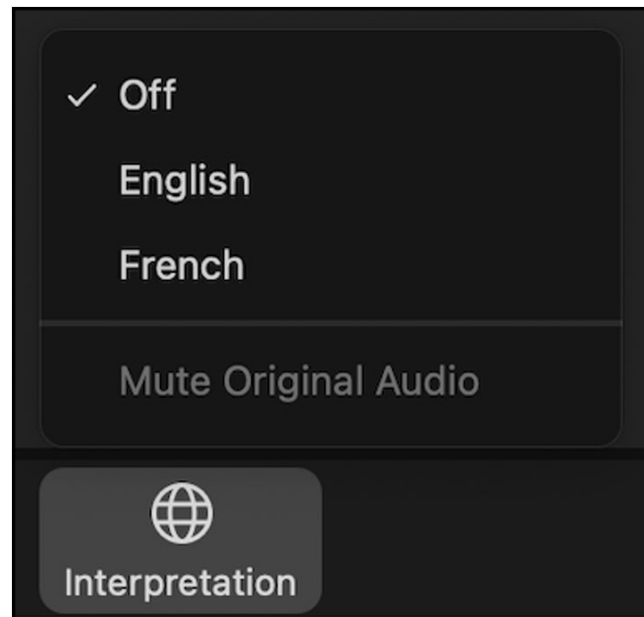
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Language / Langue

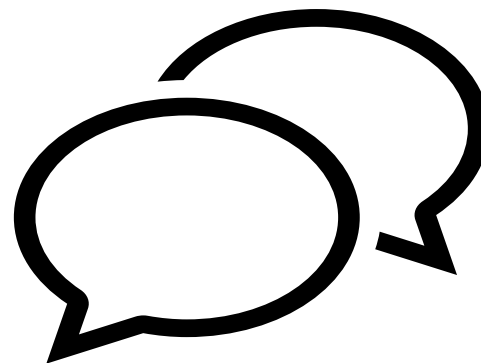
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Introductions

Learning Series Host



Parysa Oskouipour
Program Officer, MOMENTUM
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Transformation and Equity

Guest Speakers



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Dr. Gopal Krishna Soni
India Project Director,
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Agenda

- MOMENTUM Routine Immunization Transformation and Equity Project
- Overview of the zero-dose child (ZDC) toolkit and learning exchange series
- Overview of microplanning landscape analysis
- Insights and experiences from UNICEF and India
- Discussion / Q&A

Our project

MOMENTUM Routine Immunization Transformation and Equity envisions a world in which **all people eligible for immunization**, from infancy throughout the life-course, and particularly underserved, marginalized, and vulnerable populations, are regularly **reached with high-quality vaccination services** and use them to protect their children and themselves against vaccine-preventable diseases.

Award Date: July 27, 2020
Period of Performance: 6 years
Country programs: 20



SECTION 01

ZDC toolkit and learning exchange series

Background and purpose of ZDC toolkit

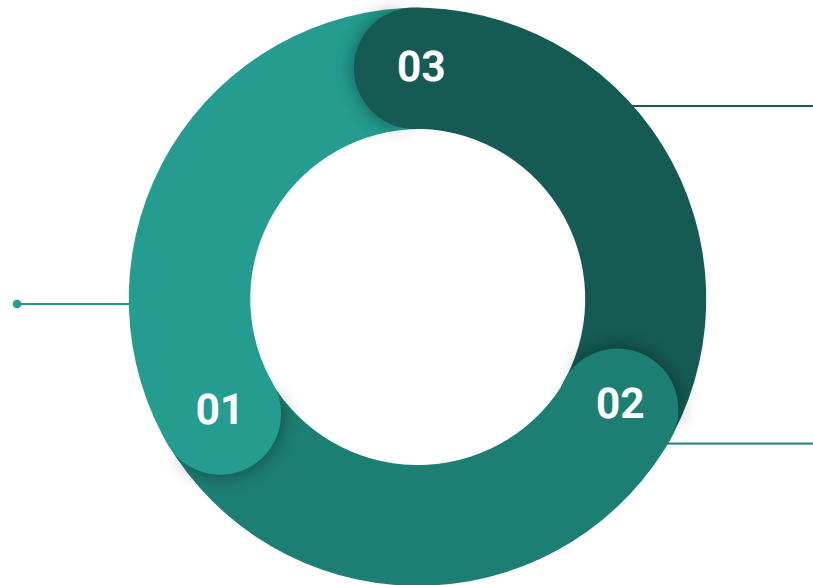
- Need for a one-stop-shop of resources to **identify, reach, monitor, measure, and advocate** for zero-dose and underimmunized children.
- Many tools and guidance documents exist. The forthcoming ZDC Toolkit aims to pull them together in a user-friendly way.
- Toolkit is linked & complimentary to already available manuals and guides.



Multi-method approach to refining the toolkit

Design Collaborative

5-10 countries; provide input into design and content.



Learning Exchanges

Different topics related to zero-dose and under-immunized children; goal is to get user feedback and experiences to inform the toolkit; build demand, knowledge, skills for the methods/approaches outlined in the toolkit.

Field Test

Location: Nigeria; Conduct interviews; Actual tool use and user feedback.

Poll Question



SECTION 02

Microplanning Landscape Analysis

What is a microplan?

Defines how to reach clients, how many people should be targeted, how frequently quality services are provided, and is developed by all stakeholders at all levels.
(WHO 2018)

An effective microplan supports:

- Identification of which target populations are eligible for immunization services for the next year, and the required supply needs.
- Data and graphic mapping to illustrate well-defined catchment areas identifying where eligible populations live.
- Prioritization of plans to reach all target populations with immunization services on a continuous basis, according to the national schedule.
- Definition of realistic local actions to improve and sustain coverage.
- Reduction in inequities and improved quality of services.

Landscape Review rationale & objectives

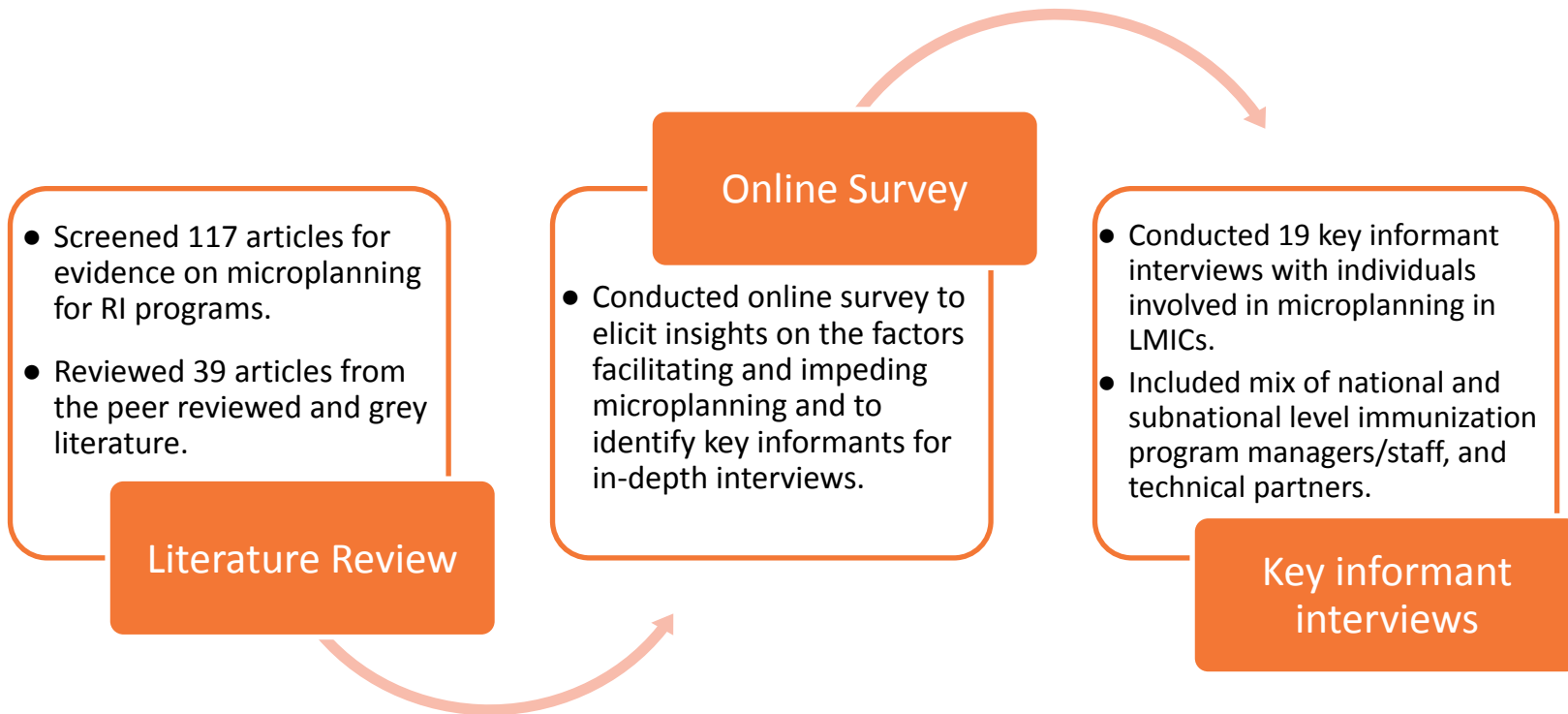
Despite the availability of high quality guidance on how to develop a microplan, decades of experience in doing so, there is a lack of synthesized evidence on the effectiveness of microplanning.

Objective

Identify, synthesize and disseminate evidence related to the drivers of implementing and institutionalizing microplanning in immunization programs.

- Review and synthesize evidence related to the implementation and institutionalization of microplanning for routine immunization
- Identify strategies for improving microplanning in the context of routine immunization
- Document evidence and describe experience with new approaches to microplanning, specifically digitally-enhanced microplanning, and integrated microplanning across health areas/interventions

Methodology



Results

01

Microplan development process

02

Microplan implementation

03

Digitally-enhanced microplanning

04

Integrated microplanning

Microplan Development

Initial microplan development is widely perceived as being highly resource intensive, requiring substantial financial resources, technical know-how and stakeholder engagement.

Healthcare Worker Capacity & Ownership

- High rates of HCW turnover reported as draining capacity to develop microplans
- Lack of training, supportive supervision and mentorship constrained the development of high-quality plans
- HCWs who were engaged in the development of microplans reported a higher degree of ownership in implementation of the activities in those plans

I did an orientation mentorship training for health care workers. Next time when I go [to the health facility] the same health worker has been taken away, and therefore there's a gap. There's a lack of knowledge. I have to retrain again now (technical partner, Uganda).

Community & Stakeholder Engagement

- Engaging stakeholders, including community members and non-traditional health stakeholders, was widely acknowledged to be essential to the development of microplans that reflect local needs and priorities


There is a huge element of community involvement when developing the microplan. They will give the situational analysis. The health facility picks all of the issues the community wants to be addressed, prioritizes them, and puts them in the microplan (sub-national immunization program staff, Kenya).

Microplan Implementation

HCW ownership over the microplans was found to be **enhanced with supportive supervision and follow-up** from higher levels of the health system. However, implementation constrained by a persistent shortfall in funds to support planned immunization activities, such as outreach, at the subnational level.

Supportive supervision, mentorship & accountability

- Implementation of microplans was found to be enhanced by accountability from higher levels of the health system.
- Some examples of WhatsApp groups for health facility and district level staff as a mechanism to help facilitate accountability and follow-up.



The ministry started tagging a lot on microplanning. The ministry started being a bit tough on the lower-level facility... you will only get support on the condition that you have a microplan to show your need, and your coverage, and your target, and all of that. (Sub-national health staff, Uganda)

Operational Funding

- This reflects larger immunization and health system resource constraints.
- Some key informants reported on adaptations of the plans to match available resources, while cautioning the importance that plans do reflect the true costs.
- Key informants emphasized the need for sustained advocacy at all level, to generate political will among health and non-health stakeholders.

Adaptations to Microplanning

Digitally-enhanced microplanning

- Includes tools such as **digital mapping, mobile applications, online training forums** and **electronic registries** and can be used to **help map catchment areas, identify target estimates, train healthcare workers** and **monitor vaccine status**. The most common application found in the literature is **geo-enabled microplanning**.
- **Barriers** to the use of digital tools include **technological infrastructure** and **internet connectivity**, the **IT capacity** of health care workers, **high costs** of making updates, and ongoing **reliance on technical assistance**.
- Key informants cautioned that **digital tools are enhancements** and **cannot replace the need for community engagement** in defining priorities and identifying missed communities.

Integrated microplanning

- Despite growing interest in integrated approaches to microplanning, we found **few examples in the literature**.
- Although guidance documents (i.e. the 2017 RED guidance from WHO AFRO) notes the potential benefits of integrated approaches to microplanning, detailed guidance remains specific to immunization.
- **Human and financial resource constraints** were identified by key informants as impediments to integration, especially at the implementation stage.

Summary

Our review identified a lack of published evidence on microplanning in the context of routine immunization programs. The existing literature is particularly lacking when it comes to evidence on the implementation of activities in microplans.

Over the last decade, **approaches to microplanning** have *evolved* from a top-down to bottom-up process, characterized by higher levels of community engagement and healthcare worker ownership.

- This shift is perceived as contributing to **greater understanding of missed communities and zero-dose children**, and their unique barriers.
- This approach is acknowledged to be more **resource intensive** and needs to be supported appropriately.

The microplan development process is complex and many highlighted a **need to simplify tools and guidance**. A careful balance needs to be struck between the appropriate level of simplification, while maintaining the level of detail needed to accurately identify and reach ZDC and missed communities.

Although immunization microplanning has been around for more than two decades, **institutionalization of the practice remains constrained by inadequate resources**.

- This challenge is not unique to microplanning, but highlights a need for sustained advocacy for government recognition of the value of immunization in improving child health, and for adequate resources.



SECTION 03

Geo-enabled Microplanning for Immunization Programs Strengthening in UNICEF

Geo-enabled Microplanning for Immunization Programs Strengthening in UNICEF

Rocco Panciera, Ph.D.

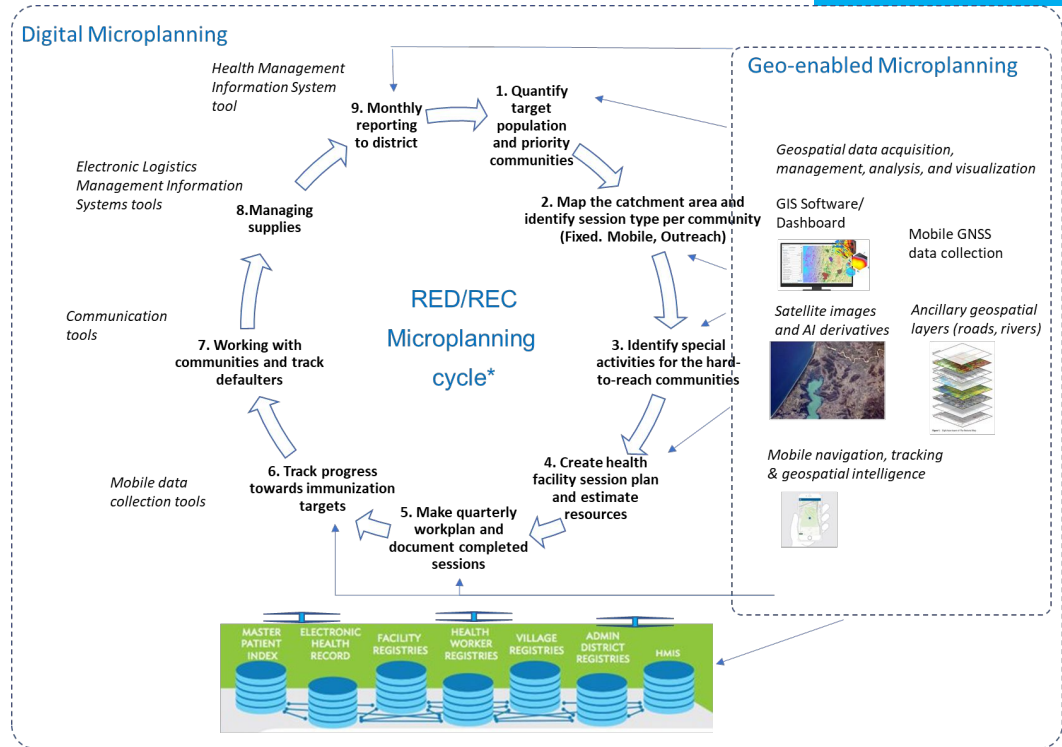
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Geo-enabled microplanning

- Microplanning for routine immunization is a cyclical process of planning, delivering and monitoring
- Geo-enabling the microplan aims at embedding geospatial data and technologies in the microplanning operational and business processes
- Geo-enabling is a subset of digitally-enabling related to the geographic dimension of the microplan



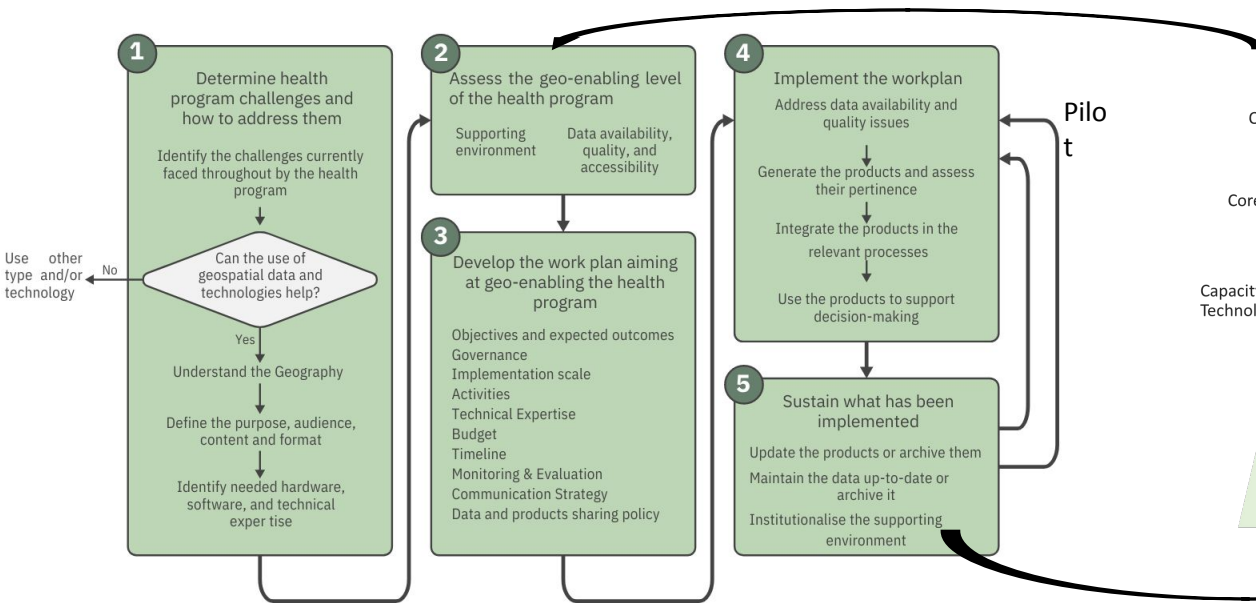
*Adapted from: <https://www.afro.who.int/publications/reaching-every-district-red-guide-increasing-coverage-and-equity-all-communities>

UNICEF approach



Achieving an effective use of GIS in health programs is facilitated by a geo-enabling process involving both **technical support** and **institutional advocacy** components, aiming at strengthening the geo-enabling environment of the health information system

Process to geo-enable a health program



HIS geo-enabling framework



Global Footprint

UNICEF provides direct technical support for geo-enabled microplanning in 15+ countries in 4 regions

unicef 
for every child

Western and Central Africa Region

Guinea
High-resolution Zero-dose children mapping

Mali
High-resolution Zero-dose children mapping

Côte D'Ivoire
High-resolution Zero-dose children mapping

Nigeria
• High-resolution Zero-dose children mapping
• Geo-enabled microplanning (Lagos)

Chad
High-resolution Zero-dose children mapping

Cameroon
High-resolution Zero-dose children mapping

South Asia Region

Bangladesh
Geo-enabled RI microplanning

Mongolia
Geo-enabled RI microplanning

Afghanistan
Geo-enabled microplanning polio transition

Iraq
Planning and Monitoring of Immunization program

South Sudan
Geo-enabled RI microplanning

Uganda
Geo-enabled RI microplanning

Madagascar
Geo-enabled RI microplanning

Malawi
Geo-enabled RI microplanning

Mozambique
Geo-enabled RI microplanning

East Asia & Pacific Region

Cambodia
Geo-enabled RI microplanning

PNG
Geo-enabled RI microplanning

Eastern & Southern Africa Region

Level of HQ Support

 Intense support

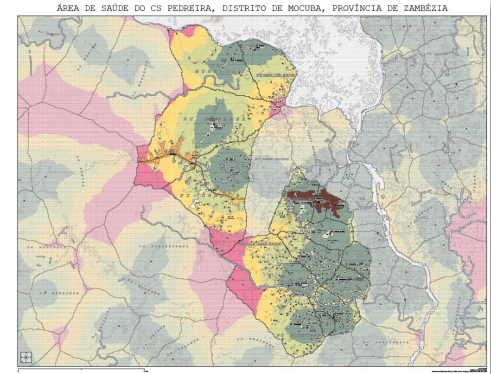
 Moderate support

 Light touch support

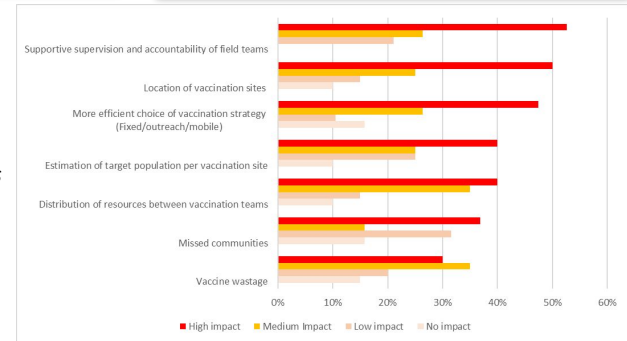
Stories from the Field: Mozambique

- UNICEF supported the piloting of geo-enabling EPI routine immunization program since 2021
- Geo-enabling program coordinated by MoH EPI technical working group (MoH, WHO, JSI, UNICEF) with technical support from government geospatial development agency (ADE) and CHAI
- Multi-district pilot conducted to test, document and formalize processes and roles for geospatial data gathering, QC, map production and training by ADE
- Verified usability of GIS maps during integrated COVID-19 and Routine EPI campaigns in November 2022
- Handover of capacity to governmental spatial agency (ADE) for data collection, management, and map production completed in 2023
- In 2023, MISAU approved scaling of initiative to 36 districts* and mandated ADE with National Spatial Data Infrastructure

* co-funding from COVID-19 Delivery Support (CDS3) and Canadian ACT (ACT A) grant



Sample outcome of end-users qualitative assessment of Areas of impact of microplanning maps

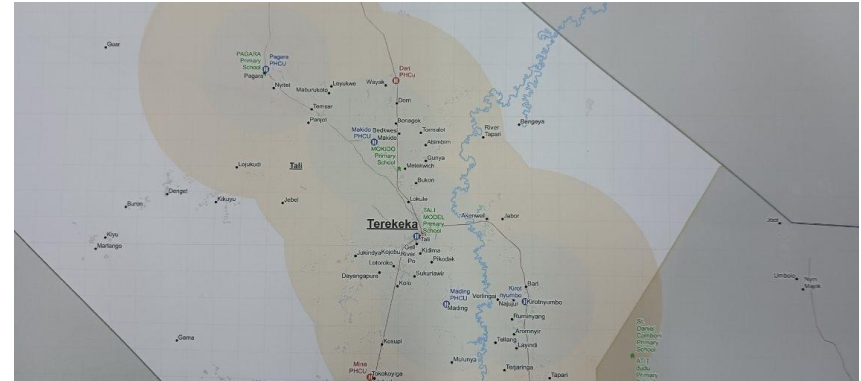


Stories from the Field: South Sudan



unicef 
for every child

- UNICEF supported the piloting of geo-enabled microplanning for Routine Immunization since 2023* in 10 counties and 5 states
- The initiative is led by UNICEF with active support from the Ministry of Health EPI Director and Health information System units
- Multiple state-level consultation were conducted between mid-2023 and mid-2024 for advocacy, data gathering, and map content validation
- GIS microplanning maps were produced and delivered for all 142 districts of August 2024, alongside training on GIS maps use and interpretation
- In August 2024 the South Sudan MoH cleared the utilization of the GIS microplanning maps to support polio campaign microplanning in selected areas

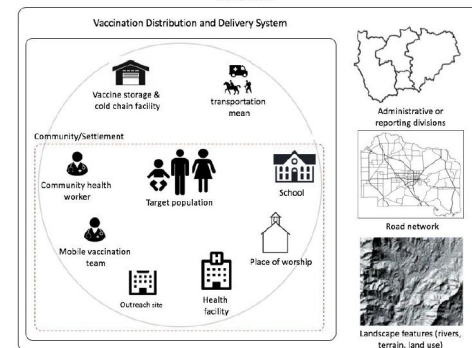


* co-funding from Government of Japan Digital Health Systems for Infectious disease in Africa

Lessons learned 1

Every GIS product (map, dashboard, etc..) is dependent on the decision-making and operational processes that is meant to Inform.

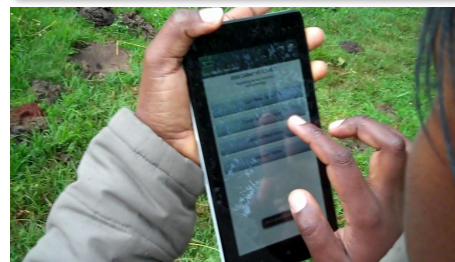
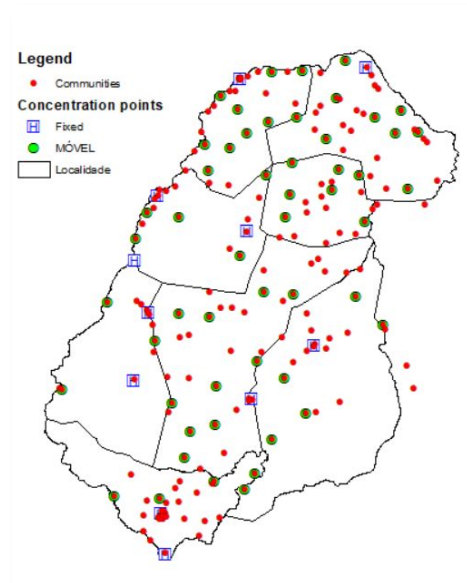
- Understanding the geographic dimension of those processes and the relevant geographic features is a lengthy, but foundational (and often overlooked) step to ensure relevance of GIS products to users' needs



Lessons learned 2

The gathering of complete lists of relevant geographic features (health facilities, villages, outreach sites) with georeferenciation is a major bottleneck

- Involvement of local actors (district managers, health facility EPI managers) for data collection through formalized mechanisms is crucial to ensure accuracy and continuous update of geo-enabled microplans



Lessons learned 3

Geographic optimization needs to be mediated by operational considerations (political, financial, practical)

- GIS products need to allow users the flexibility to evaluate the “geographically optimal” solution versus what is practically available/possible



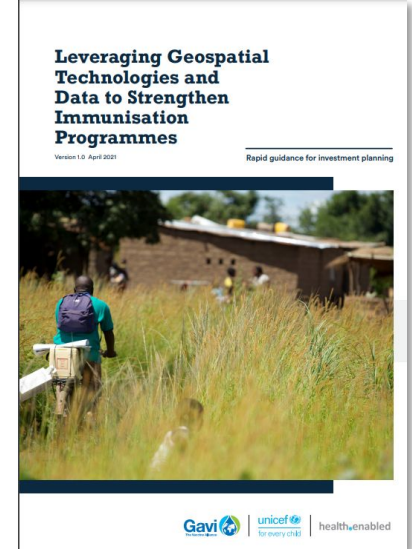
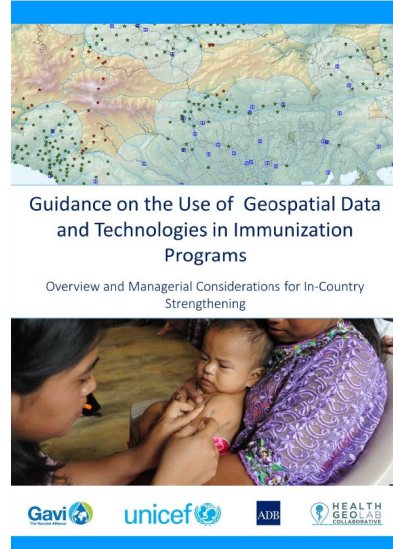
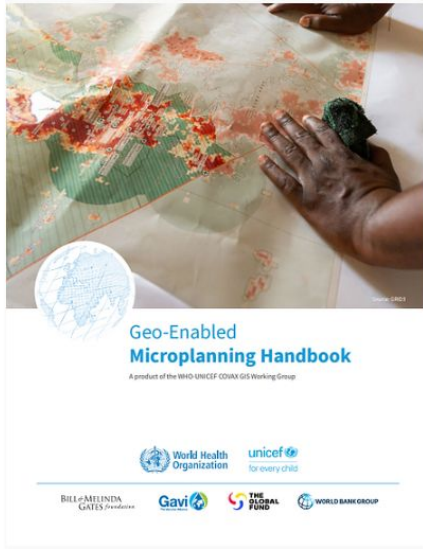
Lessons learned 4

Many problems with GIS products become evident only when reviewing products in the field with actual end-users

- Multiple rounds of map review during real or simulated implementation scenarios are needed to achieve accurate products tuned to the contextual geography , decision-making process and user needs



Reference Material



**Thank
You!**

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SECTION 04

GIS Mapping Tool for Urban Routine Immunization Microplanning in India

Geographic Information System (GIS)

Mapping Tool for Urban Routine Immunization in India



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GIS Mapping: Urban Routine Immunization, India



Map demographic profiles of 2 cities including vulnerable pockets, health facilities, session sites, vaccinator area, cold storage centers & high-risk areas/pockets.

Analyze the geospatial distribution of immunization services in terms of public health services and identification of coverage gaps.

Develop a user-friendly GIS platform for real-time monitoring and decision-making to improve planning around immunization.

GOAL:

The aim is to enhance urban immunization program efficiency by optimizing resource allocation based on geographical data using GIS technology.



Health facility mapping with ANM area demarcation

Two Indian cities with distinct landscapes and administrative structures were chosen to pilot this GIS tool: Jaipur in Rajasthan and Shillong in northeastern India. In both cities, urban health facilities were identified, and data was gathered with the help of health officials. The team conducted walkthroughs on-site with ANMs to outline their coverage areas.

METHODOLOGY



Data Collection

Data collection from health facilities involved gathering both geospatial and non-geospatial information to ensure accurate mapping and analysis for effective immunization planning.



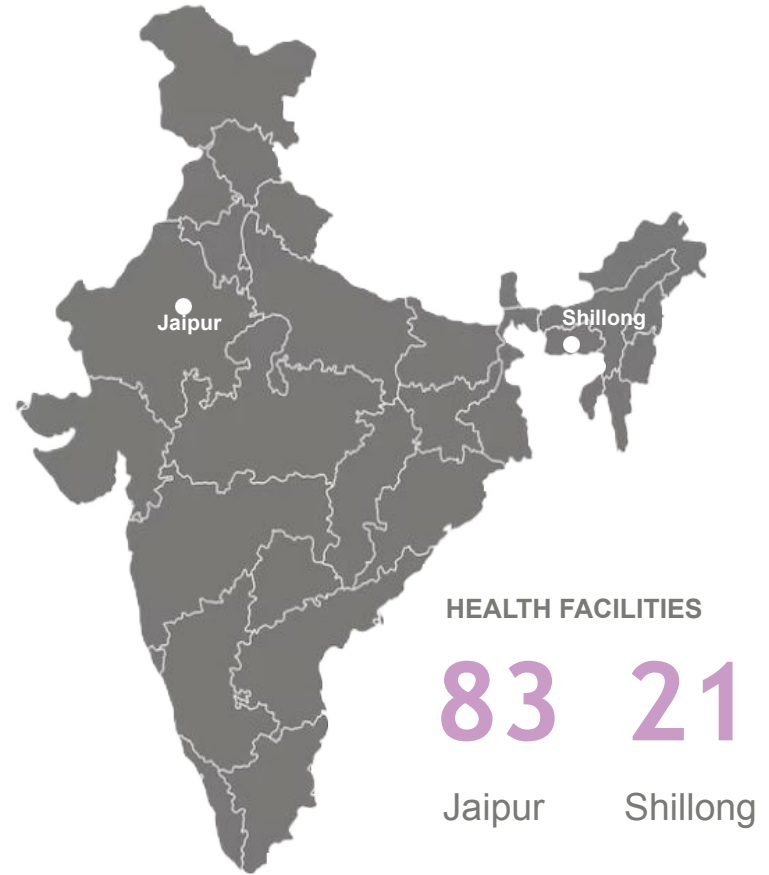
Tool Development

Tool development involved software engineering to create a robust GIS platform, incorporating algorithms and data inputs from health facilities to ensure precise mapping and analysis capabilities.



Capacity Building

Capacity building focused on training health officials to effectively use the GIS tool, enhancing their skills in data analysis and geospatial technology for improved decision-making.



DATA COLLECTION

CAPTURING GEOSPATIAL DATA

Various open-source tools like **Google Maps** and **Google Earth** applications were used to gather geospatial data at the health facility level.

DATA RELATIONSHIP

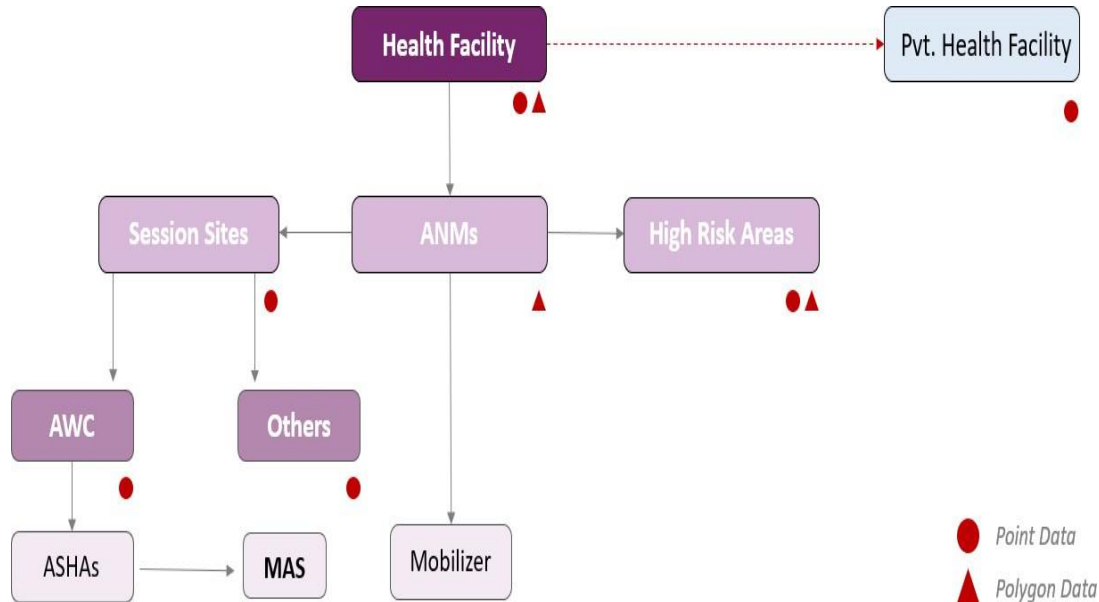


Figure 1 - Data collection at a health facility in Shillong



Figure 2 - Mapping of ANM areas in Shillong by doing walkthroughs



Figure 3 - Validating data with health officials in Jaipur

GIS mapping: ANM area mapping by walkthrough



FEATURES OF THE TOOL

The tool has four main components: **Masters**, **Dashboard**, **Map Indicator**, and **HMIS MPR**. All these components have different functionality. The detail of each component is elaborated below:

Interface of the tool



The screenshot displays the tool's interface with a red header bar containing the USAID and MOMENTUM logos, navigation tabs for Dashboard, Map Indicator, Masters, and HMIS MPR, and a user profile for National Admin. The main content area is split into two panels. The left panel, titled 'DASHBOARD', features a search bar and a list of cities: Jaipur and Shillong. The right panel shows a satellite map of Jaipur with several callout boxes: 'DASHBOARD - The is the section where layer-wise geospatial data can be viewed.', 'HMIS MPR - The data is taken from standard HMIS reporting system and fed into this tool and analysed for viewing in the tool.', 'MASTERS - All the data gets stored in the Masters. The master section has standard forms which can be filled by the health facility staff.', and 'USER MANAGEMENT - This function allows administrators to assign rights to different users at the National, State, District, City, and Health Facility levels.' A separate callout box at the bottom left of the dashboard panel states: 'This shows the list of cities added within the tool and within each city, the details of the urban health facilities can be viewed.'

FEATURES OF THE TOOL



The coverage area of any urban facility within the listed cities can be viewed in the dashboard.



Further, the ANM areas demarcation, working within the facility.



Mapping all sessions with pointer information like Name and Type (fixed/outreach) of session, conducted which day of the week, ASHA, AVD, contact details, etc.

How can this tool benefit the process of routine immunization?

Gap Identification

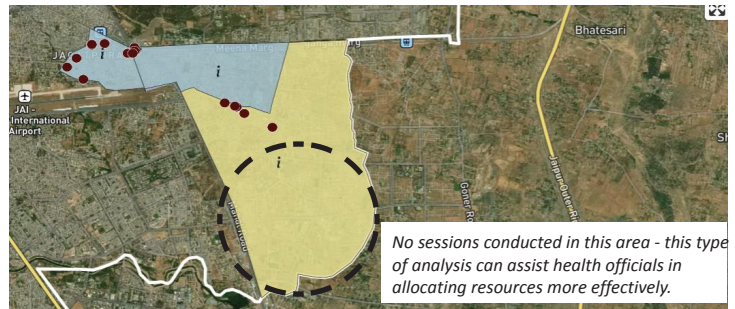
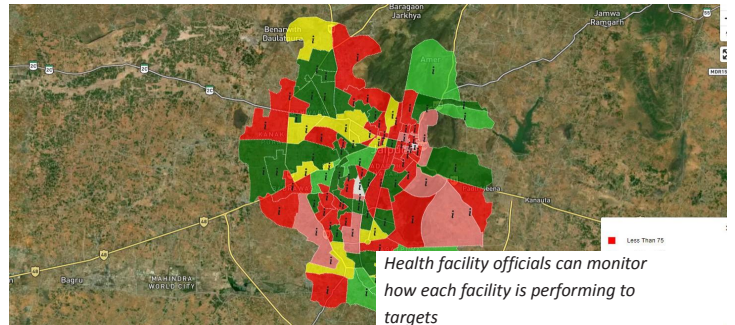
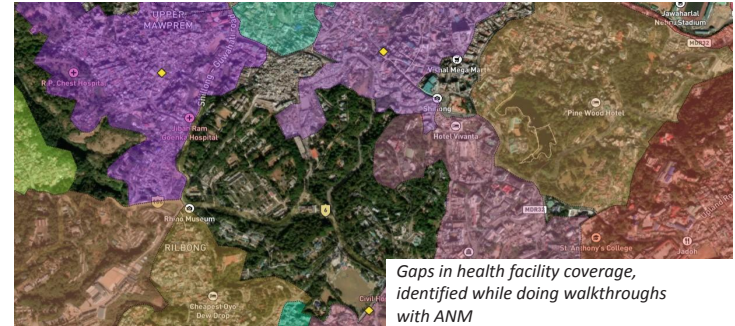
GIS can assist in identifying gaps in routine immunization by mapping coverage areas and visualizing underserved regions. This helps in strategizing the action plans accordingly thereby improving immunization service delivery mechanism.

Monitoring

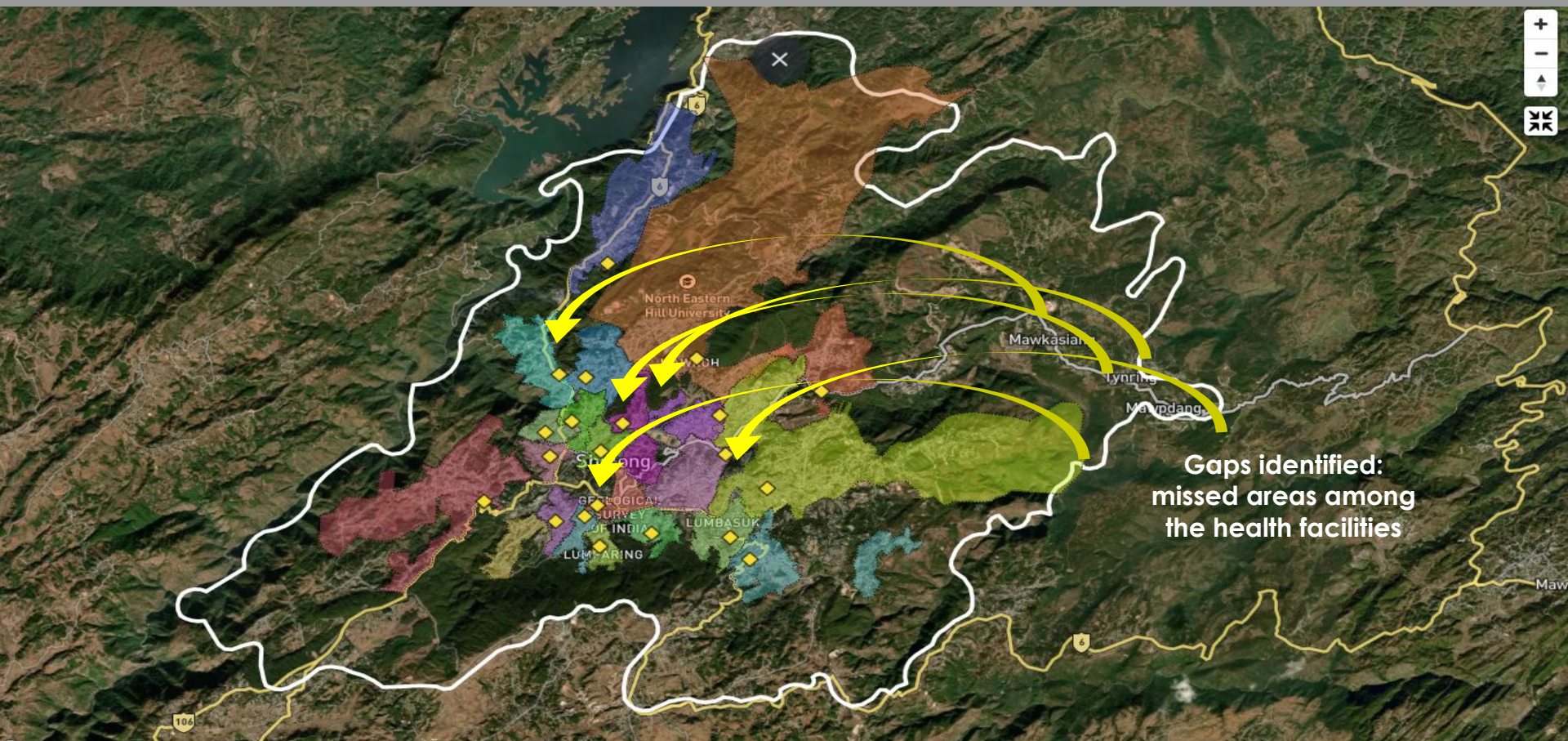
GIS can enhance monitoring in routine immunization by providing real-time tracking of immunization service mapping and pinpointing areas with low uptake. This allows for timely interventions and more effective resource allocation to improve immunization rates.

Resource Allocation

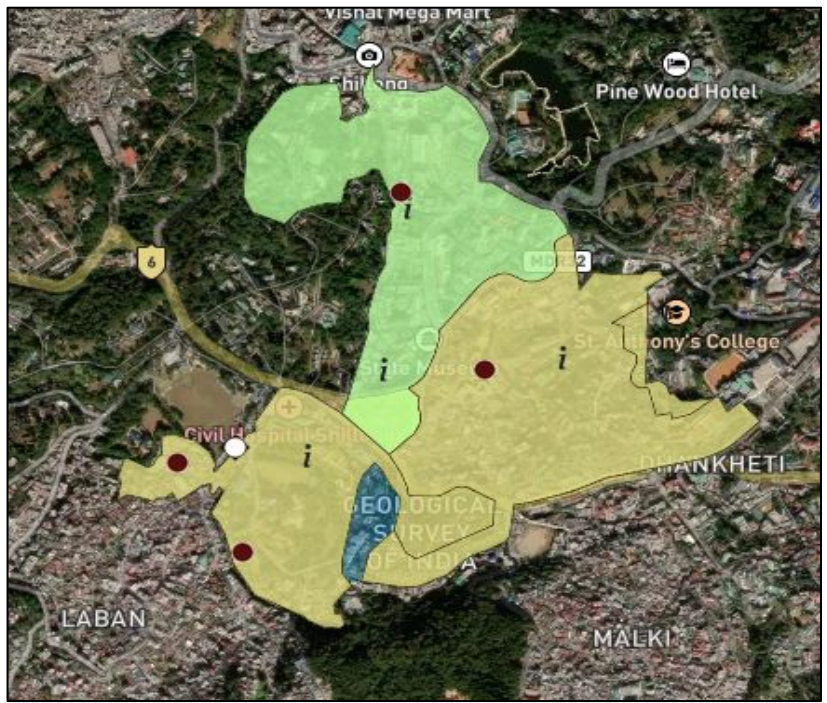
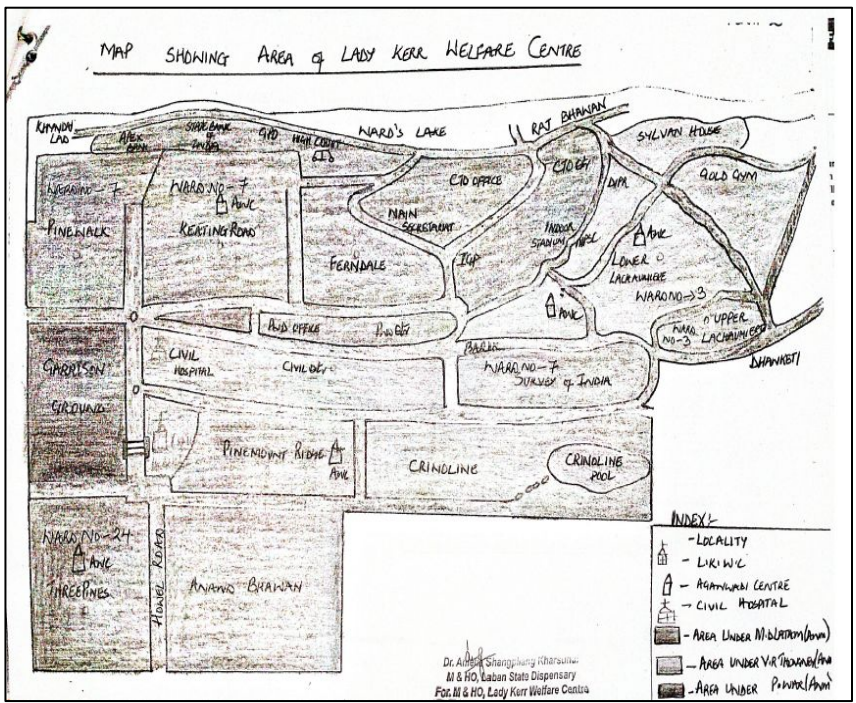
The spatial analysis helps to target resources and interventions more effectively, ensuring comprehensive immunization coverage through prompt resource allocation.



GIS Mapping: Health Facility Areas, Shillong & Identification of Missed Area



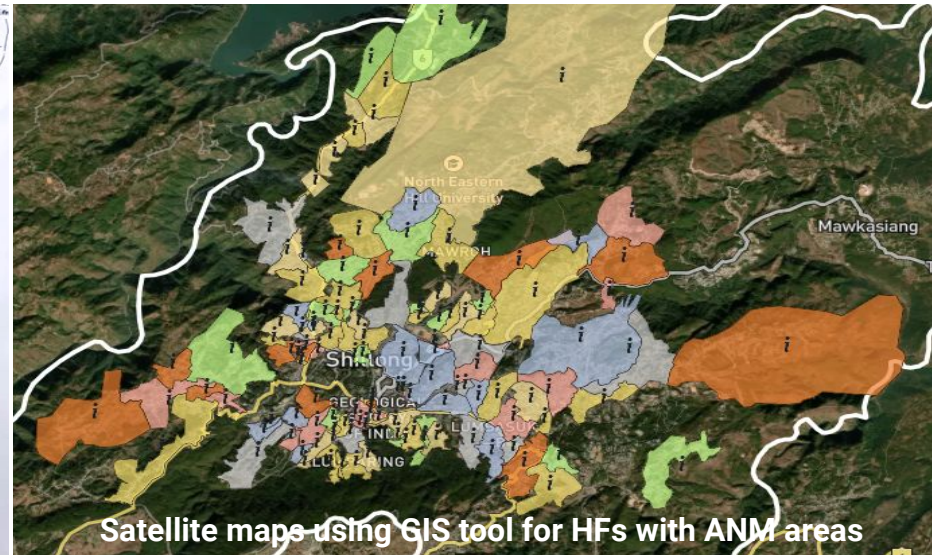
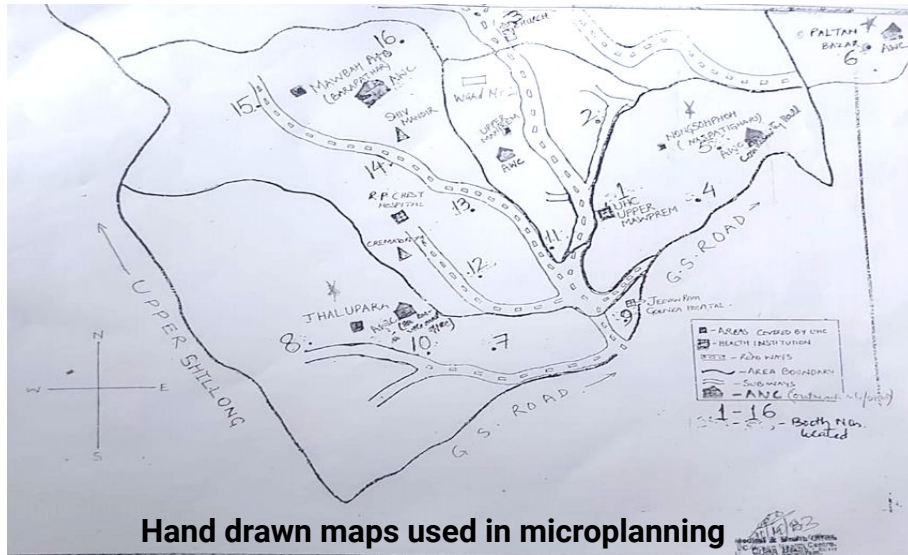
Paper Map versus GIS Map (Lady Kerr Welfare Centre)



- Improper facility boundary
- Inaccurate ANM area demarcation
- No session site details

- Proper facility boundary
- Accurate ANM area demarcation
- Session site details along with location
- HRA details with location

GIS Mapping: Need & Expectations



NEED

- Poor hand-drawn maps.
- Poor microplanning due to poor understanding of geography & demography.
- Missing out of vulnerable beneficiaries.
- Poor or underutilised resources.
- Missing service delivery points in densely populated urban areas.

EXPECTATIONS

- Improved targeting to underserved populations and unmapped areas.
- Get deeper understanding of HR deployment and the workload.
- Proper planning in the areas which lack regular session sites.
- Assist state government in data-driven decision making.

Panel Discussion / Q&A

Evaluation

Please scan the QR code below to share your feedback on today's webinar.



THANK YOU

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