Advancing Maternal and Child Health in Nigeria through Geospatial Innovations

Background: The Geo-ST4R project, funded by Gates Foundation, aims to improve the identification, coverage, and uptake of RMNCHN services across four states (Kano, Kaduna, Lagos and Gombe) in Nigeria by using geospatial tools and data. It involves innovative digital strategies, such as geospatial data solutions and Artificial Intelligence, to support data-informed planning for RMNCHN services. This initiative aligns with Universal Health Coverage and other health-related SDGs and supports the Nigerian government's Health Sector Renewal Initiative.

Implementation Approach: The project uses geospatial data solutions to automate health planning for RMNCHN by deploying a Geo-enabled Microplanning Toolkit (GMT), integrating operational data, and using AI models to strategically deploy high-impact interventions like ANC, FP, and Facility Delivery. In the early stages, four key activities were conducted to ensure these interventions meet the specific needs of the implementation in focus states

1. **Desk Review**: A desk review explored the use of geospatial data, tools, and systems in various global health areas, focusing on potential use cases in RMNCHN.
2. **Environmental Scan and Digital Maturity Assessments**: These provided an understanding of existing microplanning processes, digital capabilities, and capacity to implement geo-enabled digital microplans based on spatial data availability in the target regions.
3. **Facility Baseline Assessments**: Detailed assessments gathered data on the current state of maternal and child health services, including facility readiness and service delivery barriers in the project states.
4. **Data Validation Workshops**: Findings from the assessments were shared with state stakeholders to validate insights and make inputs to enhance RMNCHN microplanning.

Key Findings:

1. States use paper-based microplanning at health facility and ward levels, transcribed to Excel at LGA and State Levels, causing errors and redundancies.
2. Sub-optimal awareness and use of digital tools for microplanning processes were also observed.
3. Health facilities relied on national population estimates, census, and headcount to estimate catchment population.
4. Inadequate funds and human resources hampered microplan development and implementation.
5. The microplanning process involved high community actor involvement with a significant gender disparity.
6. Gaps in service delivery as some health facility catchment areas had missed settlements, defaulting locations, and settlements reporting home births.

Utilizing findings to guide implementation

1. Context-specific classification of the target regions based on a tiered structure for phased implementation of digital solutions and sustainability planning.
2. Findings are guiding the deployment of three geo-enabled digital solutions which include the Geospatial Microplanning Toolkit (GMT) to address high numbers of zero-dose children through strengthening the quality of datasets used in microplanning, the Decision Support Dashboard (DSD) which enables planners to visualize data layers of interest i.e. settlements with high home births, and a Chatbot which provides health workers with information on-the-go

Conclusion: The Geo-ST4R project illustrates how geospatial innovations can improve RMNCHN services by integrating geo-enabled technology into health planning and service delivery. This approach addresses challenges in healthcare accessibility and equity, offering a scalable model for regions seeking to enhance RMNCHN services and achieve better health outcomes.