

ANNEX B – TERMS OF REFERENCE – LRPS – 2024 9188495 - SOLUTIONS FOR STRENGTHENING HEALTH SYSTEMS IN PAPUA NEW GUINEA

TERMS OF REFERENCE FOR INSTITUTIONAL CONTRACTS

Title	Technical support to enable GIS solutions for strengthening health systems in Papua New Guinea
Purpose	To strengthen the existing the foundational building blocks and establish geo-enabled microplanning for health in Papua New Guinea in close collaboration with Performance, Management and Research Branch (PMRB) and EPI program of NDOH. To implement GIS microplanning in two provinces, and develop roadmaps to support the existing foundational capacity, governance structures, and core georeferenced datasets for the Papua New Guinea to fill the gaps as well as to sustain the enabling environment related to the use of geospatial data and technologies in PNG health sector.
LTA Ref	NA
Contract Duration	15 April 2024 -28 February 2025
Scope of work	In Coordination with the active actors in PNG, the vendor will identify and collect reliable source of building blocks for geo-enabled microplanning such as catchment area boundaries, georeferenced health facility master lists, and spatial demographic estimates to be used in the development of micro plans across PNG. The vendor will develop microplanning maps, PNG specific training materials and tools for the geo-enabled microplanning process and conduct training of health workers from NDOH, Provincial Health Authorities and Partners.

1. Background

Public health interventions are crucial for reaching target populations in an effective, comprehensive, and equitable manner. Microplanning is the process used to create a detailed operational plan for identifying and reaching a specific target population with health interventions, managing resources, and monitoring outcomes. While microplans are developed at the national level to define overall strategies and approaches for service delivery to targeted populations, microplans are detailed down to the health facility and community levels. Microplanning is recognized as an essential instrument for the effective planning and implementation of various public health interventions, and a multitude of interventions can benefit from it.

Geospatial data, including population estimates and distribution, health facility locations, boundaries, and travel time, among others, is used to develop an actionable geo-enabled micro plan. Despite the benefits of using geospatial data and technologies in microplanning, the use of these tools is not always simple and straightforward, nor easily adopted in all contexts.

Nevertheless, geo-enabling the microplanning process provides opportunities to address systemic challenges and establish capacity and assets beneficial across the health sector in PNG, such as improving population distribution estimates and measuring physical accessibility to health services. Geo-enabled microplanning provides a framework for strengthening the health system by improving systems for data, logistics, and monitoring and evaluation. This is even more relevant in the Papua New Guinea where the reliable population denominator is lacking, the population are dispersed across remote and hard to reach rural and peri-urban areas, limited number of functional health facilities proximity to the communities. More than 60% of service delivery are through costly mobile, outreach (patrols) to reach the population with services and the robust and effective planning is crucial to optimize the service delivery and reach to the remote population.

PNG is also one of the most natural disaster-prone areas in the world, with natural disasters potentially exacerbating population vulnerability to health emergencies. Effective geo-enabled microplanning is crucial for emergency preparedness, response, and interventions, especially in these areas prone to natural disasters.

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ANNEX B – TERMS OF REFERENCE – LRPS – 2024 9188495 - SOLUTIONS FOR STRENGTHENING HEALTH SYSTEMS IN PAPUA NEW GUINEA

PNG is in the emerging stage of digital health maturity¹ with ICT and digital applications increasing in number but the enabling environment is not maturing fast enough. The health facilities are currently not benefitting from digital health systems and application and there are challenges to maintain and sustain them unless the maturity is improved.

PNG has well established eNHIS system – facility level reporting on HMIS. The National Health Information System (NHIS) is the main reporting system for routine health service delivery data in PNG. The eNHIS has now been completely rolled out, with tablets distributed to 852 Health facilities (HF) under the custodian of the Performance, Management and Research Branch (PMRB). The eNHIS is comprised of 3 datasets: NHIS, facilities inventory, and discharges. There is poor data use for strategic planning and monitoring in the system. Data use tends to be limited to quarterly “static” review, but not “dynamic” decision-making, and substantial support is required to build capacity at all levels on this aspect.

UNICEF’s strategic approach is centred on supporting the national department of health (NDOH) and partners to scale up a comprehensive set of actions for children using robust geospatial methodologies to operationalize specific applications of geospatial data and technologies for health programs especially the immunization programme which has been low performing with sub-optimal coverage for more than a decade. The country is at high risk of preventable but deadly childhood diseases such as Measles, Polio and Pneumonia, etc. This has opportunities to improve the effectiveness of the planned interventions prioritized by the government of PNG, donors, and development partners.

Through this contract agreement, UNICEF aims to increase access to technical support, research, knowledge sharing and engagement to boost the ability of UNICEF PNG country office to support NDOH in the sustainable use of geo-enabled microplanning to reach zero dose children, in Papua New Guinea.

2. Objective

The main objective of this assignment is to identify the existing the foundational building blocks for geo-enabled microplans and establish geo-enabled microplanning system in close collaboration with the NDOH (PMBR) and the partners such as WHO, National Health Services Sector Development Program (Asian Development Bank), CSOs, and PHAs, etc. Through this assignment, the roadmaps and tools to support the existing foundational capacity, governance structures, and core georeferenced datasets for the Papua New Guinea will be developed aiming to fill the gaps as well as to sustain the enabling environment related to the use of geospatial data and technologies in PNG health sector. The assignment will also include the development of the GIS microplans, training materials and conduct of the training in two selected provinces (National Capacity District and Central provinces). The results of the assessment suggested roadmaps and coordinated work with the partners as well as the implementation in two provinces will serve as the basis for the scaled digitization of microplanning.

3. Expected Outcomes of this project include:

In order to support the government of PNG maintain and update geo-registries of health facilities, the Health Facility Registry Services (HFRS) tools are utilized to produce an assessment of the adequacy of the current platform, mechanisms and enabling environment for maintenance of the Health Facility Master List (HFML). While HFMLs are becoming more available in PNG, efforts are needed to ensure they are correctly deployed and utilized to maintain quality HFMLs. To achieve this, the vendor needs to support the update of the technical and business requirements for the assessment of existing HFRS solution currently deployed in the country for management of HFML, readiness of the supporting environment. Government partners would benefit from process guidelines, checklists, specific capacity-building activities, and mapping of existing tools and digital solutions to ensure the sustainability of existing geo-registries of health facilities.

The data captured by the eNHIS system integrate with the geographic information system for analysis, visualization, and reporting. Different types of health data have different levels of granularity; for example, tuberculosis is mapped to the house, malaria to the village or slum, vaccinations to the health facility. To plan outreach services

¹ PNG Digital Health Maturity Assessment Outcomes (2023)

ANNEX B – TERMS OF REFERENCE – LRPS – 2024 9188495 - SOLUTIONS FOR STRENGTHENING HEALTH SYSTEMS IN PAPUA NEW GUINEA

and campaigns, users can visualize and manually count every house in the country or in user-defined areas, using mapping tools that overlay onto high-resolution satellite images accurate to about 30 m². Papua New Guinea Remote Sensing Centre owns maps and has provided a free licence to the National Department of Health for their use. These are the maps endorsed by the National Department of Health (Government of Papua New Guinea) for integration into the electronic national health information system. The geographic features of the map were derived from GeoSAR imagery. The locations of health centres were obtained by staff visiting these locations with hand-held global positioning system units. The vendor will work with active and relevant partners in PNG or appropriate GIS solutions providers in the areas of GIS technologies and secure that quality and spatial demographics, estimates so that it will be available for accurate geo-enabled microplanning.

In Coordination with the active actors in PNG as well as appropriate GIS solutions providers, the vendor will collect and provide building blocks for geo-enabled microplanning such as catchment area boundaries, georeferenced health facility master lists, and spatial demographic estimates and develop geo-enabled microplans across PNG. The vendor will develop microplan maps for National Capital District and Central Provinces, PNG specific training materials and tools for the geo-enabled microplanning process and conduct training of NDOH, Provincial Health Authorities and Partners (National Capital District and Central Provinces). Depending on the established needs and PNG country context, the vendor will adjust the activities to better respond to government needs and existing capacities, ensuring a sustainable foundation for geo-enabled microplanning.

4. Description of the assignment

The services requested above will be conducted within a time frame of 10 months, from 15 April 2024 to 28 February 2025, in PNG. To respond to the above objectives, the vendor should conduct the following activities:

- Provide a landscape analysis of existing digital solutions for health facility geo-registries and recommendations to fill the gaps and enable Government of PNG to sustain the system
- Prepare and handover adequate geo-registries solutions to NDOH (PMRB)
- Submit a landscape analysis on geospatial population estimates for microplanning
- Draft an assessment report of the current enabling environment related to the use of geospatial data and technologies in the health sector.
- Document PNG country GIS-context and immunization needs and gaps and provide recommendations on adequate geospatial intervention to address such gaps.
- Procure and provide hardware, software, tools, and maps to support the scaled implementation of geospatial data and technologies for microplanning including quality and spatial demographics, estimates for accurate geo-enabled microplanning.
- Develop PNG specific training materials and tools for the geo-enabled microplanning process
- Conduct training of NDOH, Provincial Health Authorities and Partners on the use of the tools (100 participants and two training batches in Port Moresby).
- Submit a narrative report and budget for the scaled deployment package of geospatial solutions for microplanning.

UNICEF recognizes the critical importance of children’s voice in evidence generation and has specific policies to ensure child safeguarding, PSEAH, and ethical evidence generation involving children. The project team members engaged in in this assignment are expected to familiarize themselves with the procedures and guidelines and ensure the project activities are in line.

5. Deliverables

Below we present the estimated number of working days that we expect by deliverable and work package. The vendor can propose a different number of working days based on their best estimate of the effort required.

Deliverables	Timeline	Schedule of Payment
Inception report	15 days	5% upon submission of the of the inception report

AS

² Gavi FPP proposal (2022)

ANNEX B – TERMS OF REFERENCE – LRPS – 2024 9188495 - SOLUTIONS FOR STRENGTHENING HEALTH SYSTEMS IN PAPUA NEW GUINEA

<p>A landscape analysis of existing digital solutions for health facility geo-registries and recommendations or solutions to fill the gaps and enable Government of PNG to sustain the system.</p> <p>A landscape analysis and guidance document or methodologies or sources on geospatial population estimates for microplanning are provided to GoPNG</p> <p>Assessment of geo-enabling environment and roadmap report to enable GIS supported microplanning</p>	45 days	15% up on submission of three technical report
<p>Equipment, software, tools, and maps are procured and distributed to support the implementation of geospatial data and technologies for microplanning including quality and spatial demographics, estimates for accurate geo-enabled microplanning (National Capacity District and Central provinces)</p>	90 days	30 % up on submission of the technical report
<p>PNG specific training materials and tools for the geo-enabled microplanning process and NDOH, Provincial Health Authorities and Partners were oriented and trained on the use of the tools (National Capacity District and Central provinces)</p>	45 days	15% up on submission of the technical report
<p>GIS microplanning maps for two provinces (National capacity district and Central provinces) developed and deployed (paper-based and web-based)</p>	45 days	15% up on submission of the technical report
<p>Narrative report, workplan and budget for scaled deployment package of geospatial solutions</p>	30 days	20% up on submission of the technical report

6. Reporting requirements

The following reporting requirements are foreseen for successful contractors:

- Inception Report (following the contracting of specific, subject to requirements from the contracting office). The contractor should provide an initial inception report that confirms the work plan for the duration of the contract, a calendar for deliverables and methodologies for completion of the process (as well as other elements required for the achievement of specified deliverables)
- Technical Reports (following the completion of deliverables as specified in the TOR, subject to requirements of the contracting office). The report should confirm the list of deliverables, achievements and highlight any challenges or recommendations. The technical report should also be accompanied by any training and presentation materials developed as part of the assignment / contract.
- Handover documents of the project, assist procured and delivered to the partners
- Use of NDOH, UNICEF and donor logos in product visibility

7. Location and Duration

The contractors will combine both remote and on-site work (preferably from the region of South-East Asia and PNG based organizations to minimize travel costs and effective implementation).

Country visits are required for the completion of the deliverables, to assess and support the NDOH structures and implementation.

AS

The indicative starting date for the assignment is 15 April 2024

8. Mandatory and Desirable Qualification Requirements

The technical proposal should address all aspects and criteria outlined in this TOR. However, these requirements represent general provisions from UNICEF. The bidders are free to suggest/propose other

ANNEX B – TERMS OF REFERENCE – LRPS – 2024 9188495 - SOLUTIONS FOR STRENGTHENING HEALTH SYSTEMS IN PAPUA NEW GUINEA

solutions. UNICEF welcomes new ideas and innovative approaches. The technical proposal should include”

- **Background and capacity:** Provide a brief general description of the organization submitting the proposal, detailing its compliance with service areas qualification requirements in **Section 4**.
- **Conceptual framework** of the methodologies to be used and **proposed timeframes** (in weeks)
- **Institutional experience in geo-enabled microplanning**, particularly related to the service areas outlined in this TOR for which you offer your services. The selected experiences should emphasize the focus, size, and scope of past projects and their outcomes. They should consist of examples demonstrating the management of multiple tasks and complex assignments at global, regional, and sub-national levels. Ideally, the examples will also present evidence of the delivery of results across regions, multi-country contexts, and languages.
- **Evidence that demonstrates the experience and expertise** should be submitted in the technical proposal, including (but not limited to): relevant publications, research and program products, references, work samples etc. Please provide links to, and/or a short summary of key products and deliverables that you would like to highlight in your offer.
- **Client references:** Please provide at least 3 or more client references from previous experience in delivering the required services.
- **Resources and assignment of tasks:** Describe the availability of resources including appropriate equipment, facilities and staff. Indicate the number of staff and offices (country, subnational (field) offices etc. of your institution). Describe which section/part of your organization will be responsible for partnering with UNICEF under the terms of the contract.
- **Personnel:** Provide the relevant qualifications, work experience, and specialization areas of the for personnel to be engaged under the service areas applied for. Provide curriculum vitae and three referees for the proposed personnel.

Mandatory requirements to qualify are:

- Presented at least five relevant projects related to the service areas outlined in this TOR.
- Must Have relevant institutional presence in the East Asia Pacific Region, and the presence of the team in PNG will be preferable.
- Provided at least three client references from previous experience in delivering the required services.
- Provided at least three experts with the following general professional requirements:
 - a) Minimum qualifications required: Post Graduate qualifications or training in computer science, information technology, Health informatics, Medical Informatics, digital health, complemented with qualifications or training in health-related fields.
 - b) Relevant working experience:
 - *Essential:*
 - i. A minimum of 8 years of professional experience in the application of GIS methods in public health, epidemiology, population demographics or related international development sectors.
 - ii. Demonstrate experience with leading projects related to building Low- and Middle-Income Countries government’s institutional capacity for management and use of geospatial data and technologies.
 - iii. Demonstrated experience developing technical material related to geospatial data collection, management and/or use, such as field protocols and Standard
 - *Desirable:*
 - i. Knowledge and experience in development programming in the East Asia and Pacific region is an asset.
 - ii. Sound and up-to-date knowledge of UN and UNICEF policies and practices in Program design, implementation and monitoring and reporting is an

AS

ANNEX B – TERMS OF REFERENCE – LRPS – 2024 9188495 - SOLUTIONS FOR STRENGTHENING HEALTH SYSTEMS IN PAPUA NEW GUINEA

- asset.
 - iii. At least 2 years of relevant professional experience working in the ministry of health or other government ministry at regional or national level.
 - iv. Experience in managing health policy/strategy development processes.
 - v. Experience in writing large and complex proposals.
 - vi. Experience in training, planning and delivery of technical assistance.
 - vii. English language requirements: Read-Write-Speak at Expert-level.
- c) Knowledge/expertise/ skills required:
- Technical expertise and experience in digital health/eHealth specially at the international level.
 - Substantial knowledge in public health.
 - Professional level of writing and editorial skills.
 - High level of responsibility, strong interpersonal and presentation skills

The financial proposal must be submitted with detailed budget breakdown in PGK or USD Dollars.

9. Payment Schedule

No.	Payment	Tentative schedule	Deliverables/Remarks
1.	5% upon submission of the of the inception report	May 2024	Inception report
2.	15% upon submission of the technical reports	June 2024	A landscape analysis of existing digital solutions for health facility geo-registries and recommendations or solutions to fill the gaps and enable Government of PNG to sustain the system. A landscape analysis and guidance document or methodologies or sources on geospatial population estimates for microplanning are provided to GoPNG. Assessment of geo-enabling environment and roadmap report to enable GIS supported microplanning
1.	30 % upon submission of the technical report	Aug 2024	Equipment, software, tools, and maps for (national capacity district and central provinces)
2.	15% upon submission of the technical report	Sep 2024	PNG specific training materials and tools for the geo-enabled microplanning process and NDOH, Provincial Health Authorities and Partners were oriented and trained
3.	15% upon submission of the technical report	Nov 2024	GIS microplanning maps for two provinces (National capacity district and Central provinces) developed and deployed (paper-based and web-based)
4.	20% upon submission of the technical report	Feb 2025	Narrative report, workplan and budget for scaled deployment package of geospatial solutions

- The payment schedule must be based on completed deliverables.
- If the bidder wishes to propose an alternative payment schedule, it must be included in the financial proposal. The final payment schedule is to be reviewed and agreed with UNICEF.
- Payment terms 30 days net upon receipt of approved invoice.

10. Contract Supervisor

Dr Nay Myo Thu, Immunization Specialist, UNICEF PNG.