

Project number	21844-00
Project title	Palau Community Health Center Rehabilitation Project
Starting date	01 August 2019
Duration	31 May 2020 (incl. DNP 1 yr)
Project site	The Republic of Palau
Government coordinating agency	Ministry of Health, Palau
Executing agency	UNOPS
Donor	India-UN Development Partnership Fund through UNOSSC
Donor contribution	USD 1,494,357 (from which USD 1,450,832 goes to UNOPS and USD 43,525 to UNOSSC)
Additional Funding	Government In-Kind Contribution Provide office space to the UNOPS project manager based in Palau (including printing internet connection and electricity), site travel by car (not including fuel or drivers);

The goal for this project is to build and maintain a sustainable health service delivery system that responds to the unique needs of Palau's population.




UNOPS will support the Government of Palau in improving the physical infrastructure of six health centers scattered across the country, in order to better respond to current and emerging healthcare needs and a growing population. Support by UNOPS, will also assist in raising the quality, availability and access of primary healthcare in Palau, provide adequate space to enable client focused care delivery and outcomes for patients, and improve working conditions, safety, efficiency and outcomes for both patients, clinicians and staff.

The health facility upgrade will be funded by the UN Office for South-South Cooperation (UNOSSC), through the UN-India Development Partnership Fund.

Expected outputs for this programme are:

- Increased access, utilization, coverage and satisfaction of primary and secondary healthcare services through the CHCs
- Adequately equipped and functional CHCs
- Meeting the Presidential Proclamation No. 18-227, declaring 2018 as the Year of Good Health
- Meeting the indicators of the UN SDG3
- Ensuring good health services to support prosperity, longevity and sustainable livelihoods in line with the development of Palau

Acknowledged

Acknowledged on behalf of	Signature	Date	Name and Title
Government of Palau		06/18/19	Dr. Emais Roberts, MD. FACS Minister Ministry of Health Republic of Palau
UNRC		21.06.19	Mr. Sanaka Samarasingha UN Resident Coordinator United Nations FSM, Fiji, Kiribati, RMI, Nauru, Palau, Solomon Isl, Tonga, Tuvalu, Vanuatu
UNOPS		17.06.2019	Ms. Samina Kadwani Director, Multi Country Office, AR, THOH, Thailand



PROJECT DOCUMENT

Date submitted: 23 May 2019

Palau Community Health Center Rehabilitation Project

Funded by: UNDP through UNOSSC

Client: Ministry of Health Palau

PALAU COMMUNITY HEALTH CENTER REHABILITATION PROJECT



Table of contents

1 Project Definition	6
1.1 Background	6
1.1.1 Country Overview	6
1.1.2 Population and demographics	7
1.1.3 Geography and natural hazards	7
1.1.4 Politics and economics	8
1.1.5 Culture, language and religion	8
1.2 Context	8
1.3 Health Services	9
1.3.1 Current situation of CHCs	10
1.3.2 MoH Aspirations	11
1.3.3 CHC Healthcare Provision	11
1.4 Objectives & Outcomes	12
1.5 Constraints and Assumptions	12
1.6 Beneficiaries and key stakeholders	13
1.7 Outline business case	14
1.8 Alignment with the United Nations Pacific Strategy 2018-22	14
2 Project Approach	16
2.1 Preliminary Assessment	16
2.1.1 Objectives of the preliminary assessment	16
2.1.2 Scope of the preliminary assessment	16
2.1.3 Methodology of the preliminary assessment	17
2.1.4 Key findings from the Preliminary Assessment	18
2.2 Recommendations for each CHC	21
2.2.1 North Community Health Center, Ngerchelongs, Babeldaub (NCHC)	22
2.2.2 East Community Health Center, Melekeok, Babeldaub (EHC)	22
2.2.3 West Community Health Center, Ngeremlengui, Babeldaub (WCHC)	23
2.2.4 Central Community Health Center Two, Airai, Babeldaub (CCHCII)	23
2.2.5 Central Community Health Center One, Koror (CCHCI)	24
2.2.6 Out Patient Department, Koror (OPD)	25
2.2.7 Kayangel Community Health Facility (KCHC)	25
2.2.8 Peleliu Community Health Facility (SCHC)	26
2.2.9 Angaur Community Health Facility (ACHC)	27
2.3 Phase 1 Budget	28
2.4 Exclusions & Additional Recommendations	29
2.5 Schedule	30
<i>Project Proposal Palau Community Health Center Rehabilitation Project</i>	3

2.6 Implementation Strategy	30
2.6.1 Project Board	30
2.6.2 UNOPS Project Team	30
2.6.3 Design Team	31
2.6.4 Construction Team	31
2.6.5 Provision of ongoing healthcare services during the works	32
2.6.6 Reporting	32
2.6.7 Communications and visibility	32
2.6.8 Project Assurance	32
2.6.9 Quality Management	33
2.7 Sustainable Development	33
2.7.1 Sustainability	33
2.7.2 Resilient Infrastructure	34
2.7.3 Health, Safety, Social, and Environmental Management	34
2.7.4 Contributing to the Sustainable Development Goals	34
2.8 Gender Mainstreaming	35
3 Appendices	37
3.1 Appendix 1: Summary Table of Recommendations	37
3.2 Appendix 2: Proposed Schedule - Phase 1A	37
3.3 Appendix 3: Scope of works at each of phase 1 CHC sites	37
3.4 Appendix 4: Key CHC Findings from Preliminary Assessment	38
3.4.1 North Community Health Center, Ngerchelongs, Babeldaob (NCHC)	38
3.4.2 East Community Health Center, Melekeok, Babeldaob (EHC)	40
3.4.3 West Community Health Center, Ngeremlengui, Babeldaob (WCHC)	44
3.4.4 Central Community Health Center Two, Airai, Babeldaob (CCHCII)	46
3.4.5 Central Community Health Center One, Koror (CCHCI)	49
3.4.6 Out Patient Department, Koror (OPD)	50
3.4.7 Kayangel Community Health Facility (KCHC)	53
3.4.8 Peleliu Community Health Facility (SCHC)	55
3.4.9 Angaur Community Health Facility (ACHC)	57
3.5 Appendix 5: Risk Matrix	61
3.6 Appendix 6: Construction Industry Capacity	63
3.7 Appendix 7: Permit Processes	64
3.8 Appendix 8: UNOPS "Gender Mainstreaming in Health Infrastructure" guidance	65
3.9 Appendix 9: Stakeholder Map	67

Acronyms

Acronym	Meaning
CHC	Community Health Center
MoH	Palau Ministry of Health
SDG	United Nations Sustainable Development Goal
UNOPS	United Nations Operations for Project Services
UNOSSC	United Nations Office of South South Cooperation
UN	United Nations
NCD	Non Communicable Disease
ECG	Electrocardiography
CIP	Division of Capital Improvement Project

1 Project Definition

1.1 Background

1.1.1 Country Overview

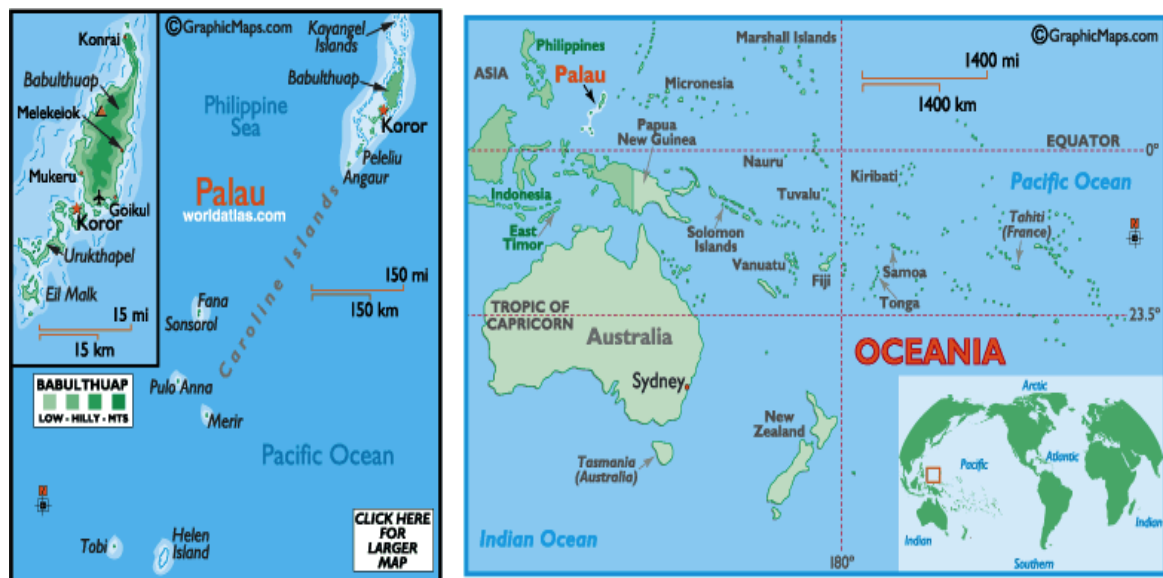


Figure 1: Map of Palau

The Republic of Palau is an Island country located in the western Pacific Ocean approximately 550 miles east of the Philippines. The country contains approximately 340 islands and has an area of 466 square kilometres. CHCs are located on 5 islands; Kayanglal, Babeldaob, Koror, Peleliu, and Angaur. The atoll of Kayangal is located between 2 and 5 hours by boat, north of the largest island of Babeldaob. The State of Koror houses the main hospital and comprises a number of linked islands connected by bridge to the south of Babeldaob. The islands of Peleliu and Angaur are located to the south of Koror, and are accessible by boat (0.5 to 4 hrs). A small group of islands 200-380 miles southwest of the main islands make up the States of Sonsorol and Hatothobei, serviced sporadically by ship, and with no health service provision.



Figure 2: Location of CHCs

1.1.2 Population and demographics

Palau's population of approximately 21,522 people are spread over 16 inhabited islands. With 87% living in urban areas, the majority are based in the former capital, Koror, with the outer inhabited islands having populations of between 20 and 200 people.

The life expectancy is 68.59 years. There are a number of vulnerable groups on the island. It is a destination country for sex trafficking and forced labour. One third of the population is made up of foreign workers in domestic service, agriculture, restaurants and construction, mostly Filipino, Chinese and Korean.

1.1.3 Geography and natural hazards

Palau is located on the Philippine Sea Plate in close proximity to the Palau Trench subduction zone, but rarely experiences earthquake activity and has a low earthquake hazard rating. It has a tropical

climate, with approximately 150 inches of rain per year, a fairly constant humidity level of about 80%, and a fairly constant temperature of about 80°F (±10°F). North East trade winds prevail, and many of the islands experience severe weather along the west coast.

Palau is vulnerable to a variety of man-made and natural hazards with the potential to have a large impact on the economy and population. Historically, this has included typhoons, tropical storms, heavy rains, storm water surge, droughts, and a bridge collapse. Additionally, the country is vulnerable to the effects of climate change including sea level rise and more extreme weather events. The National Disaster Risk Management Agency has developed a framework to address these challenges through hazard preparedness, prevention, mitigation, response and recovery.

1.1.4 Politics and economics

Palau was nominally under Spanish ownership from the mid 1500's to 1899 when it was sold to Germany. Japan occupied Palau from World War I until it was seized by the US in World War II, after which it became a UN trusteeship, until 1994 when it acquired sovereign status.

Palau's form of government is largely based on the US system with a Head of State (who is also Head of Government) elected every four years. Local administrative activities are also carried out through the council of chiefs from the 10 ranking clans. There is also a parallel council of female counterparts which plays a key role in the division of land and money, and reflects the matrilineal clan based society.

Palau receives funding from a number of international partners, primarily the US which provides both economic and military security. Palau's reliance on external aid makes it extremely vulnerable to global events and international politics.

Based on its rich marine environment, tourism activities provide the main economic industry, accounting for nearly half of Palau's \$292m GDP. Trade, subsistence agriculture, and fishing are also prevalent, with the Government being the major employer of the workforce in public administration. The GDP per capita is more than three times that of Philippines. USD is the adopted currency.

1.1.5 Culture, language and religion

Approximately 70% of Palau's population is of Palauan or Micronesian descent, often with traces of Malay, Filipino, Polynesian, and sometimes Japanese. Around 15% of the population are Filipino, 5% are ethnic Chinese, with the remaining 10% made of other international ethnicities mostly from Asia and Europe.

Palauan and English are the official languages, but not spoken by everybody, with Micronesian and other local languages also recognized by some states.

Modekngei is a monotheistic religion founded in Palau in the early part of the 20th century and is ascribed by about 10% of the population. Various religions missionaries have presented in Palau since the 1500s, resulting in approximately 40% of the population being Roman Catholic and 25% being Protestant.

1.2 Context

Health services are primarily provided by the Ministry of Health through the Belau National Hospital and the nine Community Health Centers (CHC) strategically located around the islands. Primary care is intended to be delivered through the CHCs with an integrated referral system for secondary care at the main hospital in Koror.

The guiding document for MoH's decision to ensure improved service delivery through the CHCs is the Strategic Plan currently in effect. While all five outcomes benefit from an increase in and higher quality of primary level care, Outcome 2 (Provide accessible and high quality primary and preventive services) captures the commitment of MoH in particular.

A health sector assessment carried out as recently as 2018 identified issues with staff capacity and physical infrastructure of the CHCs to be the determining limitations on the available primary health care services.

2018 has been declared as the Year of Good Health to promote better health care, services, and well-being in Palau, in line with the United Nations Sustainable Development Goal (SDG) 3 “Good Health and Well-Being”. As part of this agenda, the Ministry of Health (MoH) conducted an overall assessment of the health sector and concluded that critical improvements of the CHCs are needed to improve access to primary healthcare within communities and reduce the burden on the main hospital in Koror.

The MoH 2018 health sector assessment revealed that aging and deteriorating infrastructure undermines the provision of basic and critical primary care services to residents of the island. The CHCs play an important role as part of the MoH strategy in providing access to basic services, reducing emergency and hospital admissions, reduce premature death and improve quality of life.

In the framework of the above, the MoH requested the Indian Government for funding to support an upgrade programme for its CHCs. India approved the programme in principle, and requested UNOSSC to manage the funding process. UNOSSC requires a UN partner to support the implementation of the funds and through the Resident Coordinator’s office in Fiji, UNOPS was asked to support the implementation of such programme.

1.3 Health Services

The Palau Community Health Centers (CHC) operate under the Division of Primary and Preventive Health of the Bureau of Public Health, Ministry of Health since 1986. They actively manage the Outpatient Department (OPD) and a system of five supercenters and two satellite centers strategically located within Palau. The purpose of the CHCs is to improve the health of Palau’s underserved communities and vulnerable populations by assuring continued access to affordable, comprehensive, and quality primary health care services. In delivering all required primary care services, either directly or through established arrangements, to the general population, the Community Health Centers will ensure continuity of services including secondary and limited tertiary care.

Major contributing factors preventing access to quality care stems from economical changes, environmental issues, increased social issues, and limited resources. Global warming effects contribute to the lifestyle changes affecting food security. Increased cost of living is limiting many residents from seeking healthcare due to lack of or limited transportation, health insurance, or unemployment. Underage drinking, teen suicide, unemployment rates are few of the many issues the country is currently challenged with. Palau continues to battle Non-Communicable Diseases, with heart disease and stroke, cancer, diabetes, injury and respiratory illnesses as the top five leading causes of death. Limited resources in the health sector, including a shortage of clinicians, health educators, case managers and other relevant staff also pose additional challenges in addressing these health issues.

The proposed project is based on the shared vision of Palau Community Health Center’s Governing Board in partnership with the Ministry of Health to enhance the existing Community Health Centers in Palau to better serve the communities, by ensuring availability of all required and additional services, accessible locations and hours of operation, coverage for medical emergency during and after hours, continuity of care and hospital admission, while at the same time ensuring that no one is denied service due to inability to pay.

Most health care resources are located in Koror. Babeldaob is connected to Koror by a bridge, and the closest state is Airai where roads are paved. All roads to other Babeldaob states are paved, but only the main highways; within each state, the roads are either gravel, dirt, or poorly maintained. Furthermore, the cheapest price of gas in Palau right now is \$4.55 per gallon. Even with paved roads, the cost of transportation poses a challenge in travel for most of our clientele who make less than

\$10,000 a year in annual income. The three closest outlying states, Peleliu, Angaur and Kayangel, are approximately 20 to 46 miles away from Koror, disconnected geographically by water and bad weather. A boat ride to each of these states, depending on the weather, can take up to 3-4 hours, costing about \$600 round trip. A trip to the Southwest islands of Sonsorol and Hatohobei (by ship only) can take 2-3 days. It is pertinent then that services are provided in all these sites or transportation is made available (land, water, air) to the residents.

The CHCs play a crucial role in Palau's ability to respond to the impact caused by the impact of natural and environmental shocks. According the Republic of Palau National Disaster and Risk Management Framework 2010 (amended in 2016), the nation is “vulnerable to a number of both human-induced and natural hazards, which potentially have a large impact on the economy and population. Over the past forty years, Palau has experienced shock events such as typhoons or tropical storms, droughts, and the collapse of the Koror-Babeldaob Bridge. While shocks in the past have been mostly ‘natural’ events, human- induced or technological disasters are expected to increase in the future, if national development is not regulated or mitigated properly. Palau, like many other Pacific Islands, is particularly vulnerable to the effects of shocks and stresses, including the impacts of climate change. Therefore, every effort should be made to recognize this danger and to protect lives and resources from the effects of extreme and disastrous events”. Level of risk is high for storm surge, drought, typhoon, sea level rise, oil spill, water contamination, solid waste disposal, wildlife affecting aircraft movement, increased sedimentation of watershed and coastal waters, fire, and emerging, re-emerging infectious diseases.

1.3.1 Current situation of CHCs

The level of care provided by the CHCs varies dramatically depending on the location. The two CHCs in Koror have full time doctors and nurses providing quality care within their existing facilities and have relatively minor issues and improvements to make. The four Babeldaob CHCs and Peleliu CHC have permanent nursing staff with doctors available on rotation, and provide a basic level of care within the limits of the infrastructure and equipment available to them. The two remote island CHC’s on Kayangal in the north and Angaur in the south, are currently closed, and only opened once per month or less when a roaming clinic is organized.

There are currently five doctors assigned to a rotation schedule to cover the nine CHCs, but in reality the remote clinics are rarely attended, and the Babeldaob CHCs also suffer from low doctor attendance. The total number of doctors in Palau is currently between 25 and 30 which represents a reasonably good ratio of more than 1 per 1000 population. Therefore the reason for poor Doctor attendance in the CHCs outside Koror could be that the overburden of patients attending the Koror facilities coupled with the excessive travel time and poor infrastructure in the CHCs preventing the doctors from being effective and discouraging them from attending. In addition to making improvements to infrastructure, better enforcement is needed from senior staff to ensure Doctors are attending as scheduled. The total number of nurses in Palau is currently about 100 which represents a strong ratio per population. However, the nursing qualification standards are relatively low, resulting in shortages in capability (skills). The MoH have a training agreement with Cuba through which nine additional Palauan doctors are due to graduate in 2019. These are planned to supplement the existing doctor team to provide full time doctor presence in the CHCs. It is recommended that a review of medical staffing needs to support future capacity service delivery on completion of the CHC upgrade programme, and future aspirations.

The CHCs are currently trying to provide acute care, addressing non-communicable disease, carrying out home visits, and providing women’s health screening. Monthly clinics also try to address more specialist care such as dental, eye, early stage medical or cardio logical support. The doctor rotation is not always effective, with frequent absences, lack of equipment, or poor quality working environment provided by the infrastructure.

The relatively poor quality of primary healthcare services in the CHCs (except Koror) means that people do not have confidence in the level of service available, and either wait too long before seeking medical attention and get very sick or die as a result, or they travel 2-8 hrs to the main hospital facilities in Koror and overload the services there. The most successful use of the CHC facilities is the clinic days which occur once a month or less and include a team of staff and services for a day.

There are three private clinics in Koror, and the perception is that the level of service and access to medicine is better, and waiting times are reduced. Medical insurance makes these services more affordable and the preference for some Palauans.

1.3.2 MoH Aspirations

The current Health Minister is committed to initiating improvements within his current term which runs to 2021. The strategy for improving healthcare across the country involves the following key features:

- 1) Enhanced primary care through the CHC upgrade programme
- 2) Enhanced quality and number of medical staff through a number of training initiatives
- 3) Electronic Health Monitoring programme – funded secured for a \$1.3m electronic health monitoring programme in 2018/19

The CHC upgrade programme will include providing infrastructure to support a minimum level of full time basic service at all CHCs, with strategic CHCs providing additional in-patient care, and a referral system to the central hospital for tertiary care. There is an additional referral system to an international hospital in Manila, Philippines for specialist care.

1.3.3 CHC Healthcare Provision

The table below outlines the minimum level of daily healthcare services which should be provided at all CHCs and assesses the current level of provision. The infrastructure at each CHC should be capable of providing the below services, although those requiring specialist staff will not be provided on a full-time basis.

Minimum level of daily healthcare services desired at all CHCs	Current typical level of service provided at Babeldaob and Island CHCs (see note 1 below)
Primary care and Emergency	Mostly
General medicine and pulmonary	Partial
Prevention and home visits	Partial
Dental care	Provided on monthly basis
Pharmacy	Yes, but tricky with unreliable power
Blood taking laboratory	Occasional
Cancer clinic	No
Electrocardiography (ECG) monitoring	No
Non Communicable Disease (NCD)	Currently only monthly

Vaccine storage with reliable power source	No – currently only monthly
Family planning, Prenatal and gynaecology	Occasional
Obstetrics (including ultrasound)	No
Well baby and Paediatrics	Currently only monthly
NOTES	
1	<i>The above care is generally well provided at the Koror CHCs (OPD and CCHCI)</i>
2	<i>In patient wards are already provided at CCHCI (Koror) and SCHC (Peleliu). Additional in patient wards are required at CCHCI and WCHC in Babeldaob</i>
3	<i>The desired level of service also requires a full review of existing equipment and provision of new equipment where required. Most existing equipment is outdated, in poor condition and not fit for purpose. An ambulance is also required at the Babeldaob and Peleliu CHCs (not in Koror or the remote island sites), to enable outreach programmes as well as emergency transfers to and from CHCs. Medical equipment or ambulances is not currently included in the budget for the CHC upgrade programme.</i>

Table 1 Medical services provision at the Babeldaob and Island CHCs

1.4 Objectives & Outcomes

The goal for this project is to build and maintain a sustainable health service delivery system that responds to the unique needs of Palau's population. This overall goal is supported by the following objectives:

- Improve CHCs physical infrastructure to respond to current and emerging healthcare needs
- Increase quality and access to primary healthcare and broaden the scope of care at primary level in the CHCs
- Improve working conditions to support safe and efficient service delivery
- Provide adequate space to enable patient focused care delivery and excellent outcomes for patients, clinicians and staff

Expected outputs for this programme are:

- Increased access, utilization, coverage and satisfaction of primary and secondary healthcare services through the CHCs
- Adequately equipped and functional CHCs
- Meeting the Presidential Proclamation No. 18-227, declaring 2018 as the Year of Good Health
- Meeting the indicators of the UN SDG3
- Ensuring good health services to support prosperity, longevity and sustainable livelihoods in line with the development of Palau

1.5 Constraints and Assumptions

Constraints

Limited funds requires prioritization of specific CHCs and scopes of work, refer to section 2.1 for Prioritization approach.

Given the size of country limited number of local construction companies will participate in tendering. Special attention to ensuring competitive process is required.

Assumptions

The private sector has been found to be capable to provide the required construction services to the project (see Appendix 6). However given the limited size of the construction sector in Palau a key assumption is that it is not preoccupied with other projects and is readily available to commence the project after contract issuance otherwise delaying the project implementation.

The works on the CHCs is scheduled such that services will be available in alternative CHCs as required. This has been agreed with the MoH but may result in some inconvenience during the works.

1.6 Beneficiaries and key stakeholders

The rural population of Palau will be the direct beneficiaries of the improved accessibility of health services of the CHCs and here particularly the population on the outlying islands whose travel to Koror is not only particularly costly in time (by boat) but sometimes impossible due to bad weather. The rehabilitation will also ensure that the facilities become accessible to people living with disabilities by ensuring accessibility by wheelchairs, upgraded bathrooms and treatment rooms.

In addition to the patients the medical staff will not only enjoy improved working conditions but also benefit from being able to provide more effective care and a wider range of health services. The ability to conduct more frequent special clinics by visiting doctors/nurses by providing accommodation close to the CHCs will benefit medical staff and patients alike. Overall, the medical staff of the central hospital in Koror will benefit from effective first level health services being provided at the CHCs reducing the ad hoc influx of outpatients requiring attention and reducing the ability to attend to more severe cases.

Major stakeholders in Palau in the project resulting in improved CHCs are:

- Ministry of Health: in their overall responsibility to improve health services in Palau and implementation of their Strategy
- Community Health Centre Board: their mandate is to improve the health status of the patients in the Republic of Palau by assuring affordable delivery of quality health care services, provide equitable access to the health care services, and securing effective and productive health care service providers; all regions of Palau are represented on the board
- Governors and traditional leaders: in their direct responsibility to improve the lives of their constituencies and ensure the well being of community members
- Community groups, health related NGOs: improved CHC infrastructure supports their mandate for improved health services to the wider Palau residents and community members in particular
- Government entities responsible for disaster preparedness: improved resilience to natural disasters and proper emergency communication setups
- Private Sector: construction opportunities that also may be replicable in similar setups throughout Micronesia

UNOPS and the UN family:

- UN RC (Office): serving the wider Pacific and ensure "nobody is left behind"
- WHO: in line with WHO Country Cooperation Strategy 2018-2022 : Palau
- THOH: diversifying its portfolio and demonstrated ability to provide critical services in the Pacific
- Asia and Pacific Region Regional Office: expansion of services to the Pacific in line with the strategic approach of UNOPS to the SIDS; ensuring quality control through regional advisors in Infrastructure and Health Cluster

Donor:

- OSSC/India: increased visibility of India in the donor landscape and emphasis of India's importance as a partner in the Pacific

1.7 Outline business case

The project, as envisioned, will bring significant benefits to the rural population of Palau providing them with improved first level health care services in proximity to their residences. By avoiding unnecessary and expensive travel patients can realize cost benefits in time and costs seeking a wide range of essential services in the CHCs.

The savings realized by patients are to some extent offset by the increased cost of the service provider required to use more resources to decentralize health care. The cost benefit analysis has been conducted by MoH thoroughly to ensure that the disadvantage of higher operating costs is significantly outweighed by the benefits of providing the envisioned services closer to the population through nine CHCs.

The costs of the intervention is estimated at between 1.5 and 2.6m USD and is effectively used to significantly improve and expand services. The current health centres are existing structures which are in sufficiently good shape to be rehabilitated and, where necessary, expanded. While it is important to note that rehabilitation and upgrade most certainly is required now, it is equally important that a) the request for support to the CHCs has been voiced while the substance of the CHC is still intact (rehabilitation vs reconstruction) and b) basic maintenance has been carried out on the existing structures over the years with the MoH acknowledging the need to increase maintenance efforts to ensure an even longer lifespan of the rehabilitated structures.

The impact of the rehabilitated CHCs on the well being of the Palauan population will depend on a number of factors.

- Crucial for reaching the vision promoted by the MoH will be the ability to staff the CHCs (permanently and for visiting clinics) adequately.
- Changing demographics in the zones of attraction of each CHC could lead to imbalances in demand for services
- Delays in other MoH projects like the Electronic Medical Records leave CHCs to operate less efficiently

Above risks are mitigated by the MoH by rigorously and diligently focussing on the implementation of their strategy by cooperation with various partners and funding sources (Taiwan, US, Cuba etc.) and paying close attention to existing and forecasted needs.

Given the current situation and future vision of the CHCs, the benefits to be realized taking into account the disadvantages, costs, and risks the business case remains valid and the project should be considered to provide significant added value.

1.8 Alignment with the United Nations Pacific Strategy 2018-22

UNOPS' partnership with the Government of Palau for the implementation of the community health center rehabilitation project is fully aligned with the United Nations Pacific Strategy 2018-2022 signed between 26 UN agencies, funds and programmes, and 14 Small Pacific Island nations including Palau. The UNPS embodies a people centered, human rights based approach to development in the Pacific, seeking not to leave anyone behind by providing an umbrella framework for strategies that embody the UN's commitment to durable partnerships, responding to priorities in the Pacific region and reflecting on comparative advantages of the UN system. The Community Health Centre Rehabilitation project supports the following UNPS outcomes:

OUTCOME 2: GENDER EQUALITY: by contributing to the development of health facilities that will lead to a measurable reduction in adolescent birth rates, ensuring essential health services for women and girls, and improving young people's access to and reproductive health services, and gender-inclusive family life education. Priority through the project will also be given to strengthening the

capacity of the Government of Palau in the health sector to adequately respond to the needs of women, children, and girls

OUTCOME 4: EQUITABLE BASIC SERVICES: by strengthening health systems and the health workforce through adequate health facilities able to cater to local populations and health needs. The project in fact supports the UN's ambitions to assist countries in the pacific in developing a comprehensive health system, focused on the quality of service delivery, promoting strengthened investment in sexual and reproductive, child and maternal health, and nutrition.

2 Project Approach

2.1 Preliminary Assessment

In order for UNOPS, together with the MoH, to develop a comprehensive project proposal a preliminary assessment of each community health center and surrounding was conducted during a two week mission to Palau (see details of itinerary in the appendices). This preliminary assessment allows for sound recommendations on the scope of upgrades required, a prioritization of activities under different scenarios, an accurate budgeting of costs and schedule of activities but also serves as the necessary basis for successful tender processes, accurate execution of rehabilitation works and quality control.

2.1.1 Objectives of the preliminary assessment

Specific objectives of the initial assessment were to:

- a) Define the needs at each CHC for resilient and sustainable infrastructure to support quality service delivery in the long term, including consideration of:
 - Location (access for patients and exposure to hazards)
 - Building Condition
 - Energy performance
 - Secure Energy Supply
 - Secure Water Supply
 - Waste Management during operation
 - Communication
 - Durability of materials
 - Maintenance requirements to avoid similar deterioration occurring in the future
- b) Identify staffing issues and requirements
- c) Identify other CHC intervention programmes which could be combined into this upgrade programme
- d) Understand the local construction environment to inform the implementation approach

2.1.2 Scope of the preliminary assessment

The focus was on the physical infrastructure assets of the nine CHC facilities in Palau. However, the assessment took a holistic approach to support a resilient infrastructure outcome, and also considering broader issues such as staffing the facilities, ongoing maintenance requirements, reliability of key utilities, equipment, and connectivity to the overall health system.

The community health centers are listed in Table 2 below and shown in Figure 3.

#	Clinic	Reference	North	East	Altitude	Catchment	Annual Usage	Journey to Koror Hospital
Babeldaob	1 North Community Health Center,	NCHC	7°41'43.8"N	134°37'51.8"E	highground	729	601	60 mins by car
	2 East Community Health Center,	ECHC	7°29'27.2"N	134°37'13.4"E	highground	850	412	45 mins by car
	3 West Community Health Center,	WCHC	7°31'42.7"N	134°33'24.8"E	highground	817	440	30 mins by car
	4 Central Community Health Center Two, Airai	CCHCI	7°21'31.8"N	134°32'40.4"E	highground	2789	401	20 mins by car
Koror	5 Central Community Health Center One	CCHCI	7°20'21.9"N	134°28'23.7"E	highground	11444	2657	10 mins by car
	6 Out Patient Department	OPD	7°21'12.4"N	134°27'50.8"E	<5m		7028	Located within the hospital
Islands	7 Kayangel Community Health Facility	KCHC	8°4'52.0"N	134°43'6.4"E	<5m	54	34	2-5 hrs by boat (or not at all) depending on sea
	8 Peleliu Community Health Center	SCHC	7°1'49.4"N	134°14'58.5"E	<10m	549	492	0.5 to 1 hrs by boat. Airstrip in use.
	9 Angaur Community Health Center	ACHC	6°54'16.8"N	134°7'48.4"E	<5m	119	68	1-3 hrs by boat (or not at all) depending on sea

Table 2 All nine Community Health Centers were included in the preliminary assessment (please see attached Excel file for a more readable version – Tab Locations).



Figure 3 Location of nine community health centers as illustrated using Google Earth

In order to manage the ambitious targets of the MoH, they have suggested a phased approach to this programme which would also include an upgrade to the main hospital:

- Phase 1: CHC's upgraded by priority – Due to budget constraints, this proposal is for Phase1A which includes as much of the prioritised upgrades as possible within the USD1.5m budget limit. It also outlines the scope for Phase1B, which ideally should follow on immediately from Phase 1A as it is required for full operation of all CHC facilities.
- Phase 2: Refurbish Koror Hospital – to enable continued operation for the next ten years before future relocation away from the current heavily exposed coastal location. This phase should include the OPD health center which is therefore removed from the Phase 1 priorities.
- Phase 3 – Relocate Melekeok CHC to a larger more accessible site to enable an inpatient ward to be incorporated to suit the growth plan for the Capital State. This also means that the ECHC in Melekeok is also removed from the Phase 1 priorities.

The scope of the preliminary assessment which forms the basis for the present proposal relates to Phase 1 only.

2.1.3 Methodology of the preliminary assessment

This proposal is based on the findings and recommendations of the preliminary assessment, which was conducted through a combination of desk based research, field visits to the CHC sites, and

consultations with multiple stakeholders with relevant experience in Palau. This was carried out by UNOPS, led by Joseph Stables, the Regional Infrastructure Advisor for Asia and Georg Eichhorn, the Pacific Liaison Manager, who visited Palau for a two week period in July 2018, and in close collaboration with the Ministry of Health.

Activity	Description
Desk Study	Research of context, background, related works and programmes, stakeholders, hazards, construction sector capacity, medical service provision statistics, etc.
Consultations	Carry out consultations with wide variety of stakeholders from medical practitioners, government and local authorities, and private sector to understand needs, challenges, and perspectives.
Site Assessments	Visit each site, carry out rapid visual assessment to determine infrastructure needs to inform upgrade programme
Analysis & Reporting	Assess information gathered through the above activities, collaborate with Ministry of Health to agree recommendations for upgrade programme

Table 3 Approach to developing project proposal

2.1.4 Key findings from the Preliminary Assessment

Existing Infrastructure Conditions

With the exception of the two in Koror, most CHCs were built between 15 and 25 years ago, are generally in poor condition and not fit for purpose.

They have suffered challenging climatic conditions including high wind, storm surge, heavy rain, and salty and humid conditions affecting material durability. They have also suffered from neglect and poor maintenance. There is a maintenance team, but it tends to focus on gardening, cleaning, water testing and fixing essential items once they have broken. Maintenance is not budgeted sufficiently, and there is a lack of maintenance strategy, processes, and expertise.

The poor quality of infrastructure creates an environment which doctors and nurses do not like to work, compounding the poor staff attendance and undermining patient's ability to rely on services and leading to lack of patient attendance.

Based on geography, building condition, and building typology, the CHC buildings can be broadly categorized into three categories; the Babeldaob sites (x4), the island sites (x3) and the Koror sites (x2). In terms of building typology, all the CHCs are single storey masonry or masonry infill RC frame buildings. The roof structures are either timber trusses (mostly), or RC flat roofs with timber truss covering (SCHC and WCHC), or sloped tiled RC (OPD).

The Koror sites were in reasonably good condition, with only minor issues in need of attention. The Babeldaob and island sites had the following common issues:

- Corroded or damaged roof covering or lack of sealed fixings causing leaking and further damage to building
- Roofs generally well fixed down, but often suffer damage from tree or communications mast falling on top
- Lack of sufficient insulation in roof leading to excessive solar gain and hot internal environment, and costly cooling demands
- Unsealed windows resulting in leaks, and poor quality internal environment

- Termite infested timber, especially furniture, doors, partitions, and ceilings
- Rusting doors and windows, especially in close proximity to the sea
- Weak, undersized, blocked or degraded guttering failing to collect rainwater effectively and leading to water damage to the building
- Lack of outside drainage leading to erosion and water damage to building
- AC units provided in discreet rooms creating large temperature differentials between rooms creating humidity and mould problems. Lack of AC unit control and maintenance means they are often overworked and burnout. AC unit condensation leakage is not managed and leads to building damage and mould. AC units are installed haphazardly blocking and penetrating windows leading to dark internal environments.
- Water provision – rain water harvesting is generally attempted, but often ineffective. Water storage is provided but often not sized appropriately or poorly maintained. Water filters are generally installed and regular testing takes place.
- Energy provision – Energy supply is unreliable which undermines service provision and ability to have a well stocked pharmacy. Generators are provided in two facilities.
- General poor maintenance has resulted in dirty environments with poor quality or broken furniture and equipment.

The Palau Disaster Management Agency has identified the crucial role that the CHCs play in post disaster events, especially considering that response and recovery resources are limited, populations are spread out, and response times are slow. CHCs need to be resilient to the risks posed by natural hazards in order to provide emergency shelter, emergency healthcare, and coordination hubs. This requires robust buildings, back-up power, water and communications, and all well maintained.

Areas for Improvement

The approach of the UNOPS programme is to provide quality interventions and provide long term outcomes for enhanced medical service provision in facilities which are comfortable, fit for purpose and well maintained.

In order to address some of the above common findings in a systematic way, the following themes have informed the specific recommendations at each facility:

- Reduce energy demand by improving fixtures and fittings (e.g. LED lights, upgrade wiring to prevent losses), and insulating roofs and using white or silver surfaces to minimise solar gain.
- Reduce energy costs by conforming with the Government policy on promoting solar energy through use on government facilities
- Security of energy supply by providing solar back up where a generator is not already installed. This aligns with the current Government policy to increase the supply of solar energy, especially on government buildings.
- Sufficient water supply and storage capacity through a combination of rain water harvesting with appropriate first flush devices fitted to control debris from roofs, mains top up, filtering and testing.
- Ambient internal environment by seal doors and windows, insulating roof, and providing split AC units with automated controls to cool whole facility. This will reduce burden on existing isolated units and avoid mould and damp issues associated with large temperature differentials within the building
- Material quality to avoid rust, rapid degradation and termite infestation. Materials should be appropriately specified and close monitoring on site required to ensure quality of materials and workmanship
- Remove all termite affected elements and fumigate, replace with treated timber or alternative materials which do not attract termites.
- Remove secondary timber roofs and repair concrete roof slabs to avoid double structure and hidden maintenance issues

- Redundancy in communication options to enhance communication during emergencies or when the power is down, using a combination of VHF, mobile phone and satellite phone technology
- Hurricane shutters to protect the windows during adverse weather, and to provide enhanced security
- Provide sufficient space to suit service needs, particularly the provision of a new laboratory at each CHC for simple blood testing etc
- Consideration of disability access, and different gender requirements for provision of welfare facilities
- Fix leaks and provide drainage around building to avoid ponding for mosquito breeding, avoid damp, mould and decay of building elements, including management of condensation from AC units
- Maintenance strategy accompanied by a maintenance manual and handover training for each facility. [The strategy will inform a budget required which will likely increase from the current allocation = this additional budget is not included in the UNOPS programme and should be factored into the Ministry of Health future budgeting]. The maintenance strategy should specifically cover the following common issues:
 - Building elements (Roof covering/roof structure/ ceiling/walls/doors/windows/ fixtures/fittings/ furniture)
 - Water supply (gutters, downpipes, tanks, filters, pumps)
 - Waste water (surface drainage, waste water network / septic tanks)
 - Energy supply (Solar/generators/distribution network/outlets/fittings)
 - Air Conditioning units (leaks/temperature controls)
 - Comms (VHF/mobiles/satellite)
 - Medical Equipment
 - Dealing with termites
 - Dealing with Singapore Ants
 - Cleaning
 - General repairs and painting

Prioritization & Phasing

This proposal is based on the recommendations from the preliminary assessment, and in collaboration with the MoH objectives. The approach to prioritization for Phase 1 has been agreed with the Ministry of Health is as follows:

1. Complete full recommendations at individual sites rather than reducing the scope at each site. In this way we can provide high quality interventions with longer term impacts and demonstrate successful outcomes to secure funding for future phases at other sites if needed
2. Refurbish existing facilities rather than building new facilities, to enable as many sites to be addressed as is reasonably possible
3. For the island sites which require good quality accommodation to staff the facilities, priority is given to the medical facilities themselves on the understanding that accommodation could be available for rent within the existing community in the short term (a budget commitment would be need from the Ministry of Health for this) - The proposed accommodation interventions at the three island sites have now been moved into Phase 1B.
4. Include the development of a maintenance strategy, toolkit, and training
5. Include backup power, communication equipment, and disability access
6. Consider medical equipment, and ambulance provision (but exclude from the budget)

Following the above logic, the prioritization of sites and interventions is as follows:

Site	Priority	Phase	Justification
NCHC	High	1	Significant distance to existing services in Koror. Location is good – refurbish existing facility. Demand is strong.
WCHC	High	1	Location is good – refurbish existing facility. Demand is strong serving three states. Surfacing of access road should be provided by the state and therefore will likely fall outside of the scope of the UNOPS programme
CCHCII	High	1	Biggest catchment outside of Koror, and currently providing inadequate scale of service. Potential to reduce significantly reduce the burden on Koror facilities.
Kayangal (KCHC)	High	1	Most remote island, most extreme exposure. Vertical extension to provide doctors accommodation incurs a significant cost and requires additional studies and may be best suited for a separate programme or future phase
Peleliu (SCHC)	High	1	Relatively large population, also supports surrounding islands
Angaur (ACHC)	High	1	Relocation to less exposed site with existing building in need of refurbishment.
ECHC	Medium	3	Relocation and more significant facility required due to proximity to Capitol Building and expected growth for the state – should be commissioned under separate programme or future phase.
CCHCI	Low	1	5 years old, a bit small, but new three storey shared office is planned which will create more space in CHC for medical service. General maintenance needs to be addressed.
OPD	Low	2	Linked to main hospital, all services currently functioning ok with some limitations on space and maintenance issues. Maintenance issues to be addressed directly by MoH or fall into Phase 2 hospital renovation

Table 4 Prioritization of recommended interventions

2.2 Recommendations for each CHC

Key findings and infrastructure recommendations for each of the community Health Centres are summarised in Appendix 4. A summary of recommendations for Phase 1 for this proposal is outlined below:

2.2.1 North Community Health Center, Ngerchelong, Babeldaob (NCHC)



The recommendation for the NCHC is to refurbish the existing facility to provide:

- Replacement better quality insulated roof covering to provide long term protection from leaks, and painted white to prevent solar gain
- Solar energy installation to supplement mains energy with more reliable energy source able to provide power to key electrical services such as Air conditioning and refrigerators to store medicines, IT and communication systems, etc.
- Rain water harvesting upgraded to provide functioning system to provide sufficient storage during droughts when mains supply is not running
- Review and design of disability access and welfare facilities
- All windows upgraded to provide glazed sealed and controlled internal environment
- Air Conditioning units ungraded to enable ambient temperature control of internal environment. Clear maintenance strategy to include AC units to avoid leaks and misuse
- Hurricane shutters fitted to all windows
- All termite affected partitions, doors, and furniture to be removed (and building fumigated) and replaced with quality treated alternatives
- General repair and painting of all building elements
- Review of equipment needs (not included in this proposal)
- Provision of Ambulance (not included in this proposal)

2.2.2 East Community Health Center, Melekeok, Babeldaob (EHC)



The works required at this CHC are significant and are recommended as part of a future phase and is not included in this proposal.

The Ministry of Health have requested to build a new facility to provide mini hospital services with 10 to 15 bed outpatient ward. The existing facility would be a suitable to be refurbished and converted to accommodation for medical staff.

2.2.3 West Community Health Center, Ngeremlengui, Babeldaob (WCHC)



The recommendation for the WCHC is to refurbish the existing facility to provide:

- Replacement better quality insulated roof covering to provide long term protection from leaks, and painted white to prevent solar gain
- Solar energy installation to supplement mains energy with more reliable energy source able to provide power to key electrical services such as Air conditioning and refrigerators to store medicines, IT and communication systems, etc.
- Review and upgrade of accessibility and welfare facilities
- Rain water harvesting upgraded to provide functioning system to provide sufficient supply and storage during droughts
- All windows upgraded to provide glazed sealed and controlled internal environment
- Air Conditioning units ungraded to enable ambient temperature control of internal environment. Clear maintenance strategy to include AC units to avoid leaks and misuse
- Hurricane/security shutters fitted to all windows – which must be openable from the inside to enable escape in the event of emergency
- All termite affected partitions, doors, and furniture to be removed (and building fumigated) and replaced with quality treated alternatives
- General repair and painting of all building elements
- External doors and locks to be upgraded to provide enhanced security
- Closed Circuit Television (CCTV) system to be installed to cover all entrances and the pharmacy
- The connection to the main road to be upgraded to provide tarred surface access
- Review and upgrade of communications equipment
- Review of equipment needs (not included in this proposal)
- Provision of Ambulance (not included in this proposal)

2.2.4 Central Community Health Center Two, Airai, Babeldaob (CCHCII)



The recommendation for the CCHCII is to refurbish the existing facility and build an adjoining / adjacent building to expand the capacity and enhance the level of service provided to match that of CCHCI. The extension has been moved into Phase 1B. Phase 1A involves the refurbishment only.

Refurbishment of existing facility to include:

- General repair and painting of all building elements
- Roof repairs and painting white to prevent solar gain
- Solar energy installation to supplement mains energy with more reliable energy source able to provide power to key electrical services such as Air conditioning and refrigerators to store medicines, IT and communication systems, etc.
- Review and upgrade of accessibility and welfare facilities
- Rain water harvesting upgraded to provide functioning system to provide sufficient storage during droughts when mains supply is compromised
- Air Conditioning units ungraded to enable ambient temperature control of internal environment. Clear maintenance strategy to include AC units to avoid leaks and misuse
- Hurricane/security shutters fitted to all windows – which must be openable from the inside to enable escape in the event of emergency
- Install partition in the reception area to enable secure storage of records within the reception and free up space in existing medical records room for clinical services
- Review and upgrade of communications equipment
- Review of equipment needs (not included in this proposal)
- Provision of Ambulance (not included in this proposal)

2.2.5 Central Community Health Center One, Koror (CCHCI)



The recommendation for the CCHCI is to make general maintenance & repairs to the existing facility and to move the administrative offices to an alternative building to create additional space for medical services. The maintenance & repairs should be covered in Phase 1B. The relocation of office space relies on alternative accommodation being made available which is outside the scope of the project. The MoH will need to reallocate the space usage at a future point in time.

It is understood that a new state building is already planned to be built on the adjacent site to accommodate a number of administrative offices including those within the CCHCI1. However, whilst the maintenance and repairs are included in this proposal, moving the administrative offices out of the building will rely on the availability of alternative accommodation and therefore is not included in this proposal.

Repairs for existing facility to include:

- Gutters
- Air Conditioning units to be maintained with condensation overflow directed into drainage channel and away the building structure.
- Removing fixed window bars which create a safety hazard in the event of emergency escape, and also provide poor protection during typhoon weather
- Hurricane/security shutters fitted to all windows – which must be openable from the inside to enable escape in the event of emergency
- General repair and painting

2.2.6 Out Patient Department, Koror (OPD)



The works required at this CHC are relatively minor and should form part of the overall hospital refurbishment, and are not included in this proposal

The recommendation for the OPD is to provide general maintenance to fix leaks and furniture, and consider relocating records office to alternative part of the hospital complex (or new building) to free up space for medical services.

A broader recommendation is to review the main hospital building for repairs and space usage (which would include the OPD). A thorough structural review of the main hospital building was carried out in 2008 which led to a number of recommendations for upgrade options. This should be reviewed and followed up on in order to obtain funding to carry out these works, or at the minimum, the safety critical elements of these works.

2.2.7 Kayangel Community Health Facility (KCHC)



The recommendation for the KCHC is to refurbish the existing facility and extend vertically to provide doctors accommodation as well as higher level emergency refuge and service provision space in the event of storm surge.

[The vertical extension for the provision of doctor's accommodation is not included in Phase 1A proposal, but rather moved to Phase 1B. In the short term, doctors accommodation should be rented from within the community at MoH cost]

The refurbishment of the existing facility should include:

- Remove timber roof and refurbish concrete roof slab
- All windows upgraded to provide glazed sealed and controlled internal environment
- Air Conditioning units ungraded to enable ambient temperature control of internal environment. Clear maintenance strategy to include AC units to avoid leaks and misuse
- Hurricane/security shutters fitted to all windows – which must be openable from the inside to enable escape in the event of emergency

- All termite affected partitions, doors, and furniture to be removed (and building fumigated) and replaced with quality treated alternatives
- Removal of internal partitions to create larger rooms
- Review and upgrade disability access and welfare facilities
- Review and improve communications equipment
- General repair and painting
- Review of equipment needs (not included in this proposal)

2.2.8 Peleliu Community Health Facility (SCHC)



The recommendation for the SCHC is to refurbish the existing facility and provide alternative new doctors accommodation on site, to include:

- Remove timber roof and refurbish concrete roof slab
- Solar energy installation to supplement mains energy with more reliable energy source able to provide power to key electrical services such as Air conditioning and refrigerators to store medicines, IT and communication systems, etc.
- Review and upgrade of accessibility and welfare facilities
- Rain water harvesting upgraded to provide functioning system to provide sufficient storage during droughts when mains supply is compromised
- AC upgrades to provide split systems only, with fixed leaks, controlled condensation overflow, and internal temperature controls
- Hurricane/security shutters fitted to all windows – which must be openable from the inside to enable escape in the event of emergency
- Removal and replacement of termite infested materials, including removal of ceiling and repair of exposed RC slab ceiling
- Remove doctors accommodation and refurbish into additional medical services space
- CCTV system installed, especially if staff are no longer living on site
- General repair and painting
- Review and upgrade communications equipment
- Review of equipment needs (not included in this proposal)
- Provision of Ambulance (not included in this proposal)

[The provision of new doctors' accommodation is not included in Phase 1A, but rather moved to Phase 1B. In the short term, alternative doctors' accommodation must be rented from within the community at the MoH cost.]

2.2.9 Angaur Community Health Facility (ACHC)



The recommendation for the ACHC is to refurbish an alternative facility into a health centre, and refurbish the existing facility into doctors' accommodation.

Refurbishment of alternative site into health centre to include:

- Remove overhanging trees
- Replace roof covering with insulated high quality material, either shiny silver or painted white to reduce solar gain
- Provide internal partitions to improve layout for medical services
- Provide glazed windows and new doors to create AC controlled internal environment
- General repair and painting of all building elements
- Install new electrical distribution network and fixtures and fittings
- Replace bathroom facilities and plumbing fixtures and fittings
- Design for disability access and welfare facilities
- Install rain-water harvesting system to supplement water supply
- Install solar system to supplement energy supply
- Provide external shelter for overspill waiting area during busy clinic days
- Provide communications equipment
- Provide medical equipment (not included in this proposal)



[Refurbishment and conversion of existing facility into doctors' accommodation is moved into Phase 1B. In the short term doctors accommodation should be rented from within the community at MoH cost.]

The Phase 1B works at the existing facility should include:

- *Remove overhanging trees*
- *Demolish existing unsafe extension*
- *Replace roof covering with insulated enhanced quality materials and painted white to protect and reflect solar gain*
- *Install glazed windows and hurricane shutters*
- *Remove and replace all termite infested materials*
- *Provide fully fitted kitchen*

- Fit out for accommodation including beds, furniture, washing machine, cooker, fridge, AC units, hot water boiler etc

2.3 Phase 1 Budget

Phase 1 is split into Phase 1A and Phase 1B for budgetary purposes, to align with an initial budgetary cap of \$1.5m.

	Facility	Reference	Recommendation	Phase 1A
Babeldaob	North Community Health Center, Ngerchelong, Babeldaob	NCHC	Refurb existing facility	\$ 271,854
			Convert existing facility to doctors accommodation - under a future phase	
			Build new facility similar to CCHCI - under a future phase	
Babeldaob	West Community Health Center, Ngeremlengui, Babeldaob	WCHC	Refurb existing facility	\$ 268,060
			Pave access road - by others	
Babeldaob	Central Community Health Center Two, Airai, Babeldaob	CCHCII	Refurb existing facility	\$ 151,313
			Extend / Construct new facility to increase services similar to CHC One	
Koror	Central Community Health Center One, Out Patient Department, Koror	CCHCI OPD	Maintenance works at existing facility	
			Major repairs should be part of the future hospital upgrade programme	
Islands	Kayangel	KCHC	Refurbish existing facility	\$ 184,122
			Extend vertically for doctors' accommodation	
	Peleliu	SCHC	Refurb existing facility	\$ 268,632
Build adjacent doctors accommodation				
Angaur	ACHC	Refurb existing facility into doctors accommodation		
		Refurb alternative facility into small medical clinic	\$ 350,377	
				\$ 1,494,357

Table 5 Costs for recommendations by site (please see attached Excel file for a better readable version – Tab Cost Summary)

The items highlighted in blue and purple in the table above are prioritised for Phase 1. The outline budget provided by the Government of India is \$1.5million which covers Phase 1A. These items are shown in blue and includes all the refurbishment / needs at the 6 priority sites. The items in purple are also needed to support effective healthcare provision, including the three doctors accommodation at the island sites, the refurbishment of CCHCI, and an extension of the medical facility at CCHCII. Whilst it is much more cost effective to carry out Phase 1A and 1B concurrently, the budget requirements have necessitated the split of Phase 1 into 1A and 1B. This proposal is for Phase 1A only and will be updated to include Phase 1B when required. The items in grey in the table above are planned for future phases.

A breakdown of costs is provided in Table 6, with further detail provided on request.

Cost Description	Amount (USD)
Design & Construction	1,013,230
CIP Supervision support	20,000
Personnel	185,400
Travel	16,080
Operating Costs	12,408
Handover	6,000
Other Direct Costs - CMDC, LMDC, HQPCP)	102,800
Management Fee (Indirect Cost)	94,914
Total UNOPS COST	1,450,832

UNOSSC GMS 3% (withhold directly from the funding source)	43,525
Total PROJECT COST	1,494,357

Table 6 Budget Overview

The costs summary presented in table above are based on the following assumptions:

- Costs are estimates and will be confirmed on procurement of design services and construction contracts
- 1 x UNOPS full time international staff in country including travel and equipment
- Remote project support staff from the Thailand Hub office, the Asia Regional Office and the Copenhagen HQ office as required for quality assurance, finance and procurement support,
- Develop Maintenance Strategy, Manual, and training
- Support from MoH for 1x UNOPS staff in terms of office space (including printing and power), and site travel (not including fuel or drivers)
- Ad hoc pro bono advisory support from CIP during the planning and design stage, and costed into the site supervision stage as agreed

2.4 Exclusions & Additional Recommendations

There are a number of important issues to address which are not included in the scope of the UNOPS programme, but require some commitment from the Ministry of Health and other partners as they are inextricably linked the UNOPS programme's success:

1) Developing staff to provide services is not part of the UNOPS scope, but this is a critical factor in the success of the programme to support enhanced community health facilities and should therefore be carefully planned by the Ministry of Health through other partners and programmes. The following specific recommendations have been made within the technical report, refer to section 2.2:

- a) Review of nursing education and qualifications
- b) Better enforcement of doctor attendance at CHCs
- c) Review of medical staffing needs to support future capacity service delivery on completion of the CHC upgrade programme, and Phase 2 and 3 aspirations
- d) Community Health outreach programme
- e) Telemedicine programme

2) Ring-fencing a reasonable maintenance budget is not part of the UNOPS scope, but this is a critical need for the long-term success of the programme. Maintenance is a key issue that has not been provided effectively to date using current budgets and strategies. A new maintenance strategy, manual and handover training will be included in the UNOPS programme, and this should be supported by a suitable maintenance budget provided by the ministry of health to undertake the activities in the strategy.

3) The provision of medical equipment and ambulances, is included in the preliminary assessment report, but not in the proposed budget for the programme - funding for these items should be sourced from elsewhere

2.5 Schedule

The proposed project schedule for Phase 1A is shown in Appendix 2. The timescale provided includes procurement of both design and construction and is a total of 17 months plus 3 months of contingency. There is also a 12 month Defect Notification Period after completion. The proposed schedule is indicative and based on the scope and the implementation strategy. An overall contingency of 3 months has been included in the schedule. Any additional delays beyond the control of UNOPS may incur additional costs. Progress will be monitored carefully, and any risks of delay will be communicated in advance to agree a course of action to mitigate the risks or secure additional funds to accommodate the delays.

2.6 Implementation Strategy

The implementation of this project will be managed by UNOPS on behalf of the Ministry of Health, UNOSSC, and the Government of India. The implementation strategy outlined below is informed by an assessment of the construction industry in Palau (see Appendix 6) and in discussion with the Ministry of Health.

2.6.1 Project Board

The project will set up a Project Board for the purposes of maintaining a sound system of internal control, ensuring effective management systems and financial monitoring and control systems. The Project Board will be appointed on initial set-up of the project and will meet on a quarterly basis or more frequently, including on an *ad hoc* basis, as may be deemed appropriate. The Project Board will comprise three main elements, in accordance with PRINCE2 principles:

- **Project Executive:** The Director and Representative of UNOPS THOH will act as Project Executive throughout the lifecycle of the project. The Project Executive will have overall responsibility for successful delivery of the project, in consultation with the Senior User and Senior Supplier.
- **Senior Users:** The Ministry of Health will represent the senior users to assure that the project conforms to specified requirements, specifications and standards.
- **Senior Suppliers:** The Senior Supplier will be represented by the Government of India and UNOSSC as the donor, and UNOPS THOH as the Implementing Partner. The Senior Supplier will have a vested interest in ensuring donor funds are allocated and disbursed in accordance with the agreed project documentation. UNOPS will, therefore, be the principal supplier, and will be responsible for overall delivery of the project, to agreed specifications, including meeting budget and time constraints.

2.6.2 UNOPS Project Team

A Project Manager (PM) will be appointed who will be ultimately responsible for delivering the project's specified outputs, and reporting accordingly, to the Project Board. The Project Manager will be based in Palau, and supported remotely from the Thailand Hub office, the Asia regional office, and the headquarters in Copenhagen as required, particularly for HR, finance, procurement, and communications support.

The MoH is exploring the possibility of supplementing the UNOPS PM with a local engineer to be seconded to UNOPS to report to the UNOPS PM and provide both project management and technical support, as well as knowledge sharing and capacity building. If confirmed, this role would be provided by the MoH as their contribution to the project and is not included in the budgeting for the project.

The UNOPS team will be in place for the duration of the project and will provide project management, contract management, engineering oversight, and quality assurance of the design and construction. They will work closely with the Designer to combine both local knowledge and international knowledge required to ensure construction is appropriate for the local context but also to achieve “better than before” results which are sustainable and resilient. This team will have strong project management and technical skills and experience. They will have knowledge of international best practices and access to information on enhanced techniques such as improved material durability, solar systems, etc.

2.6.3 Design Team

Given the repetition between the different sites, and the relatively small scale of the programme, the design phase should be carried out by a single design entity.

UNOPS would prefer to hire local consultants to carry out the design to support the local private sector, and to avail local knowledge. However, the local capacity for multidisciplinary design services which includes retrofitting, water, solar energy, sustainable and resilient design, material specifications, quality assurance, and maintenance handover training is fairly limited; to perhaps one or two consulting firms or combination of individual consultants. UNOPS may therefore identify design consultants from within the Pacific region, such as Guam. They will be supported by technical review from UNOPS engineer in Palau and UNOPS technical support team available remotely. The designs will meet UNOPS minimum quality standards which include relevant international best practice and Codes and Standards. The designs will go through a formal review process. Maintenance strategy, manuals, and training will be developed by UNOPS in collaboration with the consultants.

The design team will also provide site quality assurance during construction.

If the preferred approach to outsource the design to local or regional consulting firm proves challenging, UNOPS may wish to identify individual consultants with appropriate knowledge and experience and manage the design process by hiring them directly.

2.6.4 Construction Team

There are perhaps only one or two contractors in Palau with the capacity to cover the number and dispersed nature of the sites. Therefore, UNOPS will likely tender two contracts, one to cover the Babeldaob & Koror sites, and another to cover the three island sites. Different contractors will be selected based on their capacity to implement the contract to the required schedule, budget and quality across the specified sites.

The Bureau of Public Works Division of Capital Improvement Project (CIP) is responsible for signing the completion certificate for all construction works. The CIP has a mandate to support all government entities infrastructure needs, including both new construction and on-going maintenance of existing facilities. Existing records of public infrastructure is typically held by CIP.

CIP is to be part of the project team in order to maintain a good understanding of the works being implemented, as they will retain responsibility for retaining as built records and implementing future maintenance requirements.

It is envisioned that CIP provides site quality assurance support with engineers on the ground at each site during the construction stage. A separate budget line is included in the budget for the services to be provided by CIP and a separate Project Cooperation Agreement will govern UNOPS’

relationship with CIP. It is expected that CIP will also provide ad hoc advisory support during the planning and design stage, particularly related to local stakeholders, standards, and costs.

This will be supplemented by the Design team where appropriate and monitored by UNOPS using Fieldsite and specific site visits.

The overall management of planning, design, procurement, and construction will be coordinated by UNOPS through a dedicated in-country presence.

2.6.5 Provision of ongoing healthcare services during the works

The MoH has confirmed that the individual CHCs can be closed during the works, as they will be phased such that there will always be at least two CHCs operational at any time (one in Koror, one in Babeldoab remain open, and one of the six refurbished sites will be staggered to remain open).

2.6.6 Reporting

UNOPS standard reporting strategy will be adopted in accordance with Prince2 project management approach. As per the India-UN Fund guidelines, monthly progress updates (2 or 3 bullet points) are submitted by the project manager via email to UNOSSC, Secretariat and Trust Fund Manager of the India-UN Fund. This may include best available financing delivery figures, description of progress and challenges in project implementation and pictures or other materials on project activities.

Quarterly project progress reports are required for projects over US\$ 1 million by the India-UN Fund guidelines and is made against the work plan in terms of time, quality, cost, and risk management. The quarterly financial reporting will be made through the PDR modality.

In accordance with our environmental targets, reporting will be primarily electronic. Reporting will be coordinated by the project manager in Palau, with support from the communications officer in the Thailand Operational Hub office.

2.6.7 Communications and visibility

During construction, UNOPS will share weekly social media updates, and additional external communications illustrating progress and expected outcomes. This may be in the form of regular tweets, a project blog or website showing locations, photos, and personal profiles and stories from site. The India-UN Development Partnership Fund and Government of India will be given due credit for its role supporting this initiative, including at all public and media engagements, and through prominent display of the flag, logo or relevant partnership signage at all relevant occasions and opportunities.

2.6.8 Project Assurance

Project Assurance is a key aspect to successful delivery of a project, especially one facing the challenges in remote locations. The responsibility for effective Project Assurance rests with the Project Board. The Project Executive, on behalf of the Project Board, will assign UNOPS THOH Head of Programme (HoP) to facilitate overall Project Assurance. The HoP will monitor progresses against the project work-plan, independent of the project management structure, and will report to the Executive routinely, and the Project Board as required, reinforcing findings against set milestones and targets.

2.6.9 Quality Management

The project's Quality Management Strategy (QMS) will be fully aligned with UNOPS THOH Quality and Assurance Strategy, and will focus on ensuring the project is delivered on time, within budget and to the required, and pre-agreed, quality standards. A detailed quality plan will be submitted by the Project Manager for Project Board approval. The QMS will include, *inter alia*, the following:

- Confirmation of Senior Users' quality expectations
- Quality tolerances for all agreed outputs, including budgetary elements
- Acceptance criteria
- Quality responsibilities
- References to standards to be applied to support activities
- Change management procedures
- Configuration Management Plan

Quality control will be the overall responsibility of the Project Manager, who will be held accountable in this respect to the Project Board. Independently, the project will be subjected to quality inspection and testing throughout the construction stage, with findings being submitted directly to the Project Executive.

Supervision of works will be carried out in line with UNOPS standard supervision practices as detailed in UNOPS Infrastructure Management Plan. Contractor technical performance will be supervised on-site by the Design team and report directly to UNOPS to ensure that works are completed in accordance with the specifications, drawings and designs and also for the physical measurement of works and validating of payment requests.

2.6.9 Risk Management

There are a number of risks to the project, which have been identified with proposed mitigation strategy in Appendix 5.

Risk management will be the responsibility of the PM, who will report all risks, and their likelihood and impact, to the Project Board as and when necessary, including mitigation measures as appropriate, providing key summaries of risks (and issues) at every Project Board meeting. Risks (and issues) will be managed using the UNOPS risk and issue register online tool, which can be shared with project stakeholders if and when requested.

2.7 Sustainable Development

2.7.1 Sustainability

UNOPS prioritizes aspects related to social, economic and environmental sustainability, such as community engagement and national capacity development in order to deliver added value to our partners and their beneficiaries. With over 30 years of experience implementing and supporting humanitarian, peacebuilding and development projects, UNOPS approach to sustainability may be summarized as follows:

Sustainable infrastructure: UNOPS designs, constructs, rehabilitates and maintains infrastructure in some of the most challenging environments across the globe, from roads and bridges, to schools, hospitals and other public buildings.

Sustainable project management: At the core of UNOPS competencies is a proven capacity to manage peacebuilding, humanitarian and development operations, while ensuring the highest standards in quality, speed and results.

Sustainable procurement: Emphasizing efficient, transparent and cost-effective delivery of goods and services, UNOPS brings international best standards to its procurement activities.

2.7.2 Resilient Infrastructure

Infrastructure design solutions will be aim to achieve resilient outcomes. This relates to the physical asset being designed to be resistant to the natural hazards they are exposed to, and also providing opportunity for the local community to respond in the aftermath of natural disasters occurring. For the health centres, this will include typhoon fixings and shutters, as well as providing back up communications equipment, and consideration of robustness of water and energy supply services.

2.7.3 Health, Safety, Social, and Environmental Management

UNOPS Health and Safety and Social and Environmental (HSSE) System specifies aspects and identifies the controls mechanisms that should be put in place to mitigate the project’s impact. It also identifies and controls hazards related to the health, safety and welfare of all individuals involved in activities and facilities, partners, service providers, contractors and any other parties participating in UNOPS activities or visiting a UNOPS facility.

The Project Manager will be responsibility to develop a **Social Environmental Management Plan**, aimed at reducing environmental impacts during construction and a **Sustainability Management Plan**, to identify and monitor sustainability aspects and **Health and Safety Management Plans** to identify hazards in the workplace, assess them, plan and implement prevention and mitigating measures.

UNOPS places a high value on health, safety and environmental management considering them as integral to the quality management of its projects. To this end, UNOPS Health and Safety Management System helps manage risks and opportunities throughout each of the delivery stages of infrastructure projects. Likewise, UNOPS Environmental Management System (EMS) procedures are mandatory for all infrastructure projects. The EMS helps identify the environmental impacts of infrastructure projects, so that appropriate mitigation measures can be implemented to control them.

UNOPS operates under ISO 9001 certification for quality, ISO 14001 for Environmental Management on Construction Sites and OHSAS 18001 for Occupational Health and Safety.

2.7.4 Contributing to the Sustainable Development Goals

The project is aligned with the following UN sustainable development goals (SDGs):

<i>Goal</i>	<i>SDGs</i>	<i>Targets</i>	<i>Indicators</i>
Goal 3:	Ensure healthy lives and promote well-being for all at all ages	By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births	Proportion of births attended by skilled health personnel Neonatal mortality rate

		<p>By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births</p> <p>By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being</p>	<p>Mortality rate attributed to cardiovascular disease, cancer, diabetes or chronic respiratory disease</p> <p>Suicide mortality rate</p>
Goal 5:	Achieve Gender Equality and empower all women and girls	Ensure universal access to sexual and reproductive health and reproductive rights as agreed in accordance with the Programme of Action of the International Conference on Population and Development and the Beijing Platform for Action and the outcome documents of their review conferences	Proportion of women aged 15-49 years who make their own informed decisions regarding sexual relations, contraceptive use and reproductive health care
Goal 11:	Make cities and human settlements inclusive, safe, resilient and sustainable	By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities	<p>Average share of the built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities</p> <p>Proportion of persons victim of physical or sexual harassment, by sex, age, disability status and place of occurrence, in the previous 12 months</p>

Table 7 SDG Matrix

2.8 Gender Mainstreaming

Gender relations, social norms and values often set unequal parameters for men and women’s access to the use of, and control over, infrastructure services and facilities. Indeed, women are frequently found to benefit less than men from infrastructure and are sometimes negatively impacted by the “gender-blind” infrastructure projects. Infrastructure development however is not gender-neutral, and infrastructure interventions do not automatically result in inclusive growth.

These notions apply not only to the construction of new infrastructure but also in the redesign and refurbishment existing infrastructure assets, just like in the case of the Palau CHC, because gender equality is a human right and non-gender focused infrastructure designs can have major impacts on user’s experience and adequate service delivery. Women and men, girls and boys have equal rights, irrespective of ethnicity, age, sexual orientation or identity, and socio-economic status. Most countries have signed and ratified the Convention of Elimination of all forms of discrimination against women (CEDAW), with politically binding agreements/treaties have been signed by most states stipulating

gender mainstreaming, such as the Beijing Action Platform, the New Urban Agenda/Habitat III and agenda 2030 for sustainable development.

In order to ensure that gender is part of any intervention however consultation is key. Consultative processes that recognize the needs and wants of both women and men are found to improve the performance and sustainability of infrastructure projects. For example, consulting women can help businesses to reach an untapped segment of the market by identifying and incorporating gender concerns into project design and implementation. For this project, UNOPS has ensured that women and girls were consulted during the assessment phase, and UNOPS will keep engaging women and girls at all stages of the project cycle in order to identify potential gendered risks and design prevention/mitigation strategies.

Construction jobs are also an important focal point for gender impact. Women's empowerment through infrastructure works for women as both skilled and semi-skilled workers will be promoted during the lifecycle of the project through the recruitment and training of women in the infrastructure workforce, both as skilled and semi-skilled workers.

Focusing on women's specific needs as users of infrastructure could also help advance women's empowerment, while at the same time expanding product acceptability. Neglecting women's needs and priorities in the re-development of Palau's CHCs could also reinforce pre-existing gendered inequalities hindering women's access to, and benefits from, infrastructure projects.

The upgraded CHCs will provide specific benefits to female household members of the communities. The improved facilities will provide better and especially closer access to family planning and OB-GYN services including screening for breast cancer, PAPP and detection and treatment of STIs. The need to travel significant distances to the capital alone to obtain those services will be reduced or even eliminated in some instances.

The proximity of expanded services reduces significantly the time spent by mothers to access health services for their children. While currently mothers are most often the ones accompanying their children to Koror i.e. for inoculations the ability to store vaccinations at the CHC in the future will significantly reduce the need for travel.

Another positive effect of expanded services and proximity of the CHCs, observed by MoH, is the effect that men are more involved in family health issues and join the visit of spouses and children to the clinics. The positive effect of this on overall families is, that men traditionally in Palau are less inclined to seek medical help resulting in late detection and treatment of illnesses resulting in higher treatment costs and/or loss of income to the family.

3 Appendices

3.1 Appendix 1: Summary Table of Recommendations

3.2 Appendix 2: Proposed Schedule - Phase 1A

3.3 Appendix 3: Scope of works at each of phase 1 CHC sites

The above appendices are shared in a separate Excel file due to the limitations of Word to accept those inserted files to be readable.

3.4 Appendix 4: Key CHC Findings from Preliminary Assessment

3.4.1 North Community Health Center, Ngerchelong, Babeldaob (NCHC)



Figure 4 Photo (UNOPS) showing front elevation of NCHC

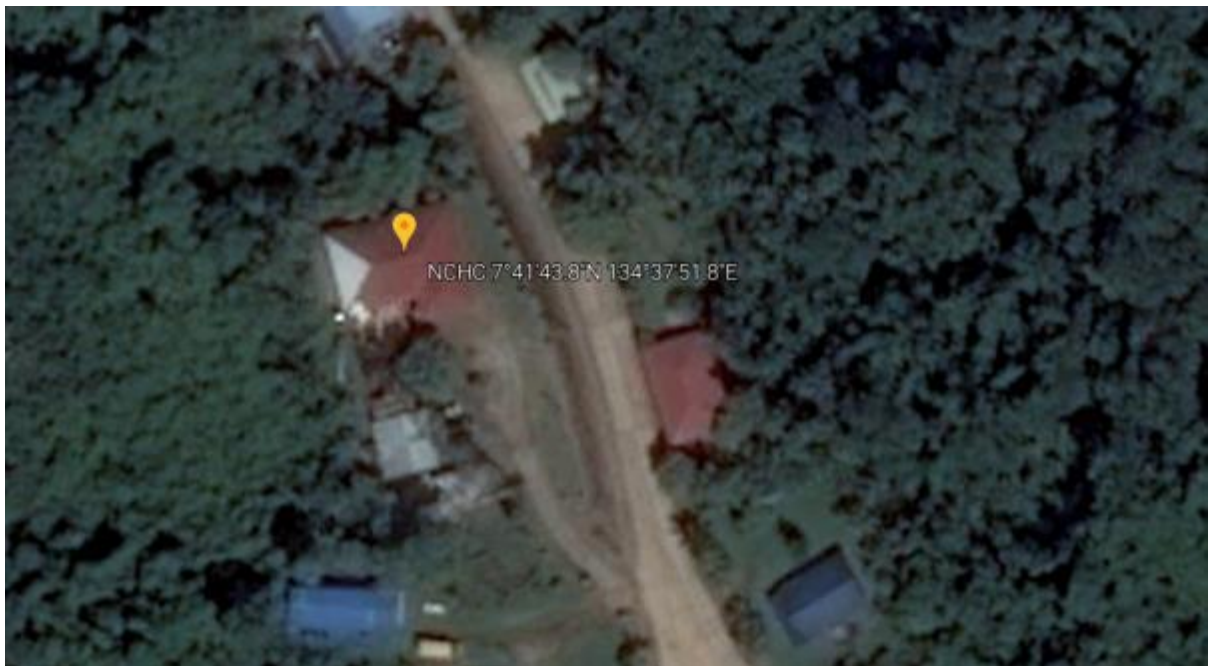


Figure 5 Aerial View (Google) of NCHC site with coordinates

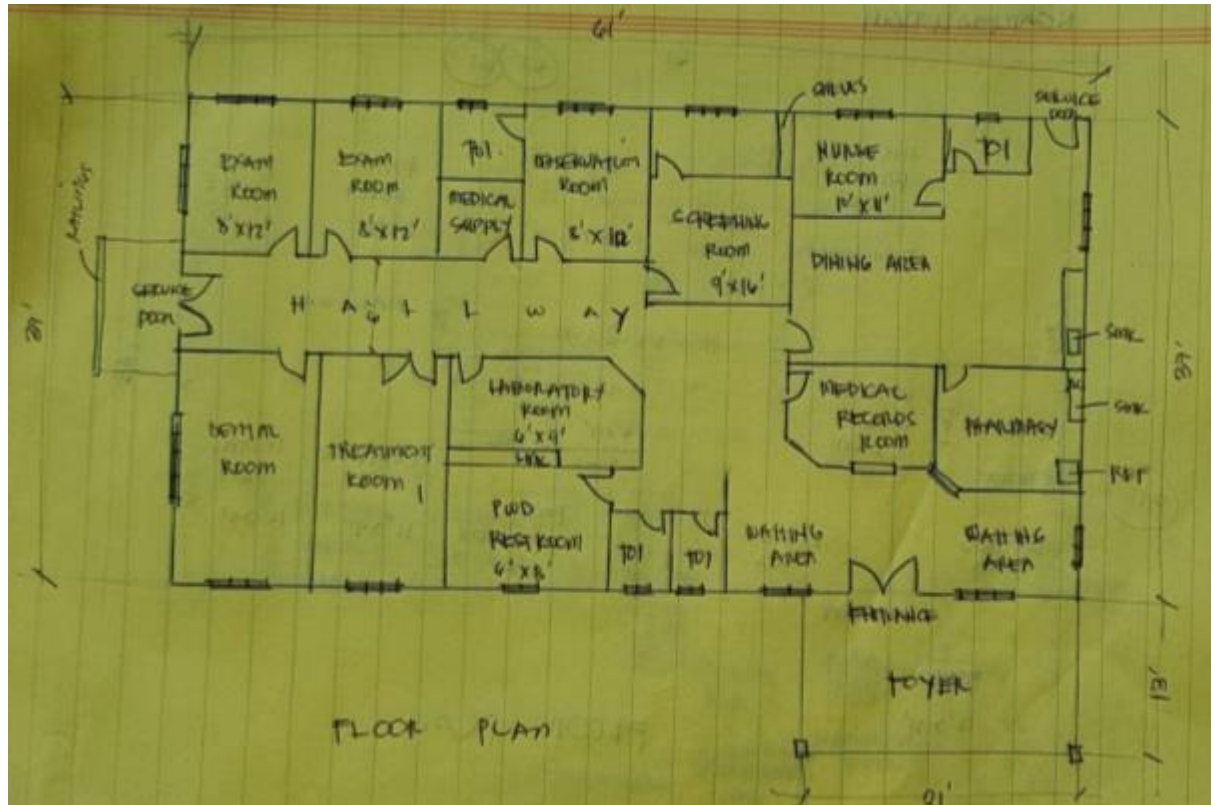


Figure 6 Floor Plan (Sketch)

The North Community Health Center is situated in Ngerchelung, Babeldaob and also serves the state of Ngarchelong. There is a permanent nursing presence providing basic primary care services. Doctors are scheduled to attend on a rotational basis 50% of the time, although the reality is far less due to the poor quality of infrastructure provided to support the ability of them to provide quality services. A team of doctors and nurses attend on a monthly basis to carry out the NDC clinic. During this time, the centre is overcrowded and struggles to support this intense level of sporadic service. The space provided would be sufficient if upgraded and to provide a more consistent level of service.

The building is 25 years old and in a poor state of maintenance but remains structurally sound. The roof is leaking due to previous damage caused by falling trees and also general lack of maintenance. There is poor site drainage leading to damp and damage to the building. The internal environment is dirty, humid, and dark, with termite infestation in walls, and furniture. The mains supply of water and energy is unreliable. There is a dangerously dilapidated building immediately adjacent in need of removal.

The recommendation for the NCHC is to refurbish the existing facility to provide:

- Replacement better quality insulated roof covering to provide long term protection from leaks, and painted white to prevent solar gain
 - Solar energy installation to supplement mains energy with more reliable energy source able to provide power to key electrical services such as Air conditioning and refrigerators to store medicines, IT and communication systems, etc.
 - Rain water harvesting upgraded to provide functioning system to provide sufficient storage during droughts when mains supply is not running
 - All windows upgraded to provide glazed sealed and controlled internal environment
 - Air Conditioning units ungraded to enable ambient temperature control of internal environment.
- Clear maintenance strategy to include AC units to avoid leaks and misuse

- Hurricane shutters fitted to all windows
- All termite affected partitions, doors, and furniture to be removed (and building fumigated) and replaced with quality treated alternatives
- General repair and painting of all building elements
- Review of equipment needs
- Provision of Ambulance

3.4.2 East Community Health Center, Melekeok, Babeldaob (EHC)



Figure 7 Photo (UNOPS) showing front elevation of EHC

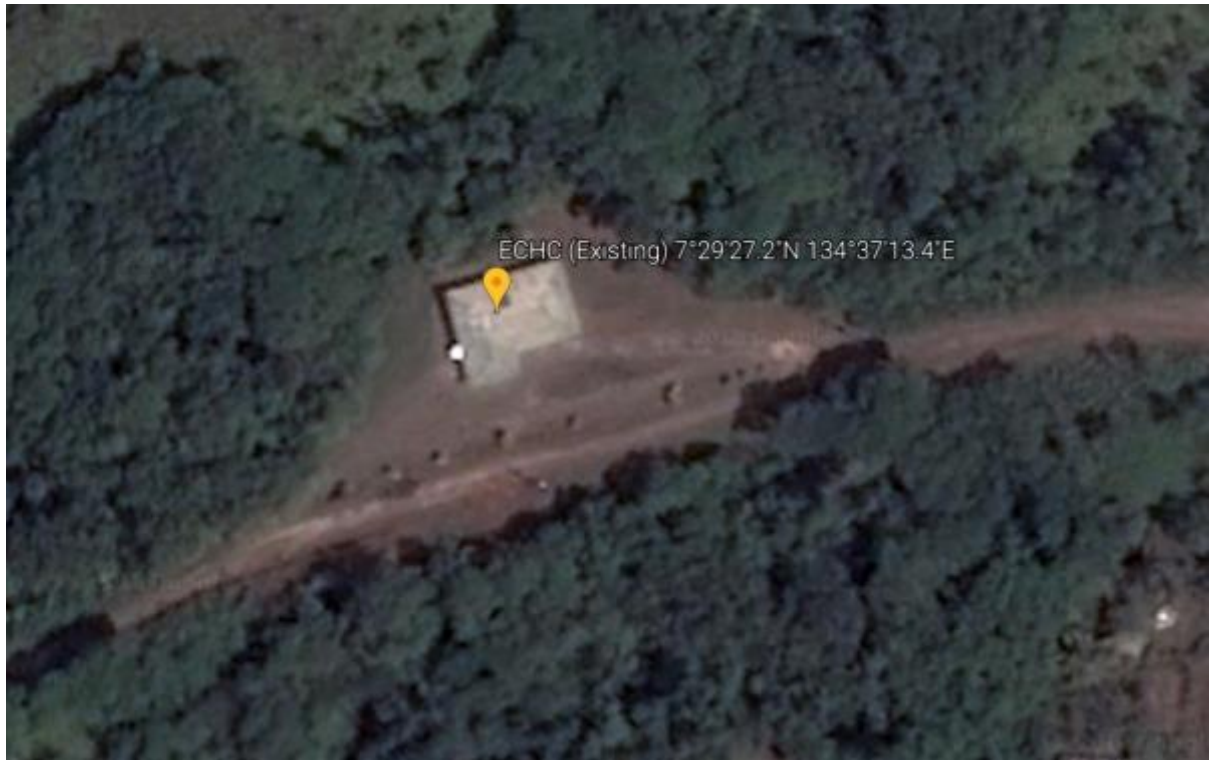


Figure 8 Aerial View (Google) showing existing ECHC

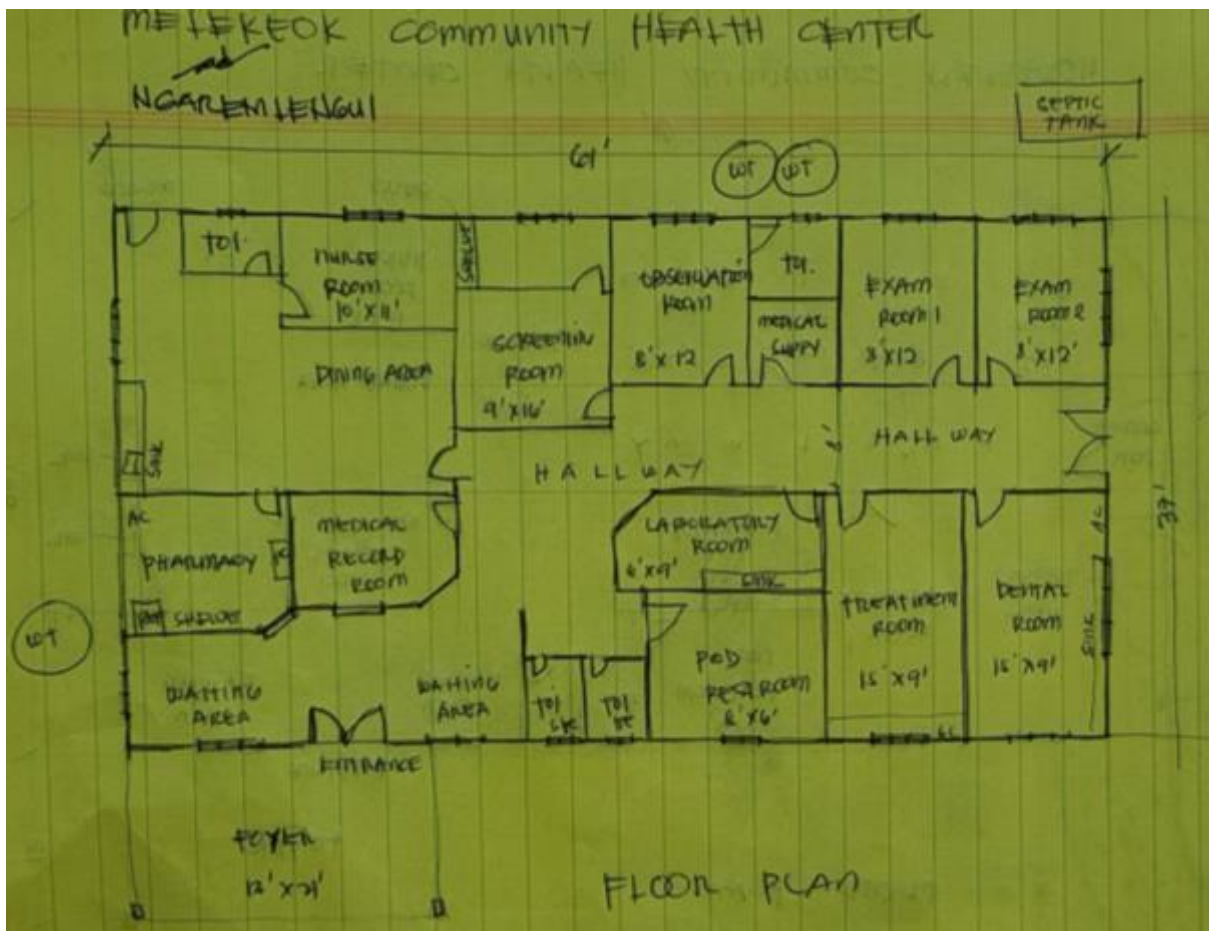


Figure 9 Floor Plan (Sketch) of ECHC

The East Community Health Center is situated in Melekeok, Babeldaob, and also serves Ngiwal & Ngchesar states. There is a permanent nursing presence providing basic primary care services. Doctors are intended to attend on a rotational basis 50% of the time, although the reality is far less due to the poor quality of infrastructure provided to support the provision of quality services. A team of doctors and nurses attend on a monthly basis to carry out the NDC clinic. During this time, the centre is overcrowded and struggles to support this intense level of sporadic service. The access road is not yet tarred although works are in the pipeline. The location is good for local community, but the Ministry of Health have an objective to upgrade the facility into a mini hospital with an out-patient ward, due to proximity to Capitol building and growth plan for state.

The building is 20 years old, in poor state of maintenance, but remains structurally sound. The roof covering is in poor condition and leaking in places. The lack of drainage outside the building has led to water damage to the building from rain, but also from leaking and condensation from AC units which are poorly maintained. The internal environment is hot, humid, dark, and dirty with termites infesting non treated timber doors and furniture. The supply of water and energy is unreliable. Water is not yet connected to the mains but the connection is available adjacent to the site.

The Ministry of Health have requested to build a new facility to provide mini hospital services with 10 to 15 bed outpatient ward.

The existing facility would be a suitable to be refurbished and converted to accommodation for medical staff

It is recommended that this be addressed as part of a future phase.



Figure 10 3D Aerial View (Google) showing location of existing and proposed ECHC in relation to the Capitol Building, the Melekeok community, and access roads

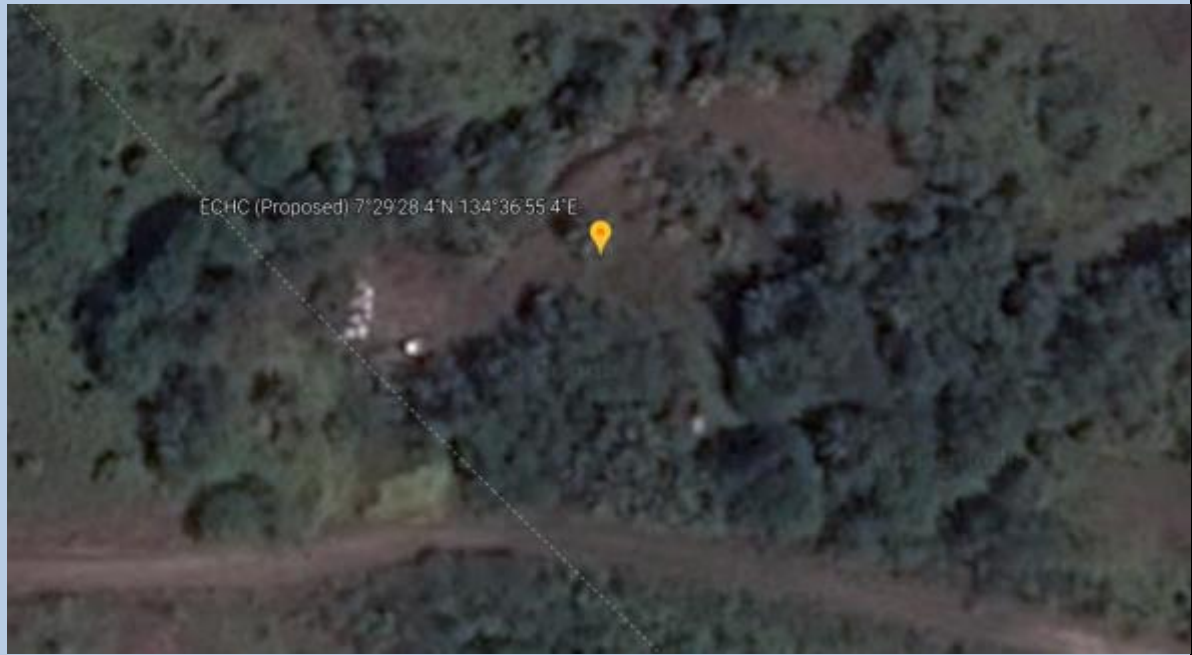


Figure 11 Aerial View (Google) showing location of proposed ECHC



Figure 12 Photo (UNOPS) showing proposed site for ECHC

3.4.3 West Community Health Center, Ngeremlengui, Babeldaob (WCHC)



Figure 13 Photo (UNOPS) showing front elevation of WCHC



Figure 14 Aerial View (Google) showing WCHC site with coordinates

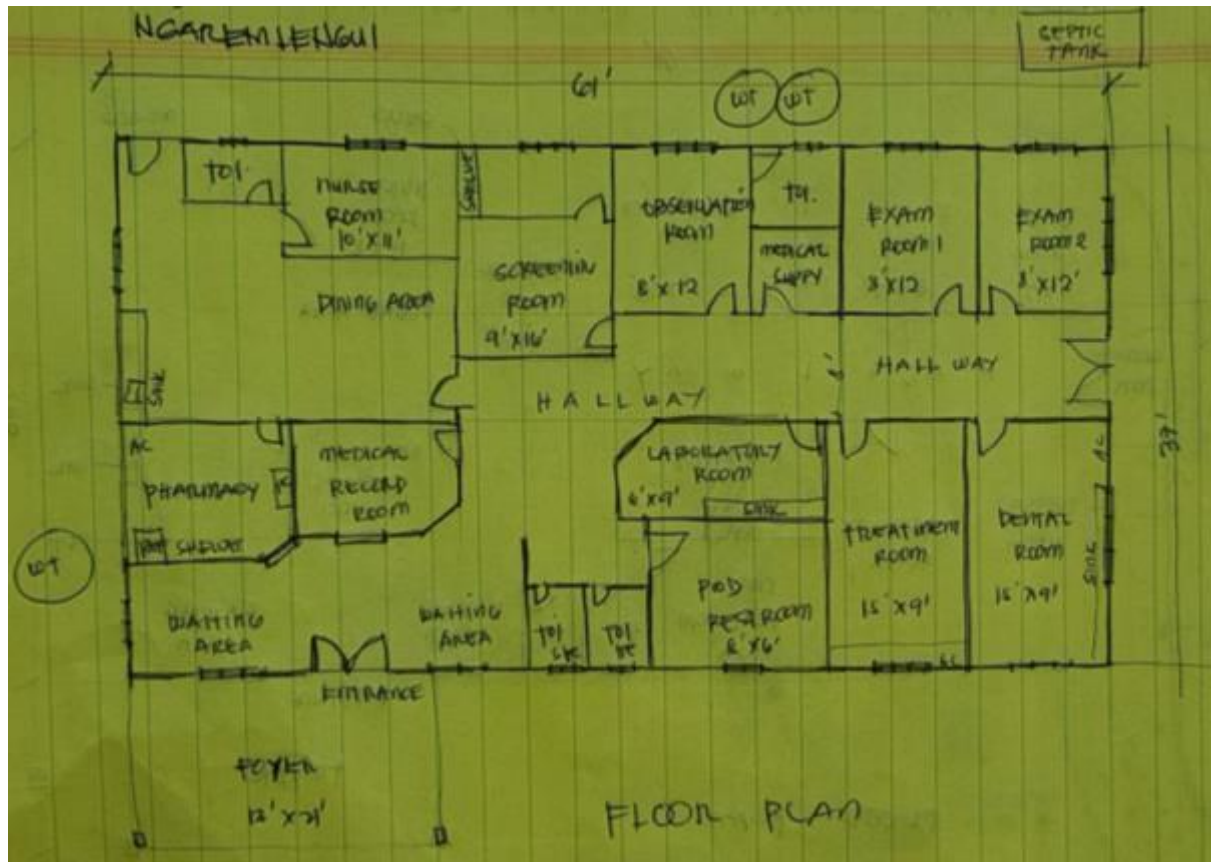


Figure 15 Floorplan (Sketch) of WCHC

The West Community Health Centre is situated in Ngeremlengui, Babeldaob, and also serves Ngardmau and Ngatpang states. There is a permanent nursing presence providing basic primary care services. Doctors are scheduled to attend on a rotational basis 50% of the time, although the reality is far less, partly due to the poor quality of infrastructure undermines their ability to provide quality services. A team of doctors and nurses attend on a monthly basis to carry out the NDC clinic. The access road is gravel and can become difficult to navigate without regular maintenance. The location is well suited for access from all three states, but it is relatively remote from local communities. The remote nature of the site provides a security risk, especially during closing hours. There have been incidents of antisocial behaviour, break-ins and burglary from the pharmacy.

The building is 20 years old, in relatively good condition, and provides a good sized space for provision of services. The internal environment is dirty and poorly maintained with termites infesting non treated doors, furniture and partitions. Rain water is the only water source and the roof and rainwater harvesting system is in poor condition.

The recommendation for the WCHC is to refurbish the existing facility to provide:

- Replacement better quality insulated roof covering to provide long term protection from leaks, and painted white to prevent solar gain
- Solar energy installation to supplement mains energy with more reliable energy source able to provide power to key electrical services such as Air conditioning and refrigerators to store medicines, IT and communication systems, etc.

- Rain water harvesting upgraded to provide functioning system to provide sufficient supply and storage during droughts
- All windows upgraded to provide glazed sealed and controlled internal environment
- Air Conditioning units upgraded to enable ambient temperature control of internal environment. Clear maintenance strategy to include AC units to avoid leaks and misuse
- Hurricane/security shutters fitted to all windows – which must be openable from the inside to enable escape in the event of emergency
- All termite affected partitions, doors, and furniture to be removed (and building fumigated) and replaced with quality treated alternatives
- General repair and painting of all building elements
- External doors and locks to be upgraded to provide enhanced security
- Closed Circuit Television (CCTV) system to be installed to cover all entrances and the pharmacy
- The connection to the main road to be upgraded to provide tarred surface access
- Review of equipment needs
- Provision of Ambulance

3.4.4 Central Community Health Center Two, Airai, Babeldaob (CCHCII)



Figure 16 Photo (UNOPS) showing front elevation of CCHCII

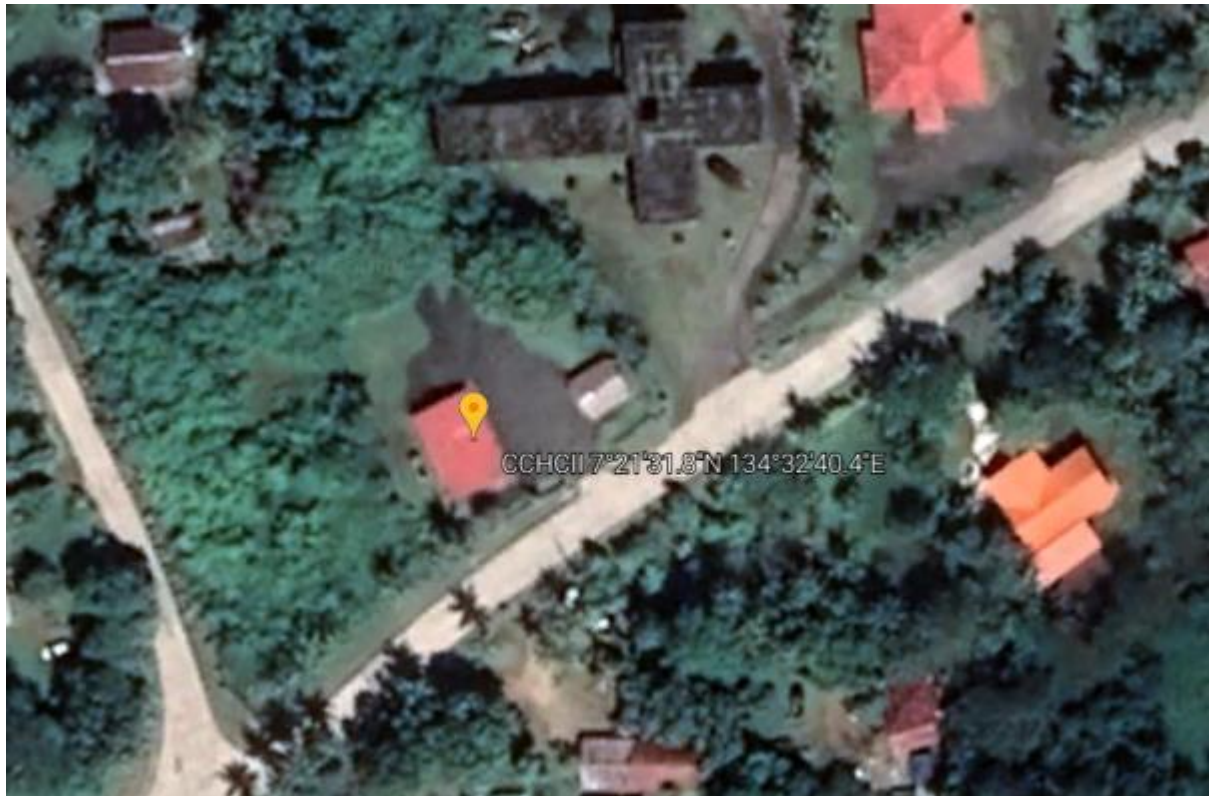


Figure 17 Aerial View (Google) showing site of CCHCII

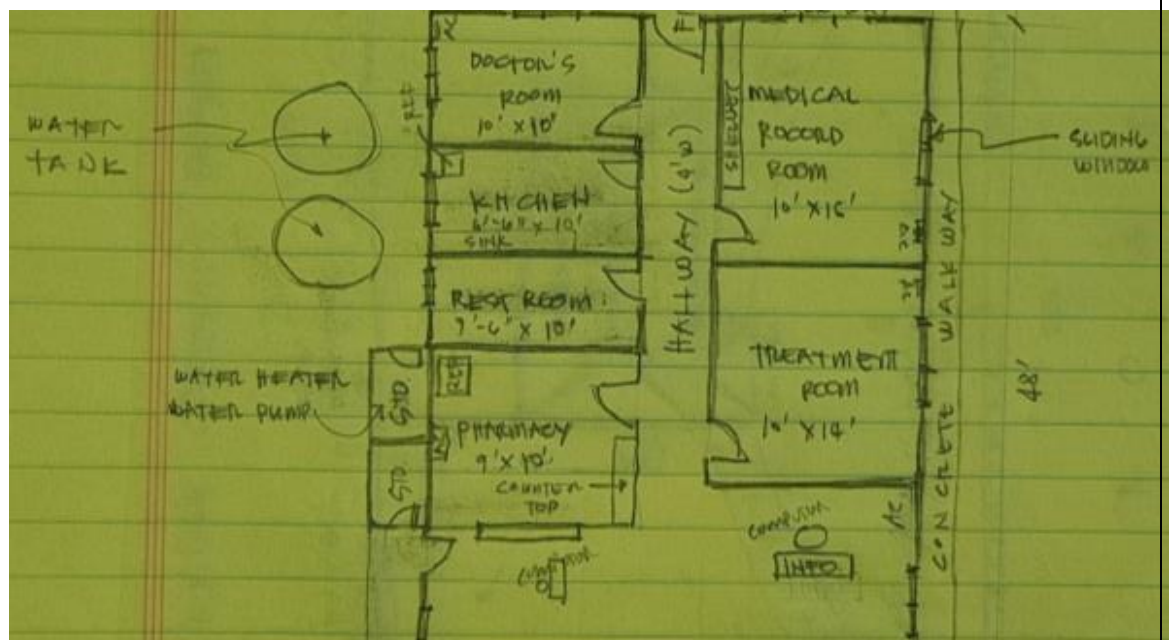


Figure 18 Floor Plan (Sketch) showing layout of CCHCII

The Central Community Health Center Two is situated in Airai and also serves Aimeliik state. With a catchment population of nearly 3,000 people, this represents the largest catchment population outside of Koror. However, the usage of this facility is comparatively low (with only 400 patients in 2017), with people preferring to travel to Koror for a broader and more reliable level of service. There is a permanent nursing presence providing basic primary care services. Doctors are intended to attend on a rotational basis 50% of the time. A team of doctors and nurses attend on a monthly basis to carry

out additional clinical services through various clinics. During this time, the center is overwhelmed due to lack of space.

The building is 10 years old and in reasonable condition. The roof is leaking in places and the AC units are leaking and poorly controlled and maintained. The Ministry of Health have prioritised this center to be upgraded to provide a similar level of service as the CCHCI center in Koror. This requires additional space to include a small inpatient department, and also secure energy supply to support laboratory operations and vaccine storage.

The recommendation for the CCHCI is to refurbish the existing facility and build an adjoining / adjacent building to expand the capacity and enhance the level of service provided to match that of CCHCI.

Refurbishment of existing facility to include:

- General repair and painting of all building elements
- Roof repairs and painting white to prevent solar gain
- Solar energy installation to supplement mains energy with more reliable energy source able to provide power to key electrical services such as Air conditioning and refrigerators to store medicines, IT and communication systems, etc.
- Rain water harvesting upgraded to provide functioning system to provide sufficient storage during droughts when mains supply is compromised
- Air Conditioning units ungraded to enable ambient temperature control of internal environment. Clear maintenance strategy to include AC units to avoid leaks and misuse
- Hurricane/security shutters fitted to all windows – which must be openable from the inside to enable escape in the event of emergency
- Install partition in the reception area to enable secure storage of records within the reception and free up space in existing medical records room for clinical services
- Review of equipment needs
- Provision of Ambulance



Figure 19 Photo (UNOPS) showing space adjacent to existing facility for extension or new building

3.4.5 Central Community Health Center One, Koror (CCHCI)



Figure 20 Photo (UNOPS) showing front elevation of CCHCI

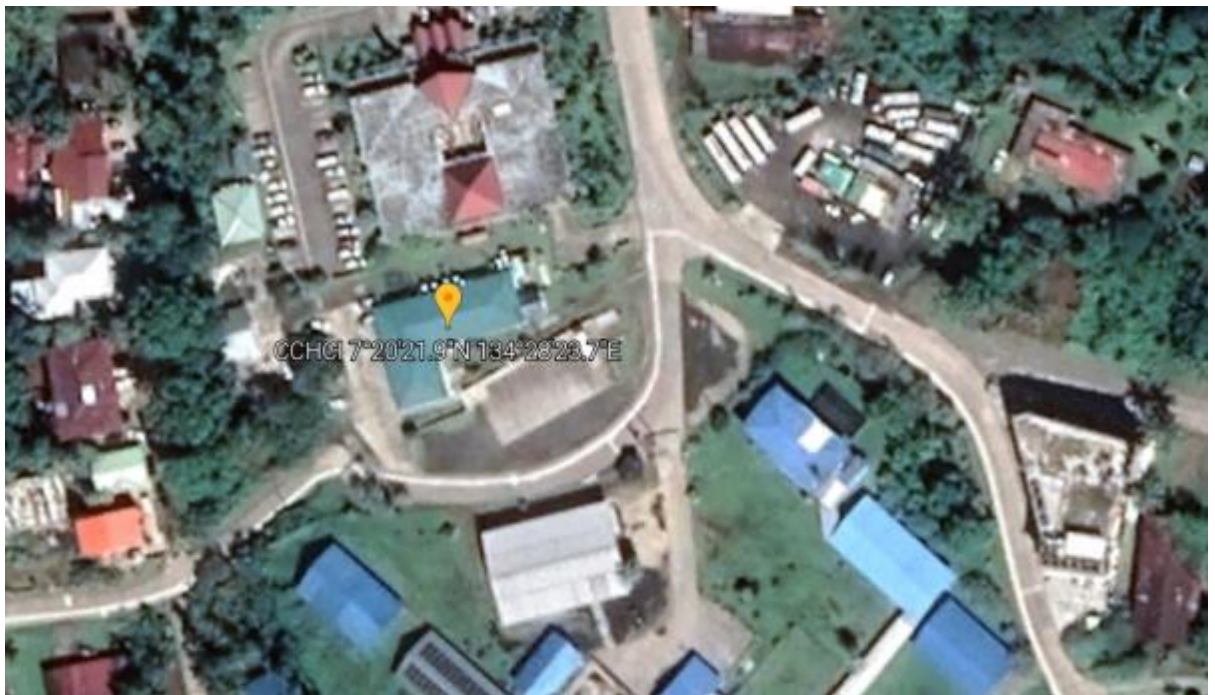


Figure 21 Aerial View (Google) showing site of CCHCI

The Central Community Health Center One is situated in Koror and provides an alternative and back up to the OPD in the main hospital. The catchment population for Koror is nearly 12,000 people who can access services from both the CCHCI as well as the OPD. CCHCI has a permanent team of doctors and nurses with full suite of services including laboratories and administrative offices.

The building itself is 5 years old and generally in good condition, although the facility is overcrowded. The gutters are in poor condition. The AC units are leaking and causing damage to the

building. A back-up generator was recently installed to provide continuity of power supply to complement the mains.

The recommendation for the CCHCI is to make minor repairs to the existing facility and to move the administrative offices to an alternative building to create additional space for medical services. It is understood that a new state building is already planned to be built on the adjacent site to accommodate a number of administrative offices including those within the CCHC1.

Repairs for existing facility to include:

- Gutters
- Air Conditioning units to be maintained with condensation overflow directed into drainage channel and away the building structure.
- Removing fixed window bars which create a safety hazard in the event of emergency escape, and also provide poor protection during typhoon weather
- Hurricane/security shutters fitted to all windows – which must be openable from the inside to enable escape in the event of emergency
- General repair and painting

3.4.6 Out Patient Department, Koror (OPD)



Figure 22 Photo (UNOPS) showing front elevation of OPD Belau hospital



Figure 23 Aerial View (Google) showing site of OPD part of the Belau hospital, adjacent to the sea

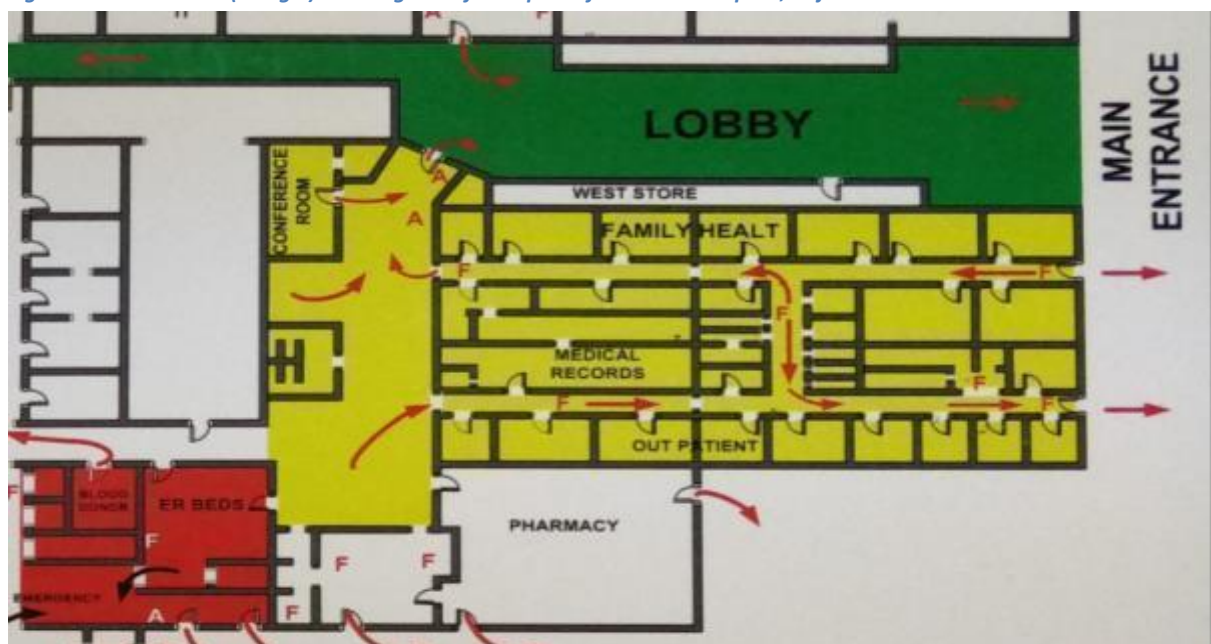


Figure 24 Floor Plan (Sketch) showing the layout of OPD as part of the Belau hospital

The OPD is situated within the Belau hospital in Koror. The catchment for Koror is nearly 12,000 people which access services from both the OPD and CCHCI. Belau hospital is the centre of the ministry of health service provision, with full time doctors, specialists, and nurses and full suite of in-patient and out-patient services and laboratories. The unit is housed within the main hospital building and supported by centralised systems for water, energy and waste services. The building itself is 20

years old, generally in sound condition, although there are some structural and non-structural repairs required for the whole building. The unit is overcrowded which is part of the drive to improve services in the community health centers to relieve pressure on the Koror based centres such as the OPD and the CHCI.

The main hospital is just above sea level on the coast and highly exposed to storm surge. The Ministry of Health have a long term objective to relocate the hospital and ODP to a less exposed location. However, there are short and medium term repairs and improvements needed to the building itself as well as the internal fittings such as plumbing leaks and furniture decay.

A structural review of the main hospital was carried out in 2008 which recommended \$3m to \$4m rehabilitation project which included addressing some safety concerns over sagging of the main roof slabs and sun shades.

The recommendation for the OPD is to provide general maintenance to fix leaks and furniture, and consider relocating records office to alternative part of the hospital complex (or new building) to free up space for medical services.

A broader recommendation is to review the main hospital building for repairs and space usage (which would include the OPD). A thorough structural review of the main hospital building was carried out in 2008 which led to a number of recommendations for upgrade options. This should be reviewed and followed up on in order to obtain funding to carry out these works, or at the minimum, the safety critical elements of these works.

3.4.7 Kayangel Community Health Facility (KCHC)



Figure 25 Photo (UNOPS) showing front elevation of KCHC

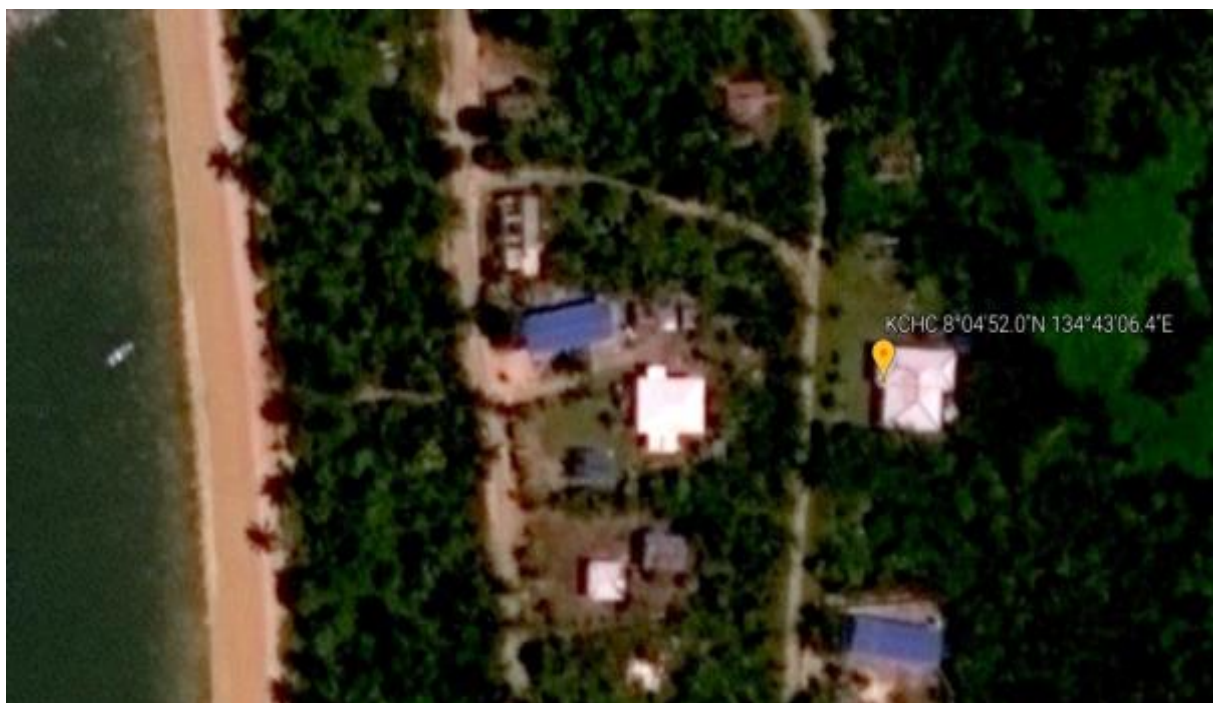


Figure 26 Aerial View (Google)

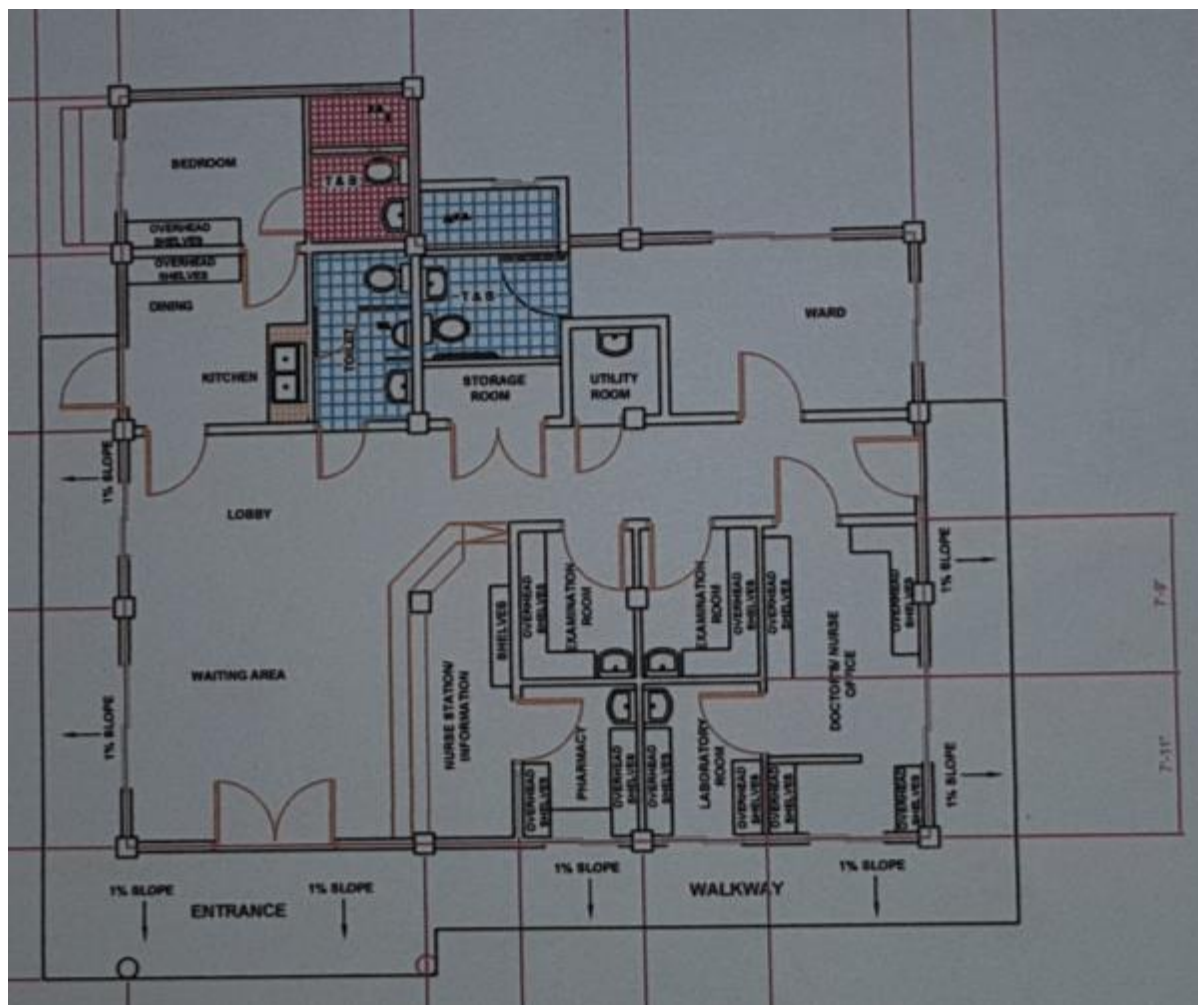


Figure 27 Floor Plan (Sketch) showing layout of KCHC

The Kayangel Community Health Centre is situated on the island of Kayangel, accessible by boat approximately 2 to 6 hours from Koror (depending on the weather). The health centre is not currently operational, apart from infrequent NCD clinics. The island has a population of 54 people, more than half of which attend the NCD clinics.

The building is 18 years old and is structurally sound, but poor maintenance has resulted in a damp, dirty and termite infested internal environment. The whole island is low lying, flat, and exposed to extreme weather, wind and storm surge. There is a timber roof covering the original RC slab, both of which are showing signs of leaking. A generator has been installed to provide back-up power in the event of the main island generator failing.

The recommendation for the KCHC is to refurbish the existing facility and extend vertically (if technically feasible) to provide doctors accommodation as well as higher level emergency refuge and service provision space in the event of storm surge.

The refurbishment of the existing facility should include:

- Remove timber roof and refurbish concrete roof slab
- All windows upgraded to provide glazed sealed and controlled internal environment

- Air Conditioning units ungraded to enable ambient temperature control of internal environment. Clear maintenance strategy to include AC units to avoid leaks and misuse
- Hurricane/security shutters fitted to all windows – which must be openable from the inside to enable escape in the event of emergency
- All termite affected partitions, doors, and furniture to be removed (and building fumigated) and replaced with quality treated alternatives
- Removal of internal partitions to create larger rooms
- General repair and painting
- Review of equipment needs

3.4.8 Peleliu Community Health Facility (SCHC)



Figure 28 Photo (UNOPS) showing entrance to SCHC

The South Community Health Centre is situated on the island of Peleliu, serving Peleliu as well as the SW islands of Hatohebei, Sonsorol & Pulo Ana, and also providing back up support to Angaur. Peleliu is accessible by boat (1 to 2 hrs to Koror) or plane. The catchment population is around 600 people and the facility is well used. There is a full time nursing presence, providing primary and emergency care, laboratory facilities and a small 5-bed in patient ward. Regular (monthly) clinics provide supplementary screening services.

The building is 15 years old and in reasonably good condition. However, the timber roof covering the RC roof slab is leaking. Termites have infested the ceiling causing dust to fall into patients' eyes as well as medical areas. The building already has a fully glazed and AC controlled internal environment, but the AC units are leaking causing some damage to the building. About one quarter of the centre is allocated to doctors' quarters resulting in a lack of space for medical services.

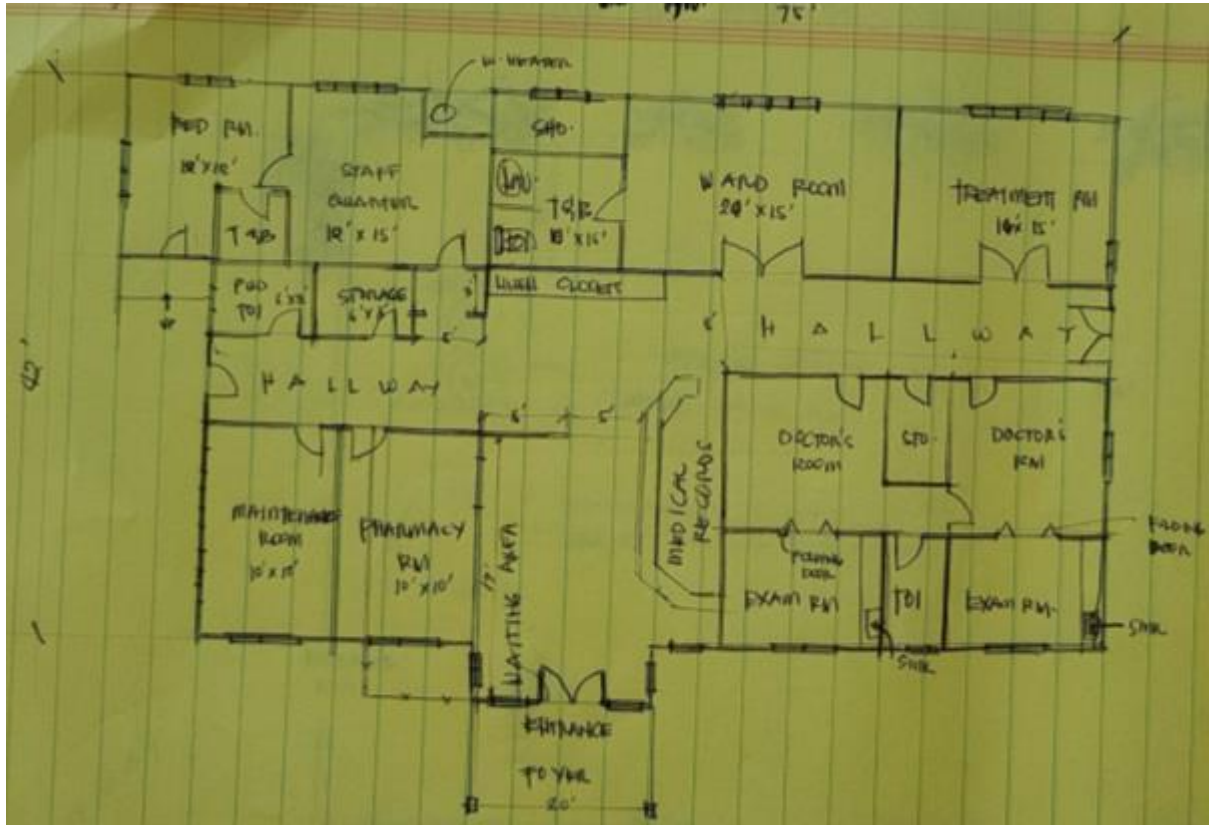


Figure 29 Floor Plan (Sketch) showing layout for SCHC

The recommendation for the SCHC is to refurbish the existing facility and provide alternative doctors accommodation elsewhere, to include:

- Remove timber roof and refurbish concrete roof slab
- Solar energy installation to supplement mains energy with more reliable energy source able to provide power to key electrical services such as Air conditioning and refrigerators to store medicines, IT and communication systems, etc.
- Rain water harvesting upgraded to provide functioning system to provide sufficient storage during droughts when mains supply is compromised
- AC upgrades to provide split systems only, with fixed leaks, controlled condensation overflow, and internal temperature controls
- Hurricane/security shutters fitted to all windows – which must be openable from the inside to enable escape in the event of emergency
- Removal and replacement of termite infested materials, including removal of ceiling and repair of exposed RC slab ceiling
- Remove doctors accommodation and refurbish into additional medical services space
- CCTV system installed, especially if staff are no longer living on site
- General repair and painting
- Review of equipment needs
- Provision of Ambulance

Alternative doctors' accommodation hired from within the community, to provide more space for clinical services. Potential longer term investment opportunity to build new doctors' accommodation adjacent to the medical centre.

3.4.9 Angaur Community Health Facility (ACHC)



Figure 30 Photo (UNOPS) showing roadside elevation of ACHC



Figure 31 Aerial View (Google) showing site of ACHC adjacent to the sea

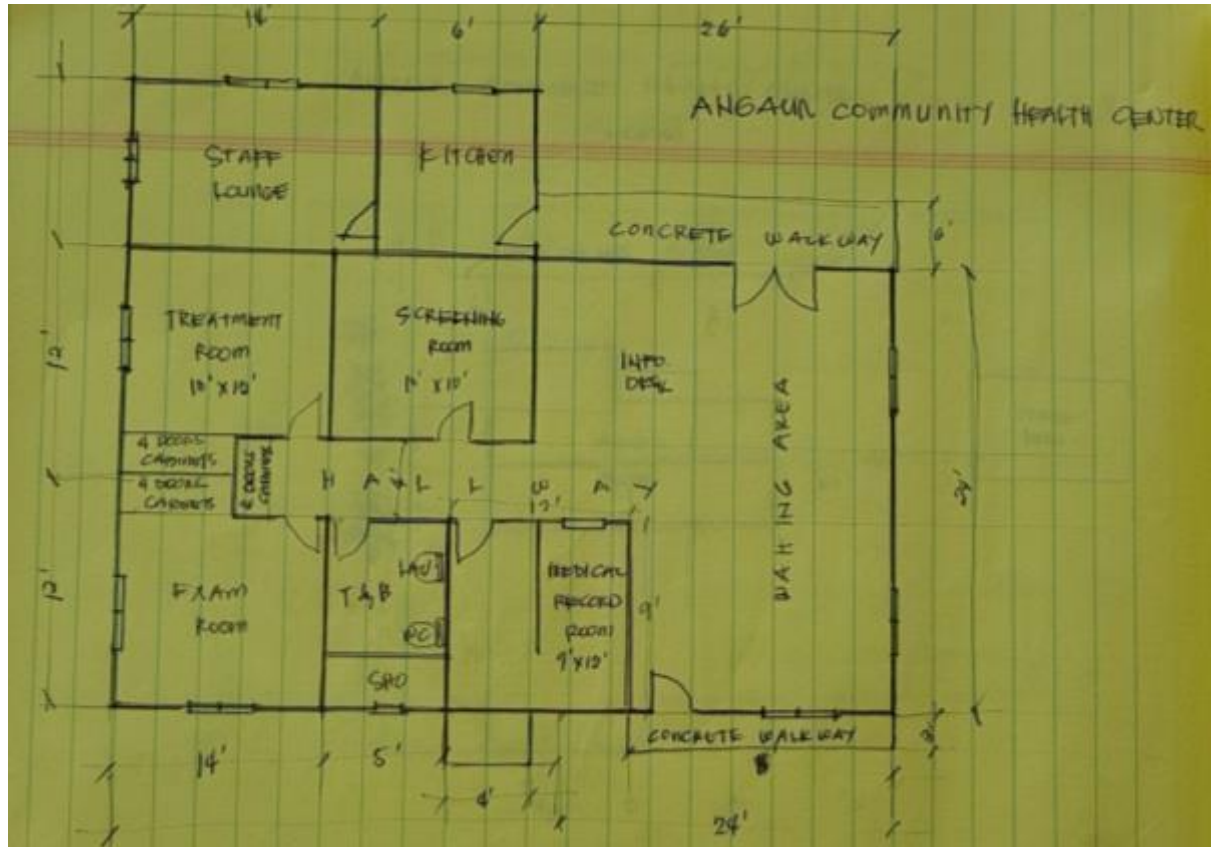


Figure 32 Floor Plan (Sketch) showing layout of ACHC, with staff lounge and kitchen housed in dangerous extension

The Angaur Community Health Center is situated on the island of Angaur, accessible by boat approximately 2 to 5 hours from Koror (depending on the weather). There is also an airstrip which is rarely used. The population of Angaur is less than 150 people.

The health center is currently closed with occasional clinic services provided on an ad hoc basis. It is a challenge to attract full time medical staff to the island due to poor quality provision of accommodation and medical service infrastructure.

The building is 60 years' old and in poor condition. It is located next to the coast, affected by sea weather including salty air causing rust damage, and exposed to storm surge. The roof material is rusted through and leaking. There is a dangerous extension in need of demolition.

The recommendation for the ACHC is to refurbish an alternative facility into a health centre, and refurbish the existing facility into doctors' accommodation.

Refurbishment and conversion of existing facility into doctors' accommodation to include:

- Remove overhanging trees
- Demolish existing unsafe extension
- Replace roof covering with insulated enhanced quality materials and painted white to protect and reflect solar gain
- Install glazed windows and hurricane shutters
- Remove and replace all termite infested materials
- Provide fully fitted kitchen
- Fit out for accommodation including beds, furniture, washing machine, cooker, fridge, AC units, hot water boiler etc

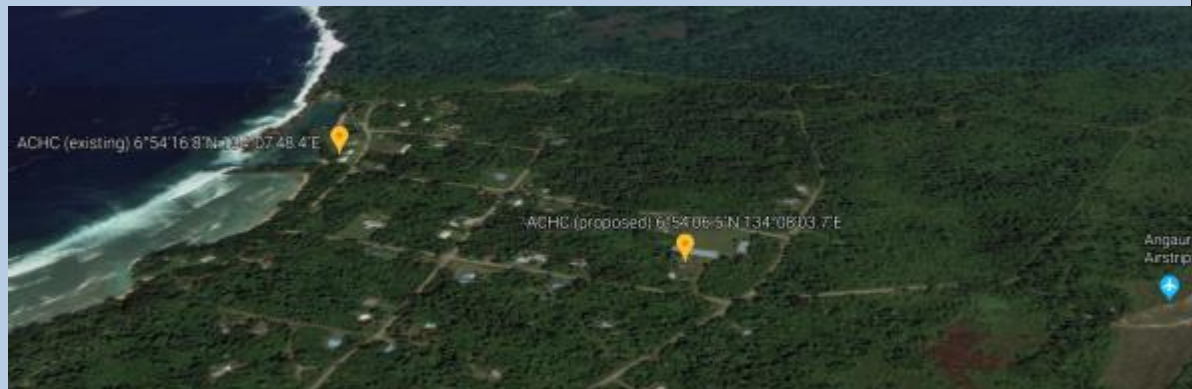


Figure 33 3D Aerial View (Google) showing the existing exposed site and the proposed site for the health centre in relation to the airstrip



Figure 34 Aerial View (Google) showing the proposed site for the health centre, adjacent to the school and the communications tower

Refurbishment of alternative site into health centre to include:

- Remove overhanging trees
- Replace roof covering with insulated high quality material, either shiny silver or painted white to reduce solar gain
- Provide internal partitions to improve layout for medical services
- Provide glazed windows and new doors to create AC controlled internal environment
- General repair and painting of all building elements
- Install new electrical distribution network and fixtures and fittings
- Replace bathroom facilities and plumbing fixtures and fittings
- Install rainwater harvesting system to supplement water supply
- Install solar system to supplement energy supply
- Provide external shelter for overspill waiting area during busy clinic days



Figure 35 Photo (UNOPS) showing the proposed site building for refurbishment into small health centre. Due to the small population size, a small health centre is appropriate, and easier to manage and maintain.

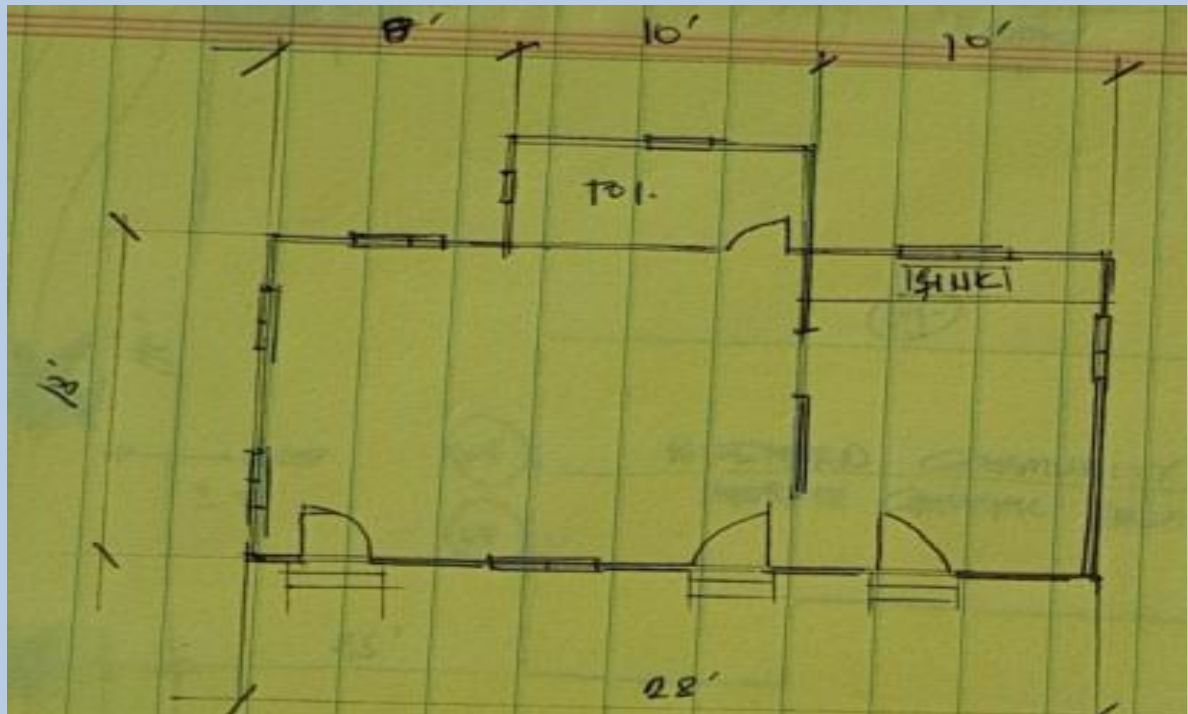


Figure 36 Floor plan (Sketch) showing the proposed building for refurbishment into a small health centre

3.5 Appendix 5: Risk Matrix

Risk	Risk level	Impact	Risk mitigation measure	Residual risk
Unavailability of consultants with adequate knowledge and capacity to develop appropriate design	high	Lack of response to tender process, poor quality design, delays, cost overruns, fail to meet project objectives	UNOPS will open a tender for design services from Palau and Guam (where there is additional capacity with experience in Palau). An alternative option of doing the design in-house using a combination of local and regional individual consultants will also be considered. UNOPS will manage the design process to ensure it is kept on track and appropriate, with regular reviews, including a formal design review with our Design Review Assurance team in Copenhagen prior to tendering for construction. The designs will meet UNOPS minimum quality standards which include relevant international best practice and Codes and Standards.	medium
Capacity of Contractors to deliver number and spread of sites	high	Lack of response to tender process, delays, cost overruns, fail to meet project objectives	UNOPS will split the construction tender in two packages and issue to separate contractors. Construction industry and contractors will be monitored during the design stage to highlight any risks in availability early and to warn contractors of impending tender process. Different contractors will be selected based on their capacity to implement the contract to the required schedule, budget and quality across the specified sites.	medium
Capability of contractors to achieve sufficient workmanship quality	medium		Quality of works is a serious concern particularly in infrastructure works. To mitigate this risk each construction site will have proper supervision and quality control plan. UNOPS will oversee the site works with two technical personnel to cover the 6 sites. Quality assurance will be implemented through the use of UNOPS IT tools such as Field Site. Any subsequent stage plan of construction will be allowed only after approval of the previous stage plan with required quality. Regular progress reports will highlight any risks to the schedule, budget, or quality issues.	low
Limited size of the construction sector in Palau may affect availability of construction companies to	medium		UNOPS will engage private sector early on to share the upcoming opportunity. The procurement process used to engage contractors will include a requirement to commence works within a certain timeframe.	low

initiate work without delay.				
Inability of carry out adequate maintenance to adequately maintain the infrastructure.	medium	Quick dilapidation of rehabilitated structures in tropical climate resulting in need for costly rehabilitation before the end of normal lifespan	Maintenance strategy, manuals, and training will be developed by UNOPS in collaboration with local consultant. Support will be provided to MoH in pursuit of funding opportunities to ring-fence maintenance budget.	low
Estimated budgets are too low	medium	Cost overruns leading to delays or de-scoping	Budgets are based on quoted construction costs, calculated implementation costs, with contingencies of 5% to 15% included on individual items to cover this risk	low
Estimated timescales are too short	medium	Time overruns leading to cost increases or de-scoping	The schedule activities includes fair estimate of actual construction timescales with additional contingency to absorb delays without increasing costs.	low
Natural Hazard occurs	medium	Delays and damage	Contingencies have been included in the schedule to cover short forced stops in work. Weather to be continually monitored and construction activities planned accordingly to minimize risk of damage to works.	low

3.6 Appendix 6: Construction Industry Capacity

There are skills shortages in a number of professions including teaching, doctors and nurses, carpentry, and electrical and mechanical engineering. The education system is showing a decline in interest and attainment in English, maths and science subjects, and school leavers are more interested in jobs in IT, programming, and business management where the pay is relatively higher.

Construction activity is high, with a large number of small contractors delivering small scale construction projects. For large scale projects, international contractors are sometimes contracted, and there is one large local contractor that would be capable of taking on all nine sites under a single contract. Construction logistics at the island sites are challenging and there are probably only one or two local contractors with the capacity for those sites. However, they are in demand on multiple projects and may struggle to meet a defined construction schedule. There are a number of medium size contractors who would be capable of carrying out three or four sites under a single contract; possibly the Babeldaob sites due to their proximity to each other and sources of materials and labour. There are many small contractors who could carry out individual contracts for one site. However, having multiple contracts would be difficult to manage and would lose the opportunity to learn lessons and improve efficiency and quality across multiple sites.

There are no national design codes and standards. Reference is often made to UBC and American material standards, but there is no legal requirement or enforcement of these standards. Construction works are typically self-checked for quality. The Bureau of Public Works Division of Capital Improvement Project (CIP) is responsible for signing the completion certificate for all construction works. The CIP have supported the MoH and UNOPS in costing the building refurbishment estimates for this assessment.

There is one certified architect who is capable of reviewing designs, specifications, and inspecting construction works. Basic design is carried out in house by larger contractors. CIP also have design capability for basic construction works. There are also some design consulting entities. There is a lack of local knowledge on solar energy installation, operation, and maintenance. Specific design expertise is often available in Guam which is a 2 hour flight from Palau.

Products and materials are all imported, often from the US and also from China. The quality of Chinese products is perceived to be poor quality and not durable. US products are perceived to be generally of higher quality, especially AC units, and solar systems. Most building materials are imported through Guam.

Infrastructure maintenance is typically poorly considered, due to both lack of funding, lack of processes, and lack of skills. The reliance of foreign aid can lead to lack of importance given to good quality maintenance as it is typically easier to apply for the provision of new construction and products than it is to apply for maintenance funding.

3.7 Appendix 7: Permit Processes

There are three permits required for construction activities, each permit should cost approximately \$10 and be completed within 1 to 2 weeks:

- 1) State Permit (from each state) – outlining the types of work and land boundaries
- 2) Environment Quality Protection Board – submission of the completed design, plans and environment impact statement, for approval of excavations and erosion control
- 3) Historical Preservation Office
- 4) Public Works Department – UXO clearance



GENDER MAINSTREAMING IN HEALTH FACILITIES

Key Questions:

WHY?

A health facility (e.g., health post, basic primary health unit, clinic, hospital, etc.) is not just a building — it is a place where women, men, girls, and boys access critical preventive health services and treatment with significant impact on individual, family, and community social and health outcomes.

WHO?

- ‡ Design teams
- ‡ Project developers
- ‡ Engineers
- ‡ Architects
- ‡ Program/Project Managers

SUPPORT?

If you need support or more information, including review of design plans for gender mainstreaming, contact the UNOPS Infrastructure and Project Management Group at: ipmg@unops.org or designreview@unops.org

1. Are male and female community members and leaders, and health workers, including Gender Based Violence (GBV) psychosocial counselors, involved as decision-makers in the design and planning?
2. Does facility siting take into consideration transport and safety of male and female community members of all ages, sexual and gender orientation, and physical ability to ensure it is located in an area that is widely accessible, culturally appropriate and non-stigmatizing?
3. Does design provide for separate adult male, adult female, and children's wards, each containing private lavatories, for in-patients, ensuring patients do not need to access one ward through another?
4. Does the design include separate lavatories for female and male health workers and clients, carefully segregated far enough for privacy, but not too isolated to create protection concerns?
5. In more traditional contexts that do not allow mixing of men and women, are separate buildings or entrances provided to improve access for female clients and employment for female health workers?
6. Do the latrines provide convenient facilities for menstrual hygiene management (MHM), including running water and private space for female health worker and client clean-up of sanitary pads, etc.)?
7. Do designs take into account special needs and considerations, including access for disabilities?
8. Are there a sufficient number of rooms and spaces to provide for service provision for those that are vulnerable (e.g., youth-friendly corner, LGBTQ-friendly-corner, couples' HIV counseling, etc.)?
9. Is there space within, or nearby, for a One Stop Center for GBV survivors with space for at least three separate rooms (medical, psychosocial with children's play area for child survivors, legal)?
10. Is there a private room with space for a gynecological bed and equipment to address women's sexual reproductive health?
11. Is there space for community health education, with separate space for males/ females if required?
12. Is there provision/ space for a children's play area in the waiting area for clients with children?

13. Is there a secure, clean, adequate space for expectant and post-partum mothers where they may cook food, sleep, and rest, as well as a welcoming space for expectant fathers to support their partners?
14. Is there provision for sustainable and economical electric and light source and security/ guard service to provide services after nightfall (e.g., need 24/7 power for maternity, incubators, GBV emergency)?
15. Are both men and women from the community provided with targeted opportunity to benefit from labor, direct, and indirect services for construction?
16. Are both male and female-owned small and medium sized enterprises (SMEs) targeted for procurement of supplies and equipment for construction of public administration facilities?
17. Is a community committee (50 percent men/ women) in place for consultation/ oversight?
18. Has an Operation and Maintenance (O&M) plan been developed to support the end-users (including plans to sustain a safe and healthy environment, including ongoing access to clean water within latrines, over the long term?)
19. Are relevant Sphere Standards (minimum humanitarian standards to apply to technical projects) applied and implemented, especially in post-crisis and early reconstruction?
20. Is the office Gender Focal Point, or gender equality specialist retainer, engaged for consultation and review on an ongoing basis? Contact IPMG for support (ipmg@unops.org)
21. Are there sex-disaggregated indicators that specifically measure achievement of gender criteria (e.g., number of latrines; construction workers, committee members, etc.)
22. Does ongoing monitoring include follow-through with gender equitable design standards with male and female community engagement in monitoring?
23. Do quarterly and annual reports include quantitative/ qualitative tracking on community engagement, female engagement, and M&E indicators related to impacts on male and female staff and clients?
24. Is a strong community-based O&M committee operational with a succession plan that ensures all facilities, including menstrual hygiene management-friendly WASH, are serviced and operable?
25. Are best practices and lessons learned documented, shared and applied to new projects?

ADDITIONAL RESOURCES

- African Development Bank (2009). [Gender Mainstreaming Checklist for the Health Sector](#).
- Johns Hopkins and the Red Cross. [Health Systems and Infrastructure](#). Chapter 2.
- Sexual Violence Research Initiative (2006). [How to Conduct a Situation Analysis of Health Services for Survivors of Sexual Assault. Facility Checklist](#) (Page 20).

WHY? (continued)

Siting and access to the facilities must be based on consultation with women, men, boys, and girls. In some very traditional settings, separate male/ female buildings, or entrances, may be required in order for it to be culturally acceptable for women to work there or access services. Wards for in-patients should be segregated by adult men, women, and children with separate and private latrines, accessible without needing to pass through another ward—this improves safety, protection, and reduces incidents of GBV. Segregated theatre changing rooms and common rooms for male and female health professionals should also be factored into the facility design.

Provision for WASH and menstrual hygiene management (MHM)-friendly latrines is critical—to reduce employee absenteeism, attract female staff to provide critical health services to females, and ensure females may access safe, clean toilets with water to comfortably change and dispose of sanitary pads and wash themselves in private.

Thoughtful design of health facilities takes into consideration how services will be used by various groups, including vulnerable or sensitive groups (e.g., adolescent girls, HIV positive individuals and couples, GBV survivors, or LGBTQ individuals). This may entail provision of: 1.private spaces or rooms to discuss sensitive matters; 2.dedicated space for providing psychosocial, medical, and legal services to GBV survivors, including child survivors; and 3.adequate waiting

WHEN?

Although these guidelines include considerations at all stages of the UNOPS project cycle, this questionnaire is primarily intended for users during the project development and detailed design phase (e.g., opportunity, pre-engagement).

3.9 Appendix 9: Stakeholder Map

Stakeholder	Influence High	Influence Low	Interest High	Interest Low	How to Manage	What to communicate	How	When	Who
Project Stakeholders									
Government of India	X		X		Fully satisfy expectations	Projects updates	Social Media Reports & face to face meetings	Weekly Quarterly and upon request	PM & Comms Support Project Management (reports) Country/Hub Manager (meetings) Project Manager/Country Manager
Office of South South Cooperation	x		x		Fully satisfy expectations	Progress in project implementation Projects updates	Site Visits Reports & face to face meetings	At least once before the end of the project Quarterly and upon request	Project Management (reports) Country/Hub Manager (meetings) Project Manager/Country Manager
Ministry of Health	X		X		Fully satisfy expectations	Project updates Progress in project implementation	Reports & face to face meetings Site Visits	Quarterly and upon request At least once before the end of the project	Project Manager (reports) Country/Hub Manager (meetings) Project Manager/Country Manager

Community Health Centre Board		X	X		Keep Informed	Involve in key decision on HC works	Report during Board meeting if invited Obtain design approval before proceeding	Design approval shall be obtained before launching Construction procurement	Project Manager
Sub National Governments		X	X		Keep Informed	Share key information and concerns regarding works implementation.	Meetings at sub national level with relevant counterparts	on a regular basis	Project Manager
Community groups, health related NGOs		X		x	Monitor	identify possible inconveniences caused by the project implementation	Engage with local stakeholder formally or informally trying to understand possible concerns	on a regular basis	Project Manager
Government entities responsible for disaster preparedness	x		x		Manage Closely	how to improve resilience to natural disasters and how to set up and manage emergency communication	Trainings Skills development	As needed	Project Manager
Private Sector		x		x	Monitor	Possible procurement opportunities	local papers	at the time the process is launched	Project Manager
UN RC		X	X		Keep Informed	Project's progress; Links to SDGs Possible Joint UN visibility	Meetings; Invitation to public events	regularly	Project Manager/Hub Director

WHO		X	X		Keep Informed	Meetings	Face to face and electronic discussions	Regularly with frequency to be agreed after start of project	Project Manager
UNOPS Internal Stakeholders									
THOH (Thailand Operational Hub Office)		x	x		Keep Informed	Project's progress Risks	regular meeting	monthly	Project Manager
ORD (Office of the Regional Director)		x	x		Keep Informed	Project's progress Engagement's main Risks	quarterly AR risk reviews	quarterly	Hub Director