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Pro-bono professional services and funding for South Pacific
village infrastructure, housing, water, sanitation and training.



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Vision for Homes Papua New Guinea Inc.

Partner Housing Australasia

Quasar Management Services

**Strategic Plan, Needs, Program, Risk Analysis, Sustainability, Monitoring and Evaluation
for Training and Funding, Design and Construction
of Village Community Health Buildings, Classrooms, Houses, Water and Sanitation
throughout Papua New Guinea**

Papua New Guinea – Highland Village Community Health Buildings



Kalolo Community Health
Building, PNG, 2015



Umi, Community Health
Building, PNG, 2020



Kopeng, Community Health
Building, PNG, 2021

"I believe ... we have come up with the perfect design for a rural health facility to deliver primary care services."

Jane Holden - PNG Western Highlands Provincial Health Authority

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Revisions

P22083101-1	31 August 2022	This is a consolidation of existing documents, some of which have been used for nearly a decade. Although some material is new, much is not new, but has now been collected into a single document.
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Consultants

Expressed within this Strategic Plan is sincere appreciation for the extensive generous contributions of probono professional services by consultants, individual professional engineers and builders, working independently or through Quasar Management Services, without whose input this program would not be possible.



Since 2013, individual professional engineers and builders have provided probono professional services through Quasar Management Services. These services include (but are not limited to) –

- Management auditing of Vision for Homes Papua New Guinea Inc.
- Additional supervision of Vision for Homes Papua New Guinea Inc. projects when required
- Preparation and publication of the **DANCER** Building System manual, and associated manuals and training packages on www.PartnerHousing.org .

Quasar Management Services acknowledges the probono professional services provided by the listed individuals – Ian Volke, Julianne McKay, Grant Wood, Graham Vant, Chris Broadbridge, Ron Albert, David Wilmshurst, David Mahaffey, Rod Johnston.

Scope

This document sets out the Vision for Homes Papua New Guinea Inc.¹, Partner Housing Australasia² and Quasar Management Services³ combined Strategic Plan, Needs, Program, Risk Analysis, Sustainability, Monitoring and Evaluation for training and the funding, design and construction of community health buildings, classrooms, houses, water and sanitation throughout Papua New Guinea.

This document is a consolidation of existing documents, some of which have been used for nearly a decade. Much material is not new, but has now been collected into a single document.

This document may be used during regular management and governance audits of VFH by PHA.

Context

VFH is a not-for-profit community-based organisation based in Mt Hagen, with the main office/factory in Kagamuga and a second facility in Port Moresby (and planning to open an additional establishment in Lae). They previously constructed homes in the Western Highlands for many years. Since 2009, the organisation has built an impressive range of village community health buildings, school buildings, and government housing.

PHA is an entirely voluntary not-for-profit organisation, which aims to transform the lives of people living in Asia-Pacific villages by improving the cyclone, earthquake and tsunami resistance of their houses, clinics, schools and community buildings; and by providing clean water supplies and hygienic sanitation.

QMS is a consulting civil/structural engineering firm, providing financial, governance and probono technical support to PHA, VFH and other organisations.

Duration

This Papua New Guinea Strategic Plan is intended to operate during the Financial Years between 1 July 2022 and 30 June 2026.

Stakeholders

Stakeholders fall into three broad groups –

- Beneficiaries
- Funding Partners
- Implementing Partners (assisted when required by consultants)

¹ Vision for Homes Papua New Guinea Inc. is a not-for-profit community-based organisation (Registration 00012074523), also referred herein as VFH.

² Partner Housing Australasia (Building) Incorporated is an Australian international NGO, also referred herein as PHA or Partner Housing Australasia.

³ Quasar Management Services Pty Limited is a consulting civil/structural engineering firm, and wholly-owned subsidiary of Partner Housing Australasia, also referred herein as QMS or Quasar.

Beneficiaries

Beneficiaries include provincial health authorities, education authorities, other government bodies, local government and individual villages.

Organisation	Program areas of direct relevance	Ability to contribute funding	Provinces
Provincial Health Authorities ⁴	Health, WASH	Yes	All 22, although not all will be suitable for Vision for Homes.
Provincial Administrations	Education, WASH	Yes	All 22, although not all will be suitable for Vision for Homes.
Local Authorities	Health, Education, WASH	Yes	Potentially all local authorities and villages could be the recipients, although it is difficult to identify the specific need.
Various villages (or local NGOs acting on their behalf)	Health, Education, WASH	No	Without access to funding, service may be restricted to “design only”.

Funding Partners

Some funding partners (health authorities, education authorities and other government departments) are also beneficiaries, while others (NGOs, INGOs, philanthropic foundations, commercial businesses and private donors) are considered to be potential funding partners, but are not considered to be beneficiaries.

Funding partners include the following.

Organisation	Extent of funding that is possible
Provincial Health Authorities	To be assessed
Provincial Administrations	To be assessed
PNG Education Department	To be assessed
Other PNG Departments	To be assessed
ChildFund	To be assessed
World Vision	To be assessed
Oxfam	To be assessed
CARE	To be assessed
Save the Children	To be assessed
Susu Mamas	To be assessed
Digicel Foundation (PNG)	To be assessed
Compass Housing Services	To be assessed
Various sawn timber suppliers	To be assessed
Various timber products suppliers	To be assessed
Various PNG commercial operations	To be assessed
Green Building Council	To be assessed
Various consulting engineers, architects etc	To be assessed
Partner Housing Australasia	AUD 50,000 per year + probono services
Vision for Homes	Contribution could be in the form of discounted labour
Quasar Management Services	Probono services

⁴ A Provincial Health Authority are also sometimes referred to by the acronym PHA, which should not be confused with the acronym PHA used in this Strategic Plan to refer to Partner Housing Australasia.

Implementing Partners

For purposes of this strategic plan, the Design and Construction Organisations are –

a) Quasar Management Services

QMS shall carry out the **design, detailing, preparation of the bill of quantities, preparation of cutting lists and construction auditing** roles.

It is important that these roles be formally recognised within the documentation, because QMS carries Professional Indemnity Insurance, effectively limiting the liability that would flow to PHA and VFH in the event of a structural or system failure.

In PNG, all of the building work covered by this strategic plan shall be based on the **DANCER** Building System, thus permitting flexibility in application, structural integrity and prefabrication.

In other countries, sometimes other consultants are used, but in each case these consultants carry their own Professional Indemnity Insurance.

b) Vision for Homes PNG

VFH shall carry out the function of the “**builder**”. In other words, VHF assumes the responsibility and authority for the **construction** process, including **ordering materials, providing and supervising labour**, and ensuring **compliance with the design and regulations**.

c) Partner Housing Australasia

PHA is included in the design and construction group, due to its coordination role. However, the role of PHA within the design and construction process (as distinct from its funding role) is more limited than the roles of QMS and VHF.

PHA shall carry out the formal coordination of the other aspects of the strategic plan (consultation and funding) with this part (design and construction). In other words, the preparation, overview and execution of this strategic plan shall be coordinated by PHA.

PHA shall also be required to “fill in the gaps”. For example, while QMS has prepared software for ordering materials, it cannot (for insurance reasons) assume the responsibility for the actual ordering for any particular project. If that process is carried out with Australian input⁵, that contribution would need to be through PHA, not QMS.

⁵ For example, materials ordering by Ian Volke.

Needs Assessment

Introduction

PHA and VFH tailor their programs to respond to documented community needs, based on –

- External Needs Assessment by Other Organisations, and
- Internal Needs Assessment by PHA and VFH personnel.

External Needs Assessment by Other Organisations

Overview

The following extracts published by other organisations and government agencies influence the formation of PHA and VFH programs.

“The Demographic and Health Survey (PNG DHS) provides data for monitoring the health situation of the population in Papua New Guinea. The 2016-18 PNG DHS is the first Demographic and Health Survey supported by The DHS Program. The 2016-18 PNG DHS was implemented by the National Statistical Office from October 2016 to December 2018. Funding for the 2016-18 PNG DHS was provided by the Government of Papua New Guinea (GOPNG), the Australian Government Department of Foreign Affairs and Trade (DFAT), the United Nations Population Fund (UNFPA), and the United Nations Children’s Fund (UNICEF). ICF provided technical assistance through The DHS Program, a project funded by the United States Agency for International Development (USAID) that provides support and technical assistance in the implementation of population and health surveys in countries worldwide. Key Findings of the 2016-18 DHS - Housing Characteristics and Household Population

- *Drinking water: In Papua New Guinea, less than half of households have access to an improved source of drinking water; the most common source is an unprotected spring (29% of households).*
- *Toilet facilities: Only 29% of households use improved sanitation facilities; about one in five households has no facility and uses open defecation).*
- *Electricity: Nationally, 15% of households have electricity.*
- *Household possessions: Mobile phones are common; in 56% of households, someone owns one. One-quarter of households have radios.*
- *Hand washing: One-third of the population lives in households with a place to wash hands that has both soap and water.*
- *Household population and composition: More than 4 in 10 people in Papua New Guinea are under age 15 (42%), while only 3% are age 65 and older.*
- *Children’s living arrangements: 6% of children under age 18 have lost at least one of their biological parents. Fourteen percent of children do not live with either of their biological parents.*
- *Education: Almost one-third of women and one-quarter of men age 6 and older have never attended school.”*

(“Papua New Guinea Demographic and Health Survey 2016-18”)

Community Health Buildings

The Community Health Buildings, designed and constructed by PHA and VFH, are an adaptation of the Rural Health Aid Posts common in PNG. This design has been developed to the specification provided by the PNG Western Highlands Provincial Health Authority (WHPHA). Suitability and cost effectiveness of this particular design are analysed in the “Program Evaluation” part of this document. In summary, the following extract is from Jane Holden (CEO of the WHPHA), “... *I believe as do those who are supporting the rural facilities in WHPHA that through this project we have come up with the perfect design for a rural health facility to deliver primary care services.*”

The following extract highlights the historic need for improved rural clinics and community health buildings.

“... Since 1987 there has been increasing evidence that there are serious deficits in the quality of care in rural areas and that there are similar problems in the country's hospitals ... a 1988 nationwide survey of quality of rural health services at health centers and subcenters, with by 26 focus groups of community concerns (staff absences, lack of commitment in provision of services, poor and unsympathetic treatment, and referral and death) showed that 37% of ward buildings were in need of maintenance and 13% were unsanitary. Only 36% of health centers had running water inside the building year-round ...” (Thomason, 1993)

In response to this historic need, the Asian Development Bank has coordinated funding of the “Papua New Guinea: Rural Primary Health Services Delivery Project”, Project Number: 41509-013 Loan Number: 2785, 8274 Grant Number: 0259. The Project Administration Manual (PAM) includes the following, which demonstrates the need for Community Health Posts –

“... Department of Health (DOH) and selected provinces are wholly responsible for the implementation of ADB-financed projects, as agreed upon jointly between the borrower and ADB, and in accordance with government and ADB policies and procedures. ADB staff are responsible to support implementation including compliance by DOH and selected provinces of their obligations and responsibilities for project implementation in accordance with ADB's policies and procedures ...” (ADB, 2022)

“Output 4 - Community health facility upgrading 61. Health infrastructure needs across PNG are significant. Health facilities are not maintained and many health facilities are closed, particularly in rural areas. Lack of water and sanitation impacts on infection control, and inadequate staff housing does little to attract and maintain health staff. 62. To address this issue, the project will: (i) build/upgrade two CHPs and upgrading and refurbishing of eight rural health facilities in each of the 16 participating districts. (ii) provide medical equipment and small vehicles (cars, boats or motorbikes). (iii) upgrade staff housing; install or upgrade sanitation facilities; provide waste management facilities; and establish renewable energy supplies for the selected health facilities. 63. Expected outcome: (i) at least 32 community health posts and 100 health facilities in selected provinces will be built or upgraded, with electricity, water and sanitation. They will also be 13 equipped with furniture and both medical and non-medical equipment, including a maternity health set (to relevant PNG standards) ...” (ADB, 2022)

Australian DFAT has provided financial support for various health initiatives, including five rural health posts –

“Australia supports the Asian Development Bank (ADB) led Rural Primary Health Services Delivery Project (2012-2021) and its successor program, Health Services Sector Development Program (HSSDP). The program delivers essential health infrastructure and strengthens health systems through targeted professional development and training, particularly at the provincial level. HSSDP activities include: the construction of 17 health facilities (4 district hospitals, 8 health centres and 5 community health posts) in 17 districts across 14 provinces in PNG and the roll-out of the electronic National Health Information System to all Provincial Health Authorities across PNG.” (Australian DFAT, 2022)

To date (August 2022), PHA and VFH have designed and constructed three rural community health buildings. The first was constructed for the International Committee of Red Cross (ICRC) at Kalolo in the PNG Southern Highlands Province, to replace one that had been burned during tribal violence. The next two were constructed at the request of the WHPHA in the PNG Western Highlands Province. For Kopeng Community Health Building, PHA and VFH have partnered with the Digicel Foundation (PNG). The Digicel Foundation PNG confirm their commitment to the need, stating –

*“We are committed to providing access to basic health services in rural and remote communities. We do this through the **provision of Mobile Health Clinics (MHCs)** and also **our Rural Health Aid Posts (RHAPs)**. To date, Digicel PNG Foundation has funded 43 Mobile Health Clinics (MHC) and 12 Rural Health Aid Posts (RHAP) which have been delivered to various church and government run health facilities. The Mobile Health Clinics have had a impact on improving access to health services for remote villages.”* (Digicel 2022)

Education Buildings

The following extracts support programs that increase education infrastructure in the PNG Highland and Morobe Province.

“... Education: Almost one-third of women and one-quarter of men age 6 and older have never attended school.”

“Papua New Guinea Demographic and Health Survey 2016-18”

A lack of access to quality education services in Papua New Guinea (PNG) is having a generational impact, “particularly for girls, and condemns children to a life of continued poverty. The Better Governance for Education (BG4E) project will improve access to education for people living in the remote Obura Wonenara District, PNG. This is a whole-of-community project, supporting school children and adult students, working in every layer of education, from students to teachers, local facilitators, school boards and local education ministers. Fast Facts

- *BG4E will directly benefit more than 11,000 students and support 240 teachers*
- *6,000 community members will directly benefit from the project through improved school facilities and improved education results*
- *CARE has seen a 10% increase in girls graduating school since the project began as well as an improvement in literacy and numeracy performance*
- *Major partner: This project has been made possible thanks to generous contributions and ongoing support from the Australian Government through the Australian NGO Cooperation Program (ANCP) working in partnership with the Government of Papua New Guinea*
- *Major location: Obura Wonenara District, Papua New Guinea”*

<https://www.care.org.au/better-schools-in-png/>

Morobe Development Foundation, a non-profit organisation located in PNG, is looking to fund the construction of Kobo Primary School. The purpose of this project is to enable the children of Kobo and Wainsoduna Village to receive an education. The funding that was promised to the project has not come through, so we're trying to raise money to improve one of the least developed areas in the Morobe province and improve the quality of life for residents.

<https://www.globalgiving.org/projects/constructing-a-school-in-rural-papua-new-guinea/>

THE Government is focused on improving education in Papua New Guinea's rural communities, Education Minister Jimmy Uguro says. Uguro said the Government aimed to ensure disadvantaged communities had access to education services. "We have already tasked the Education Department to identify the communities that have been left out," he said. "We have to build schools there, train teachers from the local area and educate them," he said. Uguro reiterated the government tuition fee subsidy (GTFS) policy which followed the principle of making the education of the child a shared responsibility of the Government and parents. He said churches and local communities played a vital role in education. He said the previous government had taken that responsibility away from parents making them lazy and detached. "We want to undo and cut out the dependency syndrome that we have systematically allowed into our PNG culture," Uguro said "The shift in the school financing policy by Marape Government is deliberate to get parents and communities to plough the soil, work hard and contribute to reviving the economy rather than creating a handout culture." He said Papua New Guineans were naturally hard working, resilient and self-reliant. The GTFS policy will re-establish the missing link between the parents and schools while the Government will invest in raising the quality of education, building more schools and making school managers and boards more accountable.

<https://www.thenational.com.pg/govt-focuses-on-education-in-rural-areas/>

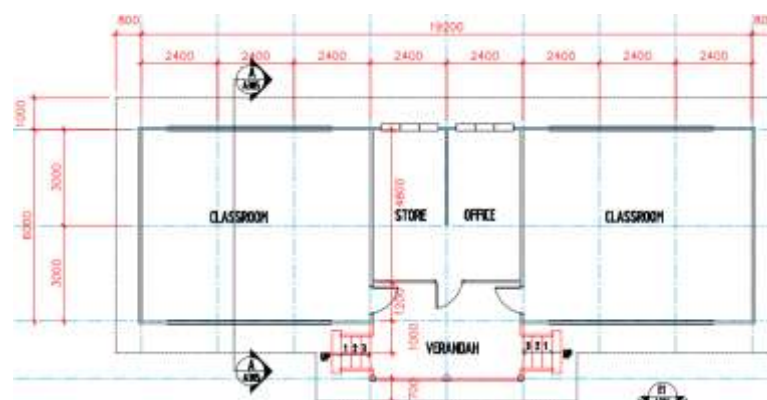
The PNG Department of Education has produced a major report outlining the strategy to improve education outcomes, including the construction of school infrastructure. See Annexure 3 for the proposed program.

The following standard drawings are referenced in the report.

- [Drawing Set Index](#)
- [Single Classroom on Posts](#)
- [Single Classroom on the Ground](#)
- [Double Classroom](#)
- [Double Classroom Building Option 1](#)
- [Double Classroom Building Option 2](#)
- [Double Classroom Building Option 3](#)
- [Double Classroom Building Option 4](#)
- [Double Classroom Building Option 5](#)
- [Classroom and Library Building](#)
- [Staffroom and Library Building Option 1](#)
- [Staffroom and Library Building Option 2](#)
- [Staffroom and Library Building Option 3](#)
- [Proposed Teachers House](#)
- [Proposed Teachers House Option b](#)
- [Proposed Teachers House Option c](#)
- [Duplex Teachers House](#)

<http://www.education.gov.pg/TISER/schools.html>

Following is just floor one plan from the report, to demonstrate a typical form of construction. The standards **DANCER** classrooms (as requested by the local district) exceed this requirement.



Double Classroom Building Option 1

Internal Needs Assessment by PHA and VFH personnel

Demand for Community Health Buildings, Classrooms and Accommodation

All PHA-VFH programs are formulated in response to requests from the relevant authorities. For example –

- Kalolo community health building was commissioned by the International Committee of Red Cross (ICRC).
- Umi and Kopeng community health buildings were commissioned by the Western Highlands Provincial Health Authority (WHPHA) and Dei District Administration.
- Runimb school double classrooms and office were commissioned by the Dei District Administration.
- Mul Baiyer Lumusa five police houses at were commissioned by the Mul Baiyer District Administration.

Records of Email Exchanges in Needs Assessment

The needs are assessed based on ongoing discussion and email dialogue from –

- Kelly Kombra Peng (VFH)
- Julianne McKay (consultant to VFH)
- Ian Volke (PHA)
- Rod Johnston (PHA)
- Jane Holden (Western Highlands Provincial Health Authority)
- Other District Administration officials and NGO personnel, who are contacted directly by Kelly Kombra Peng and Julianne McKay.

All email exchanges are retained in the permanent records.

Assessing Cyclone, Earthquake & Tsunami Resilience of Village Buildings

PHA offers pro-bono design services, documentation, project management, supervision and funding of some key materials, to VFH for the construction of village buildings, village housing and other village infrastructure. It is well recognised that the resilience of village buildings is generally less than the requirements demanded by modern building codes. This is well documented in the following two PHA-QMS publications.

- *“Structural Design Actions for South Pacific Village Buildings”, 7 September 2022, Partner Housing Australasia & Quasar Management Services, Ref: Q21110102-1b*
- *“DANCER Building System, Direct Anchorage Noncyclonic / Cyclonic Earthquake Resistant Building System for Wind, Earthquake and Tsunami Resistance”, 7 September 2022, Partner Housing Australasia & Quasar Management Services, Ref: Q21110101-1b DANCER Design Manual.*

These (and other) publications are based on a long history of inspections and assessments of cyclone, earthquake and tsunami damage to village buildings (houses, clinics, schools, churches etc.), carried out by QMS on behalf of PHA and their partner organisations. Listed below are a few of these assessments that reinforce the need for improved structural resilience.

- Earthquake Resilience – 2018 PNG Hela Province – 47 buildings assessed for damage resulting from the 7.6 intensity Hela Province earthquake – Reference: *“Assessment of Damage and Recommended Repairs Resulting from February 2018 PNG Earthquake and Aftershocks for the Catholic Diocese of Mendi”, 13 May 2018, Q18051001-1*
- Cyclone Resilience – 2014 Ha’apai Tonga – Reference: *“Structural Resilience of the Standard Cyclone Resistant House for Ha’apai, Tonga following Cyclone Ian, January 2014”, 18 February 2014, P14021601-1*
- Tsunami and Earthquake Resilience – 2007 Western Province Solomon Islands on Gizo, Ranongga and Simbo Islands – Reference: *“Habitat for Humanity Australia, Solomon Islands Gizo Island, Tsunami Reconstruction 2007”, 19 June 2007, D07061201-1*

- Tsunami Resilience – 2005 Thailand, Indonesia, Sri Lanka and India – Reference: “*Design and Construction Assessment, Tsunami Reconstruction Housing, Thailand, Indonesia, Sri Lanka & India, For Habitat for Humanity International (Asia – Pacific)*”, 13 January, 2006, P05090201-3

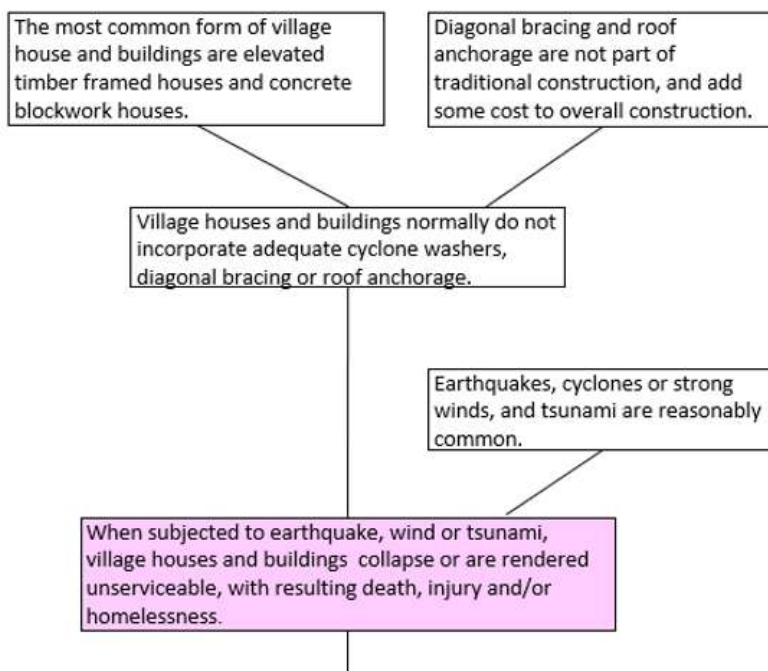
The overarching conclusion in all of these assessments was that the majority of rural village buildings (clinics, schools and accommodation) within the region (including the PNG Highlands) lack structural resilience when subjected to cyclones, earthquakes and/or tsunamis. A minority of village buildings, which have been designed and constructed to modern Standards and Building Codes (normally applied in city applications), behave with significantly greater resilience.

It is this conclusion that defines the “Vision” statement of PHA and its service to partner organisations, including VFH.

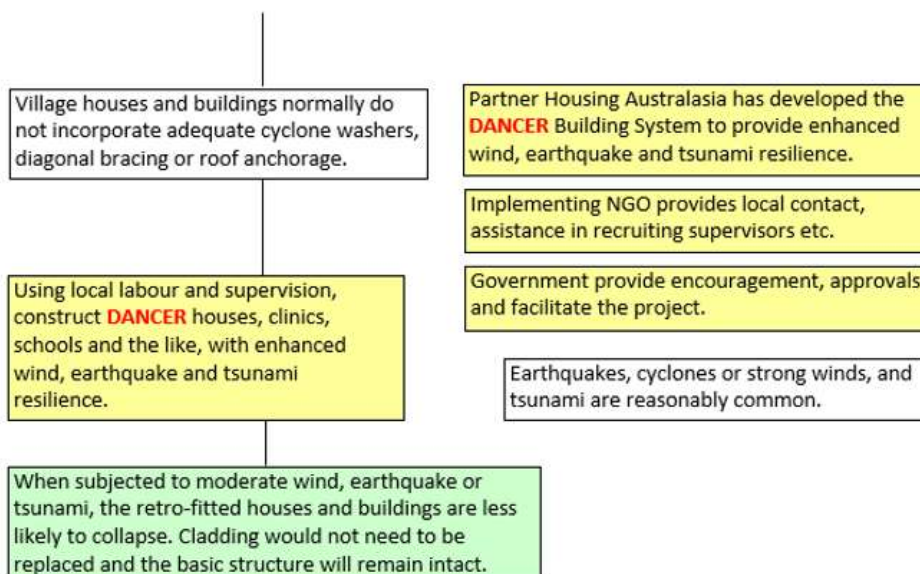
Improving Cyclone, Earthquake & Tsunami Resilience of Village Buildings

The issue and solution are demonstrated diagrammatically by the following Problem Tree and Solution Tree.

Problem Tree



Solution Tree – New Resilient Construction – **DANCER Building system**



References

- Thomason, J.A., *"Quality of health services in Papua New Guinea: what do we know?"*, June 1993, National Library of Medicine, <https://pubmed.ncbi.nlm.nih.gov/8154201/>
- "Health security in Papua New Guinea"*, Australian Government Department of Foreign Affairs and Trade, 2022 <https://www.dfat.gov.au/geo/papua-new-guinea/development-assistance/health-security-in-png>
- "Health Infrastructure"*, Digicel Foundation PNG, 2022, <https://www.digicelfoundation.org/png/en/home/programmes/health/basic-health.html>
- "PNG: Rural Primary Health Services Delivery Project"*, February 2022, Asian Development Bank, Project Administration Manual (Including Additional Financing), Project Number: 41509-013 Loan Number: 2785, 8274 Grant Number: 0259 <https://www.adb.org/projects/41509-013/main>
- "Papua New Guinea Demographic and Health Survey 2016-18"*, Government of Papua New Guinea, National Statistical Office, www.nso.gov.pg/census-surveys/demographic-and-health-survey/
- CARE Australia website, <https://www.care.org.au/better-schools-in-png/>
- "Constructing a school in rural Papua New Guinea"*, Morobe Development Foundation Inc website, <https://www.globalgiving.org/projects/constructing-a-school-in-rural-papua-new-guinea/>
- "Govt focuses on education in rural areas"*, 19 January 2021, The National website, <https://www.thenational.com.pg/govt-focuses-on-education-in-rural-areas/>
- "TisR"*, Papua New Guinea, Department of Education website, <http://www.education.gov.pg/TISER/schools.html>
- "Structural Design Actions for South Pacific Village Buildings"*, 7 September 2022, Partner Housing Australasia & Quasar Management Services, Ref: Q21110102-1b
- "DANCER Building System, Direct Anchorage Noncyclonic / Cyclonic Earthquake Resistant Building System for Wind, Earthquake and Tsunami Resistance"*, 7 September 2022, Partner Housing Australasia & Quasar Management Services, Ref: Q21110101-1b DANCER Design Manual.
- "Assessment of Damage and Recommended Repairs Resulting from February 2018 PNG Earthquake and Aftershocks for the Catholic Diocese of Mendi"*, 13 May 2018, Q18051001-1
- "Structural Resilience of the Standard Cyclone Resistant House for Ha'apai, Tonga following Cyclone Ian, January 2014"*, 18 February 2014, P14021601-1
- "Habitat for Humanity Australia, Solomon Islands Gizo Island, Tsunami Reconstruction 2007"*, 19 June 2007, D07061201-1
- "Design and Construction Assessment, Tsunami Reconstruction Housing, Thailand, Indonesia, Sri Lanka & India, For Habitat for Humanity International (Asia – Pacific)"*, 13 January, 2006, P05090201-3

Sustainability

Commitment to Sustainability

PHA and QMS are committed to sustainable building practices, as per the PHA policies and procedures.

VFH is also committed to sustainable building practices. A similar formal commitment will be achieved by adopting this part of the Strategic Plan.

Environmental Sustainability Policies and Practices

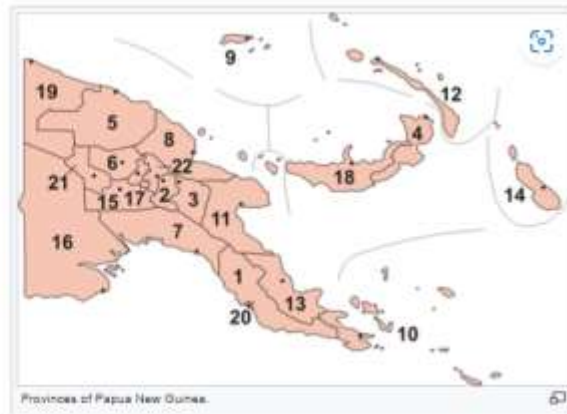
Full details of the policies and practices are set out in PHA policies and procedures “Environmental Sustainability” available on website, <https://www.partnerhousing.org/governance>.

Geography

“New Guinea (Tok Pisin: Niugini; Hiri Motu: Niu Gini; Indonesian: Papua, or Nugini historically Irian) is the world's second-largest island with an area of 785,753 km². Located in Oceania in the southwestern Pacific Ocean, the island is separated from Australia by the 150-kilometre-wide Torres Strait, though both landmasses lie on the same continental shelf. Numerous smaller islands are located to the west and east. The eastern half of the island is the major land mass of the independent state of Papua New Guinea. The western half, known as Western New Guinea, forms a part of Indonesia and is organized as the provinces of Papua, Central Papua, Highland Papua, South Papua, and West Papua. The largest cities on the island are Jayapura (capital of Papua, Indonesia) and Port Moresby (capital of Papua New Guinea).

Most of the current work covered by this program are in the following provinces – Western Highlands, Southern Highlands, Enga, Jiwaka, Hela and Morobe. The principal office of VFH is near Mount Hagen, capital of Western Highlands Province.

- | | |
|----------------------|--|
| 1. Central | 12. New Ireland |
| 2. Chimbu (Simbu) | 13. Northern (Oro Province) |
| 3. Eastern Highlands | 14. Bougainville (autonomous region) |
| 4. East New Britain | 15. Southern Highlands |
| 5. East Sepik | 16. Western Province (Fly) |
| 6. Enga | 17. Western Highlands |
| 7. Gulf | 18. West New Britain |
| 8. Madang | 19. West Sepik (Sandaun) |
| 9. Manus | 20. National Capital District (Port Moresby) |
| 10. Milne Bay | 21. Hela |
| 11. Morobe | 22. Jiwaka |



Located north of the Australian mainland, the country's geography is diverse and, in places, extremely rugged. A spine of mountains, the New Guinea Highlands, runs the length of the island of New Guinea, forming a populous highlands region mostly covered with tropical rainforest, and the long Papuan Peninsula, known as the 'Bird's Tail'. Dense rainforests can be found in the lowland and coastal areas as well as very large wetland areas surrounding the Sepik and Fly rivers. This terrain has made it difficult for the country to develop transportation infrastructure. Some areas are accessible only on foot or by aeroplane. The highest peak is Mount Wilhelm at 4,509 metres (14,793 ft). Papua New Guinea is surrounded by coral reefs which are under close watch, in the interests of preservation. Papua New Guinea's largest rivers are in New Guinea and include Sepik, Ramu, Markham, Musa, Purari, Kikori, Turama, Wawoi and Fly.

The country is situated on the Pacific Ring of Fire, at the point of collision of several tectonic plates. Geologically, the island of New Guinea is a northern extension of the Indo-Australian tectonic plate, forming part of a single land mass which is Australia-New Guinea (also called Sahul or Meganesia). It is connected to the Australian segment by a shallow continental shelf across the Torres Strait, which in former ages lay exposed as a land bridge, particularly

during ice ages when sea levels were lower than at present. As the Indo-Australian Plate (which includes landmasses of India, Australia, and the Indian Ocean floor in between) drifts north, it collides with the Eurasian Plate. The collision of the two plates pushed up the Himalayas, the Indonesian islands, and New Guinea's Central Range. The Central Range is much younger and higher than the mountains of Australia, so high that it is home to rare equatorial glaciers.

There are several active volcanoes, and eruptions are frequent. Earthquakes are relatively common, sometimes accompanied by tsunamis. On 25 February 2018, an earthquake of magnitude 7.5 and depth of 35 kilometres struck the middle of Papua New Guinea.[76] The worst of the damage was centred around the Southern Highlands region.[77] Papua New Guinea is one of the few regions close to the equator that experience snowfall, which occurs in the most elevated parts of the mainland.”⁶

Applicable Sustainability Elements

Following is a list of the principal sustainability elements addressed in the policies and building practices covered by this Strategic Plan.

- a) Greenhouse gas capture and storage, through consideration of –
 - greenhouse gas emission during building product manufacture (see further comments on use of timber); and
 - operational greenhouse gas emissions, through the minimization of heating and cooling energy. Depending on the climate, these will be commonly achieved through roof insulation and roof ventilation (respectively). Considerations can include the use of naturally occurring local materials as insulation.
- b) Soil erosion, as affected by both logging and replanting practices;
- c) Water quality, as affected by –
 - both logging and replanting practices;
 - siting latrines, toilets and septic tanks, particularly in respect of potable water sources; and
 - effluent disposal (where applicable).

Environmental Sustainability Policies and Practices

Full details of the PHA policies and practices are set out in “Environmental Sustainability”.

Use of Timber in PNG Community Health Buildings

- a. These buildings are timber frames, with timber floors, timber internal linings. Future buildings could also use timber cladding.
- b. From the point of view of the environmental sustainability and maximising carbon capture, using timber (if done wisely) is a good thing.
- c. In extremely simple terms, existing trees extract carbon from the atmosphere as they grow. Selected trees are then felled and incorporated into buildings (effectively capturing the carbon). New seedlings are planted, and as they grow, they capture more carbon, and the process repeats.
- d. **Provided the trees are replaced and there are precautions regarding biodiversity, soil erosion, and outlawing clear felling**, timber framing and cladding is the most environmentally responsible building solution available.

⁶ https://en.wikipedia.org/wiki/New_Guinea

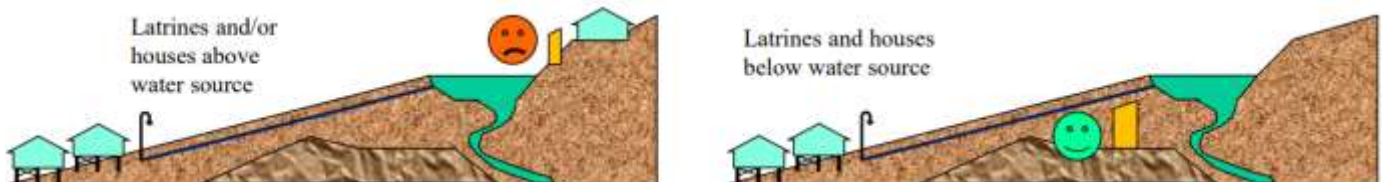
The Practical Question – Tree Replacement

- a. As an interim policy, PHA encourages (and will pay for as part of our donation), the purchase and planting of native tree seedlings to serve as carbon sinks, replacing those mature trees which have been harvested to serve as building products for the construction of village buildings.
- b. The number of such trees to be planted by VFH shall be determined for each project, based on a method to be outlined in the policy document (which will be finalised and sent shortly). Preliminary calculations (subject to confirmation) indicate that the planting of 80 casuarina oligodon seedlings would be sufficient to completely replace the trees that have been harvested for the structural frames of a community health building.
- c. The species to be selected will depend on where they are planted. Casuarina oligodon (currently grown in the PNG Highlands) is a good starting point. Papers supporting this selection are in the Environmental Sustainability Policies and Procedures.
- d. The best option is for PHA to donate the cost of the seedlings to VFH. Subject to local PNG support and availability of unused land, the seedlings could be planted on the site of the building. Because this arrangement may not be practical, a fallback position would be to fund the planting of the equivalent trees in Australia. This will be further investigated.

Ground Water Contamination and Pollution

Environmental Problem –Ground water can become contaminated and polluted by poorly sited latrines, toilets and septic tanks, particularly in respect of potable water sources; and inappropriate effluent disposal (where applicable).

Mitigation – The PHA-VFH program adopts the following principles. Water sources should be above houses and above latrines and toilets.



Program

Background

PHA, VFH and QMS have cooperated to fund, develop, design and construct community buildings in Papua New Guinea since 2010, the most recent being a community health building in remote Kopeng.

Each building is based on the **DANCER 8.4** Building System (Direct Anchorage Non-cyclonic, Cyclonic & Earthquake Resistant). This is a unique timber truss and frame building system, intended to maximise cyclone, earthquake and tsunami resistance of village buildings, incorporate only locally available components and materials, and be suitable for prefabrication by village businesses.

At a time of increasing demand for rural health services, Jane Holden (acting CEO of the PNG Western Highlands Provincial Health Authority) has written:

"... we have come up with the perfect design for a rural health facility to deliver primary care services."

The **DANCER** Building System has been developed through an iterative process of design, test, build and review by Partner Housing Australasia, Vision for Homes PNG and several consulting engineers and volunteers, who provide probono professional services.



Full-scale Prototype Testing, Australia, 2017



Kalolo Community Health Building, PNG, 2015



Baiyer River, Five Police Houses, PNG, 2016



Port Moresby, Further On-site Development, PNG, 2018



Port Moresby, Home Office, PNG, 2018



Umi, Community Health Building, PNG, 2020



Prefabrication & Trial Erection, Mount Hagen, PNG, 2020



Kopeng, Community Health Building, PNG, 2021

"I believe ... we have come up with the perfect design for a rural health facility to deliver primary care services."

Jane Holden - PNG Western Highlands Provincial Health Authority

Design Standardization

All buildings (funded by PHA) shall be designed by QMS based on a standard **DANCER** width of 8.4 m.

This will –

- Shorten the design time required by QMS, enabling designs to be produced (and customized) very quickly;
- Provide enhanced confidence that the structural design requirements are consistently met (without having to recalculate for every project); and
- Facilitate prefabrication (including manufacture of key components for stock). This is a key advantage of standardization.

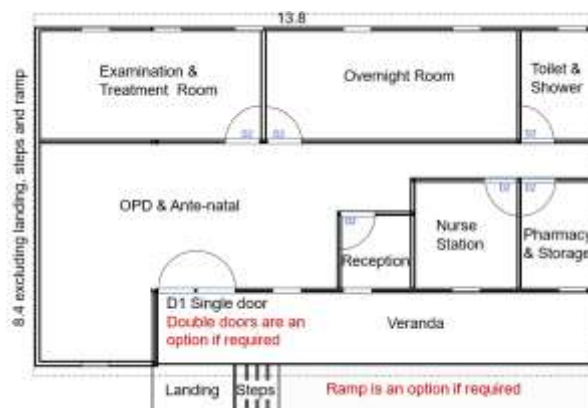
Standard **DANCER** 8.4 Buildings

- All buildings shown below are standard **DANCER** 8.4 buildings.
- Building lengths can be varied to suit –
 - Standard DANCER lengths are 5.7, 8.4, 11.1, 13.8, 16.5 and 19.2 m; or
 - Non-standard building lengths can be accommodated, although this is not preferred.
- DANCER** 8.4 standard buildings (of standard lengths) can accommodate a wide number of alternative internal layouts, depending on the use to which the building is put (health, education, accommodation etc.)
- DANCER** 8.4 standard buildings may be used in any of three styles –
 - Elevated timber superstructure;
 - Timber superstructure on concrete slab-on-ground; or
 - Reinforced concrete masonry superstructure on concrete slab-on-ground.
- DANCER** 8.4 standard buildings may incorporate, as optional extras, standard extended eaves, sun shades, awnings, verandas, ramps, steps, additional windows, fixed gable ventilation, ridge ventilation, etc.
Standard designs are available for these components.
- In addition to the simple floor plans below, more detailed designs are available.

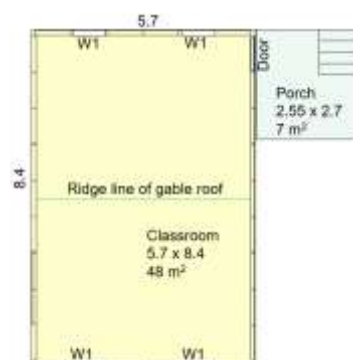
11.1 x 8.4 Community Health Building



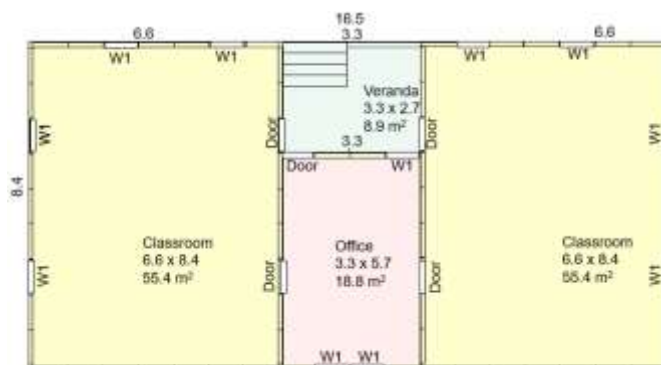
13.8 x 8.4 Extended Community Health Building



5.7 x 8.4 Single Classroom



16.5 x 8.4 Double Classroom



5.7 x 8.4 Small House



8.4 x 8.4 Medium House



11.1 x 8.4 Large House



Standard Prices

Basic Prices

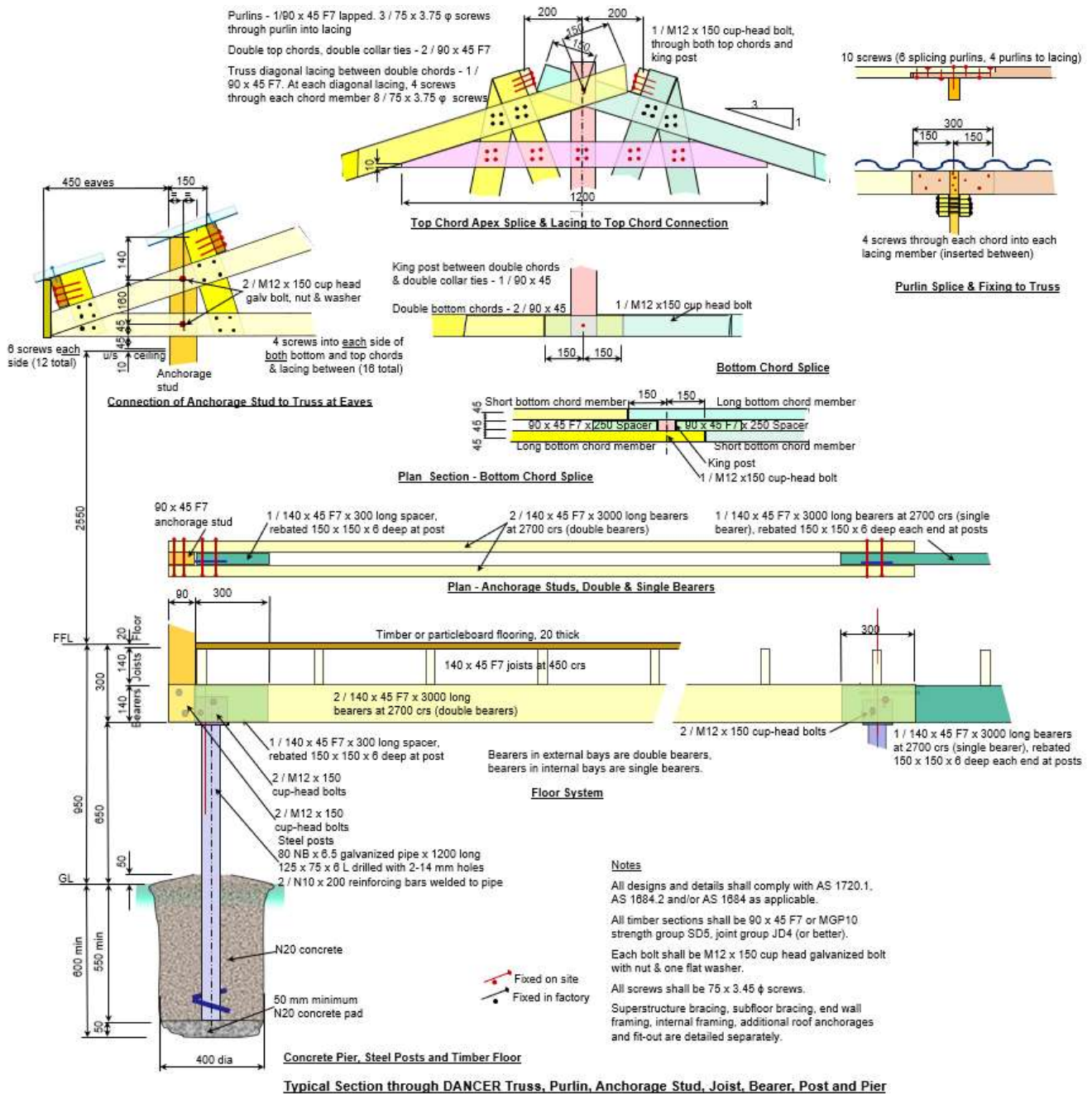
Following are approximate prices for each of the basic standard **DANCER 8.4** buildings set out above, and are intended for estimating and project planning purposes. They are subject to fluctuations due to changes in building material prices. They are based on construction in villages within 50 km of the fabrication workshop. They include solar hot water and water tanks, but exclude ramps, awnings, ventilators, extended eaves, concrete slabs etc. Solar power and batteries are included only in community health buildings.

Building Dimensions and Use	Basic Price (Kina)	Notes
11.1 x 8.4 Community Health Building	K 250,000	Excludes ramps, includes solar power.
13.8 x 8.4 Extended Community Health Building	K 297,000	Excludes ramps, includes solar power.
5.7 x 8.4 Single Classroom	K 123,000	Excludes optional extras.
16.5 x 8.4 Double Classroom with Office	K 339,000	Excludes optional extras.
5.7 x 8.4 Small House	K 128,000	Excludes optional extras.
8.4 x 8.4 Medium House	K 219,000	Excludes optional extras.
11.1 x 8.4 Large House	K250,000	Excludes optional extras.

DANCER 8.4 Certification and Details

Each building is designed and certified by qualified and experienced structural engineers, to resist noncyclonic or cyclonic wind and earthquakes, depending on the location. Tsunami resistance can also be provided for low-lying coastal situations.

The basic **DANCER 8.4** designs incorporate standard timber members and connections, supported by steel posts set in concrete piers. A sample of the standard detailing is shown below.



Prefabrication Process

A fundamental plank of this Strategic Plan is the adoption of prefabrication, the manufacture of building components in a central location, some time prior to their requirement on site. Prefabrication could be carried out in Kagamuga (Mount Hagen) (preferred) or in Port Moresby. It is possible that prefabrication could also be carried out in Lae.

The following items are recommended for prefabrication –

- a) All timber framing components that form the structure of standard (8.4 span) **DANCER** buildings, viz., purlins, trusses, anchorage trusses, external wall frames, ceiling joists, floor joists, bearers and subfloor bracing.
- b) Steel posts, most likely standard posts commercially available from local hardware outlets.
- c) Timber veranda rails and balustrades.
- d) Timber stairs and/or ramps.
- e) Pre-packed bolts, nuts and washers and screws (or nails) for site erection.

Although not included in the list above, the following items could be considered for prefabrication in the future –

- a) Internal wall frames. Although internal wall frames could be included in the prefabrication process, this requires a high degree of accuracy in design (using CAD) and accurate fabrication (using jigs), but neither are available for internal walls at present.
- b) Cladding materials, such as flooring, roofing, cladding, ceilings, and wall linings.
- c) Other components, such as gutters, downpipes, doors, door hardware, and louvre windows.

Advantage of Prefabrication

The key advantages of the prefabrication (of standard designs) are –

- a) Accuracy of fabrication can be monitored and closely controlled in a factory environment, thus ensuring that “site problems” and “site changes” are minimized; and
- b) Standard components (e.g., **DANCER** components) can be prefabricated on a continuous process, and held for future use. This is particularly advantageous for VFH, given that all buildings funded by PHA will be based on a standard **DANCER** width of 8.4 m. In practice –
 - PHA can confidently donate AUD 50,000 per year (PGK 120,000 approximately);
 - On receipt of this donation, VFH can confidently order timber and steel sections and employ factory staff to manufacture standard **DANCER** 8.4 components; and
 - VFH can store these components, confident that they will be used, no matter what type of future building (community health building, single classroom, double classroom, or house) is to be built.

Risk Analysis

Extent of the VFH and PHA Programs in Papua New Guinea

Since 2010, PHA directors and volunteers (building industry professionals at the peak of their professional careers) have helped the people of Papua New Guinea Western Province, giving freely of their time, money and skills. Over this twelve-year period, this wholly volunteer organisation (with no paid staff) has –

- contributed to the funding, design and construction of three community health buildings, two classroom buildings, five government houses, one office/residential building, approximately 10 houses; and
- provided training in basic building skills.

All have been constructed at the request of village communities and/or government organisations. This work is additional to –

- current extensive funding/building programs in Solomon Islands, and previous programs in Fiji, Cook Islands and Philippines, and
- technical assistance in multiple other countries across the Asia-Pacific region.

Relationships

Most important are the close personal relationships of the VFH and PHA personnel. We have known and worked closely together for well over a decade. PHA personnel invite VFH personnel to Australia and accommodate them in their homes. VFH personnel reciprocate, inviting PHA personnel to their family occasions. But the real strength of the relationship derives from their regular communications, mutual understanding, empathy and respect for tribal customs and sensitivity to village needs. The people of VFH and PHA are friends ... “family”.

Compliance with DFAT Requirements

This closeness of VFH and PHA relationships, and the regular exchange of email correspondence, ensure that PHA is fully informed of all issues regarding sensitive matters, including child protection, sexual misconduct, anti-terrorism, anti-fraud, and all other important code of conduct matters. The close and regular communication also ensures that the partners are equally conversant with these requirements. Through these relationships, the risk of noncompliance is significantly reduced. VFH has seven board members and (at various times) up to approximately ten employees. The PHA directors have known most of these people for well over a decade, working alongside VFH during our annual visits. Most important is a mutual trust and disclosure of all problems when they occur. The closeness and honesty of these decade-long relationships and the on-going conversations diminish the need for us to rigorously impose rigid, formal, paternalistic, culturally insensitive “training” programs. Although PHA annually formally audits and monitors VFH performance and practices, these audits are supplemented through regular, honest, frank, mutually-respectful email exchanges. These relationships are instrumental in ensuring VFH village-level compliance with the DFAT requirements.

Risk Mitigation

PHA and VFH do not claim that the PHA small volunteer profile and decade-long intimate partner relationships warrant relaxation of the DFAT risk assessment requirements. To the contrary, PHA and VFH enthusiastically embrace the DFAT requirements, and have a proven and demonstrated track record of fulfilling them. The relatively small PHA volunteer profile and twelve-year intimate partner organisation relationships lead to demonstrably diminished risk of noncompliance with the DFAT requirements. The programs that PHA delivers are “design and construction of village infrastructure”, and the policies, procedures and practices (correctly) reflect this. In accordance with sound and proven management principles. PHA (assisted by QMS) and VFH assess realistic risk, and have tailored the programs, monitoring and review accordingly.

Notwithstanding, the risks are minimised through close monitoring and annual auditing against the requirements of comprehensive policies and procedures, which are available on <https://www.partnerhousing.org/governance> .

When the PHA CEO is required to audit or note compliance, this may be delegated (as appropriate) to the PHA Regional Manager (PNG), or to another manager, who is visiting the region.

Source Material and References

The listed documents provide the source material for the following analysis. These documents cover the organisations as a whole, of which this program is part.

- PHA *"Constitution, Policies & Code of Conduct"*
- PHA *"Consolidated Policies and Procedures"*
- PHA individual specific policy documents listed in "Governance" of www.PartnerHousing.org
- VFH *"Constitution, Policies & Code of Conduct"*
- VFH and PHA *"Memorandum of Understanding. Vision for Homes and Partner Housing Australasia (Building) Incorporated, Village Housing, Clinics, Schools and Infrastructure in Papua New Guinea. 1 January 2021 – 31 December 2025"*
- PHA & QMS *"Human Rights Considerations in South Pacific Village Buildings, Water Reticulation and Sanitation"*, 16 October 2021, B3.5b P20080801-2
- *"Papua New Guinea Demographic and Health Survey 2016-18"*, Government of Papua New Guinea, National Statistical Office, www.nso.gov.pg/census-surveys/demographic-and-health-survey/
- *"Papua New Guinea's Voluntary National Review 2020 – Progress of Implementing the Sustainable Development Goals"*, 2020

Auditing, Inspection and Consultation

Within the travel limitations imposed by COVID19, PHA audits the activities annually, inspecting projects and consulting widely with the VFH personnel.

Methodology

Based on the documentation, annual audits, and other publicly available data, the following are determined.

"Likelihood" is an index of relative probability that an event will occur, estimated on a scale of 0 to 10. These are indices, not absolute probabilities.

- 0 means a relatively negligible probability of occurrence, when compared to the other considerations
- 5 means an average probability of occurrence, when compared to the other considerations
- 10 means relatively high probability of occurrence, when compared to the other considerations.

"Consequence" is an index of severity of an event, if it occurs, estimated on a scale of 0 to 10. These are indices, not absolute probabilities.

- 0 means no consequence
- 5 means moderate consequence
- 10 means severe consequence.

"Risk Rating" is the product of "Likelihood" and "Consequence". Although it is possible for a "Risk Rating" to be as high as 100, most are in the order of 0 to 20.

"Mitigation" is the action undertaken jointly by PHA and VFH to minimise the risks to the organisations and other stakeholders. Those considerations with the highest "Risk Rating" represent the greatest relative risk to the business or to the people, and will be given the greatest priority in undertaking risk mitigation practices. This is sound business practice.

Business Risk Analysis

The Business Risk analysed herein is the risk to either PHA or VFH represented by this program.

It does not deal with the risk presented to either organisation as a result of other programs.

Program: Papua New Guinea Village Buildings

Scope

- PHA – Fund the design and construction of Papua New Guinea village community health buildings, schools, government housing, and other community buildings.
- QMS – Design and audit Papua New Guinea village community health buildings, schools, government housing, and other community buildings.
- VFH – Construct and maintain Papua New Guinea village community health buildings, schools, government housing, and other community buildings.
- PHA & QMS - Provide training programs on behalf of VFH.

Financial loss

Hypothetically, PHA or VFH could suffer financial loss through funding projects that do not proceed or are partially implemented; fraud; or funding that does not eventuate; or litigation through failure to correctly execute the projects. There have been no previous instances of financial loss.

"Likelihood" = 1

"Consequence" = 2

"Risk Rating" = 2

"Mitigation"

PHA and VFH rigorously adhere to the documented policies and procedures and administer financial controls.

PHA rigorously adheres to the policies and procedures, including those requiring at least two Directors to approve payments and two Directors to authorize banking transactions.

PHA engages an Independent Auditor (See Accounting) to carry out an annual independent audit.

PHA declares program details during the annual independent audit.

PHA carries out an annual management audit of VFH and provides accounting assistance.

The PHA and VFH Directors involved in financial transactions participate in Anti-fraud Training.

Litigation targeting the Organisations

Hypothetically, PHA or VFH could be sued through failure to correctly execute projects. There have been no previous instances of litigation against the organisations.

"Likelihood" = 1

"Consequence" = 2

"Risk Rating" = 2

"Mitigation"

PHA and VFH rigorously adhere to financial and governance controls in the documented policies and procedures.

Individual programs rarely exceed AUD 50,000 per year, and undertakings are very modest, thus minimising risk of exposure to litigation.

PHA declares program details during the Independent Audit.

PHA carries out an annual management audit of VFH.

PHA briefs an independent Solicitor (GRG Lawyers) when there is any apparent potential for litigation.

Litigation targeting the Directors

Hypothetically, the Directors of PHA or VFH could be sued through failure to correctly execute their responsibilities. There have been no previous instances of litigation targeting the Directors.

"Likelihood" = 1

"Consequence" = 2

"Risk Rating" = 2

"Mitigation"

PHA closely monitors and audits programs, through its subsidiary QMS, which has appropriate Professional Indemnity Insurance. PHA shall continue to maintain Directors Insurance. VFH shall continue to follow the professional advice by QMS.

The PHA Board rigorously adheres to financial and governance controls and has Directors Insurance. The VFH Board is advised by QMS, with appropriate Professional Indemnity Insurance.

PHA briefs an independent Solicitor (GRG Lawyers) when there is an apparent potential for litigation.

Litigation related to design

Hypothetically, PHA or VFH could be sued in relation to design errors or deficiencies in other technical activities (such as training and technical audits). There have been no previous instances of litigation related to design.

"Likelihood" = 1

"Consequence" = 2

"Risk Rating" = 2

"Mitigation"

All designs and technical inputs are carried out by professional engineering or architectural consulting firms with appropriate Professional Indemnity Insurance, including –

- Quasar Management Services Pty Limited (QMS), a wholly owned subsidiary of PHA; or
- Other professional consulting firms.

Failure to complete all stages of the project within the committed time frame

PHA or VFH could be sued in relation to failure to complete all stages of the program within the committed time frame, resulting in a delay to the stakeholders and beneficiaries. This risk would only manifest in the case of programs funded by third party donors.

However, all programs are closely monitored by the PHA Regional Manager, and progress is communicated (at least quarterly) to the PHA Board.

There have been no previous instances of failure to complete all stages of the project within the committed time frame, beyond reasonable delays common in the industry.

"Likelihood" = 3

"Consequence" = 2

"Risk Rating" = 6

"Mitigation" The PHA Regional Manager shall maintain close control of materials supply and overall performance. The VFH Manager shall control and monitor all construction.

Failure to meet the technical brief for the structures

The technical consultants (QMS servicing PHA and VFH) could fail to meet the technical brief for the infrastructure (water or sanitation installations) or buildings, resulting in disfunction of the built infrastructures and risk to the stakeholders and beneficiaries.

There have been no previous instances of failure to meet the technical brief for the structures or infrastructure constructed.

"Likelihood" = 1

"Consequence" = 2

"Risk Rating" = 2

"Mitigation"

All programs are closely monitored by the PHA Regional Manager, and progress is communicated (at least quarterly) to the PHA Board.

The principals and staff of the technical consultants (QMS servicing PHA and VFH) are appropriately qualified and very experienced professional engineers, architects and/or builders.

The PHA Regional Managers reviews the efficacy of infrastructure designs.

Failure to carry out the works within the agreed budget

Hypothetically, PHA and VFH could fail to carry out the works within an agreed budget, resulting in loss to the Organisations and subsequent reduction in future service.

However, grants from donors are made on the basis that they are “contribution” towards the overall “rolling” construction program.

The budget is an estimate of annual expenditure, rather than a contract to execute particular services or construct particular structures for a fixed price.

While works are sometimes (rarely) more expensive than expected, there have been no previous instances of “failure” to adhere to the budget.

“Likelihood” = 3

“Consequence” = 2

“Risk Rating” = 6

“Mitigation”

The 10-Year Financial Plan (incorporating the annual budgets for particular programs) is presented to and approved at each December Annual General Meeting.

Acquittals of expenditure against specific grants and donations are prepared.

The PHA Regional Manager (on behalf of the VFH Manager) closely monitors the VFH expenditure, recording transactions in the VFH Xero accounting system.

The PHA CEO, Finance Manager and Regional Manager adhere to the documented policies and procedures, seeking approvals for expenditure and reporting quarterly to the PHA Board.

Humanitarian Risk Analysis

Background

The Humanitarian Risks analysed herein are the risks to PHA (including QMS, which is a wholly-owned subsidiary) or VFH represented by this program.

It does not deal with the risk presented to these organisations as a result of other programs.

Policy

PHA operates two principal program streams –

- (i) Practical design and construction of particular South Pacific village buildings, water and sanitation infrastructure, and training; and
- (ii) High level research and advice to government agencies (and similar) relating to design standards and regulations for village buildings, water and sanitation infrastructure.

To ensure that both streams are informed by human rights considerations (including [but not limited to] gender, disability, and health issues) PHA conducts an on-going research program, augmented by regular site observations and discussions with Partner Organisations. The on-going research program includes the following elements –

- (i) Human Rights Issues – Definition of the issues relevant to PHA South Pacific village programs;
- (ii) Population Statistics – Collection and analysis of available gender, disability, health and other statistics for each country serviced by PHA.
- (iii) Building Regulations – Collection and analysis of building regulations (including those that relate to gender, disability, health and other human rights provisions) for each country serviced by PHA.
- (iv) Collaborative Research - Partnerships with one or more Australian university, to research building practices (including consideration of human rights in village building).
- (v) Design Outcomes – Description of various design options resulting from the previous part of this research program.
- (vi) PHA – Analysis of PHA's activities in the context of the human rights criteria and other key policies of the organisation.
- (vii) In-country monitoring of Human Rights – PHA conducts on-going in-country monitoring to detect any obvious breaches of human rights.

Program: Papua New Guinea Village Buildings

Scope

- PHA – Fund the design and construction of Papua New Guinea village community health buildings, schools, government housing, and other community buildings.
- QMS – Design and audit Papua New Guinea village community health buildings, schools, government housing, and other community buildings.
- VFH – Construct and maintain Papua New Guinea village community health buildings, schools, government housing, and other community buildings.
- PHA & QMS - Provide training programs on behalf of VFH.

Racial or ethnic discrimination

Most of the residents of Papua New Guinea Western Province villages are ethnically Melanesian with strong tribal wantok affiliations. Public buildings, water reticulation stand pipes, latrines and toilets are for use by all people, irrespective of race or ethnicity, and are consistent with the culture of all potential users. There have been no previous instances of racial or ethnic discrimination.

"Likelihood" = 1

"Consequence" = 3

"Risk Rating" = 3

"Mitigation" The PHA CEO shall audit and review policies, and (during site visits) note that there are no racial or ethnic restrictions placed on the use of village community buildings and infrastructure.

Religious or caste discrimination

Papua New Guinea Western Province historically had a strong clan system, which is now overlaid by affiliation to several mainstream Christian denominations and local adaptations. There is widespread respect for the authority of religious leaders, but there is no institutionalised caste system.

Public buildings incorporating bathrooms, toilets, latrines and/or standpipes are for use by all people, irrespective of religion or caste. The designs of village buildings reflect current cultural norms of the local villages.

There have been no previous instances of religious or cast discrimination.

"Likelihood" = 1

"Consequence" = 3

"Risk Rating" = 3

"Mitigation" The PHA CEO shall audit and review policies, and (during site visits) note that there are no religious restrictions placed on the use of village community buildings and infrastructure.

Gender, gender identity, sexuality, sexual orientation

Public buildings incorporating bathrooms, toilets, latrines and/or standpipes are for use by all people, irrespective of gender, gender identity, sexuality or sexual orientation, and reflect the culture of users.

Bathrooms and toilets within buildings are fully enclosed with doors and locks that facilitate privacy.

There have been no previous instances of failure to provide for diversity due to gender, gender identity, sexuality, or sexual orientation.

"Likelihood" = 1

"Consequence" = 3

"Risk Rating" = 3

"Mitigation" The PHA CEO shall audit and review policies, including the suitability of various designs of community buildings and infrastructure. During site visits, the PHA CEO shall note that there are no restrictions placed on the use of village community buildings and infrastructure in respect of gender, gender identity, sexuality, sexual orientation.

Poverty, class or socio-economic status

Public buildings incorporating bathrooms, toilets, latrines and/or standpipes are for use by all people, irrespective of poverty, class or socio-economic status.

The designs of village buildings reflect current cultural norms of the local villages.

There have been no previous instances of discrimination due to poverty, class or socio-economic status.

"Likelihood" = 0

"Consequence" = 3

"Risk Rating" = 0

"Mitigation" During site visits, the PHA CEO shall note that there are no restrictions placed on the use of village community buildings and infrastructure in respect of poverty, class or socio-economic status.

Genocide

PHA and VFH do not tolerate genocide.

Although there is endemic tribal warfare and violence, there is no reported genocide or violence where PHA and VFH operates.⁷

"Likelihood" = 0

"Consequence" = 10

"Risk Rating" = 0

"Mitigation" During site visits, the PHA CEO shall note that there no instances of genocide or clan violence. Any instance of these shall be reported immediately to the authorities.

Torture and cruelty

PHA and VFH do not tolerate torture or cruelty.

Although there is endemic tribal warfare and violence, there is no reported torture or cruelty in the region. See reference in "Genocide" section.

"Likelihood" = 0

"Consequence" = 10

"Risk Rating" = 0

"Mitigation" During site visits, the PHA CEO shall note that there are no instances of torture or cruelty. Any instance of these shall be reported immediately to the authorities.

⁷ Source: "TisR", Papua New Guinea, Department of Education website,

<http://www.education.gov.pg/TISER/schools.html>

... Enga has a total of 133 schools from which 52 are To-Up Primary schools while 88 are still Community Schools. Out of the 88 community schools, 27 schools are either closed or suspended while 61 are currently in operation. ... The retention of children between Grades 1 and 6 has not improved and this is a major area of concern that needs to be addressed. Indeed, it has got considerably worse. Only about 40 per cent of children who enrolled in Grade 1 in 2000 completed Grade 6 in 2005. In addition to those who have dropped out of school there is also the large group who have never had the opportunity to enroll in school. These problems are complex and there are many contributing factors, some of which have been investigated. Equally disturbing, and probably a key-contributing factor to the poor retention statistics in Enga, is tribal fights resulting from election related disputes and second to it is the very high rate of teacher absenteeism and of teacher shortage reported. This is of particular concern in remote, rural schools. The major reasons for closer of schools in Enga were tribal fight and shortage of staff, which, between them, accounted for almost half ...

Statelessness

PHA and VFH are compassionate to stateless people.

There are no reported stateless people in the region.

"Likelihood" = 0

"Consequence" = 8

"Risk Rating" = 0

"Mitigation" During site visits, the PHA CEO shall note that there no stateless people in the communities. If stateless people are encountered, this shall be reported immediately to the authorities.

Refugees

PHA and VFH are compassionate to refugees.

There are no reported refugees in the region.

"Likelihood" = 0

"Consequence" = 8

"Risk Rating" = 0

"Mitigation" During site visits, the PHA CEO shall note that there are no refugees in the communities. If refugees are encountered, this shall be reported immediately to the authorities.

Slavery

PHA and VFH do not tolerate slavery.

There is no reported slavery in the region. This is notwithstanding some probable instances of exploitation in other applications.

"Likelihood" = 0

"Consequence" = 10

"Risk Rating" = 0

"Mitigation" During site visits, the PHA CEO shall note that there is no slavery being practiced in the communities. If slavery is encountered, this shall be reported immediately to the authorities.

Women's rights and discrimination against women

PHA and VFH adopt policies that ensure that the infrastructure constructed respect women's rights and does not become means of discriminating against women. In PNG Highlands villages, community health buildings, education buildings and other community buildings are for use by all people, including women. In particular, the community health buildings include facilities that promote prenatal and postnatal care. Toilets constructed by PHA and VFH are fully enclosed for privacy.

There have been no previous instances of discrimination against women.⁸

"Likelihood" = 2

"Consequence" = 7

"Risk Rating" = 14

"Mitigation" The PHA CEO shall audit and review policies, including the suitability of various designs of community buildings and infrastructure for use by women. During site visits, the PHA CEO shall note that there is no discrimination against women.

⁸ Source: "Papua New Guinea Demographic and Health Survey 2016-18".

Empowerment of Women - Key Findings

Employment and control over earnings: Men are more likely to be employed than women in Papua New Guinea. Sixty-four percent of currently married men were employed in the past 12 months, as compared with only 36% of currently married women. Forty-six percent of currently married women with cash earnings decide independently on how their earnings are used. About half of women and men report that they make joint decisions regarding husbands' cash earnings.

Ownership of property: More men than women own a house (60% versus 49%) and land (65% versus 44%). Cumulatively, of women and of men own a house, while of women and of men own land.

Participation in decision making: More than 8 in 10 currently married women participate, either by themselves or jointly with their husband, in decisions regarding their own health care, while 70% decide alone or jointly on making major household purchases and 79% decide alone or jointly on visiting their family or relatives. Sixty-two percent participate in all three decisions, while 10% do not participate in any of the decisions.

Attitudes towards wife beating: 70% of women and 72% of men believe that a husband is justified in beating his wife in at least one of five specified situations.

Empowerment and health outcomes: Use of a contraceptive method is higher among women who participate in one or more household decisions. In most cases, women's participation in decision making is positively associated with reproductive health seeking behaviour related to antenatal care, delivery from a skilled provider, and postnatal checks.

Domestic Violence

Experience of violence: 56% of women age 15-49 in Papua New Guinea have experienced physical violence since age 15, and 28% have experienced sexual violence. Eighteen percent of women who have ever been pregnant have experienced violence during pregnancy.

Spousal violence: 63% of ever-married women have experienced spousal physical, sexual, or emotional violence. The most common type of spousal violence is physical violence (54%), followed by emotional violence (51%). Twenty-nine percent of women have experienced spousal sexual violence.

Injuries due to spousal violence: 57% of women who have experienced spousal physical or sexual violence have sustained injuries. Cuts, bruises, or aches are the most common types of injuries reported.

Help seeking: 35% of women who have ever experienced physical or sexual violence have sought help, while 13% have never sought help but have told someone about the violence. Thirty-nine percent of women who have experienced any type of physical or sexual violence have not sought help or told anyone about the violence.

Disabilities

In PNG Western Highlands Western Province, the remote rural village paths serviced by PHA and VFH are unpaved and are often very steep. This precludes the use of wheelchairs for people with mobility disabilities. It is not possible to instal tactile indicators for people with sight impairment. There is no electricity distribution, so there is no possibility for enhance lighting of public places. These limitations mean that people with a mobility disability or sight impairment must be assisted to community buildings and infrastructure. The design specifications provided to PHA, QMS and VFH by WHPHA specifically decline the offer of ramps.

Provision of paved paths and the installation a public electricity system (necessary to improve the suitability for wheelchairs, tactile indicators and enhanced lighting) are beyond the scope and financial resources of the PHA and VFH program.

There have been no previous complaints of failure to provide for people with disabilities.⁹

"Likelihood" = 3

"Consequence" = 5

"Risk Rating" = 15

"Mitigation" The PHA CEO shall audit and review policies, including the suitability of various designs of community buildings and infrastructure for people with disabilities.

During site visits, the PHA CEO shall note that there is no discrimination against people with disabilities.

⁹ Extracts from Source: "Papua New Guinea's Voluntary National Review 2020 – Progress of Implementing the Sustainable Development Goals", 2020

The government has demonstrated commitment to improving the quality of education through its investment in basic education, policy changes and institutional reforms, by providing adequate inclusive education infrastructure, quality teaching and learning materials in mathematics and science, up-skill teachers through training and the roll out of the standard based education. This includes scaling up the re-establishment of schools of excellence to promote a higher quality curriculum for students who possess very high intelligence.

Education for children living with **disabilities** and special needs is underdeveloped. The government passed the National **Disability** Policy 2015-2020 which provides a framework for more support in this area. Most schools and centres supporting children with **disabilities** and special needs are based in urban areas, making accessibility difficult for people in these groups who live in rural areas. As early childhood education is not formalised, those schools are currently run by private operators and are unaffordable for many families.

The government, in partnership with private operators, is now focusing on Early Childhood Development as part of its priorities to deliver quality education for all beginning at an early age.

The focus for the education sector over the next five years and into the 2030 Agenda will be to:

- improve quality of education and continue to improve access and affordability
- provide quality education at all levels from basic elementary, primary and secondary education leading to TVET institutions, colleges and the universities
- provide better opportunities for students leaving school (alternate pathways - Flexible Open and Distance Education, TVET).

The economy of PNG is divided into two segments, formal and informal. In the formal economy, the market is dominated by large-scale resource projects, particularly extractives - mining, oil and gas. These have accounted for an average 30 percent GDP since 2010, and their employment conditions are guided by legislations, policies, corporate plans and employment contracts.

The informal economy accounts for the vast majority of all jobs. It generates income for families, women, young people and persons living with **disabilities**. It helps to reduce poverty and crime and contributes to the long-term development of PNG. However, working conditions in the informal economy are typically poor and incomes are low and volatile. Initiatives to promote better working conditions in the informal economy would help to improve the livelihoods of disadvantaged groups including women, youths and persons living with **disabilities** to enhance inclusive and sustainable economic growth that benefits all.

Child Protection

PHA and VFH are committed to ensuring that there is no risk to children, including risks related to images and sex exploitation. Bathrooms and toilets within buildings are fully enclosed with doors and locks that facilitate privacy. The designs of village buildings reflect current cultural norms of the local villages.

VFH has seven board members and a small number of contractors. PHA directors have known most of these people for well over a decade, working alongside them during our annual visits. The VFH personnel trust PHA sufficiently to disclose to PHA problems when they occur. The closeness of these decade-long relationships and the on-going regular, honest, frank, mutually-respectful email exchanges, reduce the risk of important issues, including Child Protection, going unreported.

The programs PHA and VFH deliver are “design and construction of building and infrastructure”. Social interactions with ordinary village residents are therefore (necessarily) minimal, thus further diminishing the risk of child protection nonconformance.

PHA has a verifiable track record in effectively dealing with a Child Protection issue, which occurred in Obobulu (in Solomon Islands), to the satisfaction of DFAT. The swift response by PHA (and its Solomon Islands partner, SRCA), the ongoing dialogue with DFAT, and the close-out after the DFAT-agreed period of rehabilitation and monitoring provides ample evidence that the policies are clear and comprehensive, and reflect that the policies and procedures are effective to the satisfaction of DFAT. This incident and the correspondence with DFAT are available in the PHA records.

“Likelihood” = 2

“Consequence” = 10

“Risk Rating” = 20

“Mitigation” The PHA Regional Manager or CEO shall provide ongoing training to VFH personnel. The annual audit shall pay particular attention to Child Protection issues, reporting any concerns immediately to the PHA Board and VFH Board.

All of the Child Protection policies and procedures (including those relating to photography and images) shall be monitored and adhered to rigorously.

Child Rights

PHA and VFH are committed to ensuring that children are afforded their due rights as recognised internationally and in the policies and procedures.

There have been no previous instances of, or complaints of, breaching child rights.

“Likelihood” = 2

“Consequence” = 10

“Risk Rating” = 20

“Mitigation” The PHA Regional Manager shall –

- Carry out those mitigation strategies related to Child Protection in accordance with the policies and procedures, including those related to photography and images,
- Ensure that toilets and bathrooms are safely accessible to children.
- Monitor the designs against the policy, and ensuring that they comply with government regulations.

Worker health & safety

The PHA “Consolidated Policies and Procedures” detail the health and safety risks to personnel. The most prevalent risks to PHA and VFH personnel are listed below.

- Travel by motor vehicle on poorly constructed roads, where oncoming traffic is often travelling at high speed.
- Walking or climbing on slippery wet slopes (such as steep wet grassy clay surfaces) leads to risk of slip and broken limbs.
- Exposure to tribal violence or banditry.
- Malaria and dengue fever.
- COVID19 infection.

“Likelihood” = 2

“Consequence” = 8

“Risk Rating” = 16

“Mitigation”

Personnel observe the precautions in the policy documents, including the following –

- Wear seatbelts in motor vehicles.
- Move slowly and deliberately on slippery surfaces using a stout walking stick if necessary. If a slip occurs, hold arms close to the body to avoid wrist or arm injury.
- Protect from mosquito bites leading to malaria and dengue fever, and use anti-malaria medication.
- Adhere to government regulations regarding minimising COVID19 infection, including maximising vaccinations and (where appropriate) mask wearing.
- Adhere to the site safety aspects of the policy and procedures.

Privacy

PHA and VFH are committed to ensuring that all people are afforded privacy. This extends to both adults and children, and includes privacy of confidential information and of photographs and images.

The current PHA Child Protection policy states (in part) –

- 1) *PHA shall not include images featuring children in any documents or on the website.*
- 2) *PHA shall only include photographs in documents or on the website of adults who have signed the Photo Release Form. Copies of signed forms shall be retained in the permanent records of the HR Manager, the CEO and the Communications Manager.....*

There is a separate comprehensive Privacy Policy.

Strict adherence to these policies significantly reduces the risk of breaching privacy.

There have been no previous instances of, or complaints of, breaching privacy.

"Likelihood" = 1

"Consequence" = 3

"Risk Rating" = 3

"Mitigation" The PHA CEO, Communications Manager and Regional Manager shall jointly minimise risk of private information being exposed as a result of PHA or VFH activities, by strict adherence to the policies and procedures.

In particular ensure that web posts, articles in the Annual Report and similar documents maintain privacy, do not publish personal information, do not feature images of children and only use images of people from whom written permission has been obtained.

Anti-terrorism, anti-fraud and anti-money-laundering

PHA and VFH are committed to ensuring that they are not complicit in terrorism, fraud or anti-money-laundering, by ensuring that (a) funds are used strictly for the intended purpose, and (b) people proscribed on the DFAT website are not engaged as volunteers or contractors. The PHA and VFH managers are experienced and ethical professionals, with many years in project management, particularly in the building industry. PHA has taken a practical and pragmatic approach to eliminating the possibility of fraud. PHA consultants design and cost each building and infrastructure scheme in detail and prepare the Bills of Quantities. Site inspections and photographic evidence demonstrate that the materials have been delivered and installed, and provide confidence that funds are not diverted to terrorism, and that there is no fraud. PHA accounts (including donations to VFH) are externally audited by a qualified independent auditor. PHA has a rigorous approval mechanism to prevent fraud. These mechanisms are fully described in the procedures and are inspected during the annual external independent audit.

Although there is endemic tribal warfare and violence, there is no reported terrorism in the region. There have been no previous complaints or breaches of the anti-terrorism, anti-fraud or anti-money-laundering provisions. PHA has a track record of implementing the anti-money-laundering policies and procedures.

"Likelihood" = 1

"Consequence" = 10

"Risk Rating" = 10

"Mitigation" The PHA CEO, Finance Manager and Regional Manager shall minimise risk of facilitating terrorism, money laundering or fraud, by rigorously adhering to the financial control procedures. The PHA CEO shall monitor the DFAT proscribed persons spreadsheet and website.

Complaints Handling

PHA has a clearly defined Complaints Handling policy and procedure. The PHA website provides a link to facilitate the making of complaints by the public. <https://www.partnerhousing.org/governance>

PHA has received no previous complaints.

VFH also has a documented Complaints policy. VFH has received no previous complaints.

Records are maintained and are available.

"Likelihood" = 2

"Consequence" = 3

"Risk Rating" = 6

"Mitigation" The PHA CEO shall ensure that complaints are properly considered in accordance with the policies and procedures, including taking the appropriate remedial and corrective action.
The VFH Manager shall ensure that local complaints are properly considered in accordance with policies and procedures, including reporting them to PHA, taking the appropriate remedial and corrective action, including actions recommended by PHA.

Non-development Activity

PHA and VFH have clear policies ensuring that non-development activity (as defined in the policies) is not to be performed when volunteers and contractors are acting on behalf of PHA and VFH respectively.

PHA provides instruction to volunteers and contractors on the non-development activity policy, and maintains a register of Declaration of Interests, which is reviewed at each quarterly Board meeting.

There have been no previous instances of non-development activity being undertaken by PHA volunteer or VFH contractors.

"Likelihood" = 2

"Consequence" = 2

"Risk Rating" = 4

"Mitigation" The PHA CEO shall ensure that non-development activity is not undertaken during the project execution. This shall be achieved by –

- Providing instruction to volunteers and contractors on the non-development activity policy;
- Maintaining a register of Declaration of Interests, which shall be reviewed at each quarterly board meeting.

Bullying, Sexual Harassment & Misconduct

PHA has a clearly defined bullying, sexual harassment and misconduct policy and procedure. The PHA website provides a link to facilitate the making of complaints by the public, including those that might relate to bullying, sexual harassment or misconduct.

PHA has received no previous complaints or notifications of bullying, sexual harassment or misconduct.

VFH also has a documented bullying, sexual harassment and misconduct policy.

VFH has received no previous complaints or notifications of bullying, sexual harassment or misconduct.

"Likelihood" = 2

"Consequence" = 5

"Risk Rating" = 10

"Mitigation" The PHA CEO shall ensure that there is no bullying, sexual harassment or misconduct, and investigate complaints and take action. All complaints shall be properly considered in accordance with policies and procedures, including taking the appropriate remedial and corrective action.

The VFH Manager shall ensure that there is no bullying, sexual harassment or misconduct, and investigate complaints and take action. All complaints shall be properly considered in accordance with policies and procedures, including taking the appropriate remedial and corrective action, including actions recommended by PHA.

Whistleblowing

PHA and VFH are committed to transparency. PHA and VFH have clearly defined Whistleblowing policies and procedures.

PHA and VFH have not been subject to previous instances of whistleblowing.

"Likelihood" = 1

"Consequence" = 2

"Risk Rating" = 2

"Mitigation" The PHA CEO shall ensure that (subject to the preservation of privacy of individuals) –

- the activities of the organisation are properly and fully documented and recorded;
- that all documents are available for scrutiny if a genuine request is made; and
- the whistleblowing policies and procedures are properly followed if a whistleblowing request is received.

The VFH Manager shall ensure that (subject to preservation of privacy of individuals) –

- the whistleblowing policies and procedures are properly followed if a whistleblowing request is received; and
- the matter is referred to PHA for assistance.

Implementation

Implementation Overview

The following recommendations cover the period from 1 July 2022 and 30 June 2026.

To provide context, reference is also made to the previous period, 1 November 2021 to 30 June 2022, during which much of the preparation was undertaken.

The following activities are not necessarily sequential. That is, the order of their implementation may be varied, and activities may be executed simultaneously.

While the following program should be implemented expeditiously, and subject to COVID 19 restrictions, the overall aim should be to achieve the stated dates.

Preparation and Adoption of the Strategic Plan

1. The PNG Working Group shall discuss the draft PNG Strategic Plan, and (if necessary) amend it accordingly. **Complete, to be reviewed annually.**
2. Representatives of VFH (Kelly Kombra Peng), PHA (Ian Volke) and QMS (Rod Johnston) shall signify acceptance (by email) of the final draft of the PNG Strategic Plan. **Complete.**
3. Rod Johnston shall prepare draft proposals for use in stakeholder consultation and funding discussions. **Complete.**

Stakeholder Consultation

1. Kelly Kombra Peng (assisted by Julianne McKay and Ian Volke) shall commence discussions with the listed stakeholders to secure commitment for the construction, completion and productive use of the next village building to be constructed. This will be a standard **DANCER** 8.4 Double Classrooms and Office for Runimb community. **Complete.**
2. During the early stages of 2023, ongoing stakeholder for future health building, classrooms or similar buildings shall commence. **Ongoing tasks.**

Funding Commitments

1. Rod Johnston (assisted by Julianne McKay and Ian Volke) shall undertake discussions with the listed stakeholders for the standard **DANCER** 8.4 Double Classrooms and Office for Runimb community. **Complete.**
2. Rod Johnston shall prepare funding proposals based on the agreed template. These shall be discussed with Kelly Kombra Peng (and Julianne McKay and Ian Volke), who shall initiate the negotiations. **Ongoing tasks which are gradually being undertaken.**
3. Rod Johnston shall prepare funding proposal to the PNG High Commissioner for limited DFAT funding. **An approach to the PNG High Commissioner for limited DFAT funding has been prepared, but not sent yet, pending the outcome of a similar approach in Solomon Islands.**
4. Rod Johnston and Bruce Hutchison shall prepare a further application for DFAT ANCP registration and funding. **Bruce Hutchison is currently executing this, aiming for submission on 1 July 2023.**

Design, Prefabrication and Construction

1. Ian Volke shall process the transfer of AUD 50,000 to VHF. **Complete for the 2021-2022 Financial Year.**
2. On receipt of the AUD 50,000 donation, Kelly Kombra Peng shall commence fabrication of the **DANCER** components (suitable for a **DANCER** 8.4 building), using the existing component drawings.
Currently in progress for standard components, the first of which will be used for Runimb Double Classrooms and Office.
3. On completion of the stakeholder consultation process, Rod Johnston shall prepare final designs for the next building. **Complete for Runimb Double Classrooms and Office.**
4. On completion of the BOQ, complete the prefabrication, transport the components to site and complete all site works and construction. **In progress for Runimb Double Classrooms and Office.**
5. Hand over the completed building to the client. **Proposed for 2023.**

Ongoing Process

1. This procedure can be replicated each year of the five-year program. On completion of the abovementioned steps, repeat the process for the next building. **Subject to annual review.**
2. Given that interest rates are still low relative to the rapid escalation of the price of building materials and are likely to return to the 2% to 3% band, it will be preferable to aim for continuity of the prefabrication and a resulting build-up of a small supply of standard components. **Subject to annual review.**

Program Monitoring

Partner Housing Australasia Commenced: 15/6/18 Updated: 1/1/23

Project	Improved cyclone, earthquake and tsunami resistance of village buildings				
Objective	Partner Housing Australasia's Objectives include: "... to transform the lives of people living in Asia-Pacific villages by improving the cyclone, earthquake and tsunami resistance of their houses, clinics, schools and community buildings ..."				
Description of the project and its stages	<ol style="list-style-type: none"> 1. Identify and document instances of persistent structural collapse of village houses, clinics, school and community buildings when subjected to cyclones, earthquakes and/or tsunami. Plan a strategy for the systematic improvement of current building design and construction practices. Develop, test, document and promote an improved building system (e.g., DANCER Building System) in collaboration with universities and other organisations. 2. Facilitate one of more pilot programs of constructing DANCER buildings in South Pacific villages in collaboration with local partners to prove the technical aspects of the system. 3. Facilitate one of more large programs of constructing DANCER buildings in South Pacific countries in collaboration with local partners. This will be based on the establishment and operation of not-for-profit village cooperatives operating fabrication and building businesses, concentrating on the production and construction of DANCER buildings. 4. Facilitate reform of the regulations and supporting material (handbooks etc.) governing South Pacific village buildings by working with agencies such as DFAT and Standards Australia. 5. Facilitate the training of village builders in improved practices by providing training packages, handbooks, tools, templates and the like. 				
Stage	1	2	3	4	5
Stage description	Development	Pilot programs	Scaling-up	Regulation	Education
Stage objective	Program design	Build DANCER in villages	DANCER cooperatives	Change Codes & Standards	Training packs & handbooks
Country	Australia	PNG	PNG		South Pacific
Partner	VFH	VFH	VFH		Nil
Location	Australia	Mt Hagen, PNG	PNG		Internet
Duration period	2010-2018	2010-2018	2019-2029		2007-2027
No of years	8 years	8 years	10 years		20 years
% Complete	100%	100%	33%		90%
Effectiveness		100% although steep learning process			Handbooks in use now.
Country	As above	Fiji			
Partner	As above	Habitat for Humanity Fiji			
Location	As above	Viti Levu			
Duration period	As above	2017-2021			
No of years	As above	4 years			
% Complete	As above	56%			
Effectiveness	As above	Program discontinued DANCER not in use.			

Program Evaluation

Scope

This program evaluation provides an overview of the effectiveness, in achieving the stated objectives, of the current building program in the Western Highlands Province of Papua New Guinea.

Date of the Program Evaluation

This evaluation is the consolidation of several other previous ongoing evaluations. These were discussed at the July 2022 PHA Board Meeting while considering the draft PHA 2022 Annual Report.

This evaluation consists (in part) of the consolidation of those evaluations, together with consideration of other information obtained more recently, to provide the report in its current consolidated format.

Preparation in this format was commenced in August 2022, and modified in September 2022.

It will be subject to audit in late September 2022, and subsequently corrected (if necessary). The current report will be presented in part to the July 2022 PHA Board Meeting, as part of the draft PHA 2022 Annual Report.

This consolidated report was considered by the PHA Strategic Plan Working Group during August 2022, and was recommended for interim adoption and further review.

Date of the Next Program Evaluation

The next management audit will be a remote audit, during October 2022, and will inform the next annual program evaluation.

The next program evaluation will be carried out in December 2022, as part of the preparation and report to the December 2022 PHA and VFH Annual General Meetings.

Joint Papua New Guinea and Australian Strategic Context

PHA is the only Australian engineering/building NGO working to strengthen both the built infrastructure and civil society in the strategic Papua New Guinea Western Highlands Province. The closeness of the PHA and VFH relationship, and to the people of this region, should be a major consideration in appraising the effectiveness of this program.

References

- “PNG: Rural Primary Health Services Delivery Project”, February 2022, Asian Development Bank, Project Administration Manual (Including Additional Financing), Project Number: 41509-013 Loan Number: 2785, 8274 Grant Number: 0259 <https://www.adb.org/projects/41509-013/main>
- “A National Plan for Education, 2005 – 2014”, Papua New Guinea Department of Education, identify the timeline for defining the demand for Elementary, Primary and Secondary school buildings. <http://www.education.gov.pg/TISER/documents/plans/national-plans/national-education-plan-2005-2014.pdf>
- “TisR”, Papua New Guinea, Department of Education website, <http://www.education.gov.pg/TISER/schools.html>
- Refer to the details set out in Annexures 2 and 3.

Benefit / Cost Considerations

PHA and VFH are not high-overhead, large, city-based NGOs, whose administrations devour large quantities of government and donor funding.

The PHA documentation, accounts and annual report reflect its low-overhead hands-on volunteer professional organisation, and this is what makes it both relevant and effective. Notwithstanding, PHA complies with the child protection, anti-terrorism, anti-fraud, training, risk analysis and other ACFID and DFAT code of conduct requirements. PHA's very low overheads (less than AUD \$ 10,000 per year) are paid from existing reserves, so that 100% of any donations for Papua New Guinea are spent directly on materials and/or in-country labour for the program.

VFH has few overheads. The operational administrative functions are provided on a probono basis by QMS and PHA.

The low overheads of both organisations ensure a high Benefit / Cost ratio, ensuring value for donor organisations.

Program Performance Assessment based on External Reports

Although the PHA and VFH programs have not been subject to external audits, they are routinely audited by Quasar Management Services (QMS), which provides an audit report to the PHA Board. Details of these reports, and the actions taken to correct any nonconformances, are available in the PHA permanent records including board minutes.

Community Health Buildings

Annexure 2 includes extracts from the ADB "Papua New Guinea: Rural Primary Health Services Delivery Project", and the completed costs (in US dollars) to construct the 32 Community Health Posts (CHPs) completed since July 2016.

The average price for the ADB Community Health Posts is **USD \$ 1.28 million per CHP**.

The average price for the PHA-VFH Community Health Posts is approximately **USD \$ 0.06 million per CHP** at the current exchange rate of USD \$ 1.0 = PGK K 3.43 (PGK K 0.198 million per CHP).

The PHA-VFH Community Health Posts **cost approximately one twentieth** of the ADB Community Health Posts.

Because the PHA-VFH Community Health Posts (73 m²) are approximately 50% of the habitable floor area of the ADB Community Health Posts (152 m²), the comparison on a "per square metre" rate becomes –

The PHA-VFH Community Health Posts **cost approximately one tenth per unit area** of the ADB Community Health Posts.

Education Buildings

The education buildings constructed by PHA and VFH are essentially the same design (**DANCER 8.4**) as the community health buildings. Therefore, the same broad conclusions can be drawn as are applicable for community health buildings.

Accommodation Buildings

The accommodation buildings constructed by PHA and VFH are essentially the same design (**DANCER 8.4**) as the community health buildings. Therefore, the same broad conclusions can be drawn as are applicable for community health buildings.

Program Performance Assessment based on Numerical Calculation

Outcomes and Impacts how we apply rational analysis to measure the effects of our programs on the communities whom we serve.		
Objective Our qualitative objectives are stated in the Mission statement at the start of this Annual Report and are summarised as follows. During the last decade, Partner Housing has developed and consolidated four “services” - <ul style="list-style-type: none"> • Pro-bono “Design and Help-Desk” Engineering Services. • Finance, design, materials supply, supervision, mentoring and training for houses, clinics, schools, water and sanitation. • Develop and document the DANCER cyclone, earthquake and tsunami resistant building system. • Training programs for improved rural water supply and sanitation. 		
Key Performance Objectives	Key Performance Indicators	Performance Comments
Focus the design and construction culture on the South Pacific villages on improving cyclone, earthquake and tsunami resilience, and provide practical assistance to ensure this efficiently implemented.	Development and documentation of cyclone, earthquake and tsunami resistant forms of construction.	Development, prototype testing, pilot construction, full scale production and documentation of the DANCER system is well advanced in PNG.
Provide financial and technical support for village programs - village buildings (houses, community centres, schools and clinics), and water collection and reticulation, septic systems and latrines.	Financial support for overseas programs	Average annual program expenditure (averaged over two years)
	Village buildings & engineering	\$612,577
	Estimate - lives improved during use per unit support	Lives improved pa . design life / donation People . years / AUD \$
	Village buildings & engineering	0.065
	Estimate of lives improved per unit expenditure	People whose lives are improved by one year of expenditure x number of years of use
	Village buildings & engineering	39,818

Calculation of the “Outcomes and Impacts” metric

The metric, “people.years”, is derived in the following way.

1. For each program (water reticulation, sanitation, and building and engineering), the “Financial support for overseas programs” is the cumulative donation to the partner organisations (monetary donation and/or supply of materials and services) since 2009 (when the overseas construction projects commenced).
2. A decade of historical data, tempered by judgement, is used to derive values for “Lives improved pa .design life / donation” reported as “people.years / AUD \$”.
 - The number of “people whose lives are improved” are estimates based on the number of facilities built and the populations of the regions in which the villages are located.
 - The number of people using each facility are estimates based loosely on the typical population of a village and number of facilities built therein.
 - The design lives of the facilities are conservative (i.e., low) estimates, based generally on experience and observation of the cycle of replacement or major repairs.

Example				
People.years / AUD \$	Design Life years	People per year	Donation \$ / building	Assumptions
0.086	6	3000	\$210,184	Ranongga water
0.083	5	357	\$21,500	Gibitngil latrines
0.070	25	500	\$178,015	PNG school, clinic, large houses

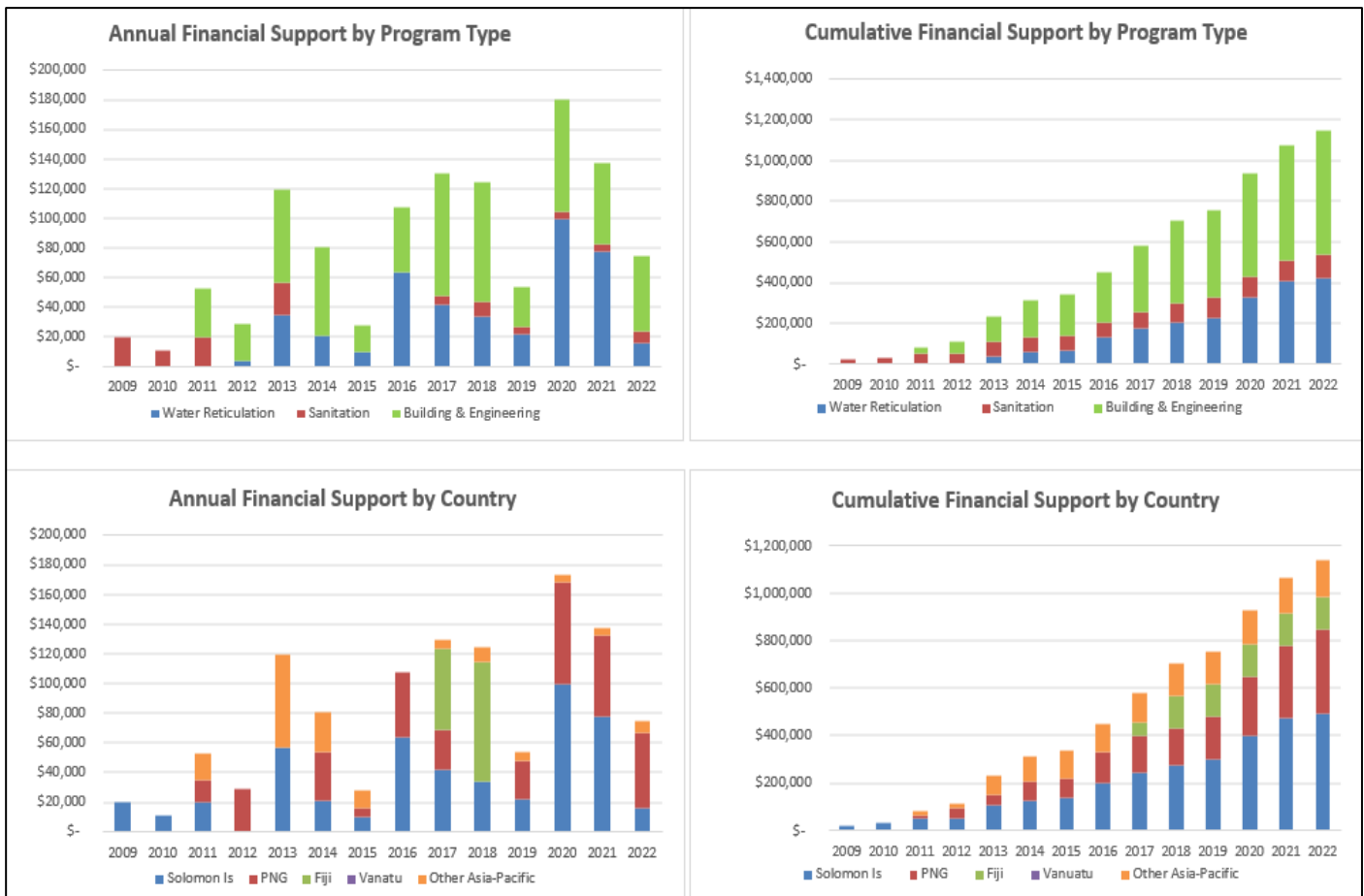
3. The value of “People whose lives are improved by one year of expenditure x number of years of use” measured in “people.years” is determined by multiplying the “Financial support for overseas programs” by “Lives improved pa. design life / donation”.

Program Performance Assessment based on Finance Support Deployed

The following charts provide context for this program, considering both the geographical spread of PHA Financial Support and the type of PHA programs supported.

During a 12-year period, joint PHA and VFH programs have concentrated in the PNG Western Highlands Province and Enga Province, with one office/demonstration house in Port Moresby.

“Financial Support” is defined as monetary donations to partner organisations and/or the value of purchased goods and services for overseas countries programs, measured in Australian dollars.



Program Performance Assessment based on Testimonials

The following testimonials have been used to assist the program evaluation process.

1. Partner Housing Australasia provides significant funding, design, costing and auditing assistance for the current program of building community health buildings in the PNG Highlands, in partnership with Vision for Homes, the Western Highlands Provincial Health Authority, Digicel Foundation and the Dei District local authority. Following are extracts of testimonials from two of these partners.

“... So many thanks to all who have contributed to this new health facility for Umi. I believe as do those who are supporting the rural facilities in WHPHA that through this project we have come up with the perfect design for a rural health facility to deliver primary care services.”

From: Jane Holden <jane.holden@whhs.gov.pg>
Sent: Saturday, 11 July 2020 12:48 PM
To: Kelly Kombra Peng <kellykombrap@yahoo.com>; Batamai Tipi <btiphysons@gmail.com>; Steve Iaruga <steve.iaruga@whhs.gov.pg>
Cc: Westly Nukundj <wnukundj@ymail.com>; Julianne McKay <julienne.mckay@gmail.com>; Rod Johnston <rod@electronicblueprint.com.au>; Ian Volke <ianvolke49@gmail.com>
Subject: RE: Umi Aid post Project Completion Report

So many thanks to all who have contributed to this new health facility for Umi.
I believe as do those who are supporting the rural facilities in WHPHA that through this project we have come up with the perfect design for a rural health facility to deliver primary care services.

The country is moving away from the idea of an aidpost to requiring PHA's in partnership with the District DDA's to develop a facility that best meets the needs of the community it is designed to serve. I understand it is being promoted as a suitable design throughout all PHAs.

So thank you again and I look forward to the opening.
Best wishes
Jane

2. Partner Housing Australasia provides probono engineering assistance to other not-for-profit organisations involved in development and natural disaster response. In the wake of the 2018 Papua New Guinea Highlands earthquake, Bishop Donald Lippert (Catholic Diocese of Mendi) states:

"... I am truly overwhelmed by the work that you have put into this project We are not accustomed to this level of professionalism... Your visit was providential and the professional services that you provided were utterly necessary if we have any hope of moving forward in any reasonable way in the aftermath of the devastating earthquakes that have rocked the region beginning in 26 February 2018."



Program Evaluation Conclusions

The evaluation of this program leads to the following conclusions –

1. The people living in villages of the PNG Highlands, in which PHA and VFH have implemented the building program, benefit directly from the program.
2. Given the very high pro bono professional services contributions by PHA volunteers and QMS, the benefit greatly exceeds the cost.
3. PHA and VFH remain committed to continuing and extending this program as long as funding permits.
4. The current program would be greatly enhanced by the provision of reliable ongoing grant funding for this program.
5. Australia and Papua New Guinea would jointly benefit significantly if PHA and VFH were to receive such reliable ongoing grant funding for this purpose.

Annexure 1 – Photographs of a Selection of PHA-VFH **DANCER** Buildings

The following photographs are of some of the community buildings designed by PHA and constructed by VFH in Papua New Guinea, using the **DANCER** Building System, purpose designed for this application.



Kalolo Community Health Building
Southern Highlands Province



Kopeng Community Health Building
Western Highlands Province



Umi Community Health Building
Western Highlands Province



Five Baiyer River Police Houses
Western Highlands Province



Display Home / Office – Port Moresby

2. Completed Contracts

Goods and Works								
Package Number	General Description	Estimated Value	Contract Value	Procurement Method	Advertise ment Date (quarter/ year)	Date of ADB Approval of Contract Award	Date of Completion	Comments
4. RPHSDP/ NCB/CW/ 03/0514	Construction of Community Health Post at Bubuleta in Alotau, Milne Bay	\$1.75 million	\$1.70 million	NCB	May 2014	8 Oct 2014	CHP inaugurated on 26 th Jul 2016	Contract awarded to Avenell Engineering Systems Ltd on 11 Dec '14.
5. RPHSDP/ NCB/CW/ 04/0914	Construction of Community Health Post at Yasubi in Okapa District, Eastern Highlands	\$1.50 million	\$1.24 million	NCB	Sep 2014	16 Feb 2015	CHP inaugurated on 18 th Apr 2017	Contract awarded to PNG Construction s Ltd on Mar '15.
6. RPHSDP/ NCB/CW/ 05/1014	Construction of Community Health Post at Alkena in Tambul Nebilyer District, Western Highlands	\$1.50 Million	\$1.48 million	NCB	Oct 2014	16 Feb 2015	CHP inaugurated on 1 st Dec 2016	Contract awarded to Avenell Engineering Systems Ltd on 26 Feb '15.
7. RPHSDP/ NCB/CW/ 06/0615	Construction of Community Health Post at Gurney in Alotau District, Milne Bay	\$1.50 Million	\$1.37 million	NCB	Jun 2015	10 Aug 2015	CHP inaugurated on 10 th Apr 2017	Contract awarded to Rhodes Project Services Pty Ltd on 09 Sep '15.
8. RPHSDP/ NCB/CW/ 04/0914	Construction of Community Health Post at Yasubi in Okapa District, Eastern Highlands	\$1.50 million	\$1.24 million	NCB	Sep 2014	20 Mar 2015	CHP inaugurated on 18 th Apr 2017	Contract awarded to PNG Construction Ltd on 26 Mar '15. (Cost for construction originally financed by GoPNG and then refinanced by DFAT)
9. RPHSDP/ NCB/CW/ 10/0715	Construction of Community Health Post at Tsinjipai , Tambul-Nebilyer in Western Highlands Province	\$1.40 Million	\$1.18 million	NCB	Jun 2015	18 Aug 2015	CHP inaugurated on 7 th Nov 2017	Contract awarded to Lapwing Construction Ltd on 11 Nov 2015

10.	Construction of Community Health Post at Sanap , Mul-Bayer in Western Highlands Province	\$1.40 million	\$1.03 million	NCB	Jun 2015	28 Sep 2015	CHP inaugurated on 16 th Nov 2017	Contract awarded to Kaim Building Ltd on 9 Nov 2015
11.	Construction of Community Health Post at Sinaketa , Kiriwina Goodenough in Milne Bay Province	\$1.50 million	\$1.49 million	NCB	Aug 2015	3 Nov 2015	CHP inaugurated on 3 rd Aug 2018	Contract awarded to Rhodes Project Services Pty Ltd on 18 Dec 2015
12.	Construction of Community Health Post at Kaduwaga , Kiriwina Goodenough in Milne Bay Province	\$1.50 million	\$1.44 million	NCB	Aug 2015	9 Nov 2015	CHP inaugurated on 4 th Aug 2018	Contract awarded to Rhodes Project Services Pty Ltd on 18 Dec 2015
13.	Construction of Community Health Post at Monokam , Liagam in Enga Province	\$1.40 million	\$1.17 million	NCB	Sep 2015	9 Nov 2015	CHP inaugurated on 11 th Sep 2018	Contract awarded to Rhodes Project Services Pty Ltd on 18 Dec 2015
14.	Construction of Community Health Post at Tukusenda , Kompam in Enga Province	\$1.40 million	\$0.95 million	NCB	Sep 2015	14 Dec 2015	CHP inaugurated on 12 th Sep 2018	Contract awarded to Haom Builders Ltd on 23 Feb 2016
15.	Construction of Community Health Post at Kasi , Kompam in Enga Province	\$1.40 million	\$0.99 Million	NCB	Nov 2015	11 Jan 2016	CHP inaugurated on 13 rd Sep 2018	Awarded to Haom Builders Ltd on 23 Feb 2016
16.	Construction of Community Health Post at Porea , Liagam in Enga Province	\$1.40 million	\$1.00 million	NCB	Nov 2015	10 Feb 2016	CHP inaugurated on 10 th Sep 2018	Contract awarded to Haom Builders Ltd on 27 Apr 2016
17.	Construction of Community Health Post at Kodoro , Southern Bougainville	\$1.40 million	\$1.32 million	NCB	Nov 2016	2 Feb 2017	CHP inaugurated on 4 th Dec 2018	Awarded to Rhodes Project Services Pty Ltd on 28 Feb 2017
18.	Construction of Community Health Post at Kakusida , Southern Bougainville	\$1.60 million	\$1.45 million	NCB	May 2016	5 Oct 2016	CHP handed over on 4 th Dec 2018	Awarded to Rhodes Project Services Pty Ltd on 20 Dec 2016



19. RPHSDP/ NCB/CW/ 19/0516	Construction of Community Health Post at Orami , Southern Bougainville	\$1.60 million	\$1.47 million	NCB	May 2016	5 Oct 2016	CHP inaugurated on 5 th Dec 2018	Awarded to Rhodes Project Services Pty Ltd on 20 Dec 2016
20. RPHSDP/ NCB/CW/ 31/1116	Construction of Community Health Post at Karato , Central Bougainville	\$1.57 Million	\$1.52 million	NCB	Nov 2016	26 Jan 2017	CHP handed over on 5 th Dec 2018	Awarded to Rhodes Project Services Pty Ltd on 28 Jan 2017
21. RPHSDP/ NCB/CW/ 24/0916	Construction of Community Health Post at Baea , Talasea in West New Britain Province	\$1.50 million	\$1.36 million	NCB	Sep 2016	10 Nov 2016	CHP inaugurated on 10 th Dec 2018	Awarded to Pacific Developmen t Contractors Ltd on 16 Dec 2016
22. RPHSDP/ NCB/CW/ 25/0916	Construction of Community Health Post at Vatukele , Talasea in West New Britain Province	\$1.57 Million	\$1.41 million	NCB	Sep 2016	10 Nov 2016	CHP inaugurated on 12 th Dec 2018	Awarded to Pacific Developmen t Contractors Ltd on 16 Dec 2016
23. RPHSDP/ NCB/CW/ 33/1116	Construction of Community Health Post at Akonga , Kendrian in West New Britain Province	\$1.57 million	\$1.42 million	NCB	Dec 2016	3 Feb 2017	CHP inaugurated on 14 th Dec 2018	Awarded to Pacific Developmen t Contractors Ltd on 8 Feb 2017
24. RPHSDP/ NCB/CW/ 32/1116	Construction of Community Health Post at Wako , Kendrian in West New Britain Province	\$1.57 million	\$1.53 million	NCB	Dec 2016	3 Feb 2017	CHP inaugurated on 17 th Dec 2018	Awarded to Pacific Developmen t Contractors Ltd on 8 Feb 2017
25. RPHSDP/ NCB/CW/ 17/1115	Construction of Community Health Post at Naramko , Maprik in East Sepik Province	\$1.40 million	\$1.24 million	NCB	Nov 2015	13 Feb 2016	CHP inaugurated on 26 th Feb 2019	Awarded to Haom Builders Ltd on 8 Mar 2016
26. RPHSDP/ NCB/CW/ 14/0416	Construction of Community Health Post at Jafa , Kainantu in Eastern Highlands Province	\$1.20 million	\$1.09 million	NCB	Apr 2016	5 Aug 2016	CHP inaugurated on 14 th Mar 2019	Awarded to Lapwing Construction Ltd on 18 Aug 2016
27. RPHSDP/ NCB/CW/ 11/0715	Construction of Community Health Post at Kanimerata , Mul-Bayer in Western Highlands Province	\$1.50 million	\$1.29 million	NCB	Oct 2015	24 Nov 2015	CHP inaugurated on 26 th Mar 2019	Contract awarded to Rhodes Project Services Pty Ltd on 27 Jan 2016

34. RPHSDP/ NCB/CW/ 21/0616	Construction of Community Health Post at Balam , Wewak in East Sepik Province	\$1.40 million	\$1.16 million	NCB	Jun 2016	13 Sep 2016	CHP inaugurated on 18 th Sep 2019	Awarded to Lapwing Construction Ltd on 22 Sep 2016
35. RPHSDP/ NCB/CW/ 18/0216	Construction of Community Health Post at Brigiti , Maprik in East Sepik Province	\$1.40 million	\$1.22 million	NCB	Feb 2016	3 Jun 2016	CHP inaugurated on 19 th Sep 2019	Awarded to Lapwing Construction Ltd on 23 Jun 2016
36. RPHSDP/ NCB/CW/ 29/1016	Construction of Community Health Post at Garasa , Bulolo in Morobe Province	\$1.57 million	\$1.50 million	NCB	Oct 2016	23 Mar 2017	CHP inaugurated on 2 nd Dec 2019	Awarded to HBS PNG Ltd on 25 Mar 2017
38. RPHSDP/ NCB/CW/ 27/1016	Construction of Community Health Post at Yamaya , Menyamya in Morobe Province	\$1.57 million	\$1.21 million	NCB	Oct 2016	2 Mar 2017	CHP inaugurated on 3 rd Dec 2019	Awarded to Rhodes Project Services Pty Ltd on 8 Mar 2017
44. RPHSDP/ NCB/CW/ 26/1016	Construction of Community Health Post at Biaru / Mumeng , Bulolo in Morobe Province	\$1.50 million	\$1.15 million	NCB	Oct 2016	3 Mar 2017	CHP inaugurated on 6 th Jun 2020	Awarded to Haom Builders Ltd on 16 Mar 2017. Contract novated on 7 Aug 2019 for construction of CHP at Mumeng.
45. RPHSDP/ NCB/CW/ 23/1016	Construction of Community Health Post at Taul , Wewak in East Sepik Province	\$1.30 million	\$1.16 million	NCB	Oct 2016	14 Mar 2017	CHP inaugurated on 27 th Oct 2020	Awarded to Lapwing Construction Ltd on 31 Mar 2017
46. RPHSDP/ NCB/CW/ 28/1016	Construction of Community Health Post at Umba, Menyamya / Watut , Bulolo in Morobe Province	\$1.57 million	\$1.13 million	NCB	Oct 2016	3 Mar 2017		Awarded to Haom Builders Ltd on 16 Mar 2017. Contract novated on 7 Aug 2019 for construction of CHP at Watut.
47. RPHSDP/ NCB/CW/ 34/1116	Construction of Community Health Post at Musave , Kainantu in Eastern Highlands Province	\$1.20 million	\$1.05 million	NCB	Feb 2017	23 Mar 2017		Awarded to PNG Construction s Ltd on 28 Mar 2017

Annexure 3 – Education Buildings (Classrooms and Accommodation)

The following extracts from “A National Plan for Education, 2005 – 2014”, Papua New Guinea Department of Education, identify the timeline for defining the demand for Elementary, Primary and Secondary school buildings. Other educational planning information is contained in the same report.

<http://www.education.gov.pg/TISER/documents/plans/national-plans/national-education-plan-2005-2014.pdf>

IMPLEMENTING THE PLAN											
<p>This section provides a timeline for the implementation of the Plan. Specific strategies and activities for each minor outcome in the Plan are listed, along with an indicative schedule for their implementation and completion. Detailed implementation plans will be provided each year through the annual plans of the Department of Education, provinces and districts.</p> <p>Key:</p> <p> indicates full implementation</p> <p> indicates preparatory activities and reviews</p>											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
Elementary education											
Minor Outcome E1											
Establish and maintain a sufficient number of schools.											
Complete provincial and district plans for the implementation of elementary education.											
Determine quotas for the number of schools to be established annually in each province and district.											
Develop guidelines for communities and local-level governments to use for the establishment of elementary schools.											
Develop guidelines, to include building dimensions, for elementary school classrooms and other buildings.											
Develop an efficient process for the registration of schools and teachers.											
Primary education											
Minor Outcome P1											
Provide and maintain a sufficient number of schools.											
Completion and implementation of provincial and district plans for primary education.											
Completion of school plans to include both infrastructure and quality components.											
Determine quotas for the number of Grade 7 classes to be established annually in each province.											
Local-level governments to budget grants for infrastructure and maintenance.											
Review the structure of primary schools.											
Develop guidelines, to include building dimensions, for primary school classrooms and other buildings.											
Secondary education											
Minor Outcome S1											
Establish and maintain a sufficient number of schools.											
Complete provincial and district plans for the implementation of elementary education.											
Redesignate existing vocational institutions offering a lower secondary education as secondary schools.											
Maintain and rehabilitate all schools rather than construct new schools.											
Consider and implement the findings of the review of the national high schools.											