

DIGITAL DEMOCRACY

TRANSFORMING PACIFIC COMMUNITIES FOR A BETTER FUTURE

The Problem

Despite the myriad opportunities for funding and expertise from the international community, people in both urban and rural areas in Pacific Island Countries are experiencing a range of barriers to reducing poverty, improving quality of life and reaching their full potential. Many villages and informal settlements are not showing any signs of securing adequate basic infrastructure, healthy housing, and local economic growth within the foreseeable future. Even with the millions that are invested annually by the multilateral development banks and friendly sovereigns on research, studies, capacity development and infrastructure projects as well as diplomacy to help close the socio economic gap, there is still much that needs to be achieved, and quickly particularly in the context of climate change.

To place the issue in context we need to look at the scale, numbers, and proportion. In the territorial division that is identified as the Pacific, there is a population of 11 million people. While it is minute in the context of the 7.5 billion people of the entire world, these people occupy 25,000 islands across a 155 million square kilometres of the Pacific Ocean covering 30 percent of the Earth's surface and larger than all other continents. With some thousands of rural settlements and hundreds of main urban centres with sprawling enclaves of hundreds and hundreds of informal settlements, in the scale of distribution, the Pacific represents a challenge that is far more complicated than the issues faced by most other regions of the world.

Urbanization in the Pacific is more rapid and merciless than in any other part of the world due to the extra challenges these countries have to endure, including immediate climate change related issues. The urban share of the population in most countries in the Pacific is high and expected to reach over 50% to 80% by 2050 with an annual growth rate mostly between 2% - 5% outstripping the national growth. Some countries have already reached that stage now. With a rate of urbanization of that scale, exacerbated by natural growth, towns and cities in the Pacific are brimming with people. Considering the challenges such as scarcity of land due to geographical and land management complications and limited access to safe water supply, urban problems in the Pacific will soon become near-catastrophic in most places but certainly catastrophic in places like Funafuti, in Tuvalu and South Tarawa in Kiribati. Climate change manifestations such as sea-level rise and extreme weather conditions are increasing rapidly in the Pacific and frequent experience of sinking islands, higher grade cyclones, and major floods place these poor vulnerable communities on the climate change frontline on behalf of the rest of the world. It is truism that rapid urbanization and its ramifications are becoming a worldwide phenomenon. However, conditions that are being developed in the Pacific deserve special attention.

In most countries, there are established government systems in place to deliver development assistance. These include systems that are connecting the household with all levels of government more often based on local customs and traditions. Therefore, hindrances to development emerge not because of the non-existence of state institutions, administrative systems or lack of opportunity for local people to play a role in governance. But it is the lack of capacity to behave effectively within the system to participate as equal partners to influence decision making that reduces the impact of development action. Government officers, international organizations, and consultants are

handicapped by the fundamental barrier of lack of capacity within the community. Building capacity amongst thousands of rural and urban communities facing different development challenges is not a simple task. Finding a low cost, efficient, and effective strategy that connects all communities, government, non-government, civic institutions, and services are all but challenging.

Poverty reduction in Pacific Island Countries is inextricably linked to the provision of infrastructure, housing, education, health, and finance at the community level. Therefore, the development action that leads to eradicating poverty and improving quality of life is fundamentally about access to healthy housing, water, sanitation, health and education rather than airports, ports and highways. Macro-scale infrastructure plays a pivotal role in the development of a country. However, ensuring the benefit these infrastructures bring to the nation is shared among all segments of society is dependent on whether the village gets its basic infrastructure, children can go to school without hindrances and all communities are empowered to benefit from national development. Development should essentially be bottom-up but the development is inextricably linked to the capacity of local communities to participate in development processes.

Recognizing this challenge, in 2018, the Institution for Global Development of the University of New South Wales seed-funded a project “Capacity Building in Green Infrastructure and Housing for Poverty Reduction”. A symposium was held in Nadi, Fiji in June 2018 as a significant component of the first stage of this project. The symposium was jointly funded by the IGD, Asian Development Bank Institute (ADBI), and the World Bank. In total, 56 people from 12 countries, participated the symposium. They included nominated officers from public service agencies responsible for infrastructure planning and implementation, local and international non-governmental organizations, academia and the local community.



Symposium participants

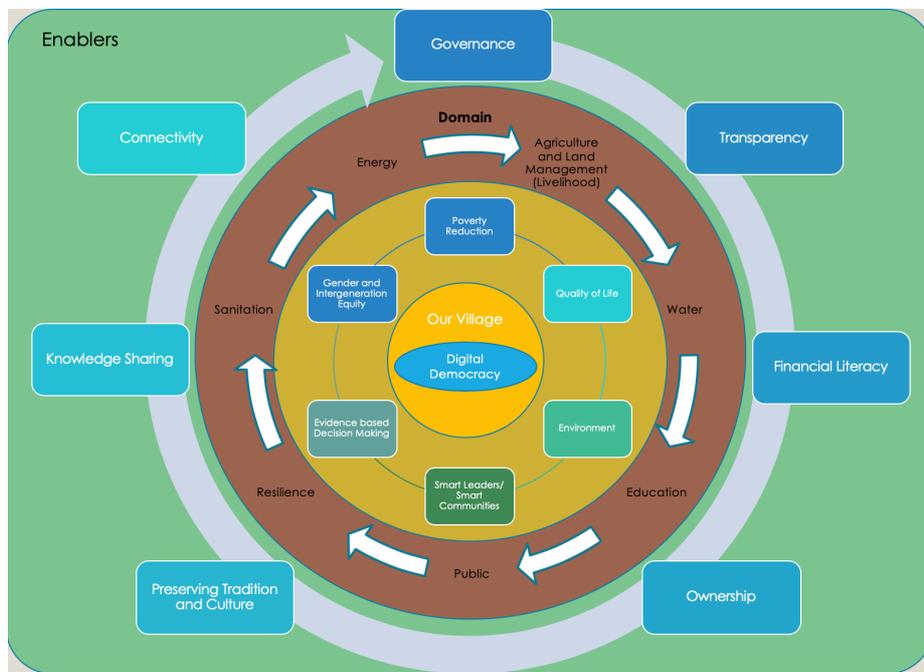
<https://newsroom.unsw.edu.au/news/general/unsw's-institute-global-development-supports-symposium-pacific-island-nations>



Symposium in session

The symposium confirmed some of the key postulations that emerged from initial research and consultations during the development stage of the project. It acknowledged that there were many barriers to achieving development objectives in all countries that participated. But the most common ones included lack of access to serviced plots, shortage of skilled labour in the building trades, the high cost of skilled labour (due to skilled labour scarcity), the high cost of, difficulties in accessing and the poor quality of building materials, lack of competence and integrity of building inspectors, non-existent or weak building codes or non-compliance due to poor governance. They also discussed risks. While the most common risk identified was climate change, there were other risks emerging from the non-existent cyclone insurance, poor application or non-existence of building regulations, disability access, overcrowding, and unhealthy living conditions in urban low-income settlements. However, there was consensus amongst participants that it was the lack of capacity as described on page one, that runs through all aspects of development making it more difficult and time consuming.

The Solution



Schematic Representation of Digital Democracy

Digital Democracy (DD) proposes a strategy to transform these communities out of poverty using through knowledge and information transfer from villages to governments, through digital application technology. The strategy incorporates information gathering, sharing, and using the

information to develop ideas, identify needs, prioritise the needs, develop skills, and all other aspects of capacity needed for communities to reduce poverty and improve quality of life.

The concept of DD is our vision for the future of Pacific communities living in the village or in the cities which are currently digitally disenfranchised. This vision was developed conceptually through the experience gained the symposium I nurtured through the wisdom of the village community in Balekinaga, where our demonstration project in Ra province in Fiji is located.

We believe the Digital Democracy concept meets the GIH's expectations for initiating the Global Infrastructure Challenge focusing on digital technology.

Digital Democracy:

- Is a digital idea
- Is also a forward-thinking big idea developed by a team with a passion to make it happen
- Is a solution with the prospect of disrupting infrastructure
- has the potential to create a tangible result for infrastructure
- can solve big infrastructure issues
- has the potential to bring disruption to the industry to better prepare us for the future

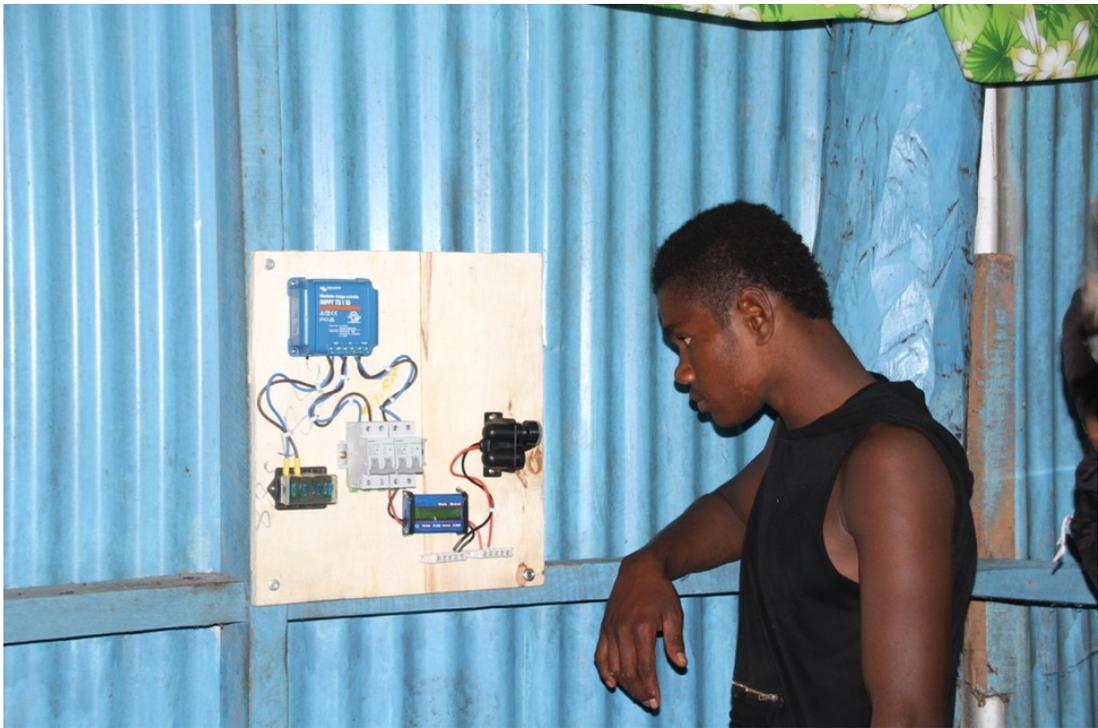
Our DD concept has been led by the UNSW as a public-private-people partnership. A core team and a supporting team formed to prepare the submission for the competition, comprising professionals from:

- The University of New South Wales, Sydney
- Motts MacDonalds, Sydney
- Ernst and Young Sydney
- NSW Department of Planning, Industry, and Environment

These teams are guided by the Project Reference Group. Memberships of the Reference Group and other teams are included at the end of this document.



Young Women Leaders of Balekinaga – Ready for Digital Democracy



Youth in Balekinaga are Hopeful of the Outcomes Digital Democracy



Wood Burning in Confined kitchen spaces in Balekinaga



Newly Built Balekinaga village Dispensary



Balekinaga community is helping the UNSW Team to install solar powered lights to the community Meeting Hall



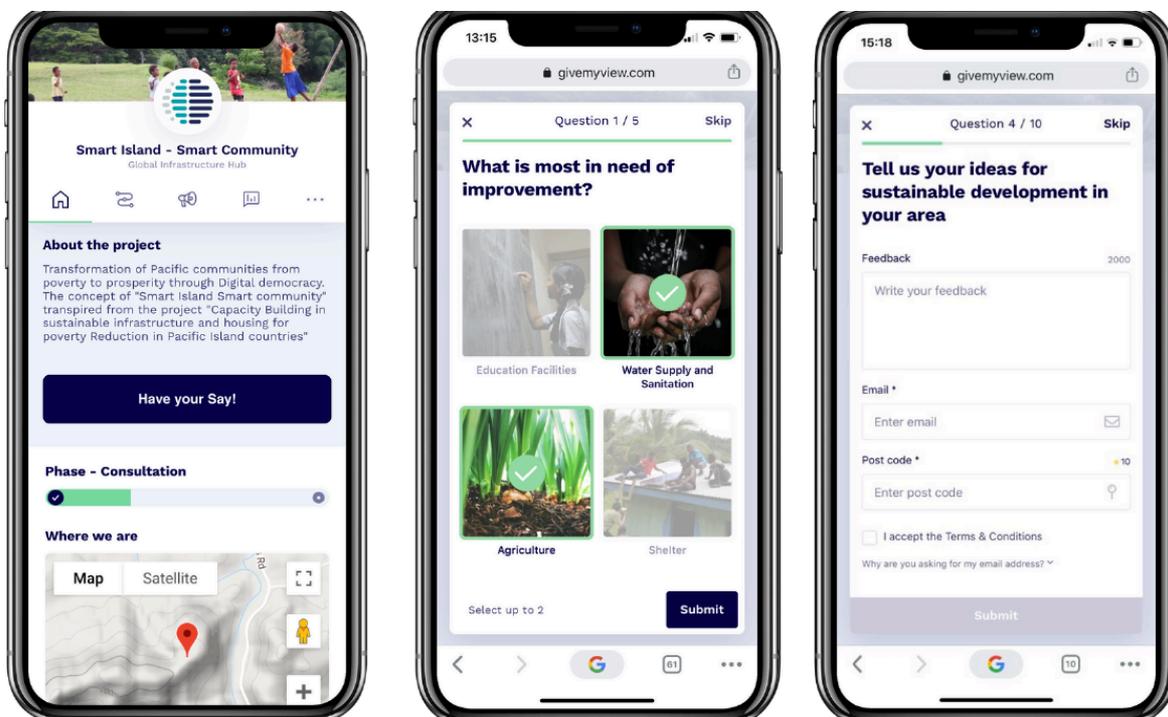
**UNSW Team Meeting the Provincial Administrator Ra Province,
Fiji**

The establishment of Digital Democracy would be through a software application that is developed together with the local community, provincial administration, and national authorities. The application would facilitate communication between the members of the community, between people and different levels of government, between the young and the old, men and women, the informed and the uninformed, and different segments of the community. It will ensure that information, needs assessment, and decision making is transparent. The app will facilitate the continuation of the empowerment that will establish the democracy needed to overcome weaknesses in the system that prohibits and discourage development.

Digital Team of Mott McDonalds has prepared example of the platform and produced a series of screen shots.

The platform aptly named as Digital Democracy Platform (DDP) will enable communities to connect across geographical, political, planning, and cultural boundaries between themselves and with government and other stake holders.

A set of three selected screenshots of the platform are given below.



Next Steps

Stage 1: Establishing foundation knowledge to co-design the DD software and platform

The team will engage with a number of settlements representing both urban and rural as well as government and non-government sectors in Fiji (where the first symposium and demonstration projects were established) and Tonga (where the follow up symposium will be held in July 2020, in partnership with the Asian Development Bank Institute).

This engagement includes meeting and organizing suitably designed interviews and workshops with appropriate government bureaucrats from government institutions (departments such as infrastructure, education, health, customary land ownership, public works, as well as data and information management) and the community sector (such as local NGOs and village committees) who can facilitate an authentic foundation for the Digital Democracy interface. There will be workshops and interviews in a selected number of (2 to 4) villages in each country to test the DD interface concept further to identify and validate what they would use the DD interface for.

Equipped with a solid foundation for the DD Platform, the team will scope an Expression of Interest to engage a suitable software company with experience in dealing with developing digital interfaces capable of connecting multiple agencies and clients with multiple data sources and processes. They will be engaged to devise a product that would be capable of addressing the capacity development conundrum faced by the communities in the Pacific.

Stage 2: Co-design of the DD pilot interface with a suitable developer

Moving on from Stage 1, the team will then undertake the task of co-designing the DD concept and implement a piloting process to reconfirm the challenges and opportunities for information identification and cross-referencing, data input, upload, storage, privacy, and security requirements.

The core DD team will recruit a suitable developer through an EOI process. At this stage a pilot version of the interface will be developed by the core DD team in partnership with the successful digital developer. The beta version will then be trialled among the same villages, government and community stakeholders who were involved in the early concept design stage. The lessons learnt from the pilot will inform the nature of the interface, what the key linkages and partnerships might be, as well as how the DD needs to be maintained, operated, and updated.

Stage 3: Development of final interface

Equipped with the outputs from the piloting of the beta version the core DD Team will embark on the task of Pacific Island-wide deployment of the concept. By this stage it is intended to find answers first to a number of questions prior to finalising the nature of the implementation. These questions include:

- Who is best placed to own and manage the platform in each country?
- How will it be funded over the long term?
- Should we run another set of pilots in each country prior to finalising the interface?

The team will ensure that all actions will comply with appropriate procurement practices and standards.

Cost of Implementation

Implementation of Stage 1 will cost approximately A\$50,000 and Stage 2 A\$ 100,000-200,000. Cost of implementing Stage 3 involves detailed study and analysis of the needs of the countries in the Pacific and developing the final software interface.

It is envisaged the cost of implementation would be between A\$30,000 – A\$50,000 per country with minor variations based on the number of settlements expected to be engaged excluding the cost of providing internet infrastructure, digital devices, and international travel.

Market Opportunity

This initiative is about the connectivity for urban and rural disadvantaged communities creating the foundation to transform people from digital disenfranchise to Digital Democracy. It talks about transparency, accountability, and participation of all in relationships with government institutions and development agencies. Simultaneously, it talks about the toilet, footpath, drinking water, and the lights. With thousands of villages and informal settlements in the Pacific, the project opens up massive opportunities for the private enterprise to market their products.

Digital Democracy will open up and streamline paths to myriad opportunities for the private sector including:

- internet and intranet services,
- small scale infrastructure projects,
- maintenance services for infrastructure and housing,
- small digital devices,
- recycling systems for digital devices,
- micro finance,
- training services for trades and
- many other subsidiary and complementary industry and enterprises.

These services can be offered at different levels and scales. Some can be initiated within the local community and generate avenues to increase domestic money supply with multiple benefits. Others can promote local business entrepreneurs to generate local employment and manufacturing opportunities.

The Project Reference group

1. Mr Damien Smith, Partner, Infrastructure advisory, Ernst & Young, Sydney
2. Mr Cameron Robertson, Senior Manager, Ernst and Young, Infrastructure Advisory, Sydney
3. Mr Brendon Baker, Technical Advisor, Mott MacDonalds, Sydney

4. Mr Antony Sprigg, Sustainable Finance Specialist , Climate Change & Sustainability, NSW Department of Planning, Industry and Environment
5. Mr David Gainsford, Executive Director, NSW Department of Planning
6. Mr Stephen Alchin, Formerly Executive Director, Infrastructure Australia
7. Associate professor Paul Osmond, Faculty of Built Environment, University of New South Wales
8. Dr Simone Zarpelon Leao, Associate Dean (International) Faculty of Built Environment, University of New South Wales
9. Professor Helen Lochhead, (Chair) Dean, Faculty of Built Environment, University of New South Wales
10. Mr Ross Butler, World Bank, Sydney
11. Mr Greg Norman, Director, Troppo Architects
12. Dr Sarath Mataraarachchi, (Convener of the Reference group), Faculty of Built Environment, University of New South Wales

DD TEAM

Core Team

1. Dr Sarath Mataraarachchi (Project Lead)UNSW
2. Mr Antony Sprigg NSW Department of Planning, Industry and Environment
3. Mr Brendon Baker, Mott MacDonalds
4. Mr Cameron Robertson, Ernst and Young

Support Team

Video production and editing

5. Mr Brian Landrigan, Educational Media Manager, UNSW

Digital Platform mock-up

6. Ms Bridget Wilkins, Director, Community Engagement, Mott MacDonalds, London

Research

1. Dr John Blair
2. Ms Madeline Whitby
3. Ms Smirti Dhungel
4. Ms Jessica Baldwin
5. Mr Antonius Rainier Haryanto
6. Mr Angelo Tan