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INSTITUTE FOR SUSTAINABLE FUTURES &
WORLD HEALTH ORGANIZATION COLLABORATING CENTRE FOR NURSING MIDWIFERY AND HEALTH DEVELOPMENT

UNDERSTANDING THE PACIFIC'S ADAPTIVE CAPACITY TO EMERGENCIES IN THE CONTEXT OF CLIMATE CHANGE

COUNTRY REPORT: FIJI

Institute for Sustainable Futures

WORLD HEALTH ORGANIZATION COLLABORATING CENTRE FOR NURSING, MIDWIFERY & HEALTH DEVELOPMENT

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ABOUT THE AUTHORS

The Institute for Sustainable Futures (ISF) was established by the University of Technology, Sydney in 1996 to work with industry, government and the community to develop sustainable futures through research and consultancy. Our mission is to create change toward sustainable futures that protect and enhance the environment, human well-being and social equity. We seek to adopt an inter-disciplinary approach to our work and engage our partner organisations in a collaborative process that emphasises strategic decision-making.

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Understanding the Pacific's adaptive capacity to emergencies in the context of climate change

Country Report: Fiji

Prepared for: National Climate Change Adaptation Research Facility (NCCARF)

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Understanding the Pacific's adaptive capacity to emergencies in the context of climate change

Research outputs in this series:

FULL RESEARCH REPORT:

Gero A., Fletcher, S., Rumsey, M., Thiessen, J., Kuruppu, N., Buchan, J., Daly, J. and Willetts, J. 2013. Disaster response and climate change in the Pacific, National Climate Change Adaptation Research Facility, Gold Coast, pp. 202.

COUNTRY REPORTS:

- Country Report – Vanuatu
- Country Report – Samoa
- Country Report – Fiji
- Country Report – Cook Islands

POLICY BRIEFS:

- Understanding the Pacific's adaptive capacity to emergencies in the context of climate change: Policy Brief for Australian Stakeholders.
- Understanding the Pacific's adaptive capacity to emergencies in the context of climate change: Policy Brief for Pacific Regional Stakeholders.
- Understanding the Pacific's adaptive capacity to emergencies in the context of climate change: Policy Brief for Pacific Island Country stakeholders.

BACKGROUND REVIEWS:

- Background Review: Disaster Response System of Four Pacific Island Countries.
- Projected climate change impacts in the Pacific: A summary.
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INTRODUCTION

Climate change is likely to affect the pattern of some disasters in the Pacific, and therefore the organisations and systems involved in disaster response. This research, conducted by researchers at the University of Technology, Sydney, focused on how the immediate humanitarian needs following disasters are met by various stakeholders, both in the affected country and those offering support from outside. The research sought to understand the adaptive capacity of both Pacific island countries (PICs) and Australia's disaster response to a potential increase in disasters driven by climate change. This report provides results for Fiji – one of four case study countries selected for deeper analysis. See institute websites for our full research report which includes details of all case study countries.

The research was guided by the following research questions:

1. What constitutes the 'disaster response system' (DRS) for the immediate humanitarian needs post-disaster (health care, water and sanitation, psychosocial needs and food and nutrition) in each of the 4 case study PICs (including the Australian component to this response)?
2. How do various inter-organisational determinants serve to strengthen or reduce adaptive capacity of the 'disaster response system'? This question considers Australia's response obligations, national, regional and international stakeholders and the mechanisms that coordinate their actions, and other regional examples.
3. Which objective and subjective determinants are most significant in influencing the adaptive capacity of the organisations within the 'disaster response system'? What are the characteristics of an organisation with high levels of adaptive capacity?

RESEARCH METHODS AND APPROACH

A qualitative methodology, with a strong focus on participatory stakeholder engagement, was used for this research. The concept of 'adaptive capacity ' was used to assess the resilience of individual organisations and the robustness of the broader system of response. Specific determinants of adaptive capacity were used to assess the 'disaster response system' (DRS), comprised of actors and agents from government and non-government sectors, governance structures and the formal and informal networks that support them. Background literature reviews, stakeholder workshops and key informant interviews with Australian, New Zealand and Pacific based stakeholders within the disaster, climate change, health and development sectors were used to assess the complexities of the DRS in selected Pacific island countries. Emphasis was placed on four immediate humanitarian post-disaster needs: health care; water and sanitation, psychosocial, food and nutrition.

FIJI DISASTER RESPONSE SYSTEM

Key organisations and supporting policies / plans active in supporting disaster response, as identified by in-country stakeholders in Fiji include the following:

Key Organisations	Key Legislation, Policies and Plans
• Disaster Management Committee (DISMAC) • National Disaster Management Council(NDMC)) • National Disaster Management Office (NDMO) • Ministry of Works, Transport and Public Utilities Department • Ministry of Health • Ministry of Foreign Affairs • Ministry of Agriculture, Rural Housing and Education; • Fiji Meteorological Service • Fiji Electricity Authority • Fiji Telecom • Ministry of Youth, and Ministry of Women • Donors: AusAID, NZAID, USAID • UN Agencies: UNOCHA, UNICEF, WHO • Fiji Red Cross Society (SRCS) • Fiji Council of Social Services Act for Peace - Pacific Community-focused Integrated Disaster Risk Reduction • Adventist Disaster Relief Agency • Hare Krishna Foundation	• National Disaster Risk Management Act 1998 • National Disaster Management Plan 1995 (NDMP) • Hazard Contingency Plans and Agency Support Plans • Comprehensive Hazard and Risk Management (CHARM) Framework • National Emergency Operations Centre Standard Operating Procedures (SOPs)

Leadership throughout the disaster response structure is viewed by most of the participants as being strong and effective. The decision makers include all levels of society from the villages, provincial authorities, and district authorities up to national level and feed information both ways. However, there are concerns with overall disaster management. The Fiji Natural Disaster Management Act (1998) which outlines the structure and all special powers during times of disaster has been in review for several years and during interviews it became apparent this process has been stalled. There is evidence that the private sector is not formally incorporated into the DRS (please see National Disaster Management Organisation diagram in Final Report) and Fijian participants suggested that the private sector, along with NGOs and civil society, should be involved either in the Disaster Management Council or at a District level.

HUMANITARIAN NEEDS

A summary of organisations and response mechanisms in Fiji relating to the four post-disaster humanitarian needs covered in this research is provided below.

Health Care	Psychosocial Needs
• Generic policies and processes in place for disaster response but need to be more clearly defined for specific disasters. • In-coming health personnel were usually coordinated through the UNOCHA/PHT system.	• Fiji had inadequate capacity to meet post-disaster psychosocial needs.; • Discussions being held with NGOs that provide counselling services to assist with capacity for psychosocial support. • Limited ownership of psychosocial support by

• The health sector is a key stakeholder in the DRS. Health sector coordination functioning well. • The health sector has strong leadership and external support systems from government and donors; health workforce capacity is stretched especially in times of disaster. • Nursing and allied health staff actively involved in response, taking on a variety of roles and multi-tasking. • Inadequate capacity to address psychosocial needs post-disaster; • Disaster training available and included in nursing curriculum, but access to training for some levels of staff an issue. • The uneven distribution of health workers that results in low availability for disaster response in rural/remote and poor urban socioeconomic areas.	Fijian DRS organisations. Psychosocial support from faith based organisations was targeted mainly to their members. • Psychosocial support needed for disaster response personnel, including health workers, offering the support.
Food & Nutrition	**Water, Sanitation & Hygiene (WASH)**
• Except for food safety which was addressed by the Health Cluster, immediate food and nutrition needs post-disaster were not identified as a priority in Fiji; • Long term food security is of concern.	• WASH is of great concern following a disaster in Fiji. • Several sectors supported by UN agencies and donors involved in the delivery of WASH. • Red Cross takes a leading role in coordinating the distribution of WASH kits and information because the health system is placed under such strain during times of disaster.

KEY DETERMINANTS OF ADAPTIVE CAPACITY

Fiji is a Melanesian country made up of 300 islands, 109 of which are permanently inhabited, however the majority of the total population reside on two main islands. In recent years, emergency response has been largely managed with national capacities and resources, coordinated by the NDMO. However, official requests have been made for donors to provide specific assistance, including funding for aerial survey, logistics, tools, shelter and health supplies. The key determinants of adaptive capacity for Fiji that were found to be most significant were: information and knowledge; risk perceptions; communication and relationships; financial capacity and leadership and management.

Information and knowledge

> *"We rely on the nurses in the community because they have 100% information...they know how many people are there, how many children are there, how many disabled…we have a standard form that people are using. And using that form will give us the accurate information that we want."*

The capacity to apply current knowledge to a situation in a creative manner, assigning virtual roles, and the ability of subsets of an organization to assume responsibilities of absent members, which are considered adaptive features of an organisation were evident in the Fiji DRS. The sequence and dissemination of information and knowledge in Fiji, according to most informants, is organised and consistently reviewed with lessons learned. Information begins with the Fiji Meteorological Services, however once a disaster has occurred information is fed up through the DRS from the villages, often through the nurses. Disaster information going out to the media is carefully controlled. There were noticeable gaps in information and knowledge reported, mainly with disaster assessments and the sharing of information,

which served to constrain adaptive capacity. For instance, there is heavy reliance on nurses and village leaders to conduct initial assessments; however duplicate assessments, matters of power, control and decision making were negatively affecting the flow of information amongst stakeholders. The revision of the Natural Disasters Management Act (1998), the provision of training for nurses to conduct disaster assessments and the involvement of NGOs in decision making processes were recommended to address some of these issues.

Risk Perceptions

> *"Our communities are not resilient to such extreme events, even if not extreme but frequent then they will be too vulnerable to all these impacts."*
>
> *"We feel there is a gap in preparedness. Many a times people don't really act until the disaster strikes that is the gap that needs to be looked into."*

Climate change and its potential impacts on disasters were generally understood by Fiji interviewees leading to a focus on integrating lessons learned into disaster response mechanisms. However, while disaster risk reduction and preparedness were being given priority, the research revealed there were limited resources to implement DRR and preparedness initiatives and this posed a significant threat to adaptive capacity. Respondents felt that vulnerability assessments were needed to determine the long term implications of deforestation, the location of villages and health facilities; additional development risks needing to be addressed alongside those associated with climate change.

Fiji has been strategic in marrying DRR and donor funding for climate change adaptation, aligning with regional efforts of integrating DRR and CCA to reduce duplication of risk reduction efforts. In Fiji, there is a perceived risk of increasingly severe and more often disasters due to a changing climate and as such the DRS is working on lessons learned and incorporating these into their organisational structures and disaster preparedness. However, this approach has not been integrated across all sectors, and requires funding for widespread implementation.

Communications and relationships

> *"In Fiji we have a lot of islands so the communication between our communities to reach this office is a big problem. We want to come up with solution to this. There is also a need for harmonising all the communication channels. These are some of the basic problems that this office is undergoing… we want all the systems to be all in one so we can work accordingly."*

Communication is considered fundamental to the functioning of the DRS and was pointed to by many interviewees as impacting the immediate response and adaptive capacity of the system to respond. The three main areas impacting the communication within the DRS were: relationships, lines of communication and physical barriers to communication. The relationships between organisations involved in disaster response and with government, importantly the NDMO, assist in the effective workings of the DRS. Conversely, breakdowns in relationships were found to have negative effects, resulting in criticism of the Fijian government for not reacting rapidly enough to past response. The lines of communication were also recognised as being vital to a coordinated response. Although the National Disaster Management Structure outlines broad lines of communication, the detailed workings of this sometimes differ. On the ground communication between organisations was reported as being difficult during a disaster, an issue further exacerbated by isolated islands. Organisations within the Fiji DRS were working on overcoming these barriers, through the use of other technology

such as satellites, to increase their adaptive capacity. Social networks are maintained as an important means of communication and efforts are being made by the PCIDRR project to address the communication situation on outer island communities.

Financial capacity

The Financial capacity of the Fiji DRS and individual organisations within it greatly affect the adaptive capacity of organisations as accessing funds quickly for both material and human resources is vital during times of disaster. Financial capacity was of great concern in Fiji and was discussed by interviewees more than other "capacity" determinants (eg. human resources, technical capacity). While mechanisms are in place to ensure efficient access and flow of money during disasters, barriers impede effectiveness include: an insecure political environment affecting government to government relationships and financial aid; competing priorities for disaster funds; limited funding for disaster preparedness and DRR; donor led disaster response rather than country led and confusion about how to access funding.

"What we try to put in place is increasing the capacity of the whole team. So when the regional manager is out of the office the whole team can stick together and say we can do that, we have the capacity of doing that. We have had disasters without presence of director of disaster management office. But we handled it well. It's a just a question of increasing the capacity of the whole team."

Leadership and management

The structure of government in Fiji points to climate change being a focus. The Climate Change Unit is located within the Ministry of Foreign Affairs. This arrangement allows easier interaction with donors, other governments and NGOs. Therefore, on a structural level climate change is integrated at a very high level. Such high prioritisation leads to the possibility of a more effective DRS, however to be adaptive the organisations that make up the DRS must have leadership and staff who view crises as opportunities for advancement. NDMO has strong leadership which infiltrates the whole of the DRS. With reportedly no monitoring mechanism, the NDMO indicated that in terms of performance this is measured from an operational level to determine how information is getting out; the reaction time; the efforts being made; and the area covered.

Participants reported that during disasters when there is an element of confusion, they understood the need to follow leadership directions for effective disaster response. Additionally, the Permanent Secretaries of each Ministry are involved during times of disaster with the NDMC. Ministries, NGOs and private sector organisations are invited to attend informal debrief and lessons learned meetings with the NDMC following a disaster. This process should be formalised to ensure inclusiveness of all relevant stakeholders.

CONCLUSION

The most important determinants affecting adaptive capacity in Fiji were found to be: Information and knowledge; risk perceptions; communication and relationships; financial capacity and leadership and management. For the most part, Fiji has a strong, well defined DRS with clear lines of authority. Leadership is viewed as being strong and effective. The decision makers include all levels of society from the villages, provincial authorities, and district authorities up to national level and information fed both ways. Communication however needs to be strengthened between some line ministries and wider DRS. Post disaster debriefs and lessons learned requires formalisation to ensure

inclusion of all relevant stakeholders. Overall the interviewees were well aware Fiji's vulnerability to of climate change and its impacts, and wanted to be prepared but are constrained by financial and human resources. The political situation in Fiji was also found to cause some barriers with the international donor sector as most donor dollars are channelled through NGOs and particular projects. This situation is not tenable and may undermine the adaptive capacity of the overall DRS; and as such requires innovative thinking in how to ensure that organisations in Fiji are aware of how and where to access available funds.

FIJI COUNTRY REPORT

1. SETTING THE CONTEXT

Climate change is likely to affect the pattern of some disasters in the Pacific, and therefore the organisations and systems involved in disaster response. This research, conducted by researchers at the University of Technology, Sydney, focused on how the immediate humanitarian needs following disasters are met by various stakeholders, both in the affected country and those offering support from outside. The research sought to understand the adaptive capacity of both PICs and Australia's disaster response to a potential increase in disasters driven by climate change.

The primary objectives of the research were:

- To provide recommendations to policy makers and practitioners in the Pacific and Australian disaster and emergency response sectors on current adaptive capacity of PICs to climate related disasters (e.g. tropical cyclones, floods, droughts, storm surge), and identify the resources, policies and systems needed in the coming years to enhance this capacity;
- To inform improved planning and more effective response through analysis of the Australian emergency services and related organisations' capacity, role and obligations to assist PICs in times of disaster.

The research was conducted in 2012 and had a strong focus on participatory stakeholder engagement through extensive interviews, workshops and guidance from a Project Reference Group. Four case study countries (Fiji, Cook Islands, Vanuatu and Samoa) were chosen for deeper investigation of the range of issues present in the Pacific. The purpose of this report is to provide country specific results of the research for Fiji.

The Pacific region is vulnerable to a range of natural hazards including tropical cyclones and storms, droughts, earthquakes, tsunami, floods, volcanoes and wave surges. The capacity of PICs to cope with these hazards is often challenged, due to their inherent vulnerability stemming from the isolation, small size, insularity, environmental factors and limited disaster mitigation capacity (Meheux et al., 2007). As such, natural disasters occur relatively frequently in the Pacific, with significant economic and social impacts.[1]

Pacific Forum Leaders have committed to reducing disaster risks through various declarations and frameworks, including the Pacific Disaster Risk Reduction and Disaster Management (DRR and DM) Framework for Action (SOPAC, 2009). The Pacific DRR and DM Framework sets out six themes and includes guiding principles and expected outcomes by 2015, and contributes to global progress in achieving goals of the Hyogo Framework for Action 2005-2015 – which is the principle international guiding framework for disaster risk management (UNISDR, 2005).

In times of disaster, it is the responsibility of the national government to respond to the needs of the population. In the Pacific, effective response is made more complex than in other regions due to reasons such as (Kennedy and Muller, 2008):

- Potential remoteness of the affected area
- Relatively small number of people affected (high cost per person due to relatively low population density and multiple remote locations)

[1] Hay and Mimura, 2010; data from EM-DAT: The OFDA/CRED International Disaster Database – www.emdat.be – Université Catholique de Louvain – Brussels – Belgium

- Ability of natural hazards to overwhelm local and national capacity to respond
- Logistical constraints, affecting timeliness and assessment challenges
- Coordination challenges of regional organisations

Effective institutions and guiding policies are necessary to provide a coordinated and effective response to disasters. Specific indicators important at the national government level that are identified as important in effective disaster response include (UNOCHA and UNISDR, 2008):

- A disaster risk reduction and disaster risk management implementation plan based on assessment of hazards and risks
- A national platform to promote coordination and sharing of information, and to harmonise capacity
- Adequate resource allocation across all levels
- National plans including community capacity and inclusion of specific vulnerable groups
- Disaggregated population data.

This report takes some of these elements into consideration in an attempt to provide a broader understanding of Fiji's national capacity to respond to disasters. This report seeks to describe specific elements of the Fijian DRS and the institutional capacity to respond to disasters under a changing climate.

2. RESEARCH METHODS

A qualitative methodology, with a strong focus on participatory stakeholder engagement was used for this research. The research was guided by a Conceptual Framework (see Figure 1) which was developed to provide the scope for this study.

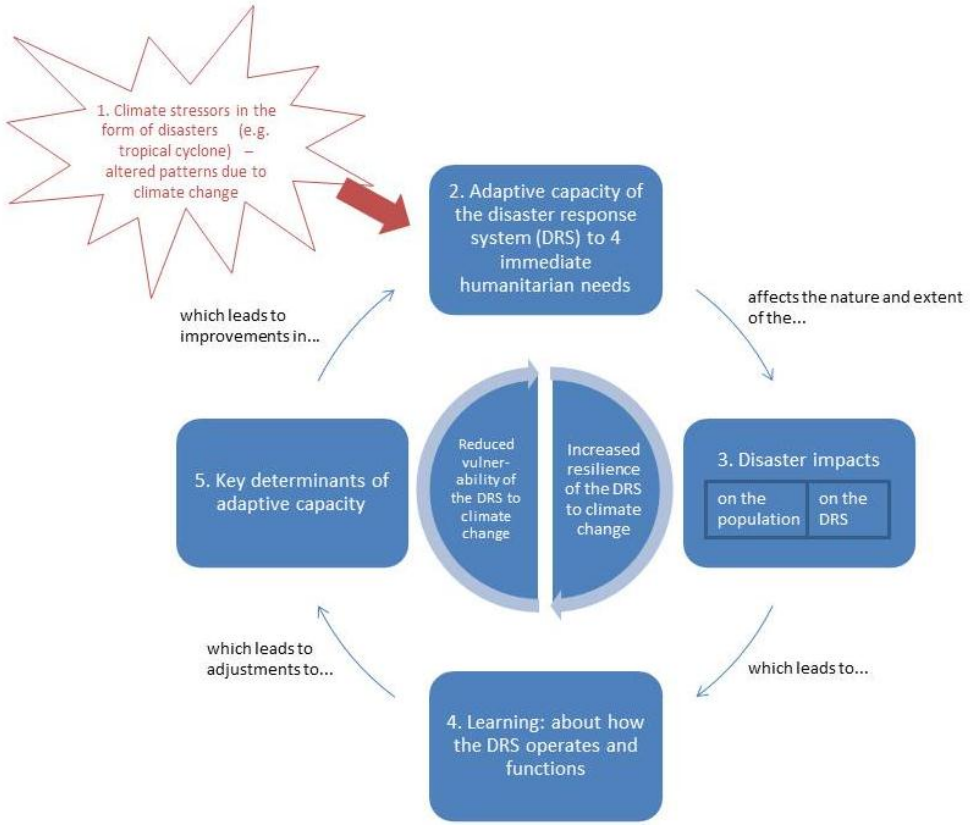

Figure 1: Conceptual Framework

The Conceptual Framework describes a cycle of adaptive learning within which the adaptive capacity of the DRS is affected by a range of key determinants (Ekstom et al., 2012). The DRS is defined, in the scope of this research, to be the organisations and mechanisms responsible for responding to the four immediate humanitarian needs. The DRS is thus comprised of actors and agents from government and non-government sectors, governance structures and the formal and informal networks that support them. The concept of adaptive capacity[2] was used to assess the resilience of individual organisations and the robustness of the broader system of response.

Specific determinants of adaptive capacity were used to assess the 'disaster response system' (DRS). Key determinants were defined as being inter-organisational, intra-organisational and objective and subjective. A list of the key determinants of adaptive capacity used in the research is provided below.

- Architecture
- Agency
- Adaptiveness
- Access to assets
- Leadership, management and governance structures
- Technical capacity, tools, methods and approaches
- Health workforce education, training and continuing competence
- Human resource for health governance and management systems
- Risk Perceptions
- Self-efficacy beliefs
- Silo mentality
- Communications and relationships
- Strategic vision and outcome expectancy
- Information and knowledge
- Elements of social practice

Background literature review, stakeholder workshops and key informant interviews with Australian, New Zealand and PIC stakeholders within the disaster, climate change, health and development sectors were used to assess the complexities of the DRS in selected PICs. Emphasis was placed on four immediate humanitarian needs: health care; water and sanitation, psychosocial, food and nutrition.

A total of 19 interviews were completed in Fiji with donors, government and non-government organisations (NGOs). Interview and workshop results were drawn together with desktop review results during the data analysis phase. Key informant interviews' transcripts were subjected to an inductive thematic analysis for general patterns and emerging issues. Interview transcripts were analysed using qualitative software, and coded for specific themes based on the conceptual framework. Key determinants of adaptive capacity of the disaster response system were identified based on triangulation of data from multiple sources. Results were analysed thematically and recommendations made accordingly.

[2] Adaptive Capacity - The ability of a system to adjust to climate change (including climate variability and extremes), to moderate potential damages, to take advantage of opportunities, or to cope with the consequences. (IPCC TAR, 2001)

3. COUNTRY BACKGROUND

Fiji is a Melanesian country and has 300 islands, 109 of which are permanently inhabited. There are two main islands which support the majority of the total population of 860,623 (World Bank, 2010). The wet season from November to April is the tropical cyclone season. Tropical disturbances, cyclones and high intensity rainfall are frequent causing floods ranging in magnitude from moderate to very severe.

Over 80% of land is owned by Fijians under the customary land tenure system, and can be leased to non-Fijians. During British colonisation (especially in the period 1879-1916), a program bringing contract labourers from India to Fiji has led to a high ethnic Indian population. The current population of Indo-Fijians comprise approximately 37% of the total population (Fiji Islands Bureau of Statistics, 2007). Fiji is ranked 100th out of 187 countries in the UNDP Human Development Index (HDI), placing the country in the top six countries of the medium human development category ranking it as one of the countries with higher levels of social development in the Pacific (UNDP 2011).

Fiji is a former British colony, gaining independence in 1970. A series of coups (two in 1987, one in 2000 and the latest in 2006) have resulted in an interim military-led government, with democratic elections scheduled for 2014 (Hayward-Jones, 2011). As a result of this political situation, Fiji has been suspended from the Commonwealth and the Pacific Islands Forum since 2009 (Hayward-Jones, 2011). This is important in terms of assistance in times of disaster as Australia is constrained in what areas it can assist and currently has to assist the government through projects or civil society.

3.1 Climate change impacts on disasters in Fiji

Projections for Fiji indicate that temperatures are likely to increase by up to 1°C by 2030 (high emission scenario) while sea level is predicted to rise by between 3-16cm (high emission scenario) by 2030 (Australian Bureau of Meteorology and CSIRO, 2011). Although carrying considerable uncertainty, rainfall is projected to increase in the wet season and decrease in the dry season, while extreme rainfall days are likely to occur more frequently. Tropical cyclones in the Fiji islands are predicted to occur less frequently, but there is expected to be an increase in the proportion of severe storms (Australian Bureau of Meteorology and CSIRO, 2011). Again, this means that while there may be fewer intense tropical cyclones (and recognising these projections carry significant uncertainty) there may also be an increased frequency of response required to severe storms which cause damage through flooding, high winds and storm surge. This would activate the disaster response system on a more frequent basis with potentially less time in between such events (see Gero et al., 2012).

With the increasing influence of climate change, the extremes of too little and too much water are expected to become more extreme. With more extreme weather conditions, climate sensitive diseases are also expected to have a larger negative impact on the health of Fiji's population.

3.2 Human resources for health (HRH) capacity in Fiji

Fiji has a relatively low HRH capacity with a HRH Density of 1.98 per 1000 population for physicians, nurses and midwives (WHO 2011). A shortage of specialist skills in intensive care and accident and emergency has been flagged as a major HRH issue in Fiji (AusAID

2010). The impacts of climate change may further stretch the resources capacity of PIC's disaster response systems through more frequent and intense events (Gero et al., 2012).

3.3 Key disaster response organisations in Fiji

Leadership throughout the disaster response structure is viewed as being strong and effective. The decision makers include all levels of society from the villages, provincial authorities, and district authorities up to national and feed information both ways. The UNOCHA cluster system is being implemented at a national scale across Fiji.

The **National Disaster Management Council** has been established for more than a decade and has overall responsibility for disaster management, both in times of disaster and during normal day-to-day operations (Government of Fiji, 1998). The Disaster Management Council is responsible for advising Cabinet on declaring a natural disaster (Government of Fiji, 1998).

The **National Disaster Management Office** (NDMO) was established in 1990; however it wasn't until 2001 that it was formally established with 12 staff and an operating budget (Rokovada, 2006). The NDMO is held in the Ministry of Provincial Development and National Disaster Management and is responsible for implementing disaster risk management policies and plans, as guided by Disaster Management Council and Cabinet.

The **National Disaster Controller** is the role of the Permanent Secretary of Provincial Development pre- and post-disaster, and is advised by the NDMO. The Disaster Controller is in overall command during disasters, and advises Ministers, NGOs and other relevant stakeholders on operational issues relating to disaster management (Government of Fiji, 1998). The Disaster Controller has all government resources at his/her disposal during emergency operations (Government of Fiji, 1998).

The **National Disaster Coordinator** is the role of the Director of the NDMO and is responsible for coordinating the policies of the Council and the functions of the NDMO (Government of Fiji, 1998). The National Disaster Coordinator is responsible for the Emergency Operations Centre in times of disaster. The Disaster Service Liaison Officer is an additional supporting role to the Disaster Coordinator. The Permanent Secretary acts on his behalf if needed, as was the case in the most recent floods in 2012.

The **Disaster Management Committee** (DISMAC) is activated during times of disaster as a coordinating body. It was noted in the workshop that the lines of communication and decision making were clear from the Cabinet down to this point. Below DISMAC there is confusion between roles and the links between the Divisional Commissioners and Municipalities, District Officers and down to the Community. Participants in the workshop highlighted that this area needs to be strengthened and training provided.

Divisional Commissioners and **District Officers** are also responsible for distribution of disaster relief supplies and services post-disaster (Government of Fiji, 1998). Pre-disaster, these Commissioners and Officers are responsible for disaster preparedness, in collaboration with the NDMO and the Preparedness Committee (Government of Fiji, 1998).

Roko Tuis (traditional head of Provincial Councils) and **District Advisory Councillors** are also responsible for disaster preparedness at the local level (Government of Fiji, 1998).

Additional stakeholders (both government and non-government) with specific responsibilities included in the Natural Disaster Management Act 1998 in disaster response include (Government of Fiji, 1998):

- **Ministry of Works, Transport and Public Utilities Department** – responsible for providing safe water access, distribution of water containers and other "related matters"
- **Ministry of Health** – responsible for ensuring environmental conditions do not increase risks to human health
- **Ministry of Foreign Affairs** – responsible for requesting international assistance
- **Non-Government Organisations** (NGOs) – NGOs are directed to work in coordination with District Officers to avoid overlap and duplication of relief efforts.
- **Ministry of Agriculture, Rural Housing and Education** are tasked with rehabilitation responsibilities (i.e. not immediate post-disaster response).

There are concerns with this structure of disaster management. The Natural Disaster Management Act (1998) which outlines the above structure and all special powers during times of disaster has been in review for several years and during interviews it became apparent this process has been stalled. Also, the private sector is not formally incorporated into the DRS (please see National Disaster Management Organisation diagram below) and it was suggested in the workshop that the private sector, along with NGOs and civil society, should be involved either in the Disaster Management Council or at a District level. Furthermore the MoH requires a stronger presence at all levels of the National Disaster Management Organisation.

Fiji Red Cross Society sees disaster preparedness and response as some of its primary activities, and sees cooperation with national government agencies, local and international NGOs and it's IFRC as crucial in its operations (Fiji Red Cross Society, 2007).

The **Fiji Council of Social Services** is listed as the umbrella NGO organisation for the Pacific with disaster response noted as one of its key areas (Chand and Naidu, 2010).

As with most PICs, the **Church** is an important social and cultural institution and active in disasters response. The Council of Churches has been disbanded; however the Church has a strong representation through the **Pacific Community-focused Integrated Disaster Risk Reduction** (PCIDRR) which represents a joint DRR program between Act for Peace (the humanitarian arm of the National PCIDRR of Australia) and the National PCIDRR & Governments of Fiji, Vanuatu, Tonga & the Solomon Islands and closely links with the NDMO.

Numerous **United Nations** (UN) agencies have regional offices in Fiji which are responsible for a number of countries neighbouring the Fijian islands and the Pacific region as a whole. Many of these UN agencies are also active in disaster response. Donors such as **AusAID, New Zealand Aid Programme** and **USAID** are also active in times of disaster response and coordinate with national institutional arrangements as necessary.

Organisations that emerged during the research process as being involved in disaster response are: PCIDRR, Assembly of Christian Churches, Adventist Disaster Relief Agency, Hare Krishna, Fiji Meteorological Service, Fiji Electricity Authority, Fiji Telecom, Ministry of Youth, and Ministry of Women.

The institutional structure of these organisations is illustrated below.

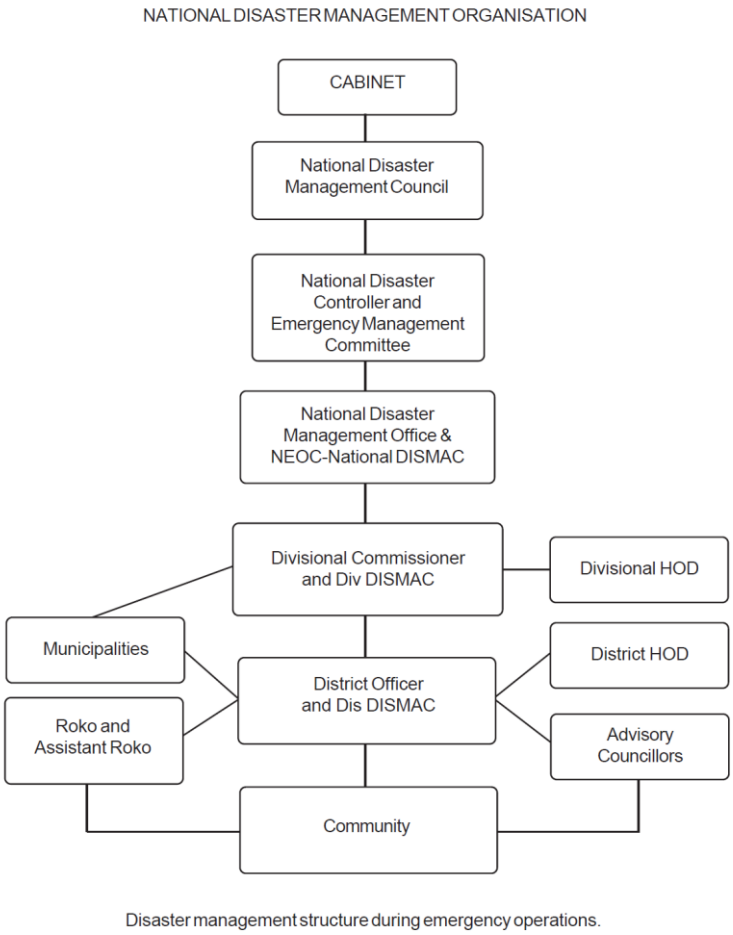

Figure 2: Fiji disaster coordination system

(Source: SOPAC/ TAF OFDA 2009; HOD refers to Head of Department)

Box 1 provides an example of past disaster response, and describes some of the roles of organisations included above.

Box 1: Example of past response in Fiji

Fiji had several severe floods in the past three years, in 2009, 2010 and recently in 2012. Two floods in 2012 occurred in close succession, the first in mid-January and the second end of March/April particularly affecting the Western Division of Fiji. A declaration of Natural Disaster for parts of the Western Division was announced 26th January. By April, the second round of floods killed four people and temporarily displaced 15,000 people, causing damages to infrastructure, schools, homes, businesses and agriculture. With power and electricity disrupted for days, at least 150,000 people were affected. A State of Natural Disaster was declared for parts of the west of Fiji (Reliefweb, 2012).

Once flood waters had receded on 4 April 2012, Government, Fiji Red Cross and NGO teams were quick to access and assess the impact on the population and provide relief. Within 10 days following the floods,

electricity had been restored almost completely across the country. Water supply was partly restored and evacuation centres had rapidly emptied but as of 18 April, 748 people (144 families; 451 adults; 255 children and 42 infants) remained in 15 evacuation centres, as their homes are destroyed or still affected by flood water, mud and silt (Reliefweb, 2012).

The emergency was largely managed with national capacities and resources, coordinated by the NDMO. Government requested donors to provide specific assistance, including funding for aerial survey, logistics, tools, shelter and health supplies. Sectoral initial damage assessments amount to more than FJD 71 million (AUD 38 million) in key economic sectors (Reliefweb, 2012).

The NDMO was said to have demonstrated elements of adaptiveness as the response was smoother by the second round of flooding. For instance AusAID one donor organisation observed:

"If we compare local authorities in 2009 floods to where we recently had floods there is a huge difference. By the time they got to Cyclone Thomas in March 2010 the local authorities were pushing back to UN saying 'we want control' and they did a good job. With recent floods their director for NDMO took ill but the Permanent Secretary stepped in and he was able to excel with coordination. It was a smooth operation across the different divisions particularly with the west; because the Western Commissioner used to be the director of NDMO."

The ongoing nature of the floods in 2012 meant that Fiji's capacity was stretched. One government interviewee reported that: "Flooding was so severe in Nadi… the intensity of rain was over the top". According to interviewees this affected some aspects of disaster response which were not well-addressed. For instance one donor organisation reported reported:

"The government was focused on hard economic infrastructure side of response (opening roads) but less of a focus on human aspects, health, gender violence etc. it became clearer that the situations in evacuation centres weren't great."

In the health sector the health workers were unable to go home or get to work. An interviewee from the Western Divisional Hospital reported they had to activate 12 hour shifts and pull local health workers into the hospital. The interviewee attributed her preparedness following attendance at the Asia Pacific Emergency Disaster Nursing Network (APEDNN), she had established a contact list before hurricane season

4. HUMANITARIAN NEEDS

A summary of the DRS capacity relating to the four themes of the research in Fiji is provided below.

Immediate Humanitarian Needs:	Responsible National Actors and Stakeholders
Health Care	• AusAID, Ministry of Health, Partners in Community Development, UNICEF, Fire Authority, Red Cross, WHO, Village Council
Food and Nutrition	• UNICEF, AusAID, WHO, Fiji Meteorology Services
Water and Sanitation	• AusAID, Partners in Community Development, WHO, UNICEF, National Fire Authority, Ministry of Works, Transport and Public Utilities, Red Cross, Ministry of Health
Psychosocial needs	• Ministry of Health, Red Cross, Village Council, UNICEF

4.1 Health care

In times of disaster an already stretched health care system is placed under severe demand. The UNOCHA cluster system is being implemented at the national scale in Fiji, and according to the NDMO, AusAID does most of the coordination of the Health Cluster.

> *"[AusAID has a] bilateral health program that has an allocation each year which is reserved for humanitarian response. The programs have been designed acknowledging that in reality more seasons than not we will need to do response".*

However, according to interviewees in the MoH, most of the initial assessments, coordination of health care personnel, resources distribution (such as medicine) and situational reports are conducted by the MoH. The MoH sits on the National Disaster Management Council (NDMC) with all the other permanent secretaries and when a disaster (such as the January/April floods in 2012) occurs, it provides direction and decision making, although the "the medical superintendent, local hospital and divisional medical officer." The MoH and other health representatives outlined that although they have staffing shortages they were still able to provide care during a disaster with the most pressing need being resources to carry out disaster relief. The Western Divisional Hospital representative noted the role the hospital played during the floods.

> "*We had [an] emergency command centre within the hospital. From this we had to call the five subdivisions – initially we called them every 2 hours, then 4 hourly, then daily. They had to tell us how many bodies in their mortuary, could they cope, what do they need. [If] they needed intravenous fluid because of the number of dengue and typhoid, if they needed it at 10pm and one ambulance is coming across we would look in our hospital and give them 1 or 2 boxes. We would facilitate the need for the night."*

According to interviewees, if an outer island is affected by a disaster it is usually the nurse who provides the first assessment and situational report as they are familiar with the area and inhabitants. A School of Nursing, Fiji representative explained;

> *"They (NDMO) usually get the statistics from them [nurse's office] because we get a better count. A nurse on that island would be able to tell that this village have this many people and then she can even talk about the age distribution. For disaster in the west, the Fiji National University, the Fiji School of Medicine, the Fiji School of Nursing, we combine to send out a team to help in the assessment. But the nurse who is there stays there and they mobilise their district hospital. They get help from the division in the west; they more or less help the Ministry of Health to provide the services."*

To ensure there is also a voice from the communities, NGOs such as Partners in Community Development also have joined the cluster groups in health, food and WASH.

> "*It seems the health centres have been closed in rural and remote areas. So we are working closely with provincial [health] so they can reopen health clinics."*

But according to the Partners in Community Development there are large differences in capacity between the health clinics on the main islands and on the outer islands.

While the overall indication from respondents was that the DRS was well structured with clear lines of decision making and communication around health care, there was still

some discrepancy between views. For instance one donor interviewee was unclear as to why the reports from the MoH were slow to be received, whereas UNICEF disagreed.

> *"They (MoH) were well on top of it. They were doing assessments in the area from beginning, they redeployed staff out. They handled the supplies that we gave them from our warehouse here. The coordination was functioning within MoH. [There were] delays in health communication, I can't remember whether due to clusters and international partners meddling or whether it was internal."*

Another respondent concurred:

> *"The health professionals in those (affected) areas went to the evacuation centres conducted assessments there to see if people there were healthy. And they looked at maternal child health, they looked at communicable diseases, they looked at sexual transmitted diseases. They were [conducting] regular and daily monitoring of diseases and disease numbers and response in many ways and there were prevention activities as well as some response activities. They also did assessment on the ground that included disaster damage assessment. So that included assessment of health facilities: if any were damaged, if water was cut, or if the facility itself was cut off because of the flood, they also looked at the extent of damages to homes and to people of course."*

Therefore in times of disaster an already stretched health care system is placed under severe demand. Nurses who become the first assessors are placed under pressure during an emotional time. The Western Divisional Hospital representative said training in disaster response and assessment was desperately needed for nurses, particularly those in remote areas. The workshop participants varied in their response to capacity of the MoH to deal with disasters with an overall view that the skill level was high but the human resources and other resources lacking.

4.2 Water, sanitation and hygiene (WASH)

WASH is of great concern following a disaster in Fiji and was reported to be addressed by the UN OCHA Cluster system which includes AusAID, Partners in Community Development, WHO and UNICEF. Other organisations with WASH as a main concern during disaster were reported by interviewees to be: PCIDRR, National Fire Authority, Ministry of Works, Transport and Public Utilities, and Red Cross. Often organisations addressed more than one cluster area as outlined by the Partners in Community Development:

> "*We are also joining in the cluster groups – we are on the health, food security, WASH cluster. Not only for the region but Fiji as well. We try to engage donors to assist community people to set up water systems and also look at the sanitation and hygiene. Before we worried about getting water to the villages, now they have water but they are still sick so we know it's linked with sanitation. We are trying to do it in an environmentally friendly way. We are looking at proper toilets – the flush toilets are not really good during a flood*."

Whereas UNICEF and Red Cross work closely together providing water purification, soap, education on health and sanitation, Red Cross provides support through the distribution of UNICEF WASH kits.

The MoH has a large part to play in WASH as the nurses' report on water and sanitation issues as well as educate the communities. An interviewee from the Fiji School of Nursing reported:

> "*The nurses are the very first ones [to see typhoid]. They are in the community so they report. They go and see the water supply and advise to boil drinking water to keep water in clean containers and see the catchment area to see where the water is sourced from."*

But it was reportedly the environmental health officers who inspected the water quality.

UNICEF said about the last flood: "*Because AusAID was a major donor there wasn't too much of an issue. They brought in additional WASH supplies but it wasn't an overlap in terms of distribution."* However, because the health system is placed under such strain during times of disaster it seems it is Red Cross coordinate the distribution of WASH kits and information. As an interviewee said:

> *"They [MoH] are all interested but if they don't have the resources there is not much they can do. So that is why they rely a lot on their partners. A lot of the times it's the Red Cross that has more water containers or the water purification tablets or the police that has more vehicles."*

During the workshop Red Cross consistently was considered well resourced, well organised with a good human resource capacity.

4.3 Food and nutrition

Interviewees involved in this research did not raise food and nutrition needs in the short term following a disaster as a problem or priority. UNICEF is leading nutrition issues under the Fiji Health Cluster and the MoH monitors food issues through their assessment processes after a disaster. AusAID provides early recovery assistance in food security and WHO through the Fiji Health Cluster system *"looked to see if there was enough water, enough food, was there enough security in those areas...confiscating food that has been flooded; making sure that they have been disposed properly and nobody would go and scavenge in those areas."*

Other organisations are more involved in long term food security issues such as the Fiji Meteorology Services who said they:

> "*Provide one to one consultation as well as seasonal forecasts for farming. We have a special seasonal forecast for our sugar industry however we are not able to get feedback from the forecast because we can't secure funding to go back to them. So we don't know how useful this information has been and we have been providing for 6 years."*

As the research focussed on immediate needs post disaster the long term food and nutrition and food security issues were not discussed.

4.4 Psychosocial needs

> *"You know you can clean up your house, you can fix your car and your farm will be better after some time, but the losses you suffered at that time mentally are still with you." (WHO).*

As in all the PICs who were part of this research, the post disaster psychosocial needs of Fiji communities are only minimally addressed. The Red Cross provided support and contact:

> *"The volunteers in the affected communities assist in cleaning up their houses, We look after their wellbeing. As we are cleaning we maintain contact"*.

Also, the NDMO said they are currently communicating with NGOs such as Art of Living and Pacific Counselling Services to try to address this area but it was clear they need further assistance for addressing psychosocial needs: *"We have looked after their physical needs but those may need counseling, if we can have some trained counsellors so they can share their problems. We need more assistance on this area."* Furthermore, the NDMO said they are liaising with health officials, expecting the MoH to address psychosocial needs. However, as noted by both WHO and School of Nursing, Fiji the MoH does not have the human resources for health capacity currently to deal with psychosocial needs. One interviewee noted that: *"[w]e don't really have a clear picture of how that is taken care of because we don't have something in place to take care of that"* (School of Nursing, Fiji).

What was reported during many of the interviews and at the workshop was none of the organisations in Fiji took ownership of psychosocial support. The culture in Fiji however, should not be ignored in its provision of ongoing support. UNICEF noted that:

> *"There is a lot of need (for psychosocial support) but there is a lot of capacity that can be tapped into in traditional cultures caring for each other in good times and bad."*

It was mentioned that the churches did provide psychosocial support, but mainly to their own congregations. The MoH is already stretched with limited mental health capacity and during the workshop was very vocal as regards to the need for psychological care for their nurses, as they suffer the effects of being front line service people during disaster response.

5. KEY DETERMINANTS OF ADAPTIVE CAPACITY IN FIJI

The dominant determinants affecting adaptive capacity within Fiji were found to be: 1) Information and knowledge; 2) Risk perceptions; 3) Communication and relationships; and 4) Financial capacity and 5) Leadership and management.

5.1 Information and knowledge

The dissemination and retention of information and knowledge forms part of the adaptive capacity of an organization (McManus et al, 2008). Across the DRS, the capacity to apply current knowledge to a situation in a creative manner, assigning virtual roles, and the ability of subsets of an organization to assume responsibilities of absent members are considered adaptive features of an organisation (McManus et al, 2008). It requires an understanding of the limits of the information at hand, and the willingness or ability to obtain additional information, to respectfully use this information for positive interaction to influence behaviour change and, the development of a tolerance for uncertainty. (McManus 2008 p82). These qualities were evident in the Fiji DRS and serve to support adaptive capacity. The sequence and dissemination of information and knowledge in Fiji,

according to most informants, is organised and consistently reviewed with lessons learned. Information starts with the Fiji Meteorological Services:

> *"We provide forecasts for 3 - 6 months ahead so departments can do planning for conditions we forecast for. We have a direct role of providing information and we don't tell them what to do, they decide amongst themselves what responses with the information we provide them. All our warnings and forecasts are linked with NDMC. When we provide info they activate response committees. The committees will provide what responses are needed. They are regularly looking at it. When a cyclone is approaching the communication is ongoing. They want to know to activate at the right time. We give a 48 hour early warning [which] gives them 2 days to prepare."*

When a disaster hits, such as the recent flooding, information is fed up through the DRS from the villages, often through the nurses. "The initial people on the ground we saw – the Turaga Ni Koro – are the best people that have information in their own villages," said the PCIDRR. However, the PCIDRR also reported that the nurses are also relied on for initial assessments:

> "*We rely on the nurses in the community because they have 100% information. They know the information, they know how many people are there, how many children are there, how many disabled. They can also give us 100% information; we have a standard form that people are using. And using that form will give us the accurate information that we want."*

The PCIDRR have developed local Disaster Management Plans. They reported: "*There is a copy with the disaster management office, the village committee at the village, there is a copy in our office and there is a copy in the provincial office."* When a disaster hits, the flow of information begins from the village level leading back to the NDMO.

Disaster information is not only disseminated internally, what goes to the media is also carefully controlled. After misinformation was disseminated during Cyclone Thomas in 2010, the Ministry of Information was given responsibility of what is transmitted through the NDMO to enable a single channel of communication to the media and public. According to the PCIDRR:

> *"We have the Minister of Information "The whole team understands that all the information that goes out from this office is based on facts. And the facts are based on the Ministry of Information who makes sure that the information are correct and rectify with sources before they release information."*

This lesson learned from previous disasters is an attempt to control any misinformation and provide correct, trustworthy information.

However, there are reported gaps in information and knowledge namely in disaster assessments and sharing of information and these serve to constrain adaptive capacity. The NDMO relies on nurses and village leaders to conduct initial assessments, however the Red Cross for instance also conducts their own assessments:

> *"We have to do own assessments because of our principles (of neutrality and independence). That system works fine in theory and they [government] employ village headmen (Turaga ni Koro). These village headmen also do assessments,*

> *Government also sends its own assessment teams out as well. In the first flood and second flood the NDMO was relying on our information."*

The Red Cross appeared happy to share their information.

> "*We think we should pass that information on to government. During response everything is working fast, a team goes out, they do an assessment. While info is coming in to us we should send on to our partners. The NDMO are open to our information."*

However, according to one government interviewee the information sharing isn't so open across government ministries:

> "*This is always a problem with government agencies. Depending on what level of hierarchy you are fighting to release data, you always worried about getting flagged by your bosses. We tend to defend our turf."*

Analysis of information and knowledge and the related strengths and weaknesses of lines of decision making, sharing of information and who is controlling information are currently being considered and discussed in light of the recent floods. It was clear through the interviews and workshop that the National Disaster Management Organisation outlined in Figure 1, has a clear flow of information and knowledge to most relevant stakeholders and hence is seen to support adaptive capacity. However weaknesses were evident in that: the Natural Disasters Management Act (1998) desperately needs reviewing; the MoH needs involvement at all levels of the structure and notably training for nurses who are providing a lot of the initial disaster assessment information, this will in turn increase the level of trust in those early assessments; and involvement of NGOs in a structured way so duplication is minimised.

5.2 Risk perceptions

Risk perceptions is a subjective determinant and relates to an organisation's understanding of the risks of climate change and the likely impacts on their disaster response processes. "Perceived adaptation efficacy", refers to an organisation's belief in the effectiveness of adaptation actions and perceived adaptation costs refers to the organisation's assumed costs (inclusive of monetary, personal time, effort) of undertaking the actions (Ekstom et al, 2012) (Kuruppu et al. 2011).

Climate change and its potential impacts on disasters were generally understood by Fiji interviewees leading to a focus on integrating lessons learned into disaster response mechanims. For example, interviewees noted:

"*Our communities are not resilient to such extreme events, even if not extreme but frequent then they will be too vulnerable to all these impacts."* (Fiji Meteorological Services).

"If things happen as we anticipate then there will be less loss to our people." (NDMO)

"I used to not care if it rained. Not now, now if it rains, I tell the supervisor to call the police station and find out about roads, also look at the roster and call people who are within [distance]." Western Divisional Hospital

Disaster risk reduction and preparedness were found to be prioritised by interviewees, however, research revealed there were limited resources to implement DRR and preparedness initiatives and this poses a significant threat to adaptive capacity. One respondent indicated that "no national vulnerability assessment exists" for Fiji. It was also noted that there were long term implications of where villages are located and deforestation both making the population more vulnerable to climate change impacts. This reveals additional development risks needing to be addressed alongside those associated with climate change.

There is an understanding that while there are no financial resources for DRR projects, there is donor funding for climate change adaptation interventions. Fiji has been strategic in marrying the two, aligning with regional efforts of integrating DRR and CCA to reduce duplication of risk reduction efforts. For instance, the NDMO understood:

"there are overlaps in disaster risk reduction and climate change. The duplications are a challenge for us now. SOPAC, part of SPC, is here to assist us with that."

The PCIDRR added: "*the government is very concerned with the community so I think if we integrate climate change adaptation and DRR I don't think the government would shy away."* A development partner agreed: *"Across the region people have been trying to do DRR without money. Now there is a bit of overlap with CC where there is money."*

However, there is a gap in disaster preparedness. The School of Nursing, Fiji pointed out: *"we feel there is a gap in preparedness. Many a times people don't really act until the disaster strikes that is the gap that needs to be looked into."*

The MoH agreed:

> *"So these are things the Ministry of Health have got to be prepared to respond to. It's got to talk about consumables, it's got to talk about infrastructure, it's going to talk about staffing we already have depleting staff and doctors levels."*

There is a recent focus on working towards preparedness, the Ministry of Foreign Affairs pointed out:

> *"We are working with district offices - we have done assessments to see what vulnerabilities lie in which area. For our purpose we work closely with NDMO because they are doing a vulnerability risk profile so we're working with them."*

This quote highlights a shared perception of risk through disaster preparedness, and collaborative efforts aiming to minimise risks, thus supporting adaptive capacity.

One major area of concern in terms of risk perception is where the population lives. Many people live in low lying areas and along the coast. "I think the government is looking to relocate the people in the low lying areas but it depends on the availability of the land," said the PCIDRR. The NDMO corroborated this:

> *"Most villages need to be relocated because of collapsing river banks, rising sea level, these are things that affect the villages. We need to plan well with our other stakeholders so these issues can be addressed*."

It was not just the villages that were found to be vulnerable as an interviewee from the Western Divisional Hospital pointed out:

> *"In Fiji our nursing stations, almost all of them are always on the beach – on all the islands. Our hospitals are always on the hills, but our health and nursing stations are always on the beach".*

There was also a concern outlined by many interviewees about deforestation and the effects on disaster impacts. The Fiji Meteorological Services pointed out that:

> *"How the land is used in terms in upper catchment deforestation affects it, huge areas of land are cleared for cultivation which is putting pressure on river systems."*

The Ministry of Foreign affairs noted: *"They are trying to sustainably manage it, they are doing their best but police is the major issue here. There is an issue with enforcement especially in the outer islands."* However another government interviewee disagree it had been managed well: "*They've been harvested in last 10 years and no replanting program; because of heavy rain it just washed it all."*

It was found that because there is a belief in Fiji of a risk of increasingly severe and more often disasters the DRS is working on lessons learned and incorporating these into their organisational structures. Preparedness for example has been recognised as an urgent need however, funding structures for CC have not transferred into disaster preparedness especially in the health sector.

5.3 Communications and relationships

Communication is considered fundamental to the functioning of the DRS and was pointed to by many interviewees as impacting the immediate response and adaptive capacity of the system to respond. The three main areas impacting the communication within the DRS were: relationships, lines of communication and physical barriers to communication.

The relationships between organisations involved in disaster response and with government, importantly the NDMO, assist in the effective workings of the DRS. For instance there was evidence that the current political landscape creates a barrier to government to government communications. Research revealed that AusAID, rather than providing financial assistance directly to the government, was working through NGOs and civil society organisations who, in turn, have a direct relationship with the Fijian government. Partners in Community Development noted that *"Our relationship with government is very strong, when we want to do anything in community we inform all the government set ups; . we link with NDMO."*

Breakdowns in relationships were found to have negative effects, for instance there has been criticism that the Fijian government did not react rapidly enough in the 2012 floods. One respondent noted that: "*the Met [Fiji Meteorological Services] thinks there were delays in the announcement of emergency because floods decision came from hydrological services."*

The Fiji Meteorological Services indicated:

"We forecasted correctly but coordination is not under one roof – [it was a] different ministry. During disaster there is confusion, it must be set up properly so it's coordinated. We are trying to address it on our side. We are putting up a new building very soon so that everything can be coordinated from there - with satellite, internet etc."

The Red Cross went on further to say: "*We are not responding alone. Communication between partners involved is something we will work on. It's fundamentally important. A lot of issues could have been ironed out if we could have communicated better."*

The lines of communication were also recognised as being vital to a coordinated response. The National Disaster Management Structure is currently in use and outlines broad lines of communication. It was found however the detailed workings of this may differ slightly.

The PCIDRR reported that the lines of communication come from the Turaga Ni Koro (traditional head of the village committee) then information is channelled to the Provincial Authorities, then on to the Division Commissioner and on to the NDMO. Training was provided to the Turago Ni Koro:

> *"Last year we trained the Turaga ni Koro to do the initial damage assessment. They compile the report to commissioner and then the commissioner forwards to us."*

Communications from, and between, the many NGOs working on the ground was found to be a major issue:

> *"We have NGOs working in the communities but what they have been doing in there we don't know because we don't have feedback," said PCIDRR. "Except for Red Cross and ECHO. We don't have that network in place but we are trying to work at it."*

How information was disseminated to the public was also a source of confusion, although interviewees have confirmed the Ministry of Information has some control of this.

Fiji Meteorological Services said that:

> *"communication is a bit confusing in terms of who should give information out to public."* . *"In the current structure [with] tropical cyclones we go direct to media outlets; the rest [of organisations] go through the NDMC."*

The radio is the primary source of communication for the public. One respondent commented:

> *"Fiji's ability to get messages out through radio is impressive. What used to happen Vodafone private sector used to get involved for flood warnings. That didn't happen this year."*

There was also information consistently updated on the Fiji Meteorological Services website however they said that: "*many people hate our website in a disaster because it is slow. We have asked to increase bandwidth but it comes at a high cost. We can't afford at the moment. We would love a donor for that."*

On the ground communication between organisations was reported as being difficult during a disaster, an issue further exacerbated by isolated islands. The PCIDRR was working on different systems to try and ease the isolation on outer island communities:

> *"The gap we have identified is the information and the communication. In Fiji we have a lot of islands so the communication between our communities to reach this office is a big problem. We want to come up with solution to this. But there is [also] a need harmonising*

> *all the communication channels that is some of the basic problems that this office is undergoing. The police are operating on their own and the health service and the National Fire service, we want all the system to be all in one so we can work accordingly."*

The MoH also pointed to barriers in the communication systems: *"One issue that happened was three of our small towns went out; there was no power or water supply – so even a conversation on the mobiles was down."* Another respondent concurred.

> *"What we found out in our last two disasters that we had we were telling the health centres to call us but we did not give them telecards to call us from the land line. We can't expect that because there are some places where our mobiles don't go and when it's bad weather there are no boats that come from that island to the mainland. So they are out of food, canned stuff, they are living on fish from the sea but it's bad weather, so they are living on root crops, once it is like that these people will not buy telecards!"* (Western Division Hospital).

The School of Nursing, Fiji outlined how social networks are an important focus of communication and help to address communications problems. During a disaster when electricity and phones are down the Post Office is used as a focal point.

> *"The nurses usually go up to the [post office] station to actually communicate and we have not found problems in the past. And they continually feed back to the DISMAC centre what is happening in the islands. So the nurses always go there and talk."*

The three main areas impacting the communication within the DRS in Fiji were: relationships, lines of communication and physical barriers to communication. All areas that organisations within the DRS were working on overcoming to increase their adaptive capacity. The relationships and lines of communication need to be strengthened between NGOs and government, between the community and government, private sector and government and government to government. It was reported in the interviews and workshop that 'debriefs' were ongoing following the floods to ensure lessons learned were captured and integrated into the system. The physical barriers to communication are the one area that needs large amounts of funding to overcome as it involves major infrastructure costs. The NDMO is working with Japan to address some of these issues, a relationship that has reportedly been strengthened following the Tsunami in Japan 2011. However, the Fiji Meteorological Services reported that funding for this is difficult to access.

5.4 Financial capacity

Financial capacity of the DRS and each organisation within it greatly affect the adaptive capacity of organisations as accessing funds quickly for both material and human resources is vital during times of disaster. Financial capacity was of great concern in Fiji and was discussed by interviewees more than other "capacity" determinants (eg. human resources, technical capacity). While mechanisms are in place to ensure efficient access and flow of money during disasters barriers remain in place, such as an insecure political situation affecting government to government relationships and financial aid; competing priorities for where funds are spent; funds used to deal with the disaster leaving very little for preparedness and DRR; donor led disaster response rather than country led and confusion about how to access funding.

For instance a disaster fund was established outside the framework of the national budget, set up to be accessed quickly as an easy channel for donors to contribute funds, however, this does not appear to be happening. One government interviewee explained: *"The bank account is set up outside [the budget] hoping that other donors can pour money in there, but Australia goes through NGOs."*

Partners in Community Development is one such organisation receiving AusAID support:

> *"AusAID is [a] main donor they meet most of our institutional costs, they pay all our administration, finance, management stuff, they pay the bills; electricity, water phone, IT, vehicle, our printers and staff, they have been for last 2 years and it's been increasing"* (PCIDRR).

A government interviewee reported that:

> *"The bottom line is always resources. In terms of budgeting we always put resources into priority areas, but when a disaster strikes that allocation is set aside and diverted to disaster. You are hoping there is replenishment of funds from donors but that doesn't happen. Because it has to come through the government system so there is no replenishment."*

With money split between the government, donors and NGOs the priorities differ accordingly which appeared to dilute the available money. A government interviewee reported:

> *"Instead of money being used for infrastructure it goes to NGOs to buy water tanks or other things. In terms of priorities there is a mismatch."*

Because of a lack of financial capacity, available funds were reported to be depleted through the immediate needs following a disaster, leaving very little for DRR. The donors and NGOs however, appeared to be filling this gap.

> *"The money is set aside only for the response but for mitigation and preparedness that is where our donors play a very vital role for this office,"* said the PCIDRR. The government disaster fund is *"mostly for the response and not for the day to day administration."*

A government interviewee agreed that:

> *"When there is a disaster all the budgets have to be redeployed to repair infrastructure. To mitigate for adaptation purposes, the government makes a provision fund, there was not enough provisions $2 million it's not enough. To cater for these contingencies needs 50 million."*

Fiji is Therefore reliant on donors which bring its own constraints. According to the Ministry of Foreign Affairs,

> *"The climate change team was defunct for a number of years, i don't know why. The idea was that the team was linked to a project, when the project stopped it just disbanded. Before 2009 there was no budget for climate change.*

Funding for climate change issues is being tapped into across Fiji. The Fiji Meteorological Services suggested that:

> *"The other option (than accessing the budget) is to develop project proposals where donors can pick up projects. It is hard to get, they want more justifications, and it is difficult to meet criteria to access those funds."*

The NDMO however was clear on funding:

> *"Funds are available, 1million, for disaster response once it's activated it's given to NDMO, each agency does their own operations and if there are needs outside then they make a submission to Ministry of Finance."*

However, with several channels of funding, for some there is confusion about what is available and where, and this constrains adaptive capacity of the DRS. Another respondent pointed out: *"There is no guarantee that it will flow down. You can focus on the ground level but there is no connection with the top. It's very top heavy where the funding is."*

The Red Cross however is an organisation that has the ability to access a larger pool of funding, allowing them to be more adaptable:

> *"We have ability to reach, depending on severity, very quickly external aid within the Red Cross family to assist us in response both money and resources/people."*

In summary, as in the other PICs Fiji lacks the financial capacity to be independent from donor funding, this results in constraints placed on where and how they spend the money. Funding is being channelled in through the many NGOs which is causing confusion and duplication of services and also leaving the isolated communities out. Research revealed during the recent floods the main roads and easy access villages received many WASH and health care kits while several kilometres back they received nothing. Having access to finances that are not "tagged" for a particular project that can be mobilised quickly, yet transparently would enhance the Fiji DRS adaptive capacity.

5.5 Leadership and management

The structure of government in Fiji points to climate change being a focus. The Climate Change Unit is located within the Ministry of Foreign Affairs. This arrangement allows easier interaction with donors, other governments and NGOs. The Ministry of Foreign Affairs reported they are, *"one of the strongest ministries in any government.*

> *"In terms of climate change we have our structure to communicate and get things done. At the ground level we have the policy committee who looks at objectives and implementation. We have national climate change team which goes to cabinet"* (Ministry of Foreign Affairs).

Therefore, on a structural level climate change is integrated at a very high level.Such high level prioritisation leads to the possibility of a more effective DRS, however to be adaptive the organisations that make up the DRS must have leadership and staff who views crises as opportunities for advancement. The quality of leadership and degree of empowerment of staff is critical for an adaptive culture. It examines the following: (i) leadership and decision making structures; (ii) the acquisition, dissemination and retention of information

and knowledge; and (iii) the degree of creativity and flexibility that the organization promotes or tolerates (McManus et al, 2008; pg 83).

The NDMO was reported to have strong leadership which infiltrates the whole of the DRS, as indicated by one respondent:

> *"With recent floods their director for NDMO took ill but the Permanent Secretary stepped in and he was able to excel with coordination. It was a smooth operation across the different divisions particularly with the West; because the West commissioner used to be the director of NDMO."*

The NDMO has a long term view of disaster response which includes strategic planning and transparency of systems:

> *"We weren't looking just at immediate response. We were looking at government strategic goals. We brought in Strategic Planning, Ministry of Finance.. … If NZAID [gives] 1 million [dollars] for food assistance, what we need is the implementing partners to give back acquittals – it needs to be transparent. We want to coordinate well so everyone is treated fairly and equally. It's about accountability and transparency as well. We made a big effort on our tracking systems – so for example if Australia says we gave you five tents we should be able to tell them where."*

With reportedly no monitoring mechanism, the NDMO measures performance through:

> *"How much aid is moving out to the village level this is how we measure our performance. From operational level we measure how information is getting out: the reaction time, the effort they've made, the area they've covered that's how we monitor performance."*

The PCIDRR is another example of an adaptive organisation. For example they viewed the team as a vital component of good leadership:

> *"What we try to put in place is increasing the capacity of the whole team. So when the regional managers is out of the office the whole team can stick together and say we can do that, we have the capacity of doing that. We have had disasters without presence of director of disaster management office. But we handled it well. It's a just a question of increasing the capacity of the whole team*."

The MoH had a newly appointed Disaster Management Officer*:*

> *"I think one of the models that we are working towards is an individual focal point. That's why in the Ministry of Health we've established the position and advertised it. Before it was the Director of Public Health but now things are getting more demanding the Ministry has recognised we need a focal person."*

Across many interviews and during the workshop it was apparent that leadership and management was considered important for the DRS to function effectively. Participants agreed to the line of decision making as outlined in the National Disaster Management Structure. Participants reportedly complied with decisions made by their leaders as there was a deep level of understanding that during a disaster, where there is automatically an element of confusion, each organisation needed to take orders from their leader.

Furthermore, the Permanent Secretaries of each Ministry is involved during times of disaster with the NDMC. However, during the debrief and lessons learned following a disaster the Ministries and other organisations such as Red Cross, private sector, NGOs are invited to attend NDMC meetings. This was an informal process and reliant on the NDMO deciding on who to attend. This process should be formalised to ensure inclusiveness of relevant stakeholders. A review of the Natural Disaster Management Act (1998) as stated is needed to outline this process and set in place clear lines of leadership and decision making.

6. CONCLUSION

The most important determinants affecting adaptive capacity in Fiji were found to be: Information and knowledge; risk perceptions; communication and relationships; financial capacity and leadership and management. For the most part Fiji has a strong, well defined DRS with clear lines of authority. Communication needs to be strengthen especially with MoH and DRS but on the whole is good. Leadership is viewed as being strong and effective. The decision makers include all levels of society from the villages, provincial authorities, and district authorities up to national and feed information both ways. Overall the interviewees were well aware Fiji's vulnerability to of climate change and its impacts. They want to prepare but are constrained by finances, resources both material and human. The political situation in Fiji was also found to cause some barriers with the international donor sector as most donor dollars are channelled through NGOs and to particular projects. This situation is not tenable and seeks to undermines the adaptive capacity of the overall DRS; and as such requires innovative thinking in how to ensure that organisations in Fiji are aware of how and where to access available funds.

Specific recommendations for Fiji include the following:

- MoH (with the support of donors and international organisations) to ensure that clear guidelines are in place for in-coming personnel to be registered to facilitate efficient and effective HRH management, immigration and customs processes in each country.
- NDMO to ensure systems are in place to facilitate a structured post-disaster debrief that encourages a feedback of lessons learned from all agencies into national policy and planning processes.
- Communication and coordination between the MoH and other DRS organisations needs to be strengthened with a view to improve effectiveness and efficiency of disaster response.
- NDMOs to work towards improved coordination of capacity building of technical upskilling and training programmes (aligned with UNOCHA's own recommendations). This is to include needs based content and systematic selection of participants.
- MoH to lead (supported by of Australian and regional / international organisations) an urgent comprehensive assessment, including further research, of psychosocial support needs and technical capacity in each of the case study PICs, both in terms of affected populations, health providers and other first respondents to disasters.
- MoH/National Health Services (supported by Australian and regional / international organisations including WHO) to develop a strategic plan addressing emergent findings from assessments of psychosocial support capacity. This will ensure that adequate consideration and provisions are made regarding the specific psychosocial needs of the affected population, health worker support and disaster response personnel.

- MoH should ensure that adequate considerations are given to HRH needs for disaster response under a changing climate, in any new or revised National Health Plans or HRH strategic policies.
- DRS to seek the support of development partners for the assessment of how the health workforce capacity can be improved in terms of numbers, skills and competencies in the context of more frequent intense disasters.

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