A climate for change

Understanding women’s vulnerability and adaptive capacity to climate change from ActionAid’s rights-based approach – case studies from Papua New Guinea and Solomon Islands
ActionAid

ActionAid is a partnership between people in rich and poor countries, dedicated to ending poverty and injustice. We work with people all over the world to fight hunger and disease, seek justice and education for women, hold companies and governments accountable, and cope with emergencies in 43 countries.
A CLIMATE FOR CHANGE

Understanding women’s vulnerability and adaptive capacity to climate change from ActionAid’s rights-based approach – case studies from Papua New Guinea and Solomon Islands
For further information contact:
ActionAid Australia
69-71 Parramatta Road
Camperdown NSW 2050
www.actionaid.org.au

Author: Kate Morioka
Contributions and feedback: Dr Catherine Esposito, Nehal Shah and Kate Seewald
Editors: Mary Fogarty and Danielle Chenery
Cover design: Proof Designs
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Photos: Kate Morioka

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# Acronyms

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<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>AusAID</td>
<td>Australian Government Agency for International Development</td>
</tr>
<tr>
<td>BRG</td>
<td>Bismarck Ramu Group</td>
</tr>
<tr>
<td>CEDAW</td>
<td>Convention on the Elimination of all forms of Discrimination Against Women</td>
</tr>
<tr>
<td>COP</td>
<td>Conference of Parties</td>
</tr>
<tr>
<td>CSO</td>
<td>Civil Society Organisations</td>
</tr>
<tr>
<td>DMC</td>
<td>Disaster Management Centre</td>
</tr>
<tr>
<td>DRR</td>
<td>Disaster Risk Reduction</td>
</tr>
<tr>
<td>FAO</td>
<td>Food and Agriculture Organization of the United Nations</td>
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<tr>
<td>FGD</td>
<td>Focus Group Discussions</td>
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<tr>
<td>FSVAC</td>
<td>Family and Sexual Violence Action Committee</td>
</tr>
<tr>
<td>GDI</td>
<td>Gender-Related Development Index</td>
</tr>
<tr>
<td>GFDRR</td>
<td>Global Facility for Disaster Reduction and Recovery</td>
</tr>
<tr>
<td>HHS</td>
<td>Household Surveys</td>
</tr>
<tr>
<td>HREOC</td>
<td>Human Rights and Equal Opportunity Commission</td>
</tr>
<tr>
<td>IAPCCD</td>
<td>Interim Action Plan for Climate-Compatible Development</td>
</tr>
<tr>
<td>ICCPR</td>
<td>International Covenant on Civil and Political Rights</td>
</tr>
<tr>
<td>ICESCR</td>
<td>International Covenant on Economic, Social and Cultural Rights</td>
</tr>
<tr>
<td>IDS</td>
<td>Institute of Development Studies</td>
</tr>
<tr>
<td>IFRC</td>
<td>International Federation of Red Cross and Red Crescent Societies</td>
</tr>
<tr>
<td>INA</td>
<td>Institute of National Affairs</td>
</tr>
<tr>
<td>INGO</td>
<td>International Non Governmental Organisation</td>
</tr>
<tr>
<td>IPCC</td>
<td>Intergovernmental Panel on Climate Change</td>
</tr>
<tr>
<td>KGA</td>
<td>Kastom Garden Association</td>
</tr>
<tr>
<td>LDC</td>
<td>Least Developed Countries</td>
</tr>
<tr>
<td>MECDM</td>
<td>Ministry of Environment, Climate Change, Disaster Management and Meteorology</td>
</tr>
<tr>
<td>NAPA</td>
<td>National Adaptation Programme of Action</td>
</tr>
<tr>
<td>NARI</td>
<td>National Agricultural Research Institute</td>
</tr>
<tr>
<td>NCW</td>
<td>National Council of Women</td>
</tr>
<tr>
<td>NDMO</td>
<td>National Disaster Management Office</td>
</tr>
<tr>
<td>Acronym</td>
<td>Full Name</td>
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<tr>
<td>NGO</td>
<td>Non Governmental Organisation</td>
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<tr>
<td>NZAID</td>
<td>New Zealand International Aid and Development Agency</td>
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<tr>
<td>OCCD</td>
<td>Office of Climate Change and Development</td>
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<tr>
<td>OHCHR</td>
<td>Office of the High Commissioner of Human Rights</td>
</tr>
<tr>
<td>PNG</td>
<td>Papua New Guinea</td>
</tr>
<tr>
<td>REDD+</td>
<td>Reducing Emissions from Deforestation and Forest Degradation</td>
</tr>
<tr>
<td>SIDT</td>
<td>Solomon Islands Development Trust</td>
</tr>
<tr>
<td>SOPAC</td>
<td>Applied Geoscience and Technology Division of Secretariat of the Pacific Community</td>
</tr>
<tr>
<td>SPABL</td>
<td>Special Purpose Agriculture and Business Lease</td>
</tr>
<tr>
<td>SPC</td>
<td>Secretariat of the Pacific Community</td>
</tr>
<tr>
<td>SSEC</td>
<td>South Sea Evangelical Church</td>
</tr>
<tr>
<td>UDHR</td>
<td>Universal Declaration on Human Rights</td>
</tr>
<tr>
<td>UNDAW</td>
<td>United Nations Division for the Advancement of Women</td>
</tr>
<tr>
<td>UNDP</td>
<td>United Nations Development Programme</td>
</tr>
<tr>
<td>UNFCCC</td>
<td>United Nations Framework Convention on Climate Change</td>
</tr>
<tr>
<td>UNHCR</td>
<td>United Nations High Commissioner for Refugees</td>
</tr>
<tr>
<td>UNIFEM</td>
<td>United Nations Development Fund for Women (now part of the United Nations Women)</td>
</tr>
<tr>
<td>VBM</td>
<td>Vois Blong Mere</td>
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<tr>
<td>WMA</td>
<td>Wildlife Management Association</td>
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<tr>
<td>WWF</td>
<td>World Wildlife Fund</td>
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<tr>
<td>YWCA</td>
<td>Young Women’s Christian Association</td>
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Glossary

**Adaptation**
The Intergovernmental Panel on Climate Change defines adaptation as the adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities. Adjustment in human systems includes strategies that allow individuals to cope with climate-related hazards.

**Adaptive capacity**
Conditions determined by physical, social, economic and environmental factors or processes, as well as attitudes and behaviours that enable individuals and communities the ability to anticipate, cope with, resist or recover from, and reduce their susceptibility to climate-related hazards.

**Campaigning**
Campaigning creates and harnesses people’s power around a simple and compelling demand to achieve measurable political, economic or social change. It aims to challenge and transform policy and practice that deny people of their rights, open political space, establish accountability of institutions and build public opinion by giving people power over state and non-state actors that violate or deny them of their rights. Campaigning is one of the three programming areas of ActionAid’s rights-based approach.

**Climate justice**
This terminology refers to the idea of thinking, responding and acting on climate change based on the principles of equity, rights, access and participation. It sees environmental sustainability being strongly intertwined with social justice and human rights. It seeks to tackle climate change by protecting the rights of affected populations, their participation in climate change discussions, and their access to fair and equitable financing, programs and other interventions that help them adapt to effects of climate change.

**Climate-related hazards**
A dangerous phenomenon, activity or condition associated with climate change that has the potential to cause loss of life, injury or other health impacts, damage to property and assets, loss of livelihoods, social and economic disruption or environmental damage.

**Climate variability**
According to the definition of the Intergovernmental Panel on Climate Change, climate variability refers to variations in the mean state and other statistics (e.g. standard deviations, the occurrence of extremes, etc.) of the climate on all temporal and spatial scales beyond that of individual weather events. Variability can be caused by natural internal processes within the climate system or by natural and human-induced processes external to the climate system.

**Empowerment**
Together with campaigning and solidarity, empowerment enables poor and marginalised people to become aware of their rights, to be conscious of the systems and structures that oppress them and deny them their rights, and help them identify and take proactive steps to challenge the condition of their powerlessness. The realisation of the power within creates fundamental
and long lasting change in people because it empowers them to take control of their own situation. Empowerment is the first programming area of ActionAid’s rights-based approach.

**Gender equality**
Equal rights, responsibilities and opportunities of women and men, and girls and boys. Gender equality is fundamental to the realisation of human development.

**Human rights (or rights)**
A set of entitlements that belong to a person by virtue of being born and are independent of their sex, religion, ethnicity, race, sexual orientation, where they live, or any other status. The fundamental rights and freedoms of human beings are enshrined in the Universal Declaration on Human Rights and associated protocols, and in some national constitutions.

**Institutions**
Structures, systems and rules that govern the behaviours of individuals and include micro-level entities such as the family and the community and macro-level entities such as the state, the market, religion, cultures and the international society.

**Maladaptation**
This term often refers to an action or process intended to facilitate adjustments in natural and human systems to cope with climate change but, instead, directly or indirectly exacerbates vulnerability.

**Mitigation**
The Intergovernmental Panel on Climate Change defines mitigation as the technological change and substitution that reduce resource inputs and emissions per unit of output. It refers to human interventions that reduce or remove greenhouse gas or aerosol from the atmosphere.

**Solidarity**
Building solidarity involves supporting and sustaining movements for change led by poor and marginalised people. It involves creating and strengthening bonds between people and groups within society who become allies in the poor and marginalised people’s struggle for rights. This creates power with others at local, national and international levels to generate a collective and stronger voice to demand change. Building solidarity is one of three interrelated programming areas of ActionAid’s rights-based approach.

**Vulnerability**
Conditions determined by physical, social, economic and environmental factors or processes that increase the susceptibility of an individual or community to the impact of hazards and risks. Conditions that influence people’s vulnerability include variables like age, class, occupation, gender, ethnicity and disability.
Executive Summary

This report presents the findings of ActionAid’s research project on a rights-based analysis of the connection between women, vulnerability and adaptive capacity to climate change. The project was funded by ActionAid Australia and ActionAid International, and conducted in Papua New Guinea (PNG) and Solomon Islands in partnership with the Bismarck Ramu Group (BRG) and the Solomon Islands Development Trust (SIDT). The project was carried out between November 2010 and February 2012. This report has been prepared to provide ActionAid as well as government, donors and civil society organisations with information to inform broader discussions on adaptation financing, policy, programming and research at international, national and community levels.

Background

Climate change is one of the biggest challenges facing humanity in the 21st Century (Ki-Moon, 2009). It poses a serious threat to the basic elements of human life, placing hundreds of millions of people around the world at risk of hunger, malnutrition, water shortages, disease and displacement (OHCHR, 2007). Thus climate change has implications on a wide range of universally recognised fundamental rights, such as rights to life, food, water, housing, health, participation and freedom of movement. While it is a global problem, climate change will have a disproportionate effect on the world’s poorest and most vulnerable people (IPCC, 2007) even though they contributed very little to it (World Bank, 2008). They are likely to feel the greatest impact of climate change because they have limited capacity to cope with climate-related hazards (IPCC, 2007), including lack of access to information, technology, finance and other resources necessary for adapting to climate change (IPCC, 2007). For these reasons, climate change is not merely a scientific issue but a matter of social justice.

Accounting for 70% of 1.3 billion people living in conditions of poverty, women and girls are most vulnerable to climate change because they are responsible for producing food, fetching water and firewood, and other activities dependent on natural resources under threat by variations in climate, and they lack access to basic services like education, healthcare and sanitation, and resources such as wealth, land, credit, technology and information, which are necessary for building adaptive capacity and resilience (BRIDGE, 2008; CARE, 2007; ActionAid and IDS, 2007). However, the relationship between gender and climate change are yet to be recognised in key international mechanisms, such as the United Nations Framework Convention on Climate Change (UNFCCC), the Intergovernmental Panel on Climate Change and the Kyoto Protocol (UNDP, 2009 and Otzelberger, 2011).

In PNG and Solomon Islands, women face various political, social, economic and cultural inequalities. This is despite fundamental rights being enshrined in national constitutions and policies, and in international agreements such as the Convention on the Elimination of Discrimination Against Women (CEDAW), which the two countries have signed and ratified. Key barriers experienced by women in the two countries include, but are not limited to, low political representation, exclusion from decision making, violence against women, discriminatory cultural practices such as bride price and forced marriage, engagement in economic activities that lack regulatory protection on pay and working conditions, and lack of control over land, wealth, finances and other strategic resources (Sepoe, 1994; UNIFEM 2007; AusAID, 2008; UNDAW 2009; Government of PNG, 2010; and Government of Solomon Islands, 2010a). The difference in men’s and women’s vulnerability to climate change is the result of the social,
economic and political inequalities that deny women the enjoyment of their rights, which in turn exacerbate their vulnerability “before, during and after climate change-induced disasters” (Baten and Khan, 2010:5).

Study approach and methodology
To explore the factors that contribute to women’s vulnerability and adaptive capacity to climate change in two study countries, this study employed ActionAid’s rights-based approach as the framework for the analysis. The approach sees poverty and injustice being a cause of unequal and unjust power relations (ActionAid International, 2011). It understands that poverty and injustice stem from individuals and institutions like households, communities, religious organisations, corporations and nations exerting power and control over others (ActionAid International, 2011). Those who experience poverty and injustice are denied from enjoying their basic human rights due to decisions and policies systematically enforced by dominant individuals and institutions, perpetuating the power imbalance (ActionAid International, 2011).

ActionAid’s rights-based approach seeks to create positive change through three areas of programming: empowerment, campaigning and solidarity. Empowerment involves raising poor and marginalised people’s awareness of their human rights and identifying purposeful individual and collective action to enable people to take control of their own situation. Campaigning entails mobilising people around a simple and compelling demand to transform policy and practice that deny people of their basic human rights and to hold individuals and institutions accountable for their human rights obligations. Building solidarity involves creating local, national and global alliances that support movements for change led by poor and marginalised people. Women, as both the most vulnerable group and active agents of change, are at the centre of ActionAid’s rights-based approach (ActionAid International, 2011).

The study countries were selected based on their assessment against a set of indicators including Maplecroft’s Climate Change Vulnerability Index (2010), Smith and Vivekananda’s list of countries at risk of political instability as an unforeseen consequence of climate change (2007), United Nations Development Programme’s (UNDP) Gender Inequality Index (2010) and priority areas identified in the Australian Government’s Pacific Strategy (2010).

The study methodology involved desktop research, review of relevant policies and literature, roundtable workshops with experts in the field, focus group discussions, household surveys and interviews with men, women and young people, and interviews with government, donors and civil society organisations. The study was conducted in four communities, selected by the partner organisations: Derin and Siar in Madang Province of PNG, Aisiko in the highlands of Malaita Province and Siarana in Central Province of Solomon Islands.

Key findings
By adopting a rights-based approach as the analysis framework, the following key findings emerged from the study. The findings are categorised according to the three programming areas that ActionAid believes will bring about long lasting social and political change: empowerment, campaigning and solidarity.

Empowerment
Drought, landslides, flooding, variation in rainfall and temperature, coastal erosion and rising sea levels were the main climate-related hazards affecting people in the study communities. In all communities, climate change was perceived as having a substantial impact on agriculture, namely decline in crop yield, soil infertility from salination and introduction of pests.
impacts were observed largely by women who were responsible for producing and selling agricultural produce.

However in all communities, both men and women had limited awareness of their rights in relation to climate change. The study participants were not aware of their government’s legal obligations in safeguarding human rights, such as the right to life, adequate standard of living, health and other rights that are implicated by climate change, nor did they know what climate change policies and programs were in place or what assistance they can expect from their governments. In some communities, lack of rights awareness resulted in local leaders not being questioned or held accountable for responding to community concerns about climate change. Consequently, men and women had negative views about their capacity to adapt, and they believed there was nothing they could do to cope with climate change impacts in the future. Some individuals, who had access to the ‘know how’ (through their involvement in past externally-funded environmental projects) and financial capital, took matters into their own hands by initiating their own adaptation efforts, such as planting mangroves and building stone walls to stop coastal flooding. Similarly, some women, through their local women’s groups, were taking action by diversifying their livelihoods and investing in community projects.

The majority of men and women involved in the study had no or limited exposure to scientific evidence and explanations of climate change and, therefore, they were not able to relate the changes they were experiencing locally to the global phenomenon. Some participants tended to use religious or cultural beliefs to blame themselves and the community for the climatic changes they were experiencing, in the absence of information to explain or attribute changes in climate (i.e. climate change as a God’s punishment for people not going to church or the inability of local magic men to control the weather).

The study participants had mixed perceptions about the relevance of indigenous knowledge and practices in helping them cope with the impacts of climate change. Some believed the use of traditional seasonal calendar to inform the timing of planting and harvesting periods, and storing yam as contingency food supply would be applicable strategies for adapting to the impacts of climate change. However, many had forgotten about such ancestral practices used to cope with changes in climatic conditions and natural disasters, which some attributed to modern Western influences. Some believed indigenous knowledge will not be useful for climate change adaptation because the current climatic patterns were different to those experienced by their ancestors. Nevertheless, indigenous knowledge and practices, when combined with scientific information, can offer people adaptation strategies sensitive to local circumstances.

In all study communities, people identified women as being most vulnerable to the impact of climate change due to their culturally and socially ascribed role as primary producers and marketers of food. To cope with the current climatic conditions, most women in the study communities were working harder to ensure sufficient supply of food for their families as well as for market selling. In effect, changes in rainfall and temperature, and their impact on agricultural yield, were increasing women’s workloads. Thus vulnerability to climate change was predominantly understood by men and women in relation to gender roles.

In this study, gender differences in resource ownership, such as land and livestock, did not emerge as a factor in women’s vulnerability to climate change. Moreover, there was no clear relationship between women’s vulnerability and their participation in decision making at the household level. However, it was apparent from the study that in all four study communities, men dominated public leadership positions and had control over decision making at the community level. In some communities, women asserted that men did not permit them to
partake in community discussions or decision making ‘beyond their domestic and reproductive duties’. Given that women were identified in all communities as being most vulnerable to climate change, they need to be able to participate in wider community affairs and be part of the decision making process in deciding appropriate measures for adaptation.

Access to and control over financial resources for adaptation was limited for both men and women in the study communities. After purchasing basic necessities such as food, clothing, kerosene and soap, paying school fees and providing money toward the Church and cultural obligations, families had barely enough money left to invest in resources and strategies that would protect their lives, assets and livelihoods from climate-related hazards. The only exception to this was in Siar, where a group savings scheme had been established to pool funds for enhancing livelihood opportunities for women.

At the community level, many leaders were not aware of the funds available to their communities for adaptation and other development needs. The lack of awareness about broader climate change policy and financing mechanisms, combined with limited knowledge of climate change, in most cases, led to inaction from community leaders, and many men and women in the communities were simply coping by ‘struggling on’ with their subsistence and livelihood activities.

The analysis of the data collected from the study communities also indicated that building collective capacity for adaptation requires strong leadership and community support. This involves strengthening community governance structures so local leaders know what the community needs in relation to climate change and are held accountable for their action, and for protecting the interests of those most vulnerable to climate-related hazards. In PNG and Solomon Islands, where community and religious leaders have a high degree of authority and power to mobilise people, they are critical in making local adaptation happen.

Campaigning
The PNG Government’s Interim Action Plan for Climate-Compatible Development (IAPCCD) and the Solomon Islands’ National Adaptation Programme of Action (NAPA) both fall short of recognising the relationship between women, rights and climate change. They overlook the wider inequalities that make people vulnerable in the first place, and they lack coherence with national commitments to the Convention on the Elimination of Discrimination Against Women (CEDAW) and gender equality policies that specifically articulate the structural barriers that contribute to women’s vulnerability. In addition, they lack attention to the fundamental rights directly under threat by climate change, such as rights to life, adequate standard of living, health and other rights crucial for human development.

There were also a number of challenges faced by governments in implementing national adaptation plans and responding to the adaptation needs of communities. These challenges included lack of clarity and coordination among government ministries, inadequate institutional, financial and human resource capacity at national and provincial government levels, and linguistic diversity and geographical remoteness of communities in both countries.

Donor institutions consulted as part of this study were directing their efforts in strengthening the institutional capacity of national governments to coordinate and manage their responses to climate change, including the focus on building the technical and human resource capacity of government agencies. The donors expressed their commitment to supporting local adaptation that is rights-based and gender-responsive, however this commitment was yet to be translated into institutional policy, financing mechanisms and programming practice.
Solidarity
The study found community-based adaptation projects in PNG and Solomon Islands, thus far, have been largely led by international NGOs using funding from institutional donors like AusAID and UNDP. It was unclear as to whether these projects focused on gender differences in vulnerability to climate change, including disparities in men’s and women’s roles and responsibilities, access and control over resources, and participation in decision making. Adaptation projects that do not consider gender differences are at risk of implementing measures that are maladaptive, meaning they may exacerbate rather than reduce vulnerability (UNDP and AusAID, 2008).

In PNG, climate change had negative connotations among some civil society organisations due to perceived allegation of government corruption. It emerged from the interviews that some government officials had made corrupt carbon deals under the Reducing Emissions from Deforestation and Forest Degradation (REDD+) program, stripping customary land owners of their right to forests. Corruption was perceived to be a widespread problem within the PNG administration.

Finally, the study found the involvement of local women’s organisations in adaptation planning and programming was relatively limited because many lacked general and scientific information on climate change, and there were limited avenues available to help them connect with other civil society organisations working on climate change. There was also a perception among women’s organisations that climate change was an environmental issue, rather than a development issue concerning women. Nonetheless, local women’s organisations have invaluable knowledge and expertise in gender equality and women’s empowerment, and have strong networks with women and girls in both rural and urban areas. With adequate financial support, these organisations can play a pivotal role in bringing women’s voices and issues to the table at international and national discussions on climate change adaptation.

The benefits of a rights-based approach
Through this study, it became clear there are a number of benefits in using a rights-based approach to examine the connection between vulnerability and adaptive capacity to climate change, including:

- The approach focuses the attention on individuals and groups who are most vulnerable to climate change and the root causes that make them vulnerable in the first place;
- It scrutinises the role of institutions, namely governments, in safeguarding the rights of their citizens and in delivering essential information, infrastructure and services necessary for human development;
- It provides a clear link between human rights and climate change, and why the realisation of civil, political, social, economic and cultural rights are important in protecting people from the risks and impacts of climate change;
- It connects inequalities at the macro level (i.e. between developed and developing countries) with those at the micro level (i.e. between men and women, rich and poor), giving a comprehensive picture of global and local conditions that make certain groups more vulnerable than others;
- It exposes the unequal power relations among men and women and the pre-existing factors, such as political, social and economic barriers, that compound women’s vulnerability to climate change and hinder their adaptive capacity; and
• It puts a human face to the problem of climate change by promoting the full participation of vulnerable people in climate change discussions and negotiations, and placing them at the centre to underline the sense of urgency for the international community to take action.

Recommendations
Adapting to climate change is a local process but it relies on the commitment and support of donors, governments and civil society organisations. Indeed, as climate change cuts across a whole range of development challenges, such as hunger, malnutrition, poverty and gender inequality, it presents a timely opportunity to rethink and transform attitudes, behaviours and practices that perpetuate the current power imbalance between developed and developing countries, and between men and women. Indeed, it is an opportunity to change the course of human development and bring about long lasting positive change for humanity and planet earth. Now is the climate for change.

Recommendations for government and donors
1. Integrate human rights and gender perspectives in national adaptation plans
2. Ensure national adaptation planning involves the full participation of vulnerable communities, women and civil society
3. Improve governance and institutional capacity in the area of climate change, and ensure accountability and transparency in the use and allocation of adaptation funds
4. Dedicate resources for building the capacity of local women and human rights organisations in climate change adaptation
5. Prioritise funds and support for community-based action on adaptation, particularly initiatives led by women or have the active participation of women

Recommendations for civil society organisations
6. International NGOs should provide support to local civil society organisations in building their capacity in climate change adaptation
7. Establish a civil society working group on climate change, comprising of representatives from all development sectors, as a vehicle for information sharing and networking, and influencing government policy and processes on climate change
8. Assist communities in strengthening their local governance structures, including increasing women’s participation in leadership and decision making roles to enable collective action on climate change

Recommendations specific to the study communities are found in the case studies in Chapter 4.
1. INTRODUCTION
Climate change is the ‘greatest collective challenge’ facing humanity this Century (Ki-Moon, 2009). It is a global problem yet its impacts are likely to affect some people more than others, particularly the world’s poorest and most vulnerable people. This includes poor women in the Pacific Islands who are impacted by rising sea levels and high frequency of floods, droughts, earthquakes and other climate-induced disasters.

In Papua New Guinea (PNG) and Solomon Islands, women play an important role as carers of children and providers of food and water for families. In both of these countries, women are responsible for producing and processing 80% of the national food supply. The domestic roles women perform - which are often invisible in the public realm - such as tending to land and livestock, fetching for water, harvesting food and collecting natural materials, mean women are more dependent than men on ecosystems directly threatened by climate change. However, women’s reliance on natural resources also means they have strong connection to the environment and are vigilant in identifying and adjusting to the changes that occur.

A rights-based approach that looks at the structural inequalities between women and men is important in understanding women’s vulnerability and adaptive capacity to climate change. Underlying structural barriers such as women’s unequal status in society, lack of control over resources and exclusion from decision making, prevent them from fully exercising their social, economic, cultural and political rights. These barriers not only hinder women’s capacity to adapt to climate change but to a whole range of other development issues.

This report presents the findings of the study conducted by ActionAid and is intended to inform broader discussions on climate change adaptation financing, policy, programming and research at the international, regional, national and community levels.

1.1 Project Background
The purpose of ActionAid’s research project was to examine the connection between women, climate change vulnerability and adaptive capacity in PNG and Solomon Islands. The main aim of the project was to generate a greater level of knowledge on women’s experiences of climate change and their perceptions of vulnerability and capacity for adaptation within the contexts of the study countries. The project was funded by ActionAid Australia and ActionAid International and carried out between November 2010 and February 2012. The specific objectives of the study were to:

1. Capture personal experiences and insights from women and men on climate-related hazards and impacts;
2. Assess people’s understanding of climate change and their knowledge of the causes of climate change;
3. Identify how women and men, both individually and collectively cope with climate change;
4. Identify traditional and modern ways of coping with climate-related impacts;

The Intergovernmental Panel on Climate Change (IPCC) stated that climate change is likely to undermine the livelihoods of many of the world’s poorest and most vulnerable people.

The study focused primarily on adaptation and not on mitigation given that the Pacific Island Countries contribute very little to the global greenhouse gas emissions yet they are bearing the brunt of climate change impacts.
5. Articulate structural barriers that contribute to people’s vulnerability to climate change as well as those that limit their future adaptive capacity;
6. Determine how governments, donor institutions and civil society organisations are addressing the issue of climate change adaptation and how rights and gender are integrated into their responses; and
7. Identify the value of ActionAid’s rights-based approach in understanding climate change vulnerability and adaptive capacity.

The study countries, PNG and Solomon Islands, were selected based on their assessment against a set of indicators including: vulnerability to climate change; risk of armed conflict or political instability as an unforeseen consequence of climate change; gender inequality; and priority areas for the Australian Government’s Agency for International Development (AusAID).

The study was carried out in partnership with locally-based Non Governmental Organisations (NGOs): the Bismark Ramu Group (BRG) in PNG and the Solomon Islands Development Trust (SIDT) in Solomon Islands. With ActionAid having no physical presence and limited programming experience in the Pacific, partnering with locally-based NGOs was deemed to be crucial in consulting with women, men and communities in the two study countries. The partner organisations were selected based on existing relationships and recommendations from ActionAid contacts.

The partner organisations selected the study communities based on their existing relationships. One coastal and one inland community were selected in each country as follows:

**Papua New Guinea**
- Derin located in the floodplains of the Transgogol Area, Madang Province;
- Siar, an urban coastal community situated north of Madang;

**Solomon Islands**
- Aisiko located in the Kwara’ae highlands, Malaita Province; and
- Siarana situated on the southern coast of the Nggela Pile Island, Central Province.

### 1.2 Approach

This study was grounded in ActionAid’s human rights-based approach, which sees poverty and injustice being a cause of unequal and unjust power relations from the household to the global level (ActionAid International, 2011). Unequal power relationships arise because individuals and institutions exert their control and dominance over others in order to accumulate more power. Those who experience poverty and injustice are denied from enjoying their basic human rights due to policies and decisions systematically enforced by dominant institutions like households, communities, religious organisations, corporations and nations, which perpetuate the power imbalance (ActionAid International, 2011).

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3 Based on Maplecroft’s Climate Change Vulnerability Index
5 United Nations Development Programme’s Gender Inequality Index prepared as part of 2010 Human Development Report
6 See AusAID’s Pacific Strategy 2010
ActionAid believes the elimination of poverty and injustice can be achieved through purposeful individual and collective action, led by people living in poverty and supported by credible rights-based alternatives and campaigns that focus on the structural causes of poverty and injustice (ActionAid International, 2011). Women are at the centre of ActionAid’s rights-based approach because they are both the most vulnerable social group and active agents of change. Working with boys and men to change their attitudes and behaviours, ActionAid seeks to make a real positive impact on the lives of women and their communities (ActionAid International, 2011).

The rights-based approach comprises of three connected methodologies: empowerment, solidarity and campaigning (see figure overleaf):

**Empowerment** involves working with poor and marginalised people to become aware of their rights, to be conscious of the systems and structures that oppress them and deny their rights, and help them identify and take proactive steps to challenge the condition of their powerlessness. The realisation of the power within creates fundamental and long lasting change in people because it empowers them to take control of their own situation.

**Campaigning** creates and harnesses people’s power around a simple and compelling demand to achieve measurable political, economic or social change. It aims to challenge and transform policy and practice that deny people of their rights, open political space, establish accountability of institutions, and build public opinion by giving people power over state and non-state actors that violate or deny them of their rights.

Building solidarity involves supporting and sustaining movements for change led by poor and marginalised people. It involves creating and strengthening bonds between people and groups within society who become allies in the poor and marginalised people’s struggle for rights. This creates power with others at local, national and international levels to generate a collective and stronger voice to demand change.
1.3 Research Questions

The rights-based approach explained in the previous question provided the lens through which to examine the issue of climate change. By placing women at the centre of our inquiry and focusing on empowerment, campaigning and solidarity, the study was guided by the following questions:

**Empowerment**

1. Are men and women aware of their rights in relation to climate change, including the role of government in delivering adaptation funds and services?
2. What are men’s and women’s understanding of the causes, hazards and impacts associated with climate change?
3. How do they understand vulnerability in the context of climate change and who do they think is most vulnerable within their communities and why?
4. How do they currently cope and adapt to climate change? What traditional and modern knowledge/practices do they draw on?
Campaigning
5. What political, cultural, economic or social barriers do women currently face? How do these affect their vulnerability and adaptive capacity to climate change?
6. To what extent do international climate change agreements and national policies and strategies recognise the link between rights, women and climate change?
7. What challenges do government and donors face in implementing adaptation plans and programs?

Solidarity
8. What community structures do men and women rely on for adapting to climate change?
9. How are civil society organisations (CSOs) currently responding to the issue of climate change?
10. What are CSOs’ understanding of the connection between climate change, rights and women?

1.4 Methodology
The study was conducted using an iterative process with each stage of the research generating key insights and questions to guide the next stages of inquiry. Collectively, the findings of each stage contributed to a broader framework of understanding about gender, climate change vulnerability and adaptive capacity within the context of the two study countries. The key research methods employed by the study to address the specific project objectives included:

- **Desktop research** was carried out at the beginning of the project to identify key organisations already engaged in advocacy and programming work in the area of climate change adaptation and gender in the Pacific region as well as those that worked at the international level. This exercise enabled us to define the scope of our information gathering and identify which actors we needed to consult for the study;

- The findings from the desktop research were further informed by the **roundtable workshops** held in Sydney and Melbourne. Academics and practitioners with knowledge and expertise in climate change, gender and the Pacific, attended the workshops. The workshop outcomes were used to scope out the range of issues to be considered for potential investigation by the study and to inform the research design and implementation;

- Following the roundtable workshop, a **literature review** was conducted to conceptually define the relationship between gender and climate change from a rights-based perspective. The review also allowed us to understand the context of the countries in which the study was being implemented, particularly in identifying existing cultural, social, economic and political challenges associated with integrating rights, gender and climate change adaptation;

- The information gathered from the previous stages of the research were utilised to design the process and the tools for data collection in the field. We worked closely with our research partners in planning and organising the logistics for the data collection activities and in testing the questions we were to ask the study participants. The role play technique was used with BRG staff to rehearse our introductory speech to the study communities with the main purpose to achieve clarity and consistency in the information
we provided to the communities and to avoid building false expectations about the project. With SIDT, a one-on-one briefing, rather than a group role-play, was used to prepare for our ‘entry’ into the study communities due to staffing and timing constraints.

Through the involvement of the research partners, a participatory methodology comprising the following three data collection tools was devised:

- **Household surveys** were designed to collect quantitative and qualitative information on the different roles and workloads of men and women, their access to strategic resources, their participation in household decision making, their understanding and experiences of climate-related risks, and their present and future coping strategies. The surveys were conducted in Pidgin and administered by trained staff from the partner organisations (BRG and SIDT). Participation was voluntary and households were selected based on purposive sampling in an effort to capture a wide cross-section of the community to reflect diversity in age, education, religion, household size and social status. A total of 97 individual respondents (51 female and 46 male) across 53 households completed the survey.

- **Focus Group Discussions** were designed to assess a collective understanding of vulnerability in terms of who within the community was most vulnerable to climate related risks and why they were vulnerable. The discussions were facilitated by trained staff from BRG and SIDT and in some communities with assistance from community members. Each discussion took three hours to complete. A total of 11 focus group discussions were held across the four study communities, which were attended by 89 women and 80 men.

- In each study community, **semi-structured interviews** were conducted with various community representatives to gain an in-depth understanding of the local governance structure and other cultural, social, environmental or economic factors that influence the community’s current and future adaptive capacity. Some interviews were held one-on-one, while others were held as part of a group meeting with community leaders. A total of nine interviews were conducted across the study communities; and

- In addition to the data collection activities conducted in the field, 29 **semi-structured interviews** were carried out with representatives from relevant government agencies, bi- and multi-lateral institutions, peak bodies and NGOs in the study countries. The interviews were semi-structured in nature and designed to obtain information on current policy, programming and research priorities pertaining to climate change adaptation and gender equality in PNG and Solomon Islands.

The data and information gathered from each stage of the research were analysed individually to inform the subsequent stages of inquiry. A meta-analysis of all the data collected during the course of the study was also undertaken using our rights-based approach as the framework for the analysis. The list of individuals and organisations consulted for this study is presented in Appendix 1 of this report.
1.5 Limitations

The study has several limitations. Firstly, due to timing and budgetary constraints, the study was only able to focus on four communities. The results of the study are treated as case studies and cannot be generalised across the two study countries nor can direct comparisons be made. With communities in both PNG and Solomon Islands being ethnically, culturally and linguistically diverse, the results from the four study communities are not reflective of all communities. Nonetheless, the study findings contribute to the existing body of knowledge about women in relation to climate change vulnerability and adaptive capacity and provide a basis for future research in the Pacific region.

Secondly, as with all climate change research, it is not simple to isolate climate change from other stressors such as urbanisation, population growth, logging and environmental destruction. In most cases, climate change is not the sole cause but a contributing factor to men’s and women’s vulnerability to natural and manmade hazards, which in turn increases their vulnerability to poverty and other development issues. This study sees climate change as being a development issue, interlinked with other social, economic and environmental stressors, hence it is not merely a scientific issue that can be ‘proven’ or hard evidence provided. Climate change increases the complexity of the situation faced by poor and marginalised people, with the potential to further undermine people’s right to life, food, water, culture and security.

Thirdly, the study communities were selected based on their existing relationship with the partner organisations and do not necessarily represent those communities that are most at risk of climate change impacts. This was due to the importance for ActionAid Australia and its research partners to select communities that had ongoing rapport so the Research Team was not seen as an outsider coming in to do research, collect information and leave without long term engagement with the community. Thus the Research Team’s visit to the communities was not ‘one-off’ but part of a larger and ongoing community development process facilitated by the partner organisations.

Fourthly, this study had a strong focus on women because they face severe disadvantages compared to men. Thus the analysis of the research data concentrated on the culturally and socially constructed roles of women and how these influenced vulnerability and adaptive capacity to climate change. To fully understand the gender dimensions of climate change, men’s ascribed roles and responsibilities also need to be examined.

Finally, given the household surveys were administered to a small sample, the results of the survey have been synthesised into the case studies along with the findings from the focus group discussions and interviews with community leaders. The survey data was used to inform the contextual analysis for the qualitative responses given by men and women in the study communities, rather than for the purpose of statistical analysis.
1.6 Structure of this Report
This report is structured into six chapters as follows:

- **Chapter 1** (this chapter) – presents an overview of the study background, approach and methodology;

- **Chapter 2** – provides an overview of the link between women, rights and climate change;

- **Chapter 3** – sets the context in terms of the social, cultural, economic and political barriers that contribute to PNG and Solomon Islands women’s vulnerability to climate change;

- **Chapter 4** – presents the individual case studies of the four communities;

- **Chapter 5** – examines the emerging themes and issues from the study communities, as well as existing government, donor and civil society responses to climate change adaptation using ActionAid’s rights-based approach as the framework for the analysis; and

- **Chapter 6** – offers recommendations in relation to climate change adaptation in PNG and Solomon Islands.
2. LINKING WOMEN, RIGHTS AND CLIMATE CHANGE
“The trade-offs forced upon people by climate shocks reinforce and perpetuate wider inequalities based on income, gender and other disparities.”

UNDP, 2007

This chapter lays the basic foundation for the research by articulating the relationship between human rights, women and climate change, and defining key concepts such as gender equality, vulnerability and adaptive capacity in relation to climate change. The information presented in this chapter is derived from the literature review conducted as part of the study.

2.1 Connecting human rights and climate change

The fundamental rights and freedoms of all human beings are enshrined in the *Universal Declaration of Human Rights* (UDHR), which was adopted by the UN General Assembly in 1948. The rights contained in the UDHR are further articulated in the *International Covenant on Civil and Political Rights* (ICCPR) and the *International Covenant on Economic, Social and Cultural Rights* (ICESCR).

Undeniably, climate change poses a serious threat to the basic elements of human life, placing hundreds of millions of people around the world at risk of hunger, malnutrition, water shortages, disease and displacement (OHCHR, 2007). Some argue scarcity of food, water, land and other natural resources caused by climate change will generate or intensify conflict and political instability, affecting thousands, if not millions, of more people.7

The human cost of climate change, directly impacts on a multitude of fundamental human rights including, but not limited to, the rights to life, adequate standard of living, health, participation, freedom of movement and the rights of indigenous peoples as explained below:

- Right to life – article 3 of the UDHR states ‘everyone has the right to life, liberty and security of person’. Article 6(1) of ICCPR also states ‘every human being has the inherent right to life. This right shall be protected by law. No one shall be arbitrarily deprived of his life’. The UN Human Rights Committee, in its General Comment on the right to life stated the right to life should not be interpreted narrowly and States must ensure measures to reduce infant mortality and increase life expectancy, including measures to eliminate malnutrition and epidemics (HREOC, 2009). Both direct and indirect impacts of climate change, such as the loss of life from floods, droughts, storms and other natural disasters, and susceptibility to hunger and diseases caused by changes in climate variation, have implications on the right to life (HREOC, 2009);

- The right to adequate standard of living – this right includes ‘the right to adequate food, clothing and housing, and to continuous improvement of living conditions’, as articulated in Article 11(1) of ICESCR. Article 11(2) also recognises the ‘fundamental right to freedom from hunger and malnutrition’. This right implicitly includes the right to water. Climate change implicates the right to adequate standard of living because it has detrimental impacts on natural and physical resources that people rely on for their survival and livelihoods, such as the deterioration of living conditions and the loss of productive land and safe drinking water caused by severe and frequent flooding, coastal

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erosion, salination and rising sea levels, as well as decline in crop, fish and livestock yields from temperature and rainfall variations (HREOC, 2008). The impact of climate change on the right to adequate standard of living will be particularly profound in areas where people are already living at the margins of survival (OHCHR, 2007);

- The right to health – article 25 of the UDHR explicitly states ‘everyone has the right to a standard adequate for the health and wellbeing of himself and his family.’ Moreover, article 12(a) of the ICESCR provides for ‘the enjoyment of the highest standard of physical and mental health’ for all individuals. The impact of climate change on human health includes increases in vector-borne, water-borne and respiratory diseases resulting from increased temperature and rainfall (HREOC, 2008);

- The right to participation – this right is protected under article 21 of the UDHR, which covers the right for everyone to take part in the conduct of public affairs, the right to vote and be elected and the right of equal access to public service. This right is further stipulated in article 25 of the ICCPR. The UN Human Rights Committee, in its General Comment on the right to participation in public affairs, stated the conduct of public affairs is a broad concept that relates to all aspects of public administration and the formulation and implementation of policy at international, national, regional and local levels. Debate and negotiations on climate change policies, to date, have largely concentrated at the international level rather than the local level where the effects of climate change have devastating consequences on the lives of vulnerable groups, including women (see Raihan, Huq, Alsted and Andreasen, 2010). In 2007, the Network of Women Ministers and Leaders for Environment at the 13th Conference of the Parties (COP) on Climate Change called upon the United Nations Framework Convention on Climate Change (UNFCCC) Secretariat for the recognition of women as “powerful agents of change and their full participation in climate change adaptation and mitigation policies and initiatives.” (UNDP, 2009:48);

- The right to freedom of movement - article 13 of the UDHR clearly asserts ‘everyone has the right to freedom of movement and residence within the borders of each State’. The rights and protection of internally displaced persons are articulated in the Guiding Principles on Internal Displacement. Although climate-induced displacement was not considered in the drafting of the Convention relating to the Status of Refugees, it provides some protection for those who are found to be displaced across international borders because of climate change impacts (UNHCR, 2009). In 1990, the Intergovernmental Panel on Climate Change (IPCC) stated “the gravest effects of climate change may be those on human migration” (UNHCR, 2009:1). Rising sea levels, and increased frequency of natural disasters associated with climate change, are already threatening the existence of many communities, causing concerns for mass migration and displacement within and across countries; and

- The rights of indigenous peoples – indigenous people have strong cultural and spiritual relationships with the land, which is recognised in the 2007 Declaration on the Right of Indigenous People and related human rights instruments (HREOC, 2008). Indigenous people will be exposed to the negative impacts of climate change because their cultural identities, practices, and livelihoods are highly dependent on nature (OHCHR, 2007). This is certainly the case in the Pacific islands where the majority of the population live a subsistence lifestyle and rely on natural ecosystems.
It is important to consider human rights implications of climate change because human rights are underpinned by the principles of universality, indivisibility and inalienability:\footnote{See UN Office for the High Commissioner of Human Rights, available at: http://www.ohchr.org/en/issues/Pages/WhatareHumanRights.aspx}

- Human rights are universal because they apply to all human beings;
- Human rights are indivisible meaning civil, political, social, economic and cultural rights must all be fully realised and the denial of one right adversely affects others; and
- Human rights are inalienable because they cannot be taken away from people.

Not only are all human beings born with and entitled to the enjoyment of fundamental rights, governments around the world have legal obligations to protect and promote rights (OHCHR, 2007). Although the connection between climate change and human rights is yet to be explicitly articulated in international human rights law (HREOC, 2008), integration of human rights in global and national responses to climate change is pivotal for holding those responsible for contributing to climate change and protecting people who will be most adversely affected.

2.2 Climate justice

Climate change is not merely a scientific problem but an issue of social justice. Countries that are responsible for most of the world’s greenhouse gas emissions are predominantly developed nations. For example, Australians emit 18.1 tonnes of carbon dioxide per capita, compared to 0.7 tonnes for PNG and 0.4 tonnes for Solomon Islands.\footnote{Data sourced from UNDP 2010 Human Development Report, 2006 figures} Despite being a low emitter, the Pacific Islands are on the frontline of the climate change battle – the Islanders weather a high frequency of floods, droughts, cyclones and earthquakes, and some are now forced to relocate because of the rising sea levels (GFDRR, World Bank and SOPAC, 2010).

People in developing countries bear the brunt of climate change even though they contribute very little to it (World Bank, 2008). They are also likely to feel the greatest impact of climate change because they have limited capacity to cope with climate-related hazards (IPCC, 2007). The climate injustice faced by the world’s most vulnerable and disadvantaged people is deeply rooted in existing patterns of global inequality (World Bank, 2008). Power imbalances between developed and developing countries, and between rich and poor people, magnify the impacts of climate change on the most vulnerable.

Therefore, climate change is a social justice issue that raises considerable concerns about the equitable share of responsibility in responding to climate change. The principle of ‘common but differentiated responsibility’ forms the basis of the Kyoto Protocol, a key binding agreement between nations on reducing greenhouse gas emissions.\footnote{Article 3.1 of the Kyoto Protocol, adopted at the COP 3 meeting in 1997} Accepting a fair share of responsibility has been at the centre of debate and contention at ongoing Conference of Parties (COP) negotiations of the UNFCCC. Countries that are high emitters of greenhouse gases have a responsibility not only to reduce their emissions, but to commit funds to help those who are most vulnerable adapt to the impacts of climate change.
Based on the principles of social justice and human rights, ActionAid uses the concept of climate justice to bring about global action on climate change. The terminology refers to the idea of thinking, responding and acting on climate change based on the principles of equity, rights, access and participation. This perspective sees the achievement of environmental sustainability being interlinked to the realisation of rights and justice for vulnerable populations in society. Thus climate justice is about protecting and promoting the fundamental rights of those who are adversely affected by climate change, their participation in deciding and influencing climate change policies and negotiations, and ensuring that financing for adaptation and mitigation is fair and equitable and accessible to those who need it the most.

### 2.3 Women and girls are most vulnerable to climate change

Just like the inequalities between developed and developing countries, there are deeply entrenched inequalities between men and women, which make women and girls more vulnerable to climate change (ActionAid and IDS, 2007). Women and girls account for 70% of 1.3 billion people living in conditions of poverty - they lack access to basic services like education, healthcare and sanitation, and resources such as wealth, land, credit, technology and information, which are all essential to build their resilience and adaptive capacity to climate change (BRIDGE, 2008; CARE, 2007; ActionAid and IDS, 2007).

For most developing economies, women are the primary food producers and form the backbone of the global food supply (FAO, 2003). Women farmers play an important role in feeding their families as well as contributing economically to the agricultural sector. This, combined with women’s role in the provision of water and firewood, and in protecting the health and wellbeing of men, children and families (UNDP, 2009; BRIDGE, 2008), make women and girls vulnerable to climate change. They are more dependent than men on natural resources and the ecosystems under threat by climate change (ActionAid and IDS, 2007), and they “are more exposed to climate shocks and have fewer resources to protect their own lives, assets and livelihoods while looking after their families” (ActionAid and IDS, 2007:6).

Unequal access to resources and gender division of labour has also contributed to women’s increased vulnerability to natural disasters (UNDP and AusAID, 2008). In the 2004 Asian tsunami, it was found that one woman survived for every three men (Oxfam, 2005). Women were more affected than men because they were carrying out livelihood activities close to the shore when the tsunami hit and were less physically able to escape in time due to factors such as cultural dress and obligation to protect their children, the elderly and family members with disabilities (UNDP and AusAID, 2008). In post-disaster scenarios, women lack resources such as income and land to effectively recover and rebuild their livelihoods (UNDP and AusAID, 2008).

The disproportionate exposure to climate hazards does not happen because women are “naturally weaker” (UNDP, 2009:27). The difference in vulnerability between women and men is the result of the social, economic and political inequalities that deny women the enjoyment of their rights and in turn exacerbate their vulnerability “before, during and after climate change-induced disasters” (Baten and Khan, 2010:5).
2.4 Recognition of gender and climate change in key international instruments

At present, the recognition of the link between gender and climate change remains absent from the UNFCCC, the IPCC and the Kyoto Protocol (UNDP, 2009 and Otzelberger, 2011). In 2009, the CEDAW Committee highlighted its concern regarding the absence of gender considerations in the UNFCCC by releasing a Statement on Gender and Climate Change. Despite this and other numerous mandates calling on the integration of gender in key conventions on sustainable development, their realisation is yet to bear fruit. The gender dimension has not been captured in international climate change negotiations on adaptation and mitigation, and “therefore they provide neither a legal framework nor a rights-based approach needed to implement responses to climate change that are equitable for both men and women” (UNDP, 2009:51). Until such time when gender equality is recognised and integrated in key international mechanisms, discussions and outcomes agreed at the international level could continue to overlook the inequalities that make women vulnerable to climate change.

2.5 Defining gender in relation to rights and climate change

There appears to be a common misunderstanding that “gender is favouring women’s rights and responsibilities” over men’s (Baten and Khan, 2010:5). In both academia and in development literature, gender is commonly defined as socially constructed roles and relations between men and women (Baten and Khan, 2010; UNDP and AusAID, 2008). However, the definition of gender must be extended to incorporate equality, encompassing “the equal rights, responsibilities and opportunities of women and men, and girls and boys”, which are preconditions for development centred on human rights (UNDP, 2009:24).

This study focused on women because they face severe disadvantages compared to men. Thus they often do not enjoy the same rights, responsibilities and opportunities as men. From a women’s rights perspective, to achieve gender equality, it is necessary to identify and understand the structural inequalities that contribute to women’s disadvantage in the first place, and exacerbate the disparity between the sexes. This perspective shifts the emphasis from climate-induced vulnerability to vulnerability caused by the unequal treatment of, and the injustice faced by, women and girls. By focusing on the inequalities faced by women, it provides an impetus for putting an end to discriminatory policies, social systems and cultural practices that prevent women and girls from enjoying their rights, and consequentially draw attention to the roots of poverty and other development issues that hinder and limit the empowerment of women, including their ability to adapt to climate change.

2.6 Defining vulnerability and adaptive capacity to climate change

Understanding of vulnerability and adaptive capacity from a rights-based approach is different from definitions found in the wider climate change discourse. Vulnerability is often defined in academic literature as exposure of individuals and communities to climatic conditions, with exposure being dependent on “the frequency, magnitude and extent of climate-related risks and whether the community lives in a hazardous environment” (Sutherland, Smit, Wulf and Nakalevu, 2005:12). This definition sees geophysical and environmental factors as the main determinant of vulnerability when in fact there are other factors that predispose vulnerabilities of individuals and communities to climate-related hazards.

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11 Refer to CEDAW Statement made at the 44th Session of CEDAW Committee, August 2009
ActionAid understands vulnerability as being multi-dimensional – different factors are at play in increasing and compounding people’s vulnerability to climate change. ActionAid defines vulnerability as the conditions determined by physical, social, economic and environmental factors or processes, which increase the susceptibility of an individual or community to the impact of hazards and risks (ActionAid Australia, 2011). Conditions that influence people’s vulnerability include variables like age, class, occupation, gender, ethnicity and disability. Vulnerability is also context-specific because conditions that determine whether individuals or communities are susceptible to hazards and risks differ between and within countries.

ActionAid’s understanding of capacity is the opposite of vulnerability: conditions determined by physical, social, economic and environmental factors or processes, as well as attitudes and behaviours that increase resilience and decrease susceptibility of an individual or community to the impact of hazards and risks (ActionAid Australia, 2011). Adaptive capacity then refers to changes in existing conditions that allow individuals and communities the ability to anticipate, cope with, resist or recover from, and reduce their susceptibility to climate-related hazards. ActionAid’s rights-based approach seeks to empower and build the capacity of women in particular because it knows women experience multiple vulnerabilities that extend beyond discrete and identifiable climate-related events.

It is important to note vulnerability cannot be understood without its relationship to capacity. Just because women are vulnerable, it does not mean they are not able to cope or adapt. Women have different sets of skills and knowledge, which are essential for building resilience and ability to respond to the effects of climate change. Women and men alike bring with them diverse perspectives and experiences – these are invaluable tools for developing adaptation and mitigation strategies (UNDP, 2009).

### 2.7 Summary of implications

This chapter argued that climate change is a social justice issue and women and girls are most vulnerable to climate change because of their unequal status in society. It also defined the concept of vulnerability and adaptive capacity in relation to climate change. The information presented in this chapter has a number of implications on the study, including:

- A wide range of fundamental human rights is implicated by climate change, including the rights to life, adequate standard of living, health, participation, freedom of movement and the rights of indigenous peoples. Governments have not only moral but legal obligations to protect and promote human rights and integrate them in their responses to climate change. This raises the question of whether the connection between climate change and human rights is being considered in climate change policies and programs of governments in the study countries (see Section 5.2.1);

- Climate change is more than a scientific problem. It is a social justice issue because countries like PNG and Solomon Islands account for a very small proportion of global greenhouse gas emissions but they are bearing the impact of climate change. It is then important to consider how the principles of social justice, namely equity, rights, access and participation are being applied in national adaptation planning (see Sections 5.1 and 5.2);
• Women's vulnerability to climate change is linked to the gender norms and roles, and social, economic and political inequalities they experience in their day-to-day lives. To understand why women are most vulnerable to climate change, we need to identify the structural barriers faced by women in the study countries, and how men and women understand and perceive vulnerability to climate change. These are considered in detail in the next chapter (Chapter 3); and

• Adaptive capacity depends on a range of factors and processes, and attitudes and behaviours. The individual case studies presented in Chapter 4 looks at the different determinants that facilitate or hinder community action on adaptation.
3. SETTING THE CONTEXT: BARRIERS FACING WOMEN IN PNG AND SOLOMON ISLANDS
To gain a holistic understanding of the link between women and climate change using a rights-based approach, it’s important to look at the political, social, economic and cultural barriers that contribute to women’s unequal status in society. This chapter describes these issues in the context of the two study countries based on the findings from the literature review. The issues presented vary between cultures, urban and rural geographies, and communities and, as such, are not representative of the challenges faced by all women. However, they provide an indicative basis for exploring the link between women and climate change from a rights-based perspective.

3.1 Legal and Political barriers

Legal and political systems are integral to safeguarding the rights and freedoms of women. In PNG and Solomon Islands, the fundamental rights and equality between men and women are captured in national constitutions (see Box 1), the UDHR and various international and regional agreements and conventions (see Appendix 2 of this report).¹² Despite human rights being articulated in the constitutions of the two study countries, legal and political structures are considered to “perpetuate the unequal representation of women within the judicial and parliamentary systems in these countries” (Sepoe, 1994:251). The major obstruction to the realisation of the rights of women, and their full participation in the political realm, is their lack of access to strategic resources. These resources include cash, social status and material wealth, such as the ownership of land, property, pigs and other physical assets considered to be of high value by monetary and cultural definition. Not only are these resources out of reach for many women, the very nature of political culture in PNG and Solomon Islands is patriarchal, reinforcing men’s dominance over women.

¹² Includes but are not limited to: the Convention on the Elimination of all forms of Discrimination Against Women (ratified by all Pacific Island countries except for Palau and Tonga), the Millennium Development Goals, the Beijing Platform for Action, Pacific Platform for Action (endorsed by 22 Pacific Island governments and territories) and the Commonwealth Plan of Action
Box 1 Human rights as safeguarded in the PNG and Solomon Island Constitutions

PNG Constitution:

**National Goal and Directive 2. Equality and participation**

“We declare our second goal to be for all citizens to have an equal opportunity to participate in, and benefit from, the development of our country.”

**Basic rights**

“We hereby acknowledge that, subject to any restrictions imposed by law on non-citizens, all persons in our country are entitled to the fundamental rights and freedoms of the individual, that is to say, the right, whatever their race, tribe, places of origin, political opinion, colour, creed or sex, but subject to respect for the rights and freedoms of others and for the legitimate public interest, to each of the following:

a. life, liberty, security of the person and the protection of the law; and
b. the right to take part in political activities; and
c. freedom from inhuman treatment and forced labour; and
d. freedom of conscience, of expression, of information and of assembly and association; and
e. freedom of employment and freedom of movement; and
f. protection for the privacy of their homes and other property and from unjust deprivation of property,
g. and have accordingly included in this Constitution provisions designed to afford protection to those rights and freedoms, subject to such limitations on that protection as are contained in those provisions, being limitations primarily designed to ensure that the enjoyment of the acknowledged rights and freedoms by an individual does not prejudice the rights and freedoms of others or the legitimate public interest.”

Solomon Islands Constitution:

**Protection of fundamental rights and freedoms of the individual (Chapter 2)**

“Whereas every person in Solomon Islands is entitled to the fundamental rights and freedoms of the individual, that is to say, the right, whatever his race, place of origin, political opinions, colour, creed or sex, but subject to respect for the rights and freedoms of others and for the public interest, to each and all of the following, namely:-

(a) life, liberty, security of the person and the protection of the law;
(b) freedom of conscience, of expression and of assembly and association; and
(c) protection for the privacy of his home and other property and from deprivation of property without compensation….”

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13 The Solomon Island Constitution was being revised at the time of this report being written
While universal suffrage had been achieved in both Melanesian countries, the overt exclusion of women from political representation is an indicator of gender inequality. In PNG, there is currently only one female Member of Parliament out of 109 seats in parliament. A parliamentary Bill was being debated at the time of writing, calling on the allocation of 22 reserved seats for women in the next national elections in 2012 (Government of PNG, 2011b). Solomon Islands, on the other hand, is yet to have a single female member of parliament, making it one of just 12 nations across the globe with no female political representation (UNIFEM, 2007). Since Independence, Solomon Islands has only had one female elected Member of Parliament (Government of Solomon Islands, 2010a).

Other mechanisms that provide platforms for women’s participation in decision making and leadership in both PNG and Solomon Islands exist but are severely constrained. For example, the National Council of Women (NCW) in PNG has a majority membership of rural women, consisting of members from 20 Provincial Councils, made up of 89 District Councils including 296 local level women representatives plus nine national church women organisations. Under the provisions of the Organic Law on Provincial and Local Level Government, NCW members are eligible to represent women’s views in all levels of the Provincial and Local Level Governments (Government of PNG, 2009). This entitlement to represent women’s views provides the NCW with considerable legitimacy in advocating on the rights of women, however, at the time of writing, the NCW was dormant and in need of substantial resource and support. On the other hand in Solomon Islands, despite the fact there is no similar legislative allowance for its NCW in the political representation of women, the NCW is mandated to play a key role in the advocacy, coordination and implementation of the national government’s Gender Equality and Women’s Development Policy.

Existing mechanisms, however, do not translate into women’s active participation in decision making and leadership positions. Men continue to exercise their control over women in political and community affairs because of culturally regulated systems of values and practices about gender (Government of Solomon Islands, 2010a). The entrenched negative attitudes about women remain a significant barrier to women’s participation in the public sphere (see Box 2).

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14 Out of the 12 countries that do not have female representation in parliament, 5 of those are in the Pacific region (Tuvalu, Nauru, Palau, Micronesia and the Solomon Islands). PNG may be added to this list in 2012 when the only female member resigns from office and if the parliamentary bill to allocate reserved seats for women is not passed.
Social and cultural barriers

Socially constructed norms and discriminatory cultural practices are a cause and consequence of gender inequality in PNG and Solomon Islands, cutting across all social and economic classes. They present significant barriers for women and girls, and prevent them from enjoying their rights.

Traditional and contemporary cultural practices that violate the rights of women and girls in the two study countries include (but are not limited to): the practice of *bride price*; violence against...
women; physical punishment, including the traditional burning, beheading and other forms of killing women perceived to be practicing witchcraft; early, arranged and/or forced marriages; payback or punishment rape; forced marriage to one’s rapist; forced marriage as part of dispute settlements; the maltreatment of widows, and, in PNG, polygamy and imprisonment for adultery (UNDAW, 2009; AusAID Office of Development Effectiveness, 2007; Government of Solomon Islands, 2010a; and AusAID 2008).

In particular, the issue of violence against women is one of the most pervasive human rights violations in the two study countries. The Solomon Islands Family Health and Safety Study conducted by the Secretariat of the Pacific Community (SPC), in partnership with the Government of Solomon Islands, found nearly two in three women, between the ages of 15 and 49 years, had experienced violence, with one out of two women reporting they were sexually abused before they reached the age of 15, with violence particularly prevalent during the period of ethnic tension (Government of Solomon Islands, 2011). Similarly, a national study carried out by the PNG Law Reform Commission during 1982 and 1986 found approximately two-thirds of women interviewed reported they had experienced domestic violence and 97% of patients treated with domestic violence injuries were women (AusAID Office of Development Effectiveness, 2007; and AusAID, 2008). Moreover, the PNG Institute for Medical Research study, conducted in 1993, found 55% of women interviewed had been forced to have sex against their will, with most perpetrators being their intimate partners. Shockingly, 60% of men interviewed admitted to having participated in lainap (gang rape) at least once (AusAID, 2008).

Violence against women is now formally recognised as a criminal offence under the PNG 2002 Sexual Offences and Crimes against Children Act and the Solomon Island’s Penal Code (AusAID, 2009). In PNG, the Family and Sexual Violence Action Committee (FSVAC) has been critical in advocating for legislative reform and in raising public awareness about violence against women (see Box 3). However, enforcements of relevant laws, particularly in relation to protection, marriage and divorce, and customary law are still lacking to fully safeguard women and children from all forms of physical, sexual and emotional violence. According to the UN Division for the Advancement of Women (UNDAW), “customary law, largely unwritten, plays a big part in sanctioning harmful practices against women” (UNDAW, 2009:2). Challenging social and cultural practices that impede women’s realisation of rights are also recognised in the national gender equality policies of PNG and Solomon Islands, as well as in the Solomon Islands’ National Policy on Eliminating Violence Against Women 2010. Interventions that focus on educating men, women and young people about gender based violence, such as World Vision’s Ol Meri Igat Namba Project (see Box 4) have been effective in overturning discriminatory attitudes and treatment of women at the household and community levels.

In addition to the harmful cultural practices mentioned at the beginning of this section, PNG and Solomon Islands’ women face a number of social barriers that hinder them enjoying their rights and freedoms. Socially constructed attitudes and behaviours about gender reinforce women’s unequal status in society, with much of these stemming from specific colonial histories and experiences (Scheyvens, 2003). According to some scholars, before European contact, women and men in Melanesia had clearly distinct roles, however they were mutually valued without one being dominant over another (Sepoe, 2000; and Scheyvens, 2003). Women experienced their domain as a source of security, solidarity and dignity, where they exercised influence and control. Thus, gender inequality as it manifests in contemporary Melanesian societies is certainly influenced by colonial rule and Western concepts of gender.
Box 3 Family and Sexual Violence Action Committee, PNG

The Family and Sexual Violence Action Committee (FSVAC) is a sectoral committee of the Consultative Implementation and Monitoring Council (CIMC), an independent body that influences public policy and government decision making at the national level. CIMC comprises of representatives from the private sector, civil society and government.

The FSVAC was established in 2000 as a direct response to public concerns about the problem of violence against women and children in the county. The FSVAC has a mandate to reduce the occurrence of physical, sexual and psychological violence against women and children by focusing on:

1. Institutional policy framework
2. Advocating for access to formal and traditional justice
3. Services to victims and survivors
4. Men as champions and partners against violence
5. Community prevention and response
6. Commercial sexual exploitation of children
7. Monitoring, evaluation and research

The FSVAC adopts a human rights based approach by recognising that gender-based violence and discrimination are impediments to the realisation of the right for men, women and children to live free of physical, sexual and psychological violence.

The FSVAC has been successful in bringing about change to women in PNG on a number of fronts, including:

- Initiating reform and enactment of the Sexual Offences and Crimes Against Children Act and Lukautim Pikinini (Child Protection) Act;
- Lobbying for the establishment an integrated medical, counseling and referral support services for victims of gender-based violence within hospital facilities in Port Moresby, Simbu, Goroka, Kainantu, Lae, Alotau and Tari. The FSVAC is currently working with the PNG Government’s Ministry of Health to ensure the roll out of family support centres in all provinces across the country;
- Developing advocacy and training materials;
- Undertaking research on gender-based violence; and
- Coordinating responses to gender-based violence at national, provincial and local levels.

Source: CIMC website http://www.inapng.com/cimc/ and interviews with CIMC and FSVAC
In 2007, World Vision began a project called *Ol Meri Igat Namba* ('women have a place or position') aimed at reducing gender-based violence and HIV/AIDS in Six Mile, Nine Mile, Hohola and Garden Hills settlement areas of Port Moresby.

Working in partnership with various government and civil society partners, World Vision focused on changing men, women and young people’s attitudes and behaviour in relation to drug and alcohol abuse, violence and sexual health. The Family Health International's Behaviour Change Communication Strategic Framework for HIV/AIDS was used to develop a range of tailored messages and communication channels to create and sustain behaviour change at individual, community and societal levels.

The process involved a series of trainings, beginning with training a small group of men, women and youth as peer educators (or referred to as ‘community volunteers’) on topics such as gender, sex and sexuality, marriage and family relationships, women’s health, gender-based violence, HIV/AIDS and counselling to assist survivors of violence. Aside from the trainings, community volunteers undertook visits to relevant service providers, such as Haus Ruth (a temporary refuge for women affected by violence) and the Sexual Offences Squad of the Police. The community volunteers were also trained in using theatre to perform role plays and communicate messages about gender based violence and HIV/AIDS to their community. Finally, community volunteers, as well as ‘at risk’ women, received training in income generation, including classes in cooking, baking and sewing. After the completion of the trainings, the community volunteers were supported to organise community forums, in the form of sports day to educate the wider community about gender based violence and HIV/AIDS.

According to World Vision, the project has resulted in positive changes in men’s attitudes and treatment of women in the community. Changes included the recognition of the high workloads undertaken by women and prevention of violence. The project also contributed to a greater level of awareness among women about their right to speak out against abusive husbands. World Vision continues to run the project in the four settlement areas to sustain long term behavioural change and will be expanding the project to Madang and Bougainville.

However it is important to note that a high degree of diversity exists between and within Melanesian societies, and so such presuppositions cannot be generalised. As the previous discussion on gender violence has shown, culture does play a part in the negative perception of women. Another example is the 'big man' system practiced in some Melanesian cultures, where men dominate positions of influence because of certain sets of skills they possess, such as the skill of persuasion, bravery and oral expression (McLeod, 2007). This system of leadership excludes women from holding positions of leadership at all levels of society (Government of Solomon Islands, 2010a).

One only needs to look at the human development statistics to see the pervasiveness of social inequalities between men and women in PNG and Solomon Islands. According to the 2010 Human Development Report, PNG had a Gender Development Index (GDI) ranking of 133 (out of 182 countries), placing it at the lowest level for all Pacific Island Countries and just before Afghanistan and Mali (UNDP, 2010). Maternal mortality ratio was 470 per 100,000 live births in PNG and 220 per 100,000 live births in Solomon Islands – compare these figures to Australia, which had a maternal mortality ratio of four per 100,000 live births. PNG has only one woman in the parliamentary seat and there are no female parliamentarians in Solomon Islands (UNDP, 2010). In addition, women in PNG and Solomon Islands face problems such as poor nutrition, illiteracy, lack of access to health services, and severe economic disadvantage (UNIFEM, 2007).

The inequalities experienced by women are well documented in development literature as well as in the national gender equality policies of PNG and Solomon Islands Governments (a summary of the national policies is presented in Box 5). Identifying the underlying social and cultural barriers that contribute to inequality is integral to understanding the differences between men’s and women’s experiences and responses to climate change, and in determining factors that build their resilience to disasters, slow onset changes and other physical, economic or social impacts triggered by climate change.

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15 The GDI is an extended measure of the Human Development Index, which measures the gender gap in life expectancy, education and incomes. GDI for Solomon Islands was not available.
Box 5 Achieving gender equality: policy responses

PNG National Policy for Women and Gender Equality 2011-2015
This is the key policy framework for achieving the vision of gender equality. This policy is a revision of the first National Women’s Policy developed in 1991 and it aligns with Vision 2050, the overarching strategy for improving the quality of life of PNG people. The Office for Development of Women established in 2009, under the Department for Community Development, is the agency responsible for implementing the current policy. The National Council of Women is responsible for providing high-level advice on the policy implementation. The fundamental human rights and the principles of equality, participation and integrated human development asserted in the PNG Constitution underpin the policy. There are 10 priority action areas, including gender-based violence, health, HIV/AIDS, education and training, cultural norms and traditions, economic empowerment, fisheries, employment opportunities and conditions, decision making, political participation, agriculture and environment.

Solomon Islands Gender Equality and Women’s Development Policy 2010-2015
The Solomon Islands Government, through the Ministry of Women, Youth and Children Affairs endorsed the Gender Equality and Women’s Development Policy 2010-2015 as the umbrella policy for achieving gender equality in the island nation. At the core of this policy is the recognition of women and men as equal partners in the development of the country. There are five priority outcomes pertaining to improved outcomes for women in the areas of health, education, economic wellbeing, participation in decision-making and leadership, and the elimination of violence against women and gender-mainstreaming. The policy assigns the Women’s Division within the Ministry of Women, Youth and Children Affairs as the leading agency in advocating for and coordinating implementation within the government, and the Solomon Islands National Council of Women in coordinating policy implementation within the civil society sector.

Existing challenges
Although both countries have in place a policy framework that seeks to advance the rights of women and remove discriminatory practices from all spheres of political, legal, social, economic and cultural life, implementing the policies will not be an easy task. The main machineries for policy implementation, these being the Office for Development of Women (PNG), the Gender Division (Solomon Islands) and the National Councils of Women, need to be sufficiently financed and resourced if they are to fulfil their policy obligations.

3.3 Economic Barriers
The inequitable distribution of economic resources - as well as the repressive cultural norms and social inequalities previously discussed - constrain women’s ability to take action on climate change (CARE, 2010) and severely restrict women from enjoying their rights.

Women are more likely to be affected by poverty because they do not exercise the same social and economic rights as men. While women make a vital contribution to the economies of PNG and Solomon Islands, particularly in the informal sector, they face substantial barriers in achieving fair ownership and control of finances, making financial decisions, and having access to financial assets and resources such as money, land, credit and training opportunities (Government of PNG 2008 and 2011a; and Government of Solomon Islands, 2010a).
For example, most women in PNG and Solomon Islands do not own land, thus they rarely have control over decisions relating to land usage and tenure. Even in matrilineal societies where women inherit customary land, overwhelmingly, men make the decisions over land acquisition and user rights (Government of Solomon Islands, 2010a). Development agencies have also been known to exclude women from consultations on land development projects (Koian, 2010), overlooking the important roles women play in regard to land management. In matrilineal societies, women are entitled to own land and land is passed down to their daughters (Koian, 2010). In patrilineal societies, men own land but women can and do influence their husbands’ decisions in determining who to pass on the land to. Given that many Melanesian women rely on land for livelihood and security, it is necessary to ensure women have equal rights to land and a fair opportunity to participate in decision making, and are consulted on development and other land related projects.

Women, by far, are active participants in the informal economy, especially in the agricultural and fisheries sector. While women produce 80% of the national food supply, women in PNG and Solomon Islands lack access to information, technologies and agricultural extension services (Government of PNG, 2010; NARI, 2004; FAO, 2008; and Lambrou and Piana, 2006). Gender biases in institutions often follow assumptions that it is men who are the farmers (Gurung & Mwanundul, 2006), when clearly this is not the case in many developing countries including PNG and Solomon Islands. With the transition from the subsistence to a cash economy, some have also raised concerns that women are under increasing pressures to produce ‘new’ foods linked to cash incentives but they may not be recipients of the benefit (NARI, 2004). Similarly in the fisheries sector, women, not just men, engage in fishing for subsistence and for economic gain. Women predominantly engage in harvesting of in-shore fisheries resources (FAO, 2008), however they are rarely involved in programs relating to community fisheries resource management. Effective resource management projects must consider the economic roles that women play (Sivoi, 2004) and acknowledge women’s economic rights.

Furthermore, the legal, political, social and cultural barriers that women experience can also have serious implications on the economic status of women. Poor employment conditions, exploitation of women workers, unequal and sub-standard wages (NZAID, 2008) and workplace harassment are some examples of inequalities reinforced through culturally and socially accepted norms about gender, and occur because of the lack of legal and regulatory safeguards to protect women from such injustice.

3.4 The connection between rights, vulnerability and adaptation

Given the existing legal, political, social, cultural and economic barriers that deny women from exercising and enjoying their rights, climate change is likely to further exacerbate the inequalities between women and men. In short, climate change impacts are not gender neutral. Women and men are affected by floods, drought, tsunami, storm surges and other extreme weather events in disproportionate ways because they have unequal positions and power in society.

It is important to re-emphasise, however, that because women are more vulnerable to climate change it does not mean they are unable to cope or adapt. As experiences from the disaster management field has shown, women and men have different skills and knowledge, which allow them to prepare for disasters and reduce disaster risk (IFRC, 2008). Effective climate change
adaptation strategies require the recognition of the diverse experiences women and men bring to the table and, at the same time, confront discriminatory gender norms and practices in order to enhance women's, men's and communities' resilience to climate change.

Understanding the connection between rights, vulnerability and adaptation requires men and women to reflect on their situation and ask questions about the inequalities, and demand accountability from institutions that have a responsibility to protect them. If people are not aware of their rights and what they can expect and claim from government, then adaptation is merely an exercise in adjusting to immediate climate variability and hazards and the political, social and economic realities that make people vulnerable in the first place remain unchanged. The case studies that follow in the next chapter show that lack of rights awareness among men and women can hinder individual and collective capacity for adaptation, leaving people who are on the frontline of climate change to fend for themselves.

3.5 Summary of implications

This chapter described the findings of the literature review, namely the political, social, economic and cultural barriers faced by women in PNG and Solomon Islands. These barriers raise a number of questions and pose various implications on the study. They include:

- Despite the fundamental rights of people being recognised in the national constitutions, women in the study countries do not enjoy the same rights as men. Women have no or low representation in parliament and women's participation in decision making and leadership is severely constrained due to a lack of access to strategic resources such as monetary and material wealth, and social status. For the study, the low levels of women's participation raise several questions: are women's voices being heard, and to what extent are women engaging in planning, consultation and policy development on climate change adaptation? What, if any, decisions do women make at household and community levels and how do these decisions affect their ability to adapt to climate change? If women are not adequately represented in politics, how are they represented in community affairs? The study explored these questions through its inquiry process and the findings are found in the individual case studies (Chapter 4) and the meta-analysis (Chapter 5);

- Violence against women is widespread in the study countries and is a significant violation of women's rights. The pervasiveness of violence against women in PNG and Solomon Islands needs to be recognised when understanding their vulnerability to climate change, in particular the likelihood of women's increased exposure to violence as a result of climate-induced crisis, such as food insecurity and disputes over land and resource loss. According to Smith and Vivekananda (2007), for countries like PNG and Solomon Islands that are characterised by poverty, inequality, political instability and governance problems (see Chapter 5 on governance issues related to climate change) there is a high propensity for climate-induced conflict and political insecurity. With this in mind, existing harmful cultural practices, like the use of rape to settle disputes between clans, will undoubtedly increase women's vulnerability to climate-induced crisis. However, given that research on violence against women requires an approach and methodology different to those employed for this study, it was beyond the scope of this study to directly examine the relationship between women's experiences of violence in relation to their exposure to climate change impacts. Nevertheless, the study recognises
violence against women as an issue of high importance and a priority for realising gender equality and in reducing women’s susceptibility to conflict, violence and other threats triggered by climate change;

• Women in PNG and Solomon Islands make a substantial contribution to their national economies, largely in the informal sector, however they have unequal access to land, information, technologies, funds and other economic resources necessary for sustaining their livelihoods. Koian (2010) outlined how some development agencies have bypassed women when conducting consultations on land related projects, even in matrilineal societies where women own land. This has some implications to climate change as potential land loss, triggered by rising sea levels, coastal erosion and landslides, may have a negative impact on women’s livelihoods, however they may be excluded from conversations and decisions on land. Women’s participation in decision making and livelihoods in the context of this study is further discussed in Chapter 5;

• Women are principal producers of food and depend on natural resources for subsistence and for their livelihood activities. Existing literature on gender impacts of climate change has found women are affected by changes in or loss of natural resources associated with climate change because their culturally and socially ascribed roles rely on the use of land, water, forests and other resources (BRIDGE, 2008; UNDP, 2009; CARE, 2010). Key questions that emerge from the literature review relevant to the study include: how does climate change impact on women’s roles and ability to produce food? How are women’s time, workloads and physical health affected by climate-induced threats to agriculture and fisheries? What strategies are they using to cope and adapt to climate variation? These questions have been explored in the data collection phase of the research and the findings are presented in the next chapter (Chapter 4). The broader implications of climate-induced food production problems on women, especially in relation to their role as primary food producers are discussed in Chapter 5; and

• Finally, the political, legal, social, cultural and economic barriers described in this chapter highlight the multiple layers of inequality experienced by women in PNG and Solomon Islands. Their vulnerability to climate change is not only due to physical exposure to climate-related hazards, but is determined by underlying factors and conditions that prevent women from enjoying their rights, which in turn increase their susceptibility to a whole range of threats and impacts brought on by climate change (refer to Chapter 2). This reinforces the relevance of ActionAid’s rights-based approach in understanding women’s vulnerability to climate change, namely that women must be at the centre of climate responses so they can be empowered to claim their right to life, food, shelter and other entitlements connected to climate change, demand for fair and equitable policies and services, and participate in adaptation planning. Thus climate change adaptation is more than adjusting to immediate threats and slow onset changes - as climate change cuts across the whole development spectrum, it presents a ripe and opportune time to have a serious critique of the political, social and economic inequalities that exist between men and women, as well as between developed and developing countries, to guarantee a sustainable future for humans and for all other ecosystems that depend on our planet.
4. CASE STUDIES
Case Study 1: SIAR

1. Background
Siar is an urban coastal community of 4,000 people located on the outskirts of Madang on the northern coast of Papua New Guinea. The community is part of the Bell Lagoon and the Bell People have traditionally relied on fishing and cultivation of yam for subsistence.

Today, the community is heavily reliant on the cash economy with the main source of household income being a combination of formal waged employment and informal work, such as selling of surplus fish and garden produce at the local markets.

The rising sea level and coastal erosion are immediate threats to people in Siar. The impacts of climate change are further complicated by limited land availability and population growth. The possibility of relocation is becoming imminent for some families while others are looking for opportunities to diversify their livelihoods to cope with the impacts of climate change.

2. Methodology
The study employed a participatory methodology, which focused on capturing men’s and women’s experiences of climate change, and their understanding of vulnerability and adaptive capacity.

A strong emphasis was placed on the local context to allow the Research Team to examine the social, cultural, environmental, economic and political structures of the community and assess how these intersect with vulnerability and adaptive capacity. The focus on the local condition was also intended to encourage the community to have ongoing discussions on climate change and develop locally-grown and sustainable solutions beyond the course of this study.

The Research Team comprised of two female and one male community development officers from the Bismarck Ramu Group (BRG) and one researcher from ActionAid. Data collection in Siar was carried out during 15-19 August 2011.

Community members involved in the various local committees selected the participants. Efforts were made to involve participants from a wide cross-section of the community to reflect the diversity in age, religion, household size and social status.

The methods of data collection used for this study are outlined below. The research tools were designed to facilitate an explorative and reflective process, in which the participants were able to assess the current situation themselves and share ideas on future action.

**Household Surveys (HHS)** were designed to collect quantitative and qualitative information on the different roles and workloads of men and women, their access to strategic resources, their participation in household decision making, their understanding and experiences of climate-related hazards, and their present and future coping strategies. In Siar, a total of 23 household heads (eight male and 15 female) completed the survey.

**About the Survey Sample**
The average age range of the respondents was 35-44 years for women and 45-54 years for men. The average household size was four to seven persons.
The majority of the respondents were born outside of Siar and had moved to the community when they married their spouse. Others had moved to Siar to seek economic opportunities offered in Madang. Of all the female respondents taking part in the HHS, 73% were born outside of Siar. Similarly for the men, 63% of the respondents were migrants from other villages in the Madang Province. Common places of origin were Amele, Yagun and the Rai Coast.

Most respondents had partially or fully completed primary education (60% of female respondents and 75% for male respondents). There was a low proportion of respondents completing secondary or tertiary education, and those who did not have any form of schooling were all women. The characteristics of male and female respondents who participated in the HHS are presented in the table below.

Table 1 Survey Respondent Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average age range</td>
<td>35-44</td>
<td>45-54</td>
</tr>
<tr>
<td>Number of persons married (%)</td>
<td>12 (80%)</td>
<td>8 (100%)</td>
</tr>
<tr>
<td>Number of persons widowed, widowed or other (%)</td>
<td>3 (20%)</td>
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</tr>
<tr>
<td>Number of persons born in community (%)</td>
<td>4 (27%)</td>
<td>3 (38%)</td>
</tr>
<tr>
<td>Number of persons born elsewhere (%)</td>
<td>11 (73%)</td>
<td>5 (63%)</td>
</tr>
<tr>
<td>Average household size</td>
<td>4-7</td>
<td>4-7</td>
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<tr>
<td>Number of persons with primary education (%)</td>
<td>9 (60%)</td>
<td>6 (75%)</td>
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<tr>
<td>Number of persons with secondary education (%)</td>
<td>2 (13%)</td>
<td>1 (13%)</td>
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<tr>
<td>Number of persons with tertiary education (%)</td>
<td>2 (13%)</td>
<td>1 (13%)</td>
</tr>
<tr>
<td>Number of persons with no education (%)</td>
<td>2 (13%)</td>
<td>0</td>
</tr>
<tr>
<td>Total number of respondents</td>
<td>15</td>
<td>8</td>
</tr>
</tbody>
</table>

Focus Group Discussions (FGD) were designed to assess a collective understanding of vulnerability in terms of who within the community was most vulnerable to climate-related hazards and why they were vulnerable. Separate discussions were held with women and men, with a total of 29 participants (14 women and 15 men). The FGD was held at the Community Based Organisation (CBO) House in Siar. Most of the participants were elders in the community, due to the younger population being at work when the FDG was conducted.

In addition to the above data collection methods, semi-structured interviews were conducted with various community members to gain an in-depth understanding of the local governance structure and other cultural, social, environmental or economic factors that influence the community’s current and future adaptive capacity. Interviews were carried out with the Local Councillor, the Pastor of the Anglican Church, the manager of the Siar Day Clinic and the Chair of the Siar Wildlife Management Association (WMA).

Unless otherwise stated, the information presented in this case study is a synthesis of the data collected using the various methods described above.

3. Structure of the case study
This case study is structured according to the five themes that emerged from the analysis of the data, namely: community and individual understanding of climate change, local experiences of climate-related hazards and impacts, community understanding of vulnerability, current and
future capacity for adaptation and future adaptive measures. The following section presents the key findings under each of the themes.

4. Community and individual understanding of climate change
Most men and women taking part in the study had limited understanding of the term ‘climate change’. While some respondents in the HHS were quick to state that climate change was ‘the cause’ of changes in climatic conditions, they were unable to explain the reasons why, indicating there was limited understanding about climate change and its causes.

Individuals who had some understanding of climate change were male community leaders. They had been exposed to early discussions on climate change with external agencies such as the World Wildlife Fund (WWF) and UNDP who had come to the community in the past 12 months to run projects on this very subject. The Pastor of the Anglican Church stated the challenge was to educate everyone in the community about climate change:

“There are many illiterate people in the village and the question is how do we identify climate change concerns and how do we educate the people about climate change?”

Despite the limited understanding of climate change within the community, women and men consulted for the study had no difficulties in identifying climate-related hazards and impacts based on personal experience and observations.

5. Local experiences of climate-related hazards and impacts
The Siar community identified rising sea level, coastal erosion, extreme temperature changes, increased precipitation, increased wind velocity, changes in the timing of seasons and relocation as the main climate-related hazards.

Coastal erosion and sea level rise were identified as being an urgent issue for most people in the community. Some families had already been affected by the king tides of 2009, which caused damage to houses and gardens. Concerned about the rising sea level and its impact on physical security and water availability, women in the FGD stated:

“The sea has damaged the land and it has affected the houses...there is reduced area for the house and the sea level is affecting our well water.”

People in the community reported they had observed the sea encroaching slowly inland for the past 40 years. The threat of relocation was becoming more imminent since the sea and the wind were beginning to ‘eat away’ the land on where many houses currently stand. As illustrated in the following response given by the Local Councillor, many people did not know why the sea level was rising and what they should do to reduce their risk of exposure:

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1 WWF was scheduled to run a climate change awareness workshop in September 2011. The Research Team contacted WWF to obtain further information on the proposed workshop but did not receive any response.
2 In 2010, UNDP conducted a survey on agricultural vulnerability, looking at how the community was adapting their agricultural practices in light of the temperature extremes. At the time of the study, the community was waiting to receive the results of the survey from UNDP.
“The sea has been rising since the 1970s. We first noticed the changes [rising sea level] in the outer islands around 1990s and early this decade...the Bell Lagoon used to be deep but now the corals and reefs have come up closer to the surface. Are carbon dioxide emissions creating more reefs? What happens if the water keeps rising? Do we have to move?”

The Local Councillor’s response was echoed by a female respondent who, in the HHS, was not sure whether her family should relocate:

“Should we move inland? If so, when, and should we be planning our relocation right now?”

In addition to coastal erosion and the rising sea level, both men and women reported temperatures were becoming extreme and rain was falling more frequently compared to before. They were particularly concerned about the impact these varying conditions had on food production activities:

“When it rains, taro is rotten...it does not appear to grow well and the production [of taro] is not good.”

The above comment made by a female respondent in the HHS was echoed by another female respondent:

“Yam is the staple food [for the people of the Bell Lagoon]. Before we experienced huge yam harvests for consumption and the yam had smooth outer skin. Now they are small in size and not good for storing in the yam house.”

Yam is a traditional crop for the Bell People and, given that it can be stored for up to 12 months, it is considered an important food source during extreme climatic events such as drought and cyclones. However, as illustrated in the above example, people in Siar were experiencing difficulties in harvesting sufficient supply of yam.

Additionally, men and women in Siar reported spoilage to a variety of other crops such as mango, banana, betelnut and mustard. Women in the HHS and FGD also noted the appearance of insects, such as snails in food gardens, causing damage to leafy vegetables such as aibika, pit pit and tulip.

The added complexity of increased population and limited land availability and their effects on declining crop yields was also raised by women taking part in the FGD. They explained that some people were resorting to stealing food from other people’s gardens due to climate- and population-induced food shortages:

“As well as climate change, our community is experiencing population growth and there isn’t enough land for everyone to grow food. Some people are stealing food from other people’s gardens but this means that others, especially women, suffer because they don’t have enough crops to take to the market, then they don’t have money to pay for children’s school fees, clothes, food, electricity and other needs.”
Aside from the problem of food stealing, women in the HHS mentioned that population growth was placing pressures on existing land stock and in turn changing traditional agricultural methods:

“We used to leave the land to rest but now there is shortage of land so people are not letting it rest.”

Not being able to ‘read’ the weather, wind and seasons was a widespread response provided by people taking part in the HHS and the FGD. Many men and women noted that the seasons were beginning and ending at different times than ‘normal’. As illustrated in the next example by a male respondent taking part in the HHS:

“Normally we should have intervals between seasons...the wet season starts around January until May and then the dry season is between June and August. Now this has changed.”

Both men and women in the community agreed the current climate conditions were erratic and unpredictable.

6. Community understanding of vulnerability

Women and men participating in the FGD identified women as being most vulnerable to climate change. The reason why women were particularly vulnerable was attributed to their role as providers of food. Men in the FGD stated:

“We are affected because they are the ones who spend time in the garden harvesting food.”

Women themselves raised concerns regarding the impact the changes in temperature and weather conditions were having on their physical ability to produce sufficient amount of food for their families:

“We are most vulnerable to climate change. We are feeling very hot inside our body every morning. This is because there is shortage of food and women [are tired and] have to go to the garden everyday to work on the garden.”

Similarly, a female respondent explained in the HHS about the pressures placed on women to ensure the family’s health and wellbeing:

“We have to go to the garden everyday regardless of what the weather is like...otherwise our families will go hungry.”

The community’s understanding of vulnerability was solely associated with gender roles and responsibilities, namely the expectation that women should provide the family with enough food each day. People did not mention other factors that may contribute to women’s vulnerability to climate-related hazards.

7. Current and future capacity for adaptation

The participants consulted for the study were doing very little to adapt to climate change. They identified lack of local leadership, loss of traditional culture and failure of previous attempts to
deal with the rising sea level as existing barriers for adaptation. Among the small handful of people taking proactive steps to adapt, most were women and they were turning to alternative livelihood options.

Lack of leadership was identified as one of the barriers affecting the community’s current adaptive capacity. Both men and women in the community expressed frustration with local leadership, stating that the elected leaders were not adequately lobbying the provincial government on the needs and issues of the community. A male respondent participating in the HHS remarked:

“There are no proper leaders in the community to organise [the community] around this kind of issue [climate change] and to find alternatives in order to cope with the changes.”

The Research Team was told about a funding application submitted by the community to NZAID in year 2000 for the construction of a sea wall to protect the foreshore from the rising sea level. The proposed sea wall was to be built with stone filled in wire netting and the labour for the construction was to be provided in-kind by the community. A total of 8.3 million Kina was sought for the project. The community was not successful in obtaining funding and since then there have been no further efforts to seek alternative sources of funding. Many people taking part in the HHS expressed their lack of confidence in the local leadership to secure funding for the construction of the seawall as illustrated in the following response given by a female respondent:

“The community has a responsibility in organising ‘change’. The community members said they want a sea wall [to protect the foreshore] but nothing has happened.”

Some female respondents from the HHS attributed the low leadership capacity in the community to the breakdown of traditional culture:

“Before we used to discuss issues as a community but now that culture has been lost. If we stick to our culture, there will be unity and cooperation in the community, then we can work together. Now people are greedy and they are selfish.”

The loss of traditional culture and values was also perceived by various individuals in the community as reducing their capacity to cope with climate change. For example, a female respondent stated in the HHS that people in the community used to have stronger ties with their extended families whom they could turn to for food, shelter and other necessities in times of hardship. However, she mentioned the community was less unified than before and the practice of sharing food was occurring less frequently. People perceived modern Western influences as the reason for the loss in traditional culture and values, which appeared to be exacerbated by the process of urbanisation.

Some of the strategies people had used previously to reduce the impact of rising sea level and coastal erosion included planting mangroves and building sea walls. However these were not deemed to be successful. The Chair of the Siar WMA shared his own personal experience with planting mangroves:
“I tried planting mangroves but it didn’t work because the shoots were washed away by the waves. Maybe they need to be tied down in the sand with rope so they don’t get washed away...”

Similarly, the Local Councillor explained:

“People have used stones to build walls but they have to rebuild it everyday because they are washed away [by the waves].”

Women tended to be more persistent and proactive than men in finding solutions to the problems of climate change. The following remarks given by women in the HHS clearly show they were turning to alternative livelihood options as their current coping strategy:

“I am baking donuts for the market in order to help cut down the problem of poor harvest.”

“I am working and saving money to maintain the house because when it rains or there is strong wind, the house is damaged.”

Similarly, women in both the FGD and the HHS suggested that increasing the community’s financial capital was an important factor in building future resilience to climate change:

“When changes come up in the garden [such as problems with harvest], we need to invest money to make the situation better. The community can invest in CBO or some small investment that is organised at the community level.”

The members of the CBO Women’s Cooperative had already begun searching for ways of increasing their access to credit and savings so they could use these financial resources to improve their marketing activities and start other micro-businesses. Recognising his wife’s efforts to increase income generating opportunities through her involvement in the CBO, a male respondent stated in the HHS:

“...we need to invest in the CBO or in financially backed projects so we can find [financial] solutions to the problems we are facing. We have to encourage men to do this too.”

Most men perceived the initiatives being undertaken by the CBO Women’s Cooperative as activities for women, not realising the potential benefits to men and families in increasing their financial capital and diversifying livelihood opportunities.
8. Moving forward: suggestions for adaptive measures
Most of the people consulted for this study felt their local leaders were not serious about bringing about positive change to the community and, hence, were unhopeful about the prospect of any changes taking place. Some did, however, identify several measures for adaptation. These were:

- Organise an awareness training for the community so people can better understand what climate change is, its causes and how it affects them;

- Hold a community meeting to discuss the problems of climate change, population growth, local leadership and governance, and other matters directly affecting the community, so immediate and long term solutions can be developed to address these issues;

- Source funds for the construction of a sea wall and mobilise the community to plant mangroves to protect the coastline from further erosion; and

- Support community projects that increase income generation opportunities for people in the community and reduce people's reliance on climate-dependent livelihood activities such as agriculture and fishing.

3 UNDP currently has a mangrove planting and water harvesting project in Riwo (also in the Bell Lagoon) as part of their climate change and environmental program
Case Study 2: DERIN

1. Background
Derin is located in the flood plains of the Transgogol Area in the Madang Province. It has a population of 500 people, settled in small hamlets formed around kinship ties. People are engaged in both subsistence farming and cash-crop agriculture. The community has a strong connection with their forest environs, with flora and fauna from the forest being important resources for food, housing, livelihoods and people’s way of life.

Like the rest of Transgogol, Derin has been affected by large-scale industrial logging. The Gogol Woodchip Project, operated by Japan New Guinea Timber Pty Ltd (referred to as JANT), began logging operations in the area in the late 1970s. The original aim of the project was to replace felled tropical forest with fast-growing timber plantation as a way to increase production volume. However, clear-felling outpaced the rate of reforestation. Logging operations in the Derin area ended in 2008 after years of lobbying by the community.

At the time of the Research Team’s visit to the community in July 2011, the community was still coming to terms with the loss and damage caused to their environment. In the midst of this recovery process, the impacts of intense rainfall and temperature variation were having a profound effect on agricultural activities, bringing uncertainty to household food security.

2. Methodology
The study employed a participatory methodology, which focused on capturing men’s and women’s experiences of climate change, and their understanding of vulnerability and adaptive capacity.

A strong emphasis was placed on the local context to allow the Research Team to examine the social, cultural, environmental, economic and political structures of the community and assess how these intersect with vulnerability and adaptive capacity. The focus on the local condition was also intended to encourage the community to have ongoing discussions on climate change and develop locally grown solutions beyond the course of this study.

The Research Team comprised of two female and one male community development officers from the Bismarck Ramu Group (BRG) and one researcher from ActionAid. Data collection in Derin was carried out during 8-13 August 2011.

Community members involved in the various local committees selected the participants. Efforts were made to involve participants from a wide cross-section of the community to reflect the diversity in age, religion, household size and social status.

The methods of data collection used for this study are outlined below. The research tools were designed to facilitate an explorative and reflective process, in which the participants were able to assess the current situation themselves and share ideas on future action.

Household Surveys (HHS) were designed to collect qualitative and quantitative information on the different roles and workloads of men and women, their access to strategic resources, their participation in household decision making, their understanding and experiences of climate-related hazards, and their present and future adaptation strategies. In Derin, a total of 38 household heads (19 male and 19 female) completed the survey.


**About the Survey Sample**

All of the survey respondents were married. A higher proportion of women than men were born outside of the community and had moved to Derin when they married their spouses. The average age range of the respondents was 35-44 years for both sexes and the average household size was four to seven persons.

A large majority of the respondents had some level of primary education. This was followed by those with no education (16% for women and 21% for men). Only a small proportion of respondents had secondary schooling and none had tertiary. The characteristics of male and female respondents who participated in the HHS are presented in the table below.

**Table 2 Survey Respondent Characteristics**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average age range</td>
<td>35-44</td>
<td>35-44</td>
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<tr>
<td>Number of persons married (%)</td>
<td>19 (100%)</td>
<td>19 (100%)</td>
</tr>
<tr>
<td>Number of persons widowed, widowed or other (%)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Number of persons born in community (%)</td>
<td>10 (53%)</td>
<td>18 (95%)</td>
</tr>
<tr>
<td>Number of persons born elsewhere (%)</td>
<td>9 (47%)</td>
<td>1 (5%)</td>
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<tr>
<td>Average household size</td>
<td>4-7</td>
<td>4-7</td>
</tr>
<tr>
<td>Number of persons with primary education (%)</td>
<td>15 (79%)</td>
<td>14 (74%)</td>
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<tr>
<td>Number of persons with secondary education (%)</td>
<td>1 (5%)</td>
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<td>Number of persons with tertiary education (%)</td>
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<td>Number of persons with no education (%)</td>
<td>3 (16%)</td>
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<td><strong>Total number of respondents</strong></td>
<td>19</td>
<td>19</td>
</tr>
</tbody>
</table>

**Focus Group Discussions (FGD)** were designed to assess a collective understanding of vulnerability in terms of *who* within the community was most vulnerable to climate-related hazards and *why* they were vulnerable. Separate discussions were carried out with men and women at the Tarub Primary School. The Research Team was expecting no more than eight people to attend the FGD but word on the study had spread and approximately 100 adults and 100 children turned up on the actual day of the FGD. Given there were only three (native Pidgin speaking) facilitators, the crowd was asked to split into smaller groups and, as a result, two women’s groups (with a combined total of 50 participants) and one men’s group (30 participants) were formed. The remainder participated as observers to the discussion.

In addition, **semi-structured interviews** were carried out with various community members to gain an in-depth understanding of the local governance structure and other cultural, social, environmental or economic factors that influence the community’s current and future adaptive capacity. Interviews were conducted with representatives from the Yomako Resource Owners’ Association, Transgogol Women’s Representative Committee, Youth and Women’s Community Learning Development Centre, the elder man of Bur community (part of Derin) and the Deputy Head Master of the Tarub Elementary School.

Unless otherwise stated, the information presented in this case study is a synthesis of the data collected using the various methods described above.
3. Structure of the case study
This case study is structured according to the five themes that emerged from the analysis of the data, namely: community and individual understanding of climate change, local experiences of climate-related hazards and impacts, community understanding of vulnerability, current and future capacity for adaptation and suggestions for adaptive measures. The following section presents the key findings under each of the themes.

4. Community and individual understanding of climate change
People in Derin had limited understanding of climate science but had no difficulties in sharing personal experiences and observations associated with the varying climate condition. The term ‘climate change’ was unfamiliar to many with the exception of a few men who stated they had heard of it on the radio or read it in the newspaper.

Interestingly, men who participated in the FGD attributed the cause of changes in weather patterns to the failure of the local sorcerers’ (or ‘magic men’) ability to control the timing of the sun and the rain. A male respondent in the HHS associated the magic men’s diminishing ‘powers’ to the influence of Christianity:

“I think that in the past, land and the weather were looked after through the use of witchcraft and sorcery but today church activities have changed all these [customary rituals].”

Other men involved in the study did not mention religion as a factor in magic men’s loss of powers but expressed their anger at the magic men for their lack of ability to control the weather.

Some respondents in the HHS turned to religious explanations to comprehend the changes in the climate system. One female respondent remarked:

“It [climate change] is related to religion. It is an act of God.”

Similarly, a couple taking part in the HHS explained God was using climate change to indicate the looming demise of human civilisation:

“It [the world] is coming to an end, that’s why things are changing.”

Others in the community were less convinced of using religious beliefs to explain the extreme changes in climate conditions but were not able to explain why the climate was changing.

5. Local experiences of climate-related hazards and impacts
Given the environmental damage endured by years of logging operations, people identified impacts that were directly associated with logging, as well as those related to climate-related hazards. As some effects of logging compounded the impacts of climate change, some people found it difficult to differentiate between the two. For example, the reduction in quantity and quality of root crops, such as taro and yam, was attributed to both the incidence of prolonged periods of rain (which led to rotten harvests, and increase in pests and diseases) as well as soil damage caused by the release of oil and other chemicals from past commercial logging activities.
Nevertheless, men and women identified flooding as the major climate-related hazard for the community. Many households have been affected by water inundation, caused by heavy and prolonged rainfall. Damages to housing structures were reported by some men and women taking part in the HHS, like the following remark made by a male survey respondent:

“The ground is wet [from the rain] and it is wetting the house posts. There is a lot of rain and it is causing the roof to leak.”

The impact of increased precipitation on agricultural activity and output was an issue shared by all participants in both the HHS and FGD. As women in the FGD explained:

“The ground has plenty of water and we are not able to plant food because of the longer rain periods. Garden food is being spoiled inside because of too much rain water. Too much rain is destroying the food and we need to build more new gardens to plant enough food.”

The most notable impact of the varying climatic condition was the effect on the gardening cycle and family food security. A member of the Transgogol Women’s Representative Committee explained:

“My view on climate change is that it has affected our garden cycle. June, July and August are when we make new gardens, but it has been raining all these months and there haven’t been enough dry days for us to clear the land and burn off the vegetation to make gardens. We have been waiting for the dry season to start our gardening process, but this hasn’t happened yet. How does it affect the women and the children? This is a big problem for women in Transgogol. How are we to burn off the vegetation on new garden plots when there is too much rain? Now we don’t have gardens. All of the mothers don’t have gardens. We are using old garden plots to plant food but the food quality is not good. I think a lot of families will go hungry very soon.”

The example above illustrates how women are being impacted by climate variation because of the role they play as primary carers and providers of food for their families. The possibility of food scarcity and hunger was a sentiment widely shared by women and men in Derin. Women expressed their sense of responsibility for their inability to prepare new gardens and harvest sufficient amount of food for their families.

6. Community understanding of vulnerability
Vulnerability was understood in relation to the gender division of labour and the extent to which climate-related hazards had flow-on impacts on men and women’s ability to undertake their assigned tasks.

Both women and men participating in the FGD agreed women would be most vulnerable to the risks identified. As women in the FGD asserted:

“Women are most vulnerable because they are responsible for producing food for the family. We have to go and work during the rain to get food from the garden.”
There was a mutual understanding among men and women about the important role women play as food producers, and people recognised that if women were not able to work on the gardens, there will be no food for the family.

Women’s role as child bearers was also referred to by men in the FGD as a reason for their vulnerability to climate change:

“Women are the most vulnerable because they do not have the strength to work in the gardens and they also do not have strength to bear children.”

It was perceived that if food activities were interrupted, then women will have less to eat and hence would not have the strength required to carry themselves through pregnancy and child birth.

When asked about other factors contributing to their vulnerability, women identified gender differences in access to information and participation in decision making, rather than in roles and responsibilities as previously mentioned by men:

“Women don’t have access to timely information about the weather. Men don’t share information with the women...sometimes men do not talk to us about the problems and the changes that are occurring in the community.”

The women felt that if they were able to access timely weather updates and had greater involvement in community affairs, their vulnerability could be reduced. This was an interesting comment given that vulnerability to climate-related hazards was widely understood in the community in association with gender roles, rather than in terms of structural inequalities such as unequal access to information between men and women.

In the men’s FGD, children were also identified as being the most vulnerable group in the community. They raised concerns regarding the potential impact of climate-induced food scarcity on children’s nutrition as well as their susceptibility to health impacts such as malaria and skin diseases. The Deputy Head Master of Tarub Primary School stated:

“Some students are coming to school hungry and at lunch time they are climbing coconut trees so they can eat the coconut. It [hunger] affects their learning in class because they can’t concentrate.”

Finally, women mentioned that the whole community was vulnerable to climate change because they had been exposed to environmental destruction caused by JANT’s logging operations in the area. Contamination of water sources, soil erosion, introduction of new weeds and loss of natural ecosystems were mentioned as stressors that escalate the community’s exposure and vulnerability to climate-related hazards.
7. Current and future capacity for adaptation

Many people in the community were still coming to terms with the aftermath of logging operations and thus felt overwhelmed about responding to other challenges such as climate change.

Most people referred to using traditional knowledge as the current coping mechanism. For example, the use of seasonal calendars to guide the planning of garden activities was considered to be beneficial for some men and women. Even though others stated the rain was interrupting traditional garden cycles, continuing to rely on this practice was thought to be the best immediate strategy for the community to adapt to the varying climate conditions.

It is important to note indigenous knowledge was not necessarily assessed by people for their effectiveness in coping with climate change but in terms of reconnecting people to traditional values, such as respect for each other and self-reliance. In the HHS, people remarked traditional knowledge was being “washed away by outsiders”, referring to European contact and the introduction of Christianity in Papua New Guinea. The following response given by a male respondent in the HHS clearly shows the shift in people’s thinking and ways of solving problems:

“We have lost most of the traditional knowledge because of Western influences. Now, the community needs to depend heavily on money to buy goods and resources. I couldn’t think of any other way for the community to deal with the problem of climate change...the only solution is money.”

Similarly, some women in the community were finding alternative sources of income to reduce their dependence on climate-dependent activities like agriculture. The member of the Transgogol Women’s Representative Committee explained:

“Small groups of women are learning how to sell baked goods in order to buy food from the store. Today in our community there are a growing number of people who are going into informal business like selling cooked foods at the market to cope [with prolonged rain periods].”

Other women in the community were persevering on with farming but were experimenting with new crops that were more suitable to the varying climatic conditions, as shown in the next example:

“I am afraid if this weather continues we won’t be able to make gardens. It would be better if we plant rice...the problem is there is no milling machine and it is hard to take the rice to the town to mill. The government must look into this and provide rice-milling machines for communities that are not near town. This is why I think rice is a good option for this change in weather. It’s something that can be easily done to feed the family.”

Although some individuals were taking immediate action to cope with climate change, most were reliant on the community to collectively take action on responding to the climate change impacts. Some men and women in the HHS felt there was scope for everyone in the community to address the issue of climate change through existing governance and social structures such as the church, resource owner groups and community committees.
8. Moving forward: suggestions for adaptive measures
At the individual household level, both men and women felt there was very little they could do in addition to what they were doing now (i.e. relying on traditional methods) to better cope with the problems of food shortage, flooding and other climate-related hazards in the future.

Study participants in Derin suggested the following adaptive measures as a way forward for the community at large to cope with the impacts of climate change:

- Organise a community awareness training on climate change;
- Find and allocate areas for the creation of new garden plots;
- Build houses on higher ground away from water inundation;
- Plan and construct drainage systems around the house and the garden to reduce the risk of flooding;
- Seek financial assistance from government for forest rehabilitation and ecosystem restoration to protect existing natural resources;
- Source other forms of income and livelihood activities that are less climate-dependent; and
- Identify opportunities for growing flood-tolerant crops, such as rice, as an alternative food source for household consumption and receive necessary agricultural training and equipment from the government and/or NGOs.
Case Study 3: SIARANA

1. Background
Siarana is situated on the southern coast of Nggela Pile Island, about an hour’s boat journey from Honiara. This fisherfolk community is home to approximately 400 residents who live in small hamlets scattered across the bay.

The community is heavily reliant on the cash economy. Men and women sell fresh and cooked food items to passengers of the LC Dragon, a twice-weekly barge service that stops in Siarana en route to Auki and Honiara. Most of the household income is typically spent on purchasing rice and noodles, which have now become the staple food for most families.

Over the last decade the rising sea level, extreme weather variations and resource depletion have imposed difficulties on people’s livelihoods. For Siarana, the community’s future adaptive capacity depends on collective action and the greater inclusion of vulnerable groups, like women, in all aspects of community affairs.

2. Methodology
The study employed a participatory methodology, which focused on capturing men’s and women’s experiences of climate change, and their understanding of vulnerability and adaptive capacity.

A strong emphasis was placed on the local context to allow the Research Team to examine the social, cultural, environmental, economic and political structures of the community and assess how these intersect with vulnerability and adaptive capacity. The focus on the local condition was also intended to encourage the community to have ongoing discussions on climate change and develop locally-grown and sustainable solutions beyond the course of this study.

The Research Team comprised of one female community development officer from the Solomon Islands Development Trust (SIDT), one researcher from ActionAid and a member of the local Executive Committee. Data collection in Siarana was carried out during 19-24 September 2011.

Members of the Executive Committee selected the participants. Efforts were made to involve participants from a wide cross-section of the community to reflect the diversity in age, religion, household size and social status.

The methods of data collection used for this study are outlined below. The research tools were designed to facilitate an explorative and reflective process, in which the participants were able to assess the current situation themselves and share ideas on future action.

Household Surveys (HHS) were designed to collect quantitative and qualitative information on the different roles and workloads of men and women, their access to strategic resources, their participation in household decision making, their understanding and experiences of climate-related hazards, and their present and future adaptation strategies. In Siarana, a total of 20 household heads (10 male and 10 female) completed the survey.
About the Survey Sample
All of the respondents surveyed were married. A high proportion of respondents were born in Siarana. The average age range of the respondents was 35-44 years for both sexes and the average household size was four to seven persons.

Most respondents had partially or fully completed primary education. Educational attainment was higher for men than women. Respondents with no education accounted for 30% of female respondents, while all of the male respondents had some form of schooling. The characteristics of male and female respondents who participated in the HHS are presented in the table below.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
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<td>35-44</td>
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</tr>
<tr>
<td>Number of persons with no education (%)</td>
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</tr>
<tr>
<td>Total number of respondents</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>

Focus Group Discussions (FGD) were designed to assess a collective understanding of vulnerability in terms of who within the community was most vulnerable to climate-related hazards and why they were vulnerable. Discussions were carried out with 13 men, eight women and 11 youth (six girls and five boys) in Siarana. All of the FGD took place on the same day near the Community Kindergarten.

A community leaders’ meeting was also organised to gain an in-depth understanding of the local governance structure and other cultural, social, environmental or economic factors that influence the community’s current and future adaptive capacity. The meeting was attended by the Village Chief, District Priest (for South Ghela), representatives from the various divisions of the local Anglican Church (Mother’s Union, Companion Group, Youth Group as well as the Secretary, Catechist and Church Keeper), and members of the local Executive, School and Kindergarten Committees.

Unless otherwise stated, the information presented in this case study is a synthesis of the data collected using the various methods described above.

3. Structure of the case study
This case study is structured according to the five themes that emerged from the analysis of the data, namely: community and individual understanding of climate change, local experiences of climate-related hazards and impacts, community understanding of vulnerability, current and future capacity for adaptation and future adaptive measures. The following section presents the key findings under each of the themes.
4. Community and individual understanding of climate change
The majority of men and women in the community had limited understanding of climate change. Most of them were unfamiliar with the term with the exception of a few men, who had read about it in the newspaper.

Despite having limited exposure to and knowledge of climate change, men and women had a plethora of experiences and observations relating to the varying climatic conditions. Many noted the timing of wet and dry seasons, wind and ocean currents were becoming erratic and more difficult to predict. In the FGD, women discussed how many of the changes they had experienced had occurred in the past 10 or so years:

“November and December are usually the months when koburu (the westerly wind) starts and then April is for ara (the easterly wind). But since 1999, there has been a change in the timing of the winds.”

Similarly, they observed in the last decade the sea was creeping inland:

“The sea has been moving inland by 5-6 metres in the past 10 years.”

Women in the FGD were not able to explain why the changes have been profound in the last decade. Interestingly, men in both the FGD and HHS tended to refer back to their childhood years as a comparison for assessing current climatic changes. Not surprisingly, young people’s reference for time was much shorter, focusing on the past several years.

Given the community had little awareness of climate science, most people in the HHS were not able to correctly state the causes of climate change. Some did refer to religious explanations as shown in the following response given by a female respondent taking part in the HHS:

“I believe that perhaps changes [in climate] are occurring because of a curse...because I am not going to Church.”

The majority of other participants in the FGD and the HHS stated their involvement in the study had given them an opportunity to discuss with other people in the community about their personal experiences of climate change. Women in particular expressed their interest in learning more about climate change in order to develop solutions to the problems they were experiencing.

5. Local experiences of climate-related hazards and impacts
Sea level rise, flooding, landslides, cyclones and wind gusts were frequently noted by individuals in the HHS and the FGD as being the main climate-related hazards for Siarana. Although Siarana is in a protected bay, tidal surges are not a rare occurrence. Some families have already relocated inland to a safer place away from the sea. A female respondent stated in the HHS:

“The sea level is rising and people have to move further inland. The sea is coming right up to the shore line.”

Many participants were concerned about the impact of saltwater intrusion and other climate-related hazards on food security and livelihoods. In 1972, Cyclone Ida hit the community and the national government had to send in food supplies in response to the post-cyclone food
shortage. As a result, men and women who remembered the incident were worried a similar situation may occur in the near future. A male respondent in the HHS commented:

“The site around the house used to be a garden but now nothing can grow. This is because of salination. Rising sea level has affected the food grown in the garden.”

Similarly, a female respondent stated in the HHS:

“Pana [Lesser Yam] and yam used to grow well in the soil before but not now. Before, we used to plant food many times in the same garden and it was fine but now the crops are not harvesting.”

Decline in crop harvest associated with saltwater intrusion was not the only factor causing concerns for food shortage among families in Siarana. The changes in ocean currents and sea levels were also believed to be affecting inshore food sources as shown in the following comment made by a male respondent in the HHS:

“High tide spoils and kills shells and most living things such as crabs, they are now dead.”

The above comment was echoed by a female respondent who had ‘lost interest’ in fishing because she had difficulties in finding shellfish:

“Before I used to collect enough shells but now it is very hard to find them...because of this I don’t have an interest in fishing anymore.”

Concerns about food scarcity were compounded by men and women’s inability to predict the timing of harvesting seasons for fruits such as banana, mango, kabarai (local apples) and nagali nuts. In the FGD, men remarked:

“Fruit trees are fruiting differently to the times when they are supposed to. When it is the fruiting season, they don’t have any fruits.”

Increased precipitation was also believed to be affecting crop yields, particularly for traditional root vegetables such as yam, taro, cassava and pana (a yam variety). Common symptoms reported were crop rotting, disease and insect damage, and non-maturity of seedlings. The women in the FGD pointed out:

“Sometimes the people are not able to go to the gardens because of bad weather, then they buy imported foods [like rice and noodles] instead of getting food from their gardens.”

Interestingly, most families sold their garden food and nearly all of the seafood to the passengers of LC Dragon and the earned cash was used to purchase rice, noodles, tinned fish and other processed food items. The reason appeared to be the high cash return received from selling fresh food and the low cost of store foods, which left families with more cash savings than if they were to consume their own fish catch and garden produce.

Flooding and landslides were also perceived to have a negative impact on agricultural productivity, namely due to the destruction of food gardens and soil erosion. Aside from this
impact on agriculture, some respondents in the HHS reported the ground was becoming wet and 'swampy' from prolonged periods of rain. As there were no proper drainage systems in place, some houses were occasionally flooded during heavy rainfall.

6. Community understanding of vulnerability

In all FGD, women were identified as being most vulnerable to the climate-related hazards because of their roles in livelihood activities.

In the discussion with youth, the reasons why women were considered to be most vulnerable were attributed to their responsibility as providers of food and income earners within the household:

“Women have to go and sell food to passengers of LC Dragon to earn cash, which they then use to buy rice. Otherwise it is difficult for women in Siarana to earn money to buy rice. Even though fishing is a man’s job, because the weather can be very unpredictable, they are not able to go fishing. Fishing is the main source of income for men in Siarana. Instead, girls in the community go fishing for small fish, crabs and shells to sell them at the market and earn a living.”

Men agreed with the statements made by youth and remarked they too were also vulnerable to climate change because they were not able to fulfil their part of the responsibility in generating income for the family:

“Men are also affected by climate change because we are not able to go fishing and then we will not have sufficient things to sell at the market.”

Additionally, men expressed their concern for the safety of the women and children when they paddled their canoes to get to their gardens:

“Women and children are most affected [by climate change] because women cannot paddle canoes to get to their gardens especially during bad weather.”

Since sap sap gardens (backyard gardens) were small and used for planting basic staples, larger gardens were created some distance away from the village where there was more land available. For this reason, men felt women and children's lives would be at risk if they had to paddle their canoes in rough sea or bad weather.
7. Current and future capacity for adaptation

Most of the people consulted for the study agreed the community had limited current capacity to cope with climate change. In the FGD and the HHS, participants repeatedly stated their involvement in the research was the first time they had come together on this issue and some were surprised others were experiencing the same issues and problems with their plants and food harvests.

Although the current adaptive capacity was low, it is worthwhile noting that the Research Team observed some households owned portable solar panels, which they used for lighting instead of using conventional kerosene lamps. The decision to invest in solar panels was purely for economic reasons to cut down the cost of energy. Rather than spend money on purchasing a bottle of kerosene every couple of days, people felt solar panels were more cost-efficient in the long run. They were not aware of the environmental benefits of switching to solar panels. Nevertheless, the evident take up of solar energy by certain households was considered by the Research Team to be a valuable contribution in climate change mitigation.

Current capacity at the individual level was also limited, although some women were initiating actions to adapt to the varying climatic conditions. Examples that illustrate women’s adaptive capacity were noted in the HHS:

“I’m experimenting with different food [seedlings] to see what bears fruit.”

“I saw that the garden was not working so I made a new garden in a different location to see if it harvests more food.”

Most of the female respondents stated in the HHS that they had talked to other women in the community about the crop damage caused by extreme weather and temperature changes, and salination, but they had not come up with any solutions on what they can do to improve production.

In terms of coping with climate change in the future, some women in the community spoke out about women’s exclusion from decision-making activities as a major barrier to effective adaptation. Participating in community projects and in community decision-making processes were not always inclusive of women because men perceived women to be only capable of undertaking domestic and reproductive duties. Representatives from the Mother’s Union, a women’s group connected to the Siarana Anglican Church remarked:

“Some husbands don’t want their wives to be involved in community programs because they want them in the kitchen.”

At the community meeting, the Research Team asked a question to the representatives of the various community committees about women’s participation in community affairs. A male member of the local committee responded:

“We don’t have rules to stop women from expressing themselves but women are only able to speak on their responsibilities but not beyond that.”

In the above response, ‘their responsibilities’ referred to women’s domestic and reproductive duties. Thus women were excluded from participating in decision-making activities on matters ‘beyond’ their assigned area of responsibilities. A female respondent in the HHS further reinstated the inferior status of women in the community:
"The community is matrilineal but women are not involved in planning or community decision making because women are considered to be uneducated."

Education was viewed in association with social status, with most people in the community showing great respect for those who had received higher levels of education. When mobilising people for the research, the local facilitators had only invited people with education to partake in the consultation activities, which the Research Team quickly rectified. Throughout the consultation process, participants with low education levels thanked the Research Team for involving them in the study as they had been excluded from previous community projects because they were ‘uneducated’. As explained by a female respondent in the HHS, women in Siarana had less education than men because of cultural gender norms:

“Our custom states that girls should not be engaged in formal education.” Instead, girls are expected to stay at home to assist with household chores and looking after children, the elderly and sick family members.”

Another barrier to future adaptive capacity was the lack of respect for customary forms of leadership and community governance. Men in particular felt that modern Western influences had diminished traditional systems of governance. They stated the younger generation was not respecting the chiefs and elders of the community. Thus strengthening the governance structure was seen as an important step for the community to cope with existing and future needs. The community leaders agreed, aside from climate change, the community had to tackle the issue of population growth and its potential effect in exacerbating climate-related impacts such as food insecurity.

8. Moving forward: suggestions for adaptive measures
The community understood collective action was needed to address the issue of climate change and to develop strategies to reduce future climate-related hazards. People who took part in the study identified the following suggestions for moving forward:

- Educate the community about climate change and provide explanations for the changes in climatic conditions;
- Build a drainage system to channel the flow of excess water out into the sea and away from people’s gardens and houses;
- Construct a sea wall along the main foreshore to stop further sea encroachment and reduce the need for relocation;
- Protect and conserve existing marine life by placing a temporary ban on harvesting of fish and shellfish; and
- Strengthen the agricultural capacity of men and women in the community, and improve their knowledge of climate-resilient crops and sustainable farming practices.
Case Study 4: AISIKO

1. Background
Aisiko is situated on the Central Kwara’ae highlands of Malaita Province, about a 30-minute drive from Auki, the provincial capital. Its 500 residents live an agrarian lifestyle with each family owning a plot of land for subsistence and for cash crop farming of betelnut, peanuts, cocoa and pineapple.

For the community of Aisiko, climate variability is having a huge impact on the garden cycle and on crop yields. The timing of rain, sun, wind and fruiting of nuts and plants is becoming more unpredictable and ‘out of sync’ with people’s own understanding of the natural seasons. Compounding the problem of climate change is the traditional practice of slash and burn farming, which has led to deforestation and soil degradation. In a climate of uncertainty, experimenting with new agricultural systems is seen as a way forward for protecting food security and people’s livelihoods.

2. Methodology
The study employed a participatory methodology, which focused on capturing men’s and women’s experiences of climate change, and their understanding of vulnerability and adaptive capacity.

A strong emphasis was placed on the local context to allow the Research Team to examine the social, cultural, environmental, economic and political structures of the community and assess how these intersect with vulnerability and adaptive capacity. The focus on the local condition was also intended to encourage the community to have ongoing discussions on climate change and develop locally-grown and sustainable solutions beyond the course of this study.

The Research Team comprised of one female community development officer from the Solomon Islands Development Trust (SIDT), one researcher from ActionAid and two local youths (one male and one female). Data collection in Aisiko was carried out during 26-30 September 2011.

Community members involved in the various local committees selected the participants. Efforts were made to involve participants from a wide cross-section of the community, to reflect the diversity in age, religion, household size and social status.

The methods of data collection used for this study are outlined below. The research tools were designed to facilitate an explorative and reflective process, in which the participants were able to assess the current situation themselves and share ideas on future action.

Household Surveys (HHS) were designed to collect quantitative and qualitative information on the different roles and workloads of men and women, their access to strategic resources, their participation in household decision making, their understanding and experiences of climate-related hazards, and their present and future adaptation strategies. In Aisiko, a total of 16 household heads (nine male and seven female) completed the survey.

Two of the household surveys were conducted with only the male household heads as their wives were away attending the violence against women training workshop organised by SIDT in Honiara.
About the Survey Sample
All of the survey respondents were married and most were born in Aisiko. The average age range of the participants in the HHS was 45-54 years for both sexes and the average household size was four to seven persons.

Educational attainment was low among the survey sample. Respondents with no education accounted for 71% of female respondents and 33% of the male respondents. Respondents with partial or full completion of primary education was low (29% for women and 33% for men) and male respondents were the only ones in the sample to have had higher levels of education. The key characteristics of survey respondents are presented in the table below.

Table 4 Survey Respondent Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Female</th>
<th>Male</th>
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</tr>
<tr>
<td>Number of persons widowed, widowed or other (%)</td>
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<td>Number of persons born in community (%)</td>
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<td>Number of persons born elsewhere (%)</td>
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</tr>
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<td><strong>Total number of respondents</strong></td>
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</table>

Focus Group Discussions (FGD) were designed to assess a collective understanding of vulnerability in terms of who within the community was most vulnerable to climate-related hazards and why they were vulnerable. In Aisiko, discussions were carried out separately with men (five participants), women (11 participants) and youth (12 men, no women). At the end of the discussion, all the groups came together and presented the findings from each group. The FGD was held at the community kindergarten.

Due to problems with the ferry services back to Honiara, the Research Team had to cut short its stay in Aisiko. For this reason, it was not possible to hold a meeting with the community leaders.

The information presented in this case study is a synthesis of the findings from the HHS and the FGD.

3. Structure of the case study
This case study is structured according to the five themes that emerged from the analysis of the data, namely: community and individual understanding of climate change; local experiences of climate-related hazards and impacts; community understanding of vulnerability; current and future capacity for adaptation; and future adaptive measures. The following section presents the key findings under each of the themes.

4. Community and individual understanding of climate change
Both men and women in Aisiko understood climate change in terms of its impact, based on personal experiences and insights. Knowledge of climate science, including the causes of
climate change, was limited to a few men who had read about it in a newspaper or heard it on the radio. None of the women participating in the study had been exposed to scientific explanations of climate change and, therefore, were unaware of the reasons for the variation in climatic conditions.

Men who had some knowledge of climate science were conscious of the cause. They stated that while Solomon Islands contributed very little to the problem of climate change, they were bearing the burden. One male respondent from the HHS stated:

“Our country does not have large factories or mines so why is this [climate change] happening to us and why is it affecting our garden foods?”

Another male respondent mentioned in the HHS that he had been informed about climate change by the South Sea Evangelical Church (SSEC), which is one of two religious faiths followed by people in Aisiko (the other being Anglican). According to the respondent, SSEC had conducted an information session on climate change back in 2007 but he was not able to remember the session’s content.

Compared to men, most of the women had a limited understanding of the causes of climate change. A few of the female respondents tended to refer to their religious beliefs to understand the changes taking place. As one woman in the HHS explained:

“I have seen some changes [in climate] and I refer back to the Bible, which mentions human impact on the environment...all of the problems are happening because we [humans] are not following the Christian faith.”

The respondent’s attribution of climate change to religion stems from their knowledge of and belief in the Genesis, the story of creation, in which God assigned humans to be the stewards of animals and the environment. Another female respondent stated:

“I heard rumours that something bad like climate change was going to happen. I heard it from [reading] the Bible.”

While some female respondents attempted to explain climate change from a religious perspective, others completing the HHS expressed their confusion as to why the climate system was changing and becoming extremely unpredictable.

Similarly, there was a limited understanding of climate change at the community level. Many of the people involved in the study agreed the community needed more information on the scientific explanation of climate change. Awareness of climate science was perceived by the participants as being an important step for the community to fully understand the causes of climate change and identify strategies for reducing and managing climate-related hazards and impacts.
5. Local experiences of climate-related hazards and impacts
Drought, intense heat, heavy rainfall and landslides were the main climate-related hazards identified by the community based on people’s knowledge and recall of past events. Rather than focusing on the risks or future hazards, people in the FGD focused on the present impacts of climate change, in particular the impact of varying conditions on agricultural activities.

Both men and women in the community reported garden crops were being damaged by their exposure to extreme weather changes. For example, men and women shared stories in the FGD about how it would rain heavily then, when it stopped, the sun would be extremely hot, causing many taro, kumara (sweet potato) and corn seedlings to die prematurely. Women in the FGD commented:

“Before it used to rain and the gardens grew well but now when it rains the crops die, possibly because of too much rain and too much sun.”

Men and young people associated heavy rainfall with soil erosion, noting there was a lack of nutrients in the soil, which reduced agricultural yield.

In both the HHS and the FGD, women reported that climate variability led to increase in insects like lady bugs and caterpillars, which were spoiling their garden crops. As women in the FGD stated:

“In the past, when we planted cabbages we didn’t experience insects like caterpillars. Now when we plant cabbage, caterpillars destroy the crops.”

Chinese cabbage, slippery cabbage, tomatoes, capsicum and bananas were cited as being most susceptible to insect damage.

Women also reported certain plants like mango, local apple, breadfruit and ngali nut were no longer bearing fruit. They wondered what the reasons were for the diversion in the timing of the fruiting season.

Both women and men observed the noticeable difference between the current and ‘normal’ seasons. In the past, traditional seasonal calendars were used to inform the planning, planting and harvesting of food gardens. They were based on a number of factors including the positioning of the moon, direction of the wind, timing of wet and dry periods, blossoming of nuts and fruits, and animal calls. However the calendars were no longer reliable in informing the garden cycle. As one male respondent in the HHS put it:

“Now the sun is very hot and the dry periods are longer. When it rains, it rains for a long time...I don’t teach my children the seasonal calendar anymore because the calendar is no longer reliable [in predicting seasons].”

Additionally, women in the FGD spoke of how their skills in telling the time were being diminished because of the perceived changes in the sun’s position. When women are out in the garden, they stop and look at the sun to see where it is positioned, which helps them determine what time it is and whether they need to go back home to carry on with other household chores. However women commented they were now having difficulties in telling the time as they could no longer match the sun’s position with the correct time. Women in the FGD noted:
“Women in Aisiko use the sun to tell the time but now the time is more difficult to tell because the position of the sun doesn’t match up with the correct time.”

A female respondent from the HHS agreed:

“When it is 10am, the sun is already on top of us as if it is 12pm but it’s not.”

Not being able to tell the timing of dry and wet seasons was also reported among the participants in the FGD. People in the community told the Research Team they had experienced a very wet dry season in July but had not had any rain since. Subsequently there was less water flowing in the streams, reducing the community’s water supply. The community has a piped water system connected to a natural stream. At the time of the Research Team’s visit, the system was broken and women and children had to walk about an hour to fetch water from a stream. Many people were concerned that fetching water had increased women and children’s workloads.

Finally, experiences of climate impacts were not isolated to human activities. People in the community had observed changes in the natural environment, namely the disappearance of certain plants and animals. A diverse variety of birds, frogs and snakes used to exist in the surrounding streams and forest, however today people reported fewer sightings of these animals. Others also reported that hako, a species of native heliconia, was becoming scarce and difficult to find in the forest compared to before. The leaves of hako are used in traditional cooking to wrap meat and vegetables before they are placed in underground ovens.

6. Community understanding of vulnerability
First and foremost, women were identified as being most vulnerable to climate-related hazards and impacts by all participants in the FGD. Women themselves stated they were vulnerable because of their socially ascribed role as mothers and as providers of food and water:

“Women are vulnerable to climate change because most women carry the heavy task of preparing food, in the morning and at night...they also do the washing and cooking. They have to get up early to go to the garden and after that they must go and fetch water. Women do not have time to sleep. If we don’t prepare the food for the men, sometimes the men will get cross with us.”

As illustrated in the above response, women’s vulnerability is understood in terms of their roles and responsibilities, which typically tend to be physically demanding and time consuming. Men being ‘cross’ at women for not preparing food also highlight how women themselves recognise the consequence of not fulfilling their expected duties.

Women in the FGD discussed the heavy workloads of women in the community, not only in the home but out in the gardens, working under challenging weather conditions. The women complained men were not ‘sharing the burden’ and helping to reduce household work for women. They remarked:

“Women work very hard and long hours and in extremely hot conditions. We have to struggle to find food in the garden for the family. Men need to assist women with the domestic chores and share the burden.”
Men in the FGD acknowledged the heavy workloads of women:

> "Women have to wake up very early in the morning and start their duties in the house and work till late in the evenings. They must prepare breakfast, help out in the garden, prepare dinner and wash dishes after dinner."

However, men also asserted they too worked very hard in sustaining a living for their families, thus they were also vulnerable to the impacts of climate change:

> "Men have to undertake planning for the family. We work very hard to earn incomes to support our family needs, such as food, clothes and school fees."

Young people in the FGD agreed with both men and women, stating women were vulnerable to climate change because it had a profound effect on women’s ability to produce food, but equally recognised that climate change affected men’s capacity to generate income for their families.

Women also recognised the vulnerability of children as they too were required to help their mothers with fetching water, cooking, washing and other household chores. In this context, vulnerability was understood in terms of physical weakness and children not being able to fulfil their assigned duties. Children’s vulnerability to climate change was not mentioned in the FGD with men and youth.

7. Current and future capacity for adaptation

Current adaptation strategies were limited to a small number of households that were experimenting with organic farming to see if it was an effective method in avoiding or reducing insect damage, and in increasing agricultural output. This is illustrated in the following statement made by a man whose family had just switched from slash and burn to organic farming:

> "I am using organic farming as a solution to the problems I am facing in terms of agricultural production. Slash and burn affects soil fertility but not organic farming...we [the community] need to change the mindset of the people so they do organic farming and not slash and burn."

Other households in the community simply ‘accepted the changes’ and continued to carry on with their current practices. As one woman in the HHS stated:

> "We will not stop gardening [because of climate change]. We will continue to do our gardening because if we stop, then we will die!"

Some felt increasing agricultural productivity in the current condition could be easily achieved by establishing new garden plots. A woman in the HHS remarked:

> "Climate change affects us but we will easily cope by making more gardens and grow more food."

One male respondent called on other institutions to assist the community in enhancing its capacity to adapt to the effects of climate change:
“We are now facing climate change and we have to, as a nation…address this issue before it gets from bad to worse. Provincial and National Governments, NGOs and donors must work together with the community on this issue.”

As shown in the above examples, coping with the immediate impacts of climate change and linking the community to wider governance systems were seen by men and women as an area of opportunity for increasing community resilience.

8. Moving forward: suggestions for adaptive measures
Many people did not know what could be done at the individual level to adapt to climate change in the future. Women in particular felt there was nothing they could do differently to what they were doing now and they were determined to carry on despite challenges they faced.

At the community level, adaptive measures suggested by people in Aisiko focused heavily on enhancing capacity within the community as a first step to deal with the identified impacts of climate change. Men and young people in the FGD specifically mentioned safeguarding the natural environment and related resources as an important strategy for minimising current and future impacts of climate change. The adaptive measures suggested by people taking part in the study included:

- Conduct a community-wide training on climate change;
- Undertake reforestation and ban people from logging in certain areas of the forest;
- Preserve existing water sources and improve water supply infrastructure;
- Apply organic farming instead of slash and burn as a more effective method of increasing agricultural productivity;
- Expand or establish food gardens to increase agricultural yield; and
- Encourage young people in the community, as the next generation of leaders, to take leadership in climate change adaptation.
5. UNDERSTANDING THE STUDY FINDINGS FROM A RIGHTS-BASED APPROACH
This chapter provides a discussion on the emerging issues arising from the meta-analysis of the individual case studies as well as key informant interviews using ActionAid’s rights-based approach as the basis of analysis. The chapter is set out according to the three programming areas that comprise ActionAid’s theory of change: empowerment, campaigning and solidarity (see Section 1.2).

5.1 Empowerment

The analysis of the study findings from a rights-based approach starts with individual agency and collective action: awareness about rights, knowledge of factors that contribute to vulnerability, access to and control over adaptation resources, and community mobilisation – which are all crucial for empowering women and their communities in the face of climate change.

5.1.1 Awareness of rights

Being aware of fundamental rights and freedoms is essential for people to live safe and dignified lives. Poor and marginalised people’s awareness of their civil, political, economic and social rights helps them take control of their own situation and hold accountable the institutions that have the responsibility to promote and protect their rights. The study found individual awareness of rights in relation to climate change among both men and women involved in the study was very limited. They were not aware of the existing national climate change plans in place, nor did they know what assistance and services they could expect from their governments. In the study communities, men and women were unaware of the international obligations that governments had in safeguarding their rights to life, adequate standard of living, health and others that are implicated by climate change (see Section 2.1).

For some communities, lack of rights awareness resulted in local leaders not being held accountable for responding to community concerns about climate change. In particular, people in Siar were extremely frustrated by the lack of action shown by their local leaders despite the problem of rising sea levels and coastal erosion being a continual threat to the community. Instead of questioning local leaders why they weren’t taking any action, people either accepted the situation, believing there was nothing they could do, or others (especially women) took matters into their own hands and looked for alternative solutions by initiating their own adaptation efforts (see Section 5.1.6).

Many of the future adaptation measures that participants suggested were targeted at collective action and included infrastructure and services – such as constructing sea walls, educating the community about climate change and obtaining technical knowledge on climate-resilient agriculture – which should be delivered by government as part of their responsibility in protecting citizens’ rights, as articulated in the national constitution. However, similar to ActionAid’s study on community-based adaptation project in Bangladesh (Raihan et al, 2010), some participants expressed their lack of confidence and trust in local officials and in political systems and were sceptical about putting their demands to them. Instead, people were turning to other institutions such as the Church, donor agencies and NGOs for assistance. Since people had limited awareness of their own rights, they were not able to reflect on the responsibilities their leaders had in protecting their rights nor did they realise their rights were being compromised by political inaction, and, therefore, they did not take direct action to question their local leaders. This process of reflection and awareness of one’s rights is critical
for empowering people to take control of their own situation (see example of BRG’s process of empowerment illustrated in Box 6).

Box 6 Bismark Ramu Group, Papua New Guinea

The BismarkRamu Group is a grass roots community development and environmental protection organisation based in Madang. It broke away from the UNDP funded Integrated Conservation and Development (ICAD) program in 1999, establishing itself as a self-reliant community development organisation owned and facilitated by and for the local people.

The ICAD Project in Lak was deemed by the UNDP as a failure because its objective of creating biodiversity conservation areas was not achieved and logging companies ‘bought out’ the villagers and their royalties and incentives were far too generous than what the ICAD could offer.

Just over a decade since it split from the ICAD, BRG has been successful in protecting 80,000 and 18,000 hectares of conservation land. Its achievement is attributed to BRG’s community engagement model, focusing on self-help and reducing people’s dependence on economic incentives. BRG has a strong force of full time and part time community facilitators who go on ‘patrols’ to the villages, two weeks at a time. They enter the villages empty handed to avoid building a ‘hand out’ mentality, a common attitude among communities that rely on outside assistance. To empower people to help themselves, the community facilitators focus on educating people about their rights and entitlements as enshrined in the PNG Constitution and the responsibilities that governments have in protecting those rights. This approach enables people to realise their own state of injustice, including who is morally and legally responsible for protecting their rights. The facilitators then guide the community in developing solutions they can action themselves, thereby building their capacity for self reliance. The patrols continue until the community is satisfied they have full control of their own situation and no longer require assistance from BRG.

Source: Anderson (2005) and field observations

5.1.2 Access to scientific knowledge is important for understanding climate injustice

ActionAid’s rights based approach does not see vulnerable people as passive recipients of hand-outs from government or other institutions. Therefore, it is vital vulnerable people are not only aware of their rights but understand the inequalities that contribute to their vulnerability in the first place. It was evident from the study that the majority of participants had no or limited scientific knowledge of climate change and, therefore, were not able to relate the changes they were experiencing locally to the global phenomenon. In the absence of scientific information and explanations of climate change, the participants did not know what was causing the climate to change and that they – and their countries – were bearing the impact of climate change even though they contributed very little to the problem.

Consequently, some participants in the study tended to blame themselves or the community for the changing climatic conditions. For example, several women in responding to the HHS stated
that climate change was God’s punishment for people not obeying Church rules. In PNG, some men in Derin blamed the magic men for not being able to control the timing of the sun and the rain, and doubted their ‘special’ powers. Without access to understandable scientific explanations about climate change, people held themselves responsible for the changes taking place and the feeling of self-blame was disempowering them from taking any adaptive action.

Given that climate change is a global problem stemming from power imbalances between developed and developing countries, poor and marginalised people need to be aware of their basic rights and the implications that climate change impacts have locally, nationally and internationally (see Section 2.2 for discussion on climate justice). For people to assert their rights in the context of climate change they need to understand the problems they face are influenced by inequalities that exist in the wider geo-political space and accessing scientific knowledge is a first step in understanding what causes climate change and identifying the inequalities that must be confronted to tackle the climate injustice.

5.1.3 Recognising indigenous knowledge and practices
Integrating scientific knowledge with local knowledge of seasons and traditional practices of disaster preparation is a key to protecting communities from the impact of climate change. Local people have relied on indigenous knowledge of seasons, wind and currents for thousands of years to inform their food production cycle and to prepare for cyclones, storms and other natural disasters. A number of men and women involved in the study recognised indigenous knowledge and various practices used by their ancestors to cope with changes in climatic conditions, such as the utilisation of the traditional seasonal calendar and storing yam to protect people from disaster-induced food shortages. The study participants’ opinion on the relevance of indigenous knowledge and practices in adapting to the current climate was divided – some stated they were still applicable but many people, especially the younger generation, have forgotten about them, while others claimed indigenous knowledge was not useful for adapting to the current climate.

Regardless of how people perceive traditional knowledge and practices, it is important to acknowledge that scientific knowledge alone does not determine what choices people have in adapting to climate change. Scientific data and predictions need to be complemented by local people’s knowledge of climate systems and environment, and lessons learned from past experiences of disasters and events (Raihan et al, 2010). Since most participants in the study admitted they were not sure what they and their communities could be doing to adapt to climate change, exchanging stories about coping mechanisms used in the past could be a preliminary step forward for establishing a sense of common ground for identifying collective solutions for climate change adaptation. This also entails piloting the effectiveness of past practices in dealing with current climatic conditions (e.g. increased rainfall or temperature) and, if necessary, modifying or improving them (i.e. adjusting the timing of planting and harvesting, letting the land rest longer before starting a new garden cycle). Combined with scientific information, indigenous knowledge and practices can offer people strategies sensitive to local circumstances.

5.1.4 Knowledge of factors that contribute to vulnerability
In all study communities, men’s and women’s understanding of vulnerability was associated with cultural and social norms about gender roles and responsibilities. Women were identified as being most vulnerable to the impact of climate change because of the expectations placed on them in producing food for household consumption and for market selling.
As shown in Table 5, aside from reproductive duties, women in all four communities were responsible for subsistence food production, fetching water and collecting firewood. Men’s involvement in subsistence farming was limited to heavy labour, such as clearing the land and preparing the garden for planting. Men typically undertook the responsibility of producing cash crops, however, in all communities, selling produce at local markets was a role predominantly assigned to women. In general, men in the urban community of Siar were involved in formal or informal paid employment, such as construction or manufacturing labour. However, in other communities, the primary source of livelihoods for both men and women was agriculture. In Siar men also identified women’s role of taking care of children and the elderly as a contributing factor to women’s vulnerability to climate change. Men believed women would not have enough physical strength to bear children and carry out their reproductive duties if women have to work harder and longer to produce food to deal with variations in temperature and rainfall associated with climate change. The association between women’s child-bearing role and their vulnerability to climate change did not emerge in the discussions carried out in other study communities.

This study found that to cope with the current climatic conditions, most women in the study were working harder to ensure sufficient supply of food for their families as well as for market selling. In effect, changes in rainfall and temperature and their impacts on agricultural yield, were increasing women’s workloads. For women to realise how they are affected by climate change, they need to understand how gender roles influence vulnerability as well as the deeper structures within the household and the community that may hinder women’s ability to cope with climate-related hazards and impacts. This involves educating women about the fundamental rights enshrined in the UDHR and related protocols that their countries have adopted, how these rights are being promoted and protected by the government and other social institutions, and giving them the opportunity to speak out and stand up against discriminatory attitudes and beliefs (see example of YWCA’s project in Solomon Islands, presented in Box 7).

Fishing was a secondary source of income for families in Siarana.
Educating young women about their rights and unlocking their leadership potential are at the heart of YWCA’s Rise Up! Leadership Program, delivered in the rural centres of Auki and Munda in Solomon Islands.

The program aims to develop the leadership capacity of young women aged between 16 and 30 years by equipping them with knowledge and skills to create positive change in their communities. The program involves a series of workshops on human rights, women’s rights, gender, public speaking, leadership and social change – these are topics that are foreign to many young women in Solomon Islands because they have limited opportunities to complete their schooling and participate in wider community activities.

In a country where there are no female representatives in parliament, YWCA’s Rise Up! Leadership Program provides an avenue for rural young women to speak out and step up to become active participants in the community. Since it began in 2010, a total of 60 young women have completed the program, making a positive impact on young women’s lives in many different ways. For example, the program has enabled a young woman to speak confidently in front of others, as the program facilitator explains:

“The first time I met her [the participant], two years ago, she was the most timid and quiet person I had ever come across. Her mother had encouraged her to join the training because she was so shy that she hardly mixed around with other people, and she wanted her to make friends. During one of the sessions, two years ago, she panicked so much when it was her turn to speak that she had a fit. At the recent training, however, she hardly hesitated when it was her turn to share and she participated very actively in all the sessions. We also organised various awards, which would be given to people who got the highest number of votes, she was voted ‘most improved’ since the first Munda Rise Up! training.”

Another example is of a young woman, who after completing the program, wrote to the local newspaper in response to an article that questioned the need for creating reserved seats for women in parliament:

“A few months ago there was a Letter to the Editor in one of the local newspapers rubbing the idea for women in leadership and the reserve seats that women here in the Solomon Islands were pushing for. One of the young women that we had trained was so outraged that she wrote back to the paper, something she would never have done previously. When people cautioned her about giving her real name to the paper to display, she replied that she was standing for the rights of women in her country and that she was not worried that people might criticise her for speaking out.”

YWCA has expanded the program by training past participants as peer educators to deliver the program to other young women in their communities. The first training for the peer educators took place in December 2011 and the program will be evaluated at the end of 2012.

Source: information supplied by YWCA Solomon Islands via email communication on 23/01/2012
Table 5 Gender differences in roles and responsibilities, resource control and ownership, and participation in decision making for Siar, Derin, Siaran and Aisiko communities

<table>
<thead>
<tr>
<th>Role Description</th>
<th>Siar Women</th>
<th>Siar Men</th>
<th>Derin Women</th>
<th>Derin Men</th>
<th>Siaran Women</th>
<th>Siaran Men</th>
<th>Aisiko Women</th>
<th>Aisiko Men</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Roles and responsibilities</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Taking care of children and the elderly</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Earning an income through formal or informal paid employment</td>
<td>X</td>
<td></td>
<td>X</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
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<tr>
<td>Planning, preparing, planting and harvesting of subsistence food gardens</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Planning, preparing, planting and harvesting of cash crops</td>
<td>n/a</td>
<td>n/a</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Fishing for subsistence and for cash income</td>
<td>X</td>
<td>X</td>
<td>n/a</td>
<td>n/a</td>
<td>X</td>
<td>X</td>
<td>n/a</td>
<td>n/a</td>
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<tr>
<td>Preparing and cooking food for household consumption</td>
<td>X</td>
<td></td>
<td>X</td>
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<td>X</td>
<td>X</td>
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<tr>
<td>Preparing and cooking food for market selling</td>
<td>X</td>
<td></td>
<td>n/a</td>
<td>n/a</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Selling surplus food and cash crops at markets</td>
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<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Fetching water</td>
<td>X</td>
<td>X</td>
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<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Cutting down timber for firewood</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Gathering firewood</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td><strong>Resource control and ownership</strong></td>
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<tr>
<td>Ownership of land</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Ownership of livestock and poultry</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Control over household finances</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td><strong>Participation in decision making</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Make decisions about what food should be grown and consumed</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Make decisions about children’s education</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Make decisions about family health and safety</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Make decisions about what community activities the family should participate in</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Make decisions on community affairs</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
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</tbody>
</table>

Note: Data presented above is sourced from the analysis of the household surveys conducted in the study communities.
5.1.5 Access to resources and participation in decision making for adaptation

For people to make informed decisions about future adaptation measures, first they need to be informed of their basic rights, particularly rights to life, adequate standard of living, participation, health and other rights implicated by climate change, and understand the structural inequalities that increase their vulnerability to climate-related hazards. This entails understanding how unequal access to and control over resources affects women’s vulnerability to climate change.

Unlike other developing countries, the vast majority of people in the Pacific region have access to customary land, which they can rely on for subsistence and livelihoods. The actual ownership of customary land depends on whether land is passed down through the paternal blood line (patrilineal) or through the maternal line (matrilineal). Of the four communities, three were patrilineal (Derin, Aisiko and Siar) and only one was matrilineal (Siarana). In the context of these four communities, gender-based ownership of land did not emerge as a factor for women’s vulnerability to climate change, possibly due to both men and women having access to customary land regardless of which sex owns the land. However, it was found that men held the decision making power in relation to land and development, even in a matrilineal society like Siarana.

As shown in Table 5, men and women in all study communities stated they have equal ownership of livestock and poultry, namely pigs and chickens. None of the households surveyed for the study had kept pigs and chickens for income generating purposes. Among the very few families that owned pigs, they were kept for ceremonial purposes like weddings and thus were of high social and cultural value. Given that in Section 3.1 of this report, it was identified that pigs are one of strategic resources that may elevate one’s social and political status, the extent to which men and women in the study communities equally benefit from the ownership of pigs is questionable and was not able to be gleaned from the household survey.

Men’s and women’s control over decision making at the household level differed between the study communities. All women were responsible for making decisions about food production and consumption, but decisions about children’s education, family health and safety, and participation in community activities were mixed. No clear relationship between women’s participation in decision making at the household level and their vulnerability to climate change appeared from the analysis. However, it was evident from the study that in all four study communities, men dominated public leadership positions and had control over decision making at the community level. Women from Siarana stated that some men prevented their wives from participating in community programs because they wanted women to “be in the kitchen”. When male leaders were questioned on this, they responded by saying that although there were no rules to stop women from engaging in community activities and expressing their opinions, they were not permitted to do so beyond their assigned domestic roles and responsibilities.

Women in Derin shared similar stories. In the FGD, women stated that some men excluded women from participating in community discussions. They believed women had limited opportunities to contribute to developing solutions to problems that affected them and the rest of the community. As this study found that women are most vulnerable to the impacts of climate change, they need to be able to participate in wider community affairs and be part of the decision-making process in deciding appropriate measures for adaptation. This includes their participation in allocating and managing finances and resources necessary for community-based adaptation that may otherwise be controlled by men.
5.1.6 Access to financial capital for adaptation

Access to and control over financial resources for adaptation was limited for both men and women in the study communities. With the exception of Siar, women in the study communities had partial or full control over household finances. However, household income was used to purchase basic necessities, such as food, clothing, kerosene and soap, for paying school fees and for savings to fund donations toward the Church and cultural obligations, thus there was barely enough money left to invest in resources and strategies that would protect their lives, assets and livelihoods from the impact of climate change. The only exception was in Siar, where the study found evidence of an emerging community-based self-help group, which operated a group savings scheme and invested in programs to enhance livelihood opportunities for women. For a culturally diverse community like Siar, initiatives that centre on self-help and collective action are important in fostering mutual trust and social cohesion, and strengthen the adaptive capacity of the community.

At the community level, many leaders were not aware of the funds available for climate change adaptation. To date, funding for adaptation has been predominantly administered by and sourced from donor institutions based on international agreements and negotiations. The lack of awareness about broader climate change policy and financing mechanisms, combined with limited knowledge of climate change, in most cases, led to inaction from community leaders, and many men and women in the communities were simply coping by ‘struggling on’ with their subsistence and livelihood activities. All of the study communities were yet to source funding to finance the adaptation measures they had identified.

5.1.7 Building collective capacity for adaptation

Adapting to climate change at the local level requires collective action. Adaptation strategies that only benefit some individuals may widen existing inequalities and in turn compound vulnerability. The study found the majority of the adaptation measures suggested by men and women relied on mobilisation of people and community resources.

The entire community coming together to discuss the problem of climate change was suggested by people in study communities as an initial step for local adaptation. By creating a space in which people can share experiences and ideas, people can validate their concerns and prioritise issues and actions that need to be addressed by the community.

The study also found that building collective capacity for adaptation requires certain prerequisites. Strong leadership and community support are essential for creating an enabling environment for local adaptation. Without these, people are likely to do nothing or very little to adapt. Only those with access to information and financial resources may take action, which then widens inequalities between people and households.

As shown in the community of Siar, lack of trust and confidence in local leadership can inhibit the community from building its adaptive capacity. Many men and women in Siar expressed their frustration with the inaction shown by their local leaders to protect the foreshore from coastal erosion and rising sea levels. They were also doubtful that any action will be taken in the future. Consequently, several men and women took matters into their own hands by experimenting with mangrove planting, diversifying their livelihood activities and changing their farming practices. They were able to do so because they had the necessary ‘know how’ from being involved in past externally-funded environmental projects (i.e. through WWF) and financial
capital. For others in the community, these options were out of reach and since they didn’t have confidence in the local leaders, they were not empowered to take direct action.

Building collective capacity for adaptation involves strengthening community governance structures so local leaders know community needs related to climate change and are held accountable for their actions, and for protecting the interests of those who are most vulnerable to climate-related hazards. In PNG and Solomon Islands, where community and religious leaders have a high degree of authority and power to mobilise people, they are critical in making local adaptation happen. However, without informed and accountable leaders who can ensure equitable distribution of resources, it will be difficult to mobilise and obtain support from members of the community.

5.2 Campaigning: policies and plans, and institutional capacity for adaptation

Adaptation is inherently a local process but require inclusive, people-centred and demand-driven national policies that clearly define government responsibilities and the fair and equitable allocation of resources (Raihan et al, 2010). The study found national strategies in PNG and Solomon Islands tend to overlook the connection between women, rights and climate change. There were also a number of constraints associated with the capacity of institutional actors to coordinate, manage and implement measures that translate to real benefits on the ground, such as the absence of human rights in national climate change plans, lack of institutional and technical capacity, and financial and human resource constraints.

5.2.1 National policies and plans

To date, climate change plans in PNG and Solomon Islands have been technical and top-down, without adequate consultation and support from communities. The resulting outcome is a mismatch of issues and priorities, and a lack of technical and financial resources ‘trickling-down’ to provincial government and to the community.

In PNG, the key strategy relating to climate change is the Interim Action Plan for Climate-Compatible Development (IAPCCD). As the name suggests, IAPCCD is not a complete strategy and the PNG Government is still in the process of undertaking a technical review of its draft climate change policy. According to the Office of Climate Change and Development (OCCD), consultation on the IAPCCD has only been carried out in eight out of a total of 20 administrative provinces and districts since its release in June 2010.

A review of the IAPCCD from a rights-based approach suggests it is far removed from being people-centred, rights-based and gender-sensitive as it fails to consider existing social and economic conditions that make certain groups in society more vulnerable to climate change. Additionally, it does not stipulate the legal obligations that the government has in protecting the fundamental rights of men and women, particularly rights to life, food, housing, water and health, that may be directly threatened by climate change. The IAPCCD appears to provide an economic diagnosis to the problem of climate change and, subsequently, the suggested adaptation and mitigation measures concentrate on reducing financial risks for the nation and maximising opportunities for economic growth. As stated in the outset of the IAPCCD, the National Executive Council recognises that “mitigation of and adaptation to climate change are inseparable from economic development and future prosperity of the people” (Government of PNG, 2010:3). The IAPCCD seeks to facilitate ‘climate compatible development’ by highlighting the nexus between economic development, adaptation and mitigation, however little is mentioned about the relevance of poverty reduction or how poor and marginalised people – who
account for a large proportion of the population in PNG – will benefit from the ‘future prosperity’ brought about by the so-called ‘climate compatible development.’

Solomon Islands has a National Adaptation Programme of Action (NAPA), which is a process established by the UNFCCC for Least Developed Countries (LDCs) to identify priority activities that respond to urgent and immediate adaptation needs. The main goal of the Solomon Islands’ NAPA is a reduction in the country’s vulnerability to climate change. The key priorities outlined in the NAPA include reducing the impact on the nation’s agricultural production, food security, water supply, sanitation, human settlements and health. Although NAPA recognises that climate change will have a major impact on women due to their central role in food production, women have only been targeted in regards to adaptation measures relating to health outcomes. The NAPA states that the government is committed to “training women on health impacts, disease prevention, contamination of water supply prevention and managing sanitation during and after climate related disasters” (Government of Solomon Islands, 2008:7). Further acknowledgement and commitment to the realisation of women’s right to food, work, social security and political participation – other than those related to health – is necessary for reducing the impact of climate change on the livelihoods of women.

Aside from the NAPA, at the time of writing, the Solomon Island Government’s Ministry of Environment, Climate Change, Disaster Management and Meteorology (MECDM) was developing a national climate change policy to provide an overarching framework for climate change mitigation and adaptation. The interview with the Ministry representative indicated that the Government was committed to ensuring that the policy is gender-sensitive and considers the varying impacts of climate change on men and women. Nevertheless, the rights of women as spelled out in international agreements, such as the CEDAW and their relevance to addressing climate change, were yet to be considered in the draft policy.

In summary, existing plans in both PNG and Solomon Islands fall short of recognising the relationship between women, rights and climate change. They overlook the wider inequalities that make people, particularly women, vulnerable in the first place, and they lack coherence with national commitments to CEDAW and gender equality policies that specifically articulate the structural barriers that contribute to women’s vulnerability (see Chapter 3). Moreover, they lack attention to the fundamental rights directly threatened by climate change, which encompass a wide range of economic, social, cultural and political rights necessary for human development. According to the UN Office of the High Commissioner for Human Rights, to tackle climate change, governments worldwide need to “fully integrate human rights when meeting the climate change challenges” (2007:2). Adopting a rights-based approach and placing people at the centre of climate change discussions and policies are crucial to addressing the global problem of climate change (OHCHR, 2007).

5.2.2 Key challenges for implementation and response
Based on the interviews carried out with governments and CSOs, the study found there were a number of challenges faced by the governments of PNG and Solomon Islands in the implementation of national climate change plans and in responding to the adaptation needs of communities.

In PNG, the OCCD is the agency responsible for implementing the PNG Government’s interim plan on climate change. It was established in March 2010, following its two predecessors being
dissolved due to allegation of corruption over REDD+ carbon trading deals. Aside from spearheading the development and implementation of national policy frameworks on climate change, the OCCD is responsible for managing various donor-funded adaptation and mitigation projects and establishing coastal early warning systems. An interview with OCCD indicated that lack of technical capacity and difficulties in inter-departmental coordination were key challenges faced by Government in responding to climate change and in policy implementation.

Interestingly, it emerged in an interview carried out with the Government’s National Disaster Centre (NDC), that there was lack of clarity about the demarcation of responsibilities relating to climate-related planning and response. NDC within the Department of Public Affairs is mandated to implement the national Disaster Management Act and is responsible for coordinating Disaster Risk Reduction (DRR) and emergency response phases. It identifies the needs of vulnerable people and delivers training to mainstream DRR to the local level through disaster coordinators who are deployed in some but not all provincial governments.

Although climate change adaptation is a responsible portfolio of the OCCD, NDC to date has conducted a rapid assessment study on climate change and sea level rise in Manus Island and, more recently, it has been liaising with the citizens of Kiriwina Island of the Trobriand Islands about the problem of saltwater intrusion. The existence of disaster coordinators in some provincial governments has enabled the NDC to be more attune to local climate change concerns than the OCCD, which is largely focused at the national level. An interview with a representative from the NDC indicated that discussions were taking place within the government to delineate a clear line of responsibility between OCCD, NDC and other relevant agencies within the government in regard to climate change planning and response.

For the Government of Solomon Islands, lack of institutional, financial and human resource capacity is a key challenge for policy and plan implementation. The MECDM is a relatively new ministry, established in late 2010 as a result of merger between the Ministry of Environment, the National Disaster Management Office (NDMO) and the Meteorology Services. Despite only having a small team of four full time staff, the Climate Change Division is in charge of coordinating and managing 21 donor-funded projects on adaptation and mitigation, including projects funded through the US$5.5 million adaptation grant successfully obtained by the Solomon Islands Government through the Kyoto Protocol Adaptation Fund in March 2011. The fund aims to benefit 307,000 people in 51,000 households in Honiara and 17 other communities (MacLellan, 2011).

Linguistic diversity and geographical remoteness were also identified as a challenge for both PNG and Solomon Island Governments in ensuring their climate change policies were communicated and understood by all communities. In theory, the provincial governments are responsible for implementing national policies including those related to climate change, however, in practice, they have very little capacity to do so. According to various NGOs, provincial governments are severely limited by their lack of human resources and financial capacity. Although it was not possible to consult provincial governments as part of the timeline for this study, other studies have shown that given that adaptation is a local process, it is

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essential to engage provincial government in climate change adaptation (Raihan et al, 2010). This entails long-term investment and support for provincial governments to respond to adaptation demands from both below (community) and above (national government).

5.2.3 Donor interests in climate change adaptation
As part of the study, interviews were conducted with representatives from AusAID in PNG and UNDP in PNG and Solomon Islands. Based on the interviews, it was found that both climate change mitigation and adaptation were high on the agenda for donor institutions, and they were directing their efforts to strengthen the institutional capacity of national governments to effectively coordinate and manage their climate change portfolios.

It was noted that due to the instability within the government agency responsible for the climate change portfolio, AusAID, at the time of the interview, did not have any bilateral programs on climate change adaptation in PNG. It did however have a number of adaptation projects, which were delivered by International and Australian NGOs, through its Community-based Adaptation Activity Grants funded by the International Climate Change Adaptation Fund Initiative. These included projects that provided direct support to provincial administrations in better planning of climate change impacts on biodiversity, ecosystems and livelihoods in Milne Bay (delivered by Conservational International) and Manus Island (run by The Nature Conservancy). According to the AusAID representative interviewed for the study, women have not been identified as a specific target for its community-based adaptation grant nor was there an explicit focus on a rights-based approach to adaptation. However, it was noted that AusAID was currently undertaking gender mainstreaming of its agricultural programs with a longer term view of integrating gender in other sectoral programs including climate change.

The UNDP Office in Port Moresby has focused its adaptation initiatives on communities identified as being vulnerable to climate change by the OCCD, namely communities in Madang Province and the Autonomous Region of Bougainville. The initiatives focus on reducing the impact of coastal flooding and are funded under the Global Environmental Facility’s Small Grants Program. According to UNDP, donor-funded regional workshops have been held on the issue of gender, climate change and DRR to support the integration of these elements into national policy and practice. In the area of gender equality, UNDP’s priorities for PNG are addressing gender-based violence and the low representation of women in parliament. From a rights-based approach, these priorities are inter-linked and are important considerations for removing barriers that increase women’s vulnerability to climate change, as discussed earlier in Chapter 3 of this report.

In Solomon Islands, UNDP’s adaptation initiatives focus on food security, community-based natural resource management and reducing climate-related risks, all funded under a program called Strengthening Emission Management and Reducing Climate Change Impacts. UNDP also provides technical assistance to the MECDM, the development of the national climate change policy and the finalisation of the National Disaster Risk Reduction Action Plan. According to UNDP Solomon Islands, gender is being mainstreamed across all its environmental activities and it was assisting in carrying out a gender assessment of the

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22 Following the 2009 UNFCCC meeting in Copenhagen, the Australian Government announced its commitment to providing adaptation funds to least developed countries by establishing the International Climate Change Adaptation Fund Initiative. Approximately AUD$80 million is allocated to the Pacific region to support island nations adapt to climate change.
Government’s MECDM. UNDP also supports the National Disaster Management Office by providing recovery assistance to communities affected by natural disasters by concentrating on early recovery and strengthening disaster response systems at national, provincial and community levels.

Donor institutions consulted as part of this study expressed their commitment to supporting local adaptation that is rights-based and gender-responsive, however this commitment was yet to be translated into institutional policy, financing mechanisms and programming practice.

5.3 Solidarity: civil society involvement in adaptation

ActionAid believes solidarity, as a third programming area of its rights-based approach, enables local struggles to be linked to wider movements at national and international levels, building a global momentum for political and social change. In the context of climate change, civil society organisations, including environmental and women’s NGOs play an instrumental role in holding governments to account, campaigning for fair adaptation policies, financing and services, and supporting the realisation of rights for people adversely affected by climate change.

5.3.1 Current NGO projects on adaptation

It was found that community-based adaptation projects in PNG and Solomon Islands, thus far, have been largely led by international NGOs (such as those mentioned in Section 5.2.3), focusing on providing technical assistance to conduct vulnerability assessments and awareness training for communities that are already under threat by rising sea levels, such as the low-lying atoll islands in Manus, Carteret and Malaita. However, given that funding for international NGO-led adaptation projects is sourced from bi- and multi-lateral donors such as UNDP and AusAID, who are in the process of integrating gender into their climate change portfolios, gender is not explicitly defined as a focus of existing adaptation projects. Thus it is unclear whether current adaptation projects address men’s and women’s roles and responsibilities, access and control over resources, and participation in decision making, and how these are applied in the allocation of adaptation resource and assistance. Nonetheless, it was highlighted at the Pacific forum on the gendered dimensions of disaster risk management and climate change adaptation, organised by UNDP and AusAID in 2008 that adaptation projects that do not consider gender differences are at risk of implementing measures that ‘are not well targeted or result in inequitable outcomes’, which may be considered maladaptive (UNDP and AusAID, 2008).23

Despite community-based adaptation efforts being predominantly led by international NGOs, the consultation carried out for this study found that two local organisations were in the process of providing adaptation assistance at a national scale to communities in relation to food production. The National Agriculture Research Institute (NARI) in PNG received funding from AusAID to assist communities prepare for climate change. It does this by establishing resource centres in provinces, which function as information hubs for communities seeking information on climate change and drought-tolerant agricultural production. At the time of the interview, NARI was collecting data and stories from communities on changes in agricultural production caused by

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23 Maladaptation refers to an action or process that is intended to facilitate adjustments in natural and human systems to cope with climate change but instead directly or indirectly exacerbates vulnerability
changes in rainfall, temperature and climate patterns in order to map agricultural vulnerability to climate change across the country. NARI estimates over 2 million people in PNG will be at risk of climate-induced food shortage and 1 million will lack access to clean water based on current climate predictions. NARI recognises that women produce and process 80% of the national food supply and, since climate change is likely to have a huge impact on food production, women will be adversely affected. NARI seeks to strengthen its support to women small-holder farmers in rural areas and provide them with access to information, technology and skills in drought-resistant farming to cope with climate variation.

In Solomon Islands, the Kastom Garden Association (KGA) signed a three-year agreement with AusAID in September 2011 for the extension of its five-year Strengthening Food Security for Rural Livelihoods in Solomon Islands Program. The program targets rural communities, providing improved varieties of food crops and advice on effective farming methods and family nutrition. According to KGA, the new agreement with AusAID will see an estimated 11,000 people and 30,000 households benefitting from the program over the next three years. KGA works in partnership with 100 community-based organisations across the country, delivering training to these organisations on issues such as livestock husbandry, farming methods, pest and disease management, nutrition and health. It has a dedicated program for supporting women and young farmers, and the nutritional health component of its program is directly aimed at improving food security and health outcomes for children and women.

5.3.2 Local NGO perceptions of climate change

In PNG, ‘climate change’ was perceived negatively by some civil society organisations due to corrupt carbon deals made through the Reducing Emissions from Deforestation and Forest Degradation (REDD+), an international mechanism that provides incentives for developing countries to reduce their emissions from deforestation. At the time of the interviews being undertaken, the PNG Government had placed a moratorium on the issuing of new Special Purpose Business and Agriculture Leases (SPABL), which some government officials have been accused of approving without the informed consent of the customary land owners. The leasing scheme allows companies to convert forests for agriculture or business uses (including for off-setting carbon under REDD+), and gives them the power under the Forest Clearance Authorities to clear any forest on the area covered by the lease. In July 2011, the PNG Government announced the commencement of a Commission of Inquiry to investigate the issuing of SPBL and, at the time of writing, the investigation continues. As one representative from the EcoForestry Forum in PNG pointed out:

“The PNG Government has been at the forefront of the climate change debate, however it has problems balancing its climate change commitments with commercial priorities. The government has struck a contract for logging, which has long leasing periods. The EcoForestry Forum is pushing for the government to put a moratorium on new logging contracts so its REDD+ obligations are met.”

However, corruption was perceived to be a widespread problem, not a problem unique to government dealings on climate change. During the interview, a NGO representative stated:

“Because of consistent misappropriation of funds by government at various levels, donors are turning to third sector organisations, sometimes bypassing government all together. This has especially been in the case for HIV/AIDS, maternal health, education and agricultural projects.”
Another NGO representative substantiated the above statement by asserting:

“National and provincial governments are failing to fulfil their duties in service provision and information dissemination so the responsibilities are falling on the civil society sector and religious organisations.”

The above remarks highlight people’s concerns about whether adaptation funds channelled through international mechanisms will actually reach people and communities who needed them the most. The financial and human capacity constraints experienced by government agencies mentioned in Section 5.2.2, combined with the perceived lack of financial accountability, may see local civil society organisations taking on a greater role in responding to the adaptation needs of communities in PNG.

While corruption was not specifically mentioned as being problematic in Solomon Islands, NGOs indicated that provincial governments who are responsible for providing infrastructure and services essential for social and economic development in their province had limited capacity to do so, thus donors and civil society organisations often filled the gap. Nonetheless, organisations like the Solomon Islands Development Trust (SIDT) was working closely with the National Disaster Management Office and the Provincial Disaster Officers, and proactively engaging them in its community-based DRR activities to ensure they fulfilled their responsibilities.

5.3.3 Constraints in the involvement of women’s NGOs in adaptation

The interviews conducted as part of this study found involvement of local women’s organisations in adaptation planning and programming was relatively limited because many lacked general and scientific information on climate change. Moreover, women’s organisations tended to consider climate change an environmental issue, rather than an issue that required their active leadership and involvement. Similarly, there were no active national committees or forums that specifically focused on information sharing, networking and training on climate change for civil society organisations in PNG and Solomon Islands.

Despite the above, women’s NGOs understood they needed to consider the impact of climate change on women and how they can incorporate climate change in their existing programs. They noted that climate change has significant implications on women’s food production activities as well as effects on women’s livelihoods and safety. For example, a representative from the Young Women’s Christian Association (YWCA) in PNG stated:

“Women must work twice as hard to produce the same yield as in previous times, and can no longer predict the weather, meaning supply is also unpredictable. Women depend a lot on gardens and shellfish but these are no longer there or it rains too much. Food security is no longer stable and women rely on preserving/storing food.”
Similarly, a representative from the Family and Sexual Violence Action Committee (FSVAC), an organisation working on violence against women in PNG, stated:

“Climate change is impacting on people living on the low lying atolls...and in some cases this is resulting in displacement and forced relocation of people. There are cases of women and children engaging in prostitution as a result of displacement and forced relocation.”

Although women’s NGOs had no difficulties in understanding how climate change will impact on women, they were not aware of any organisations or projects that specifically looked at the connection between climate change and women. One local women’s NGO that was consciously seeking to connect climate change to women’s rights was Vois Blong Mere (VBM) in Solomon Islands. VBM is an indigenous organisation focused on disseminating and coordinating information among women’s organisations in the country, and supporting the active participation of women in national development. A representative from VBM remarked:

“Women are impacted by climate change in many ways but they lack information to make decisions. Our outreach program seeks to provide information on climate change and specifically link this to women’s empowerment by giving women an outlet to raise their issues and concerns.”

At the time of the interview, however, VBM lacked financial support needed to mainstream climate change into their advocacy and programming work. It was in the process of applying for funding assistance from donors and international NGOs to make climate change a focus of its existing programs.

Although local women’s NGOs have limited involvement in climate change adaptation at present, there is a significant opportunity to use their expertise and experience in women’s rights. Together with human rights groups, women’s NGOs play an important role in holding governments to account for their international human rights obligations, monitoring progress on the implementation of relevant national policies, and advocating on the needs of women and vulnerable groups. Organisations such as the National Councils of Women, YWCA and VBM have well established networks with women and girls in rural and urban areas, and have considerable knowledge and experience in influencing public policy on gender equality. With sufficient financial support, these organisations can play a pivotal role in bringing women’s voices and issues to the table at international and national level discussions on climate change adaptation.
5.4 The benefits of a rights-based approach

In summary, this study has found that a rights-based approach provides a valuable framework for examining the connection between vulnerability and adaptive capacity to climate change. Specifically, the benefits of a rights-based approach include:

- The approach focuses the attention on individuals and groups who are most vulnerable to climate change (e.g. women, youth, people with disabilities, rural populations, the poor) and the root causes that make them vulnerable in the first place;
- It scrutinises the role of institutions, namely governments, in safeguarding the rights of their citizens and in delivering essential information, infrastructure and services necessary for human development;
- It provides a clear link between human rights and climate change, and why the realisation of civil, political, social, economic and cultural rights are important in protecting people from the impacts of climate change;
- It connects inequalities at the macro level (i.e. between developed and developing countries) with those at the micro level (i.e. between men and women, rich and poor), giving a comprehensive picture of global and local conditions that make certain groups more vulnerable than others;
- It challenges the assumption that climate change impacts are gender-neutral by exposing the unequal power relations among men and women and the pre-existing factors, such as political, social and economic barriers, that compound women’s vulnerability to climate change and hinder their adaptive capacity; and
- It puts a human face to the problem of climate change by promoting the full participation of vulnerable people in climate change discussions and negotiations, and placing them at the centre to underline the sense of urgency for the international community to take action.
6. CONCLUSION
As international and national efforts to tackle climate change gather pace, the importance of a rights-based approach becomes even more paramount. This is because climate change implicates a wide range of human rights including rights to life, food, water, housing, health, participation and freedom of movement, rights that are universal to all human beings.

Adaptation, understood from a rights framework is simply not a matter of adjusting to the climate-induced changes. It is in fact a process and an opportunity for women and marginalised groups to assert and claim their rights, and challenge discriminatory attitudes, behaviours and practices that contribute to and compound their vulnerability to climate change and to other related injustices such as poverty, disease, hunger, malnutrition and displacement. Thus adaptation is essentially about human development; development that has fair and equitable benefits for people, and is sustainable for the planet.

Moreover, a rights-based approach to adaptation ensures governments are held to account for fulfilling human rights obligations, and in delivering essential information, infrastructure, services and funds necessary for people to adapt to climate change. It places the needs of the most vulnerable in society, such as women, at the centre of climate change policy and discussions at national and international levels.

To leverage the opportunity that adaptation creates in enabling women and vulnerable groups in demanding entitlements and resources important for their development, there are several issues that require urgent attention of donors, governments and civil society in PNG and Solomon Islands, including:

- The absence of a rights-based approach in national climate change policy frameworks and lack of coherence between adaptation plans and other development priorities (i.e. gender equality, Millennium Development Goals, etc);
- Existing community-based adaptation projects funded by institutional donors like UNDP and AusAID have limited focus on women and, therefore, the extent to which these projects benefit women and/or consider gender dimensions of climate change is unknown;
- The dissemination of information on climate change and implementation of national climate change policies fall within the responsibility of provincial governments but they significantly lack human and financial capacity to carry out this role; and
- The local civil society sector lack general and technical knowledge on climate change and their involvement in climate change discussions and planning at the national level remains limited to environmental NGOs.

Adapting to climate change is a local process but it relies on the commitment and support of donors, governments and civil society organisations. These actors can act on the recommendations below to ensure women and vulnerable people are at the heart of global, national and community action on climate change. Indeed, as climate change cuts across the whole development spectrum, affecting issues such as hunger, health, poverty and gender inequality, it presents a timely opportunity to rethink and transform attitudes, behaviours and practices that perpetuate the current power imbalance between developed and developing countries, and between men and women. It is an opportunity to change the course of human development to bring about long lasting positive change for humanity and for planet earth. Now is the climate for change.
6.1 Recommendations for government and donors

1. **Integrate human rights and gender equality perspectives in national adaptation plans**

Current adaptation plans in PNG and Solomon Islands are technical in nature and lack clear articulation of the responsibilities that governments have in protecting and promoting fundamental rights that may be under threat by climate change, including the rights to life, adequate standard of living, food, water, health and development. Moreover, existing plans do not consider the gender dimension of climate change and how social, economic and political inequalities heighten women’s vulnerability to climate change.

At the time of writing, the governments of PNG and Solomon Islands were in the process of finalising the national policies on climate change, providing an opportunity for human rights and gender to be fully integrated into the policies. This entails establishing coherence with existing gender equality policies and key international agreements and human rights instruments such as UDHR, CEDAW and the Millennium Development Goals, which governments have obligations to fulfil. Additionally, gender-specific objectives, indicators and data should be incorporated into national adaptation policies and plans so gender differences in climate change vulnerability are clearly identified and measured. Strategies should be tailored to meet the specific adaptation needs of men and women.

2. **Ensure national adaptation planning involves the full participation of vulnerable communities, women and civil society**

It is vital that vulnerable groups and communities as well as civil society have the opportunity to participate in national adaptation planning. The study found many people are unaware of governments’ adaptation plans as public consultation has only been carried out in selected provinces. Representation of vulnerable groups and communities, and civil society organisations that support them, is key to ensure policies, programs and funds for adaptation benefit those who are most at risk.

Furthermore, national consultation processes must comprise of targeted and specific measures to facilitate women’s participation. This study found women rarely have opportunities to take part in community decision-making, and are underrepresented in governance structures at local, provincial and national levels. Donors and international NGOs must support the local civil society sector, such as faith- and community-based organisations in strengthening women’s leadership and representation, and ensuring their participation and influence in adaptation planning.
3. **Improve governance and institutional capacity in the area of climate change, and ensure accountability and transparency in the use and allocation of adaptation funds**

   As this study found severe constraints hindering government action to climate change, and lack of public confidence in government’s ability to deliver basic infrastructure and services, improving governance at all levels and strengthening institutional capacity in the area of climate change adaptation is an upmost priority. This is particularly the case as a huge amount of adaptation funds are being channelled to PNG and Solomon Islands through international funding mechanisms.

   Specifically, national governments need to urgently define and agree on the roles and responsibilities of relevant ministries and provincial governments in implementing national adaptation plans, provide them with sufficient resources necessary to deliver on these plans, and develop the technical capacity of the ministries responsible for leading adaptation efforts. National governments also need to design and put in place a comprehensive monitoring and evaluation framework to track progress of adaptation interventions, and to measure the impact they have in reducing vulnerability of poor and marginalised groups.

   Donors, who provide much of the international adaptation funding to governments, should also ensure that there are clear financing mechanisms in place to minimise the potential for corruption. Adaptation funds must be transacted in a transparent manner and fully accounted for by government so they are channelled to communities and groups who need them most. As recommended by Oxfam (2011), in countries where there are high incidences of corruption, donors may need to provide project-based or program support until governments are able to channel international funding for adaptation to various sectoral budgets associated with the implementation of national adaptation plans.

4. **Dedicate resources for building the capacity of local women and human rights organisations in climate change adaptation**

   In all study communities, both men and women lacked understanding of basic rights implicated by climate change and what they can demand from government to help them build resilience. Although there are well-established civil society organisations dedicated to women’s empowerment and human rights, their involvement in adaptation work has been limited because ‘climate change’ is widely perceived as an environmental issue rather than a social justice issue.

   Nonetheless, there are many examples of local organisations in PNG and Solomon Islands who have been successful in empowering women and vulnerable groups in claiming their rights in relation to logging, health, education, leadership, economic participation and safety as demonstrated by examples presented in this report. The expertise and knowledge of these organisations are invaluable to community-based adaptation because climate change cuts across a wide range of fundamental human rights and development issues. These organisations also have developed their own participatory methods of engaging vulnerable people and have contacts with or ongoing relationships with communities in rural and remote areas that often do not have access to government services.
As a first step, donors and government (and international NGOs) should deliver information and training on climate change (including information on national policies and plans and scientific data and predictions) to local civil society organisations, and provide financial and programming support in integrating climate change into their existing women’s empowerment and human rights programs. This type of support should, in the outset, clearly define rights being addressed (i.e. how do they relate to climate change), the specific international human rights instruments and national policies that protect these rights, and how these rights will be promoted and fulfilled by suggested programming interventions.

5. Prioritise funds and support for community-based action on adaptation, particularly initiatives led by women or have the active participation of women

Adaptation funds being channelled through international financing mechanisms should seek to prioritise funds toward adaptation initiatives that are community-based as adaptation is a process that needs to happen at the local level. Many of the impacts identified by the study communities were occurring now but men and women, including community leaders, lacked knowledge of, and access to, adaptation funding available to them. Donors should be open to providing funds and support to communities that come forward with their own strategies to address climate change, and not just those identified as a ‘priority’ by national governments, given a vast majority of people in PNG and Solomon Islands live in rural and remote communities, and have limited opportunities to participate in government processes, including consultations on climate change policy.

More importantly, donors should take proactive steps to fund and support adaptation initiatives that are led by women and/or involve active participation of women in the design, implementation and evaluation of adaptation projects. As explained in Chapters 3, 4 and 5, women in PNG and Solomon Islands have limited opportunity to participate in decision-making and take up positions of leadership. They can be excluded from community decision-making processes because culturally and socially ascribed gender roles and stereotypes see women’s place in the domestic and not the public sphere. Nevertheless, this study found that in the community of Siar, women were leading adaptation efforts by gaining skills in cooking and marketing to diversify their livelihood activities and, in turn, generate savings that could be used to invest in projects that benefited the whole community. Donors should recognise initiatives that are led by women, and provide funds and organisational support to women who are engaged in adaptation efforts at the local level.

6.2 Recommendations for civil society organisations

6. International NGOs should provide support to local civil society organisations in building their capacity in climate change adaptation

As per Recommendation 4, international NGOs have greater access to funds and resources for adaptation, and thus should help local civil society organisations in building their capacity to respond to the adaptation needs of communities by delivering information and training on climate change and providing financial, technical and/or
programming support. International NGOs should also seek opportunities for collaborating with local women’s empowerment and human rights organisations as they have invaluable knowledge and experience in working with vulnerable groups and promoting and protecting their civil, political, economic, social and cultural rights, which directly or indirectly relate to climate change. Moreover, international NGOs should focus on connecting local adaptation efforts to wider climate change campaigns and movements to influence international and regional climate change discussions.

7. Establish a civil society working group on climate change, comprising of representatives from all development sectors, as a vehicle for information sharing and networking, and influencing government policy and processes on climate change

The interviews conducted as part of this study found that local civil society organisations needed greater knowledge of climate change to understand how it affects their work, and the groups and communities they work with. Their involvement in national adaptation planning was also limited to those with an environmental focus, as climate change was seen as an environmental problem rather than a development issue.

Responding to climate change requires an integrated approach, which takes into account all development sectors, including environment, human rights, poverty reduction and gender equality. To achieve this, a civil society working group on climate change should be established at the national level, drawing on membership from all sectors of development. The working group should act as a vehicle for facilitating information sharing, networking and training opportunities to enhance the capacity of the local civil society organisations to advocate on the needs of communities affected by climate change, and to influence government policy and processes on climate change mitigation and adaptation. In PNG, such entity may be established within the existing Agriculture and Natural Resource Committee of the Consultative Implementation and Monitoring Council, which is an independent body that directly influences and monitors government policy and decision making processes. In Solomon Islands, the establishment of a climate change working group through the Development Services Exchange, an umbrella body for NGOs, should be investigated. The working groups in both countries should be adequately financed and resourced through donor assistance and funding.

8. Assist communities in strengthening their local governance structures, including increasing women’s participation in leadership and decision making roles to enable collective action on climate change

This study found that lack of trust and confidence in community leaders and local governance processes can inhibit the community from taking collective action on climate change. This was especially the case for the community of Siar, where many women and men expressed their frustration with the inaction shown by their local leaders in protecting the foreshore from coastal erosion and rising sea levels. The prolonged inaction had made many people feel doubtful about the future prospect of the community adapting to the impacts of climate change, and many believed there was nothing they could do to increase their ability to cope.

Just like other levels of government, local leaders have a responsibility in responding to community needs and taking action to improve conditions within their communities,
including community access to water, food, land, health facilities, information and other natural and physical resources necessary for human development. Thus strong leadership and community governance are not limited to action on adaptation but to a whole range of needs that are crucial to men’s and women’s enjoyment of social, economic and political rights.

Therefore, the importance of strengthening community governance at the local level cannot be emphasised enough. Local leaders must be held accountable for their decisions and actions, and in protecting those who are most vulnerable to climate-related hazards. In countries where there is low representation of women in political representation and decision-making, such as in PNG and Solomon Islands, greater emphasis need to be placed on strengthening community governance that includes the participation of women. This study showed that while women may be members of women’s organisations within the Church or the community, it does not mean they have equal decision-making powers as men. Women may be restricted to making decisions that concern their reproductive and domestic duties, but not on matters beyond their assigned responsibility. As such, strengthening community governance should include measures to provide fair and equal opportunities for women to exercise leadership and participate in decision-making within the community governance structures.
Bibliography


Solomon Islands Constitution 1978.


Appendix 1 - List of Individuals and Organisations Consulted

Papua New Guinea

Act Now!
Anglican Church of Papua New Guinea (email)
Anglican Church, Siar
Australian Government Agency for International Development
Centre for Environmental Law and Community Rights
Consultative Implementation and Monitoring Council
Day Health Clinic, Siar
Eco Forestry Forum
Greenpeace
National Agricultural Research Institute (Southern Regional Research Centre and the Drought Tolerance Research Team)
Institute of Medical Research
Institute of National Affairs
Lutheran Church, Siar
National Council of Women (email)
Nancy Sullivan, Anthropologist
Papua New Guinea National Government
    Office of Climate Change and Development
    Office for the Development of Women
    Disaster Management Centre
Tarub Primary School, Derin
Transgogol Community Learning and Development Centre
Transgogol Women’s Representative Committee
United Nations Development Programme
Wildlife Management Authority, Siar
Yomako Resource Owners’ Association
Young Women’s Christian Association
Solomon Islands
Alice Pollard, Gender Advocate
Anglican Church, Siarana
Caritas
Centre for Potato Research
Kastom Garden Association
Live and Learn Environmental Education
Solomon Islands National Government
   Ministry of Women, Youth and Children's Affairs
   Ministry of Environment
University of Queensland's Marovo Lagoon Food Security Project
Umi Solar Development Program
United Nations Development Programme
Vois Bilong Mere
Young Women’s Christian Association
Australia

Interviews
Greenpeace Australia-Pacific
Pacific Calling Partnership
The Nature Conservancy
University of Queensland Marovo Lagoon Project

Roundtable Workshops
International Women’s Development Agency
Oxfam Australia
Monash University
Nic MacLellan, Journalist
Rachel O’Mara, Australian Volunteer to Solomon Islands
Richard Curtain, Consultant
Janette Curtain, Educator
University of Sydney
University of Western Sydney
## Appendix 2 – Examples of relevant international agreements on women’s rights
### Papua New Guinea

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<tr>
<td><strong>Preamble</strong></td>
<td>Often described as an international bill of rights for women. Consisting of a preamble and 30 articles, it defines what constitutes discrimination against women and sets up an agenda for national action to end such discrimination.</td>
<td>As a part of the international bill of rights, the ICCPR comprises of rights relating to self-determination, political participation, non-discrimination and procedural safeguards within national legal systems.</td>
<td>As a part of the international bill of rights, the ICESCR commits State parties to work towards realising economic, social, and cultural rights of individuals, including labour rights and the right to health, the right to education, and the right to an adequate standard of living.</td>
<td>This convention encourages equal political rights for women in all countries, including the right to vote and to be elected to publicly elected bodies, such as parliaments.</td>
<td>Declaration embodies the commitment to the advancement of women and to the implementation of the Platform for Action, ensuring a gender perspective is reflected in all policies and programs at the national, regional and international levels.</td>
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<td><strong>Implementation</strong></td>
<td>Lukautim Pikinini (Child Protection) Act 2009</td>
<td>PNG has drafted the Equality and Participation Bill, which provides 22 reserved seats for women in parliament.</td>
<td>PNG has ratified 24 important International Labour Organization (ILO) conventions.</td>
<td>In 2010, PNG’s cabinet approved of the Equality and Participation Bill, which provides 22 reserved seats for women in parliament. This will ensure a minimum of 17% female participation within parliament.</td>
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<td><strong>Recommendations</strong></td>
<td>Proceed with the full incorporation of the Convention into the domestic legal system. Translate CEDAW into main local languages to increase awareness. Ratify OP-CEDAW</td>
<td>Women need to be better represented within the political system of PNG. More than 22 seats in parliament need to be reserved for women.</td>
<td>PNG must provide access to social protection in the informal sector of the economy. Women also require better entrepreneurial training and skills to gain economic independence.</td>
<td>Women need to be better represented within the political system of PNG. More than 22 seats in parliament need to be reserved for women.</td>
<td>More development projects in rural areas need to address women. This is most likely to occur if women are equally represented within the political sphere as men.</td>
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## Solomon Islands

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<td><strong>Preamble</strong></td>
<td>Often described as an international bill of rights for women. Consisting of a preamble and 30 articles, it defines what constitutes discrimination against women and sets up an agenda for national action to end such discrimination.</td>
<td>Commits its parties to respect the civil and political rights of individuals, including right to life; freedom of religion; freedom of speech; freedom of assembly; electoral rights and rights to due process and a fair trial. Monitored by the Human Rights Committee.</td>
<td>Commits its parties to work toward the granting of economic, social, and cultural rights to individuals, including labour rights and the right to health, the right to education, and the right to an adequate standard of living.</td>
<td>This convention encourages equal political rights for women in all countries, including the right to vote and to be elected to publicly elected bodies, such as parliaments.</td>
<td>Declaration embodies the commitment of the international community to the advancement of women and to the implementation of the Platform for Action, ensuring a gender perspective is reflected in all policies and programs at the national, regional and international levels.</td>
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<td><strong>Implementation</strong></td>
<td>UNIFEM (2006): SI fully complied with 23 CEDAW indicators, partially with 33, no compliance with 57. State Parties must submit national reports every 4 years on measures taken to comply with their treaty obligations; none submitted.</td>
<td>In the report to the CESCR in 2001, the Govt wishes to see that the obligations stipulated in the Covenant are fulfilled. It realises, however, that the extent to which these obligations can be fulfilled is dependent on the available resources.</td>
<td>This convention stipulates that women must be granted free access to the political realm, and the right to be elected to office. SI has ensured universal suffrage and equal legal rights for women in legal representation have been achieved legally.</td>
<td>The Platform set out a number of actions that should lead to fundamental changes by the year 2000 – when a Five Year Review by the UNGA would take place.</td>
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<td><strong>Recommendations</strong></td>
<td>SI must, with urgency, compile and submit its overdue Country Report to CEDAW. The Reports were due 03/2003 &amp; 06/2007. SI should immediately legislate against the use of prior sexual history in court proceedings.</td>
<td>While such ‘progressive implementation’ of economic and social rights is supported within the Convention itself, the Govt should continue to focus with urgency on upholding these rights for all its citizens. Also must submit overdue reports from 07/2005 &amp; 07/2010.</td>
<td>It is recommended that a system of minimum quotas be introduced to ensure higher numbers of women are represented in parliament.</td>
<td>The Platform’s recommendations are similar to those within CEDAW and include the promotion of women’s human rights and gender main-streaming in all areas of society.</td>
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