



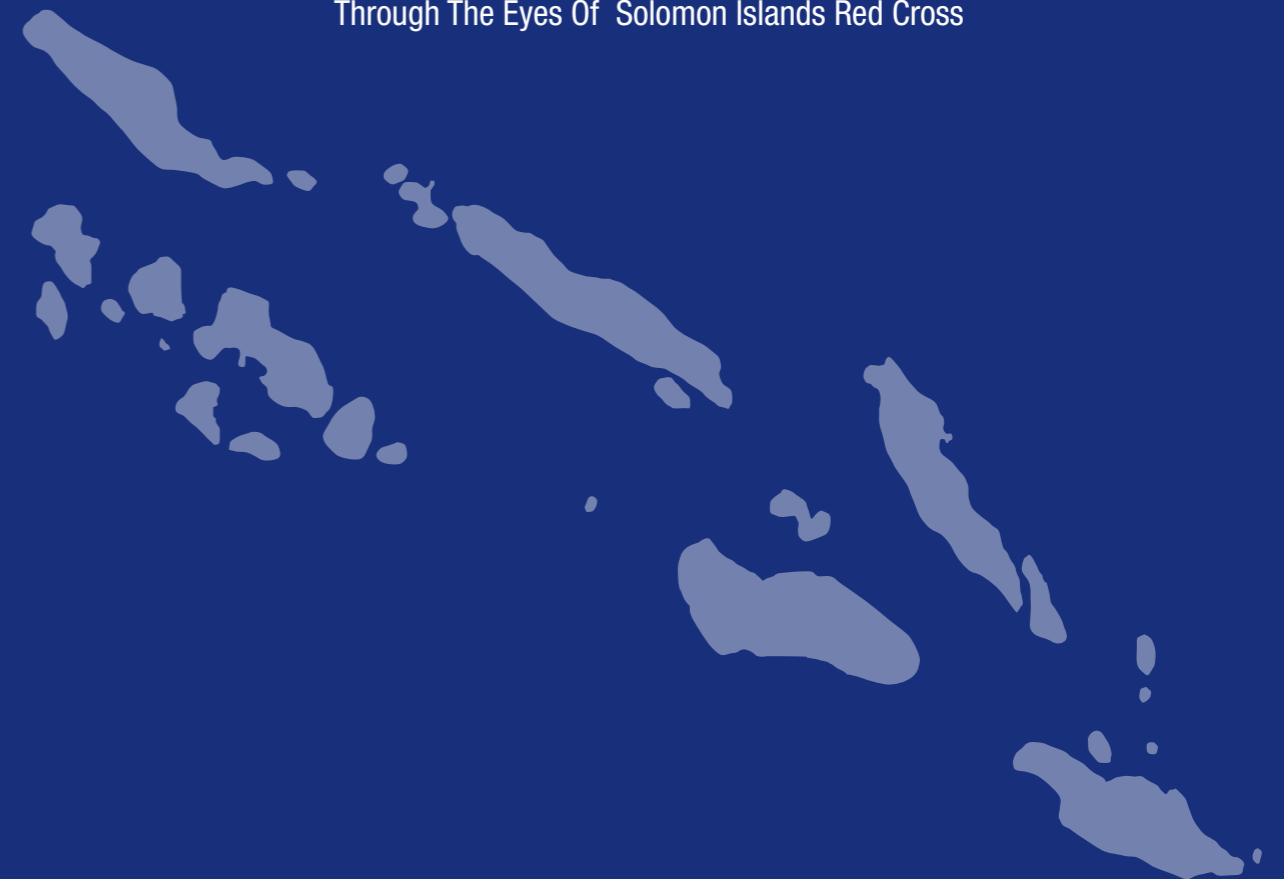
# CLIMATE CHANGE

SOLOMON ISLANDS RED CROSS

PREPAREDNESS FOR CLIMATE CHANGE  
BACKGROUND DOCUMENT



Consequences Of Climate Change To Humanitarian Work  
Through The Eyes Of Solomon Islands Red Cross



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<b>CBD</b>	Convention on Biodiversity
<b>CC</b>	Climate Change
<b>CDM</b>	Clean Development Mechanism (Kyoto Protocol Article 12)
<b>CI</b>	Conservation International
<b>ECANSI</b>	Environment Conservation Action Network of Solomon Islands
<b>COP</b>	Conference of the Parties to the Kyoto Protocol
<b>ECD</b>	Environment and Conservation Division
<b>DRR</b>	Disaster Risk Reduction
<b>ENSO</b>	El Niño Southern Oscillation
<b>FSPI</b>	Foundation for the People for the South Pacific
<b>GDP</b>	Gross Domestic Product
<b>GEF</b>	Global Environment Facility
<b>GHG</b>	Greenhouse Gas
<b>IFRC/RC</b>	International Federation of Red Cross/Red Crescent Societies
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>JI</b>	Joint Implementation
<b>LDC</b>	Least Developing Country
<b>MET</b>	Meteorological Services
<b>NCCCT</b>	National Climate Change Country Team
<b>NAP</b>	National Action Plan
<b>NAPA</b>	National Adaptation Programme of Action
<b>NC</b>	National Communications
<b>NCSA</b>	National Capacity Self Assessment Project
<b>NDMO</b>	National Disaster Management Office
<b>NEMS</b>	National Environmental Management Strategy
<b>NGOs</b>	Non Government Organisations
<b>NIS</b>	National Implementation Strategy
<b>NLRC</b>	Netherlands Red Cross Society
<b>PACC</b>	Pacific Adaptation to Climate Change
<b>PICCAP</b>	Pacific Islands Climate Change Assistance Programme
<b>RC/RC CC</b>	Red Cross/Red Crescent Climate Centre
<b>SAR</b>	Second Assessment Report
<b>SIRC</b>	Solomon Islands Red Cross Society
<b>SOPAC</b>	Secretariat for the Pacific Applied Geoscience Commission
<b>SPREP</b>	Secretariat for the Pacific Regional Environment Programme
<b>TAR</b>	Third Assessment Report
<b>UN</b>	United Nations
<b>UNCBD</b>	United Nations Convention on Biological Diversity
<b>UNCCD</b>	United Nations Convention to Combat Desertification
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>WGI</b>	Working Group One
<b>WGII</b>	Working Group Two
<b>WGIII</b>	Working Group Three
<b>WWF</b>	World Wide Fund for Nature

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- International Federation of Red Cross/Red Crescent – Pacific Regional Delegation (Suva, Fiji)
- Solomon Islands Red Cross Society (Management)
- Solomon Islands Red Cross DRR + CC Team and Volunteers
- Solomon Islands Meteorological Services (MET Office)
- National Disaster Management Office (NDMO)
- National Capacity Self Assessment Project (NCSA)
- Environment and Conservation Division
- Environment Conservation Action Network of Solomon Islands (ECANSI)
- World Wide Fund for Nature (WWF)
- Oxfam
- Foundation for the Peoples of the South Pacific International (FSPI).

A special acknowledgement also to all the individuals, communities and those whose names are not stated in this section but who have contributed to the report in one way or another.

*Climate change poses a huge threat to many of the world's poorest people, who are often the least able to cope with the consequences, but there is still much more that we need to learn about how to reduce that threat, and how to help the poor adapt to the changes that lie ahead.*

*Martin Ravallion, Director of the World Bank's Development Research Group*

The Intergovernmental Panel on Climate Change provides the most comprehensive assessment of the current scientific knowledge on Climate Change. The Fourth Assessment Report 'Climate Change 2007' concludes that there is a high confidence that recent regional changes have had a discernable impact on many physical and biological systems.

Climate change is now a scientifically established fact and it is already affecting some of the poorest and most vulnerable communities around the world. The special characteristics of small Islands make them prone to a large range of potential impacts from climate change, some of which are already being experienced.

The Solomon Islands and the other Pacific Islands are often thought of as idyllic, tropical locations. But this is changing. Increasingly, Islanders must struggle to adapt to the changing climate caused by greenhouse gas emissions, of which we contribute less than 0.01 percent of the global carbon dioxide emissions. Despite our almost negligible contribution to emissions, we are in the frontline of experiencing the direct and indirect impacts of climate change and trying our best to cope with the consequences that lie ahead.

Climate change is already having an impact here in the Solomon Islands. Villages have experienced:

- Rising sea-levels
- Salt water intrusion into crops and planting fields
- Contamination of fresh water aquifers and
- Greater erosion along the shorelines, thus reducing Island size

There are also other factors that can contribute to these including environmental degradation, land movement and natural coastal processes. There are also increasing reports of new experiences such as drought in some areas for the first time, as in the Reef Islands, Temotu Province. In other parts of the country normal high tides are now increasing in size due to sea level rise.

The frequency and the intensity of cyclones are also increasing, resulting in more flooding than before and more loss of property and lives. This means more disaster response by the Red Cross and Red Crescent Movement and the Solomon Islands Red Cross Society.

These impacts mean that all the Islands – whether they are atolls, artificial or mountainous islands – must battle to cope with the impacts on the Solomon Islands. Climate change appears to be here to stay and will be a constant threat to our health, agriculture, fisheries, forests, water resources and livelihoods. No one will be spared of its consequences.

Now is the time to act. The Solomon Islands Red Cross Society (SIRC), with the establishment of its Preparedness for Climate Change programme that is financially and technically supported by the Red Cross/Red Crescent Climate Centre, International Federation of the Red Cross/Red Crescent Societies and the Netherlands Red Cross Society, is leading the way to reduce the threat from climate change and to help the most vulnerable communities in the Solomon Islands find ways of coping with the consequences of climate change, especially in relation to adaptation measures.

This report identifies a range of inter-related sectors that are threatened by climate change and examines their related implications in relation to the programmes and activities on the humanitarian work of the Solomon Islands Red Cross Society<sup>1</sup>. In addressing climate change from

<sup>1</sup> The methodology used to prepare this report is included as Annex 1/7 at the back of this document.

# EXECUTIVE SUMMARY


global warming on the global scale, the regional and local levels need to be aware of the issue and act on it too. Given the strong links with the international, regional, national and local communities, the Solomon Islands Red Cross Society and the Red Cross and Red Crescent Movement have a very important role to play in dealing with this global agenda. In considering mitigation and adaptation opportunities, SIRC is ideally placed to take into account the plight of the most vulnerable people and communities in relation to socio-economic development and the sustainable management of their livelihoods.

The SIRC Mission is to 'improve the lives of people in need without discrimination, through voluntary work with people'


“Waka blong Solomon Islands Red Cross  
hemi fo kamapem gud laef blong pipol  
nidim help, nomatter hu nao iu, tru volentia  
waka wetem pipol”

To achieve this mission in a changing world SIRC recognises the challenges faced from climate change and is committed to tackling them through working in partnership locally, nationally, regionally and internationally.



  
Mr. Charles Kelly  
Secretary General  
Solomon Islands Red Cross Society



  
Mr. John Adifaka  
President  
Solomon Islands Red Cross Society

## Global Warming

As a natural part of the atmosphere, greenhouse gases act as a blanket that protects the earth by maintaining the earth's surface temperature at a level that is suitable to sustain life. The gases absorbing and re-radiating the sun's warmth keep this balance (see Figure 1).

The Enhanced greenhouse effect (see Figure 2) is mainly caused by human actions; in particular, the burning of fossil fuels (coal, oil, and natural gases), agriculture and land clearing. These have increased the concentration of greenhouse gases in the atmosphere, which then exceeds the natural greenhouse effect by the thickening of the blanket. Therefore, more of the outgoing infrared radiation is trapped by the earth's atmosphere, resulting in global warming. This increase in global temperature, in turn, causes our climate to change.

Across the world, scientists and experts whose studies are linked to climate change have raised overwhelming concern about the need for urgent action. Figure 3 illustrates the rapid rise in greenhouse emissions since 1950. Although there are global efforts to reduce emissions of greenhouse gases with mitigation actions and strategies<sup>2</sup>, scientific studies have indicated that even if we were able to stabilise global emissions at constant 1990 levels, 'CO<sub>2</sub> concentration in the atmosphere would still go on rising because they have lifetimes of around 100 years' (Hadley Centre 2005). As a result, there will be some degree of change in our climate and it is vital that we must prepare as an international community and as a nation for these changes and their impacts.

## Current and future climate risks to Solomon Islands

The geographical makeup of the Solomon Islands makes it prone to many different types of natural hazards: it is mainly volcanic, it consists of many low lying coral atoll islands, and is 15 degrees South of the equator. This location is close to the Inter Tropical Convergence Zone, making it prone to tropical cyclones, and is also part of the so-called 'Pacific Ring of Fire' or 'Volcanic Belt'.

Some of the natural hazards experienced include tropical cyclones, landslides, flooding, drought, earthquakes, volcanic eruption, tsunamis and sea-level rise. Some of these natural hazards that already pose a threat are likely to be made worse by climate change. Records and observations are now showing that parts of the country are already experiencing more frequent and intensified tropical cyclones and this very much will have a devastating impact on the coastal and atoll dwellers on the Islands like Ontong Java, Sikaiana, the artificial Islands in the northern region (Lau) of Malaita, Tikopia, Rennel and Bellona and Islands in Temotu, Makira and Guadalcanal Provinces.

*Climate impacts are further confirmed by the clear evidence that exists that the number of storms reaching category 4 and 5 globally have increased since 1970, along with increases in the power dissipation Index (Emanuel, 2005), due to increases in their intensity and duration (Trenberth et al., 2007).*

The projected future climate changes will have a profound impact on the likelihood and the associated impacts of natural hazards. The IPCC projections indicate that climate variability will increase and therefore there will be changes in the frequency, intensity and duration of extreme events. This means more tropical cyclones, heavy rain, hot days, heat waves and fewer cool nights. In-turn, this will increase the vulnerability of the most vulnerable people to the risks of natural hazards, hence; increase the risks of drought and floods in many of the world's region (IPCC 2001).

Thus, climate change poses real and potentially devastating threats to large populations of the Solomon Islands.

<sup>2</sup> Reduce the amount of CO<sub>2</sub> and other GHG emissions into the atmosphere.

### **Climate change impacts on lives and livelihood**

Solomon Islanders are particularly vulnerable to the direct and indirect impacts of climate change, especially the extreme weather events that affect tropical islands. These devastating impacts affect all sectors in the country, especially the sectors of Agriculture, Human health, Water and Sanitation, and Coastal Livelihoods. The impacts will dramatically affect the lives and livelihoods of all Solomon Islanders and, most importantly, those who are already vulnerable.

### **What the International community is doing**

*The adoption of the Framework Convention on Climate Change (UNFCCC) in 1992 was a major step forward in tackling the problem of global warming. Yet as greenhouse gas (GHG) emission levels continued to rise around the world, it became increasingly evident that only a firm and binding commitment by developed countries to reduce emissions could send a signal strong enough to convince businesses, communities and individuals to act on climate change. Member countries of the UNFCCC therefore began negotiations on a Protocol – an international agreement linked to the existing Treaty, but standing on its own.*

*Extracted from UNFCCC Kyoto Protocol: Negotiating the Protocol 2008*

Red Cross is the largest Humanitarian and Voluntary Organisation, with activities covering many of the communities, villages, towns and cities in all the continents and Islands across the globe. It works in areas of disaster preparedness, response, recovery, health and conflict. The Red Cross and Red Crescent movement is capable of integrating the use of traditional methods of adaptation with newly introduced scientific ideologies. Therefore, the Red Cross and Red Crescent Societies have a major role to play in the adaptation to Climate Change.

The Red Cross/Red Crescent Climate Centre (RC/RC CC) was established in close partnership with the International Federation of Red Cross/Red Crescent Societies and the Netherlands Red Cross Society in 2002. The RC/RC Climate Centre is based in The Hague, Netherlands but supports all the RC/RC National Societies throughout the world, especially in the developing countries. The RC/RC Climate Centre operates in a so-called Triple A Principle: Awareness, Action and Advocacy'. It has also focused on working with developing countries that are participating in the Preparedness for Climate Change Programme, of which the Solomon Islands Red Cross Society is a part. The Programme has 4 Steps:

- Step 1: Involves organising a workshop on risks of Climate Change
- Step 2: Assessing the risks of Climate Change in the country and the priorities and programmes of the national society
- Step 3: Capacity building for Climate Change resilient RC/RC programmes, and
- Step 4: Developing Climate Change resilient RC/RC programmes (March 2006: [www.climatecentre.org](http://www.climatecentre.org)).

### **What the Solomon Islands are doing**

Nationally, the Solomon Islands have already started some work on climate change in regard to its obligations under the three treaties that were borne out of the UN Conference on Environment and Development held in 1992 at Rio de Janeiro, Brazil (the Rio Earth Summit). These three treaties are the United Nations Convention on Biological Diversity (UNCBD); the United Nations Convention to Combat Desertification (UNCCD) and; the United Nations Framework Convention on Climate Change (UNFCCC). The conventions are intrinsically linked, operate on the same level and address interdependent issues.

The Solomon Islands ratified the United Nations Framework Convention on Climate Change (UNFCCC) on 28 December 1994 and then become a party to the Kyoto Protocol, which it ratified on March 13<sup>th</sup>, 2003 (Ministry of Environment, Conservation & Meteorology 2006).

Locally, many island communities in the country have already used their own strategies in dealing with some of the impacts of extreme weather events based on traditional knowledge. For instance, in Ontong Java atoll, sticks are cut and erected on the seashore, which then act as a tide protector or barricade during storm surges, and which prevent the sea from washing away sandy beaches, properties and vegetations. In Tikopia, they have their houses built low down on the ground, thus reducing the risk and chance of the houses being blown away during tropical storms and violent winds. Therefore, communities are resilient already with traditional knowledge that has been practiced on their various islands since pre-European colonisation in the Solomon Islands.

### **Next Steps for Solomon Islands Red Cross**

The Solomon Islands Red Cross Society (SIRC), with the support from the Red Cross/Red Crescent Climate Centre, the Netherlands Red Cross Society and the IFRC, has undertaken the *Preparedness for Climate Change Programme*. There has been great progress within Solomon Islands Red Cross, with the programme contributing significantly to the country's climate change arena since its establishment in early February 2007.

The SIRC recognises the challenges faced with climate change and is committed to tackling them, especially in relation to adaptation measures that are linked to the IFRC 2010 Strategy, the RC/RC Climate Centre goals and the National and Regional Frameworks that contribute to achieving the country's obligation under the UNFCCC. SIRC will work to develop pilot projects and practical measures to reduce the risks from climate change at the community level whilst working closely with the Climate Change key stakeholders in the country.

SIRC plans to look for community level adaptation projects based on a sound understanding of local climate change vulnerabilities and capacities. These may include learning from traditional knowledge, rainwater harvesting on low-lying atolls, mangrove replanting, food security and water sanitation.

# 1. INTRODUCTION: GLOBAL WARMING

## 1.1 Scientific Background: Global Warming Due To Greenhouse Gases

As a natural part of the atmosphere, greenhouse gases act as a blanket that protects the earth by maintaining the earth's surface temperature at a level that is suitable to sustain life. This is achieved by the gases absorbing and re-radiating the sun's warmth (see Figure 1).

The Enhanced greenhouse effect (see Figure 2) is mainly caused by human actions, in particular, the burning of fossil fuels (coal, oil, and natural gases), agriculture and land clearing. These activities have increased the concentration of greenhouse gases in the atmosphere, which then exceeds the natural greenhouse effect by the thickening of the blanket. Therefore, more of the outgoing infrared radiation is trapped by the earth's atmosphere, thus resulting in warming. The increase of global temperature that results is known as global warming and this in turn causes our climate to change.

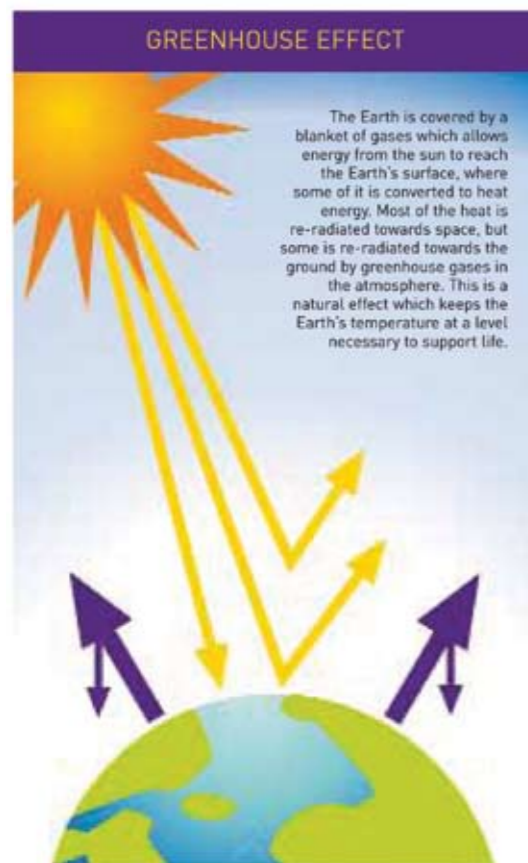


Figure 1. Diagram illustrating the natural process of global warming due to Greenhouse Gases.

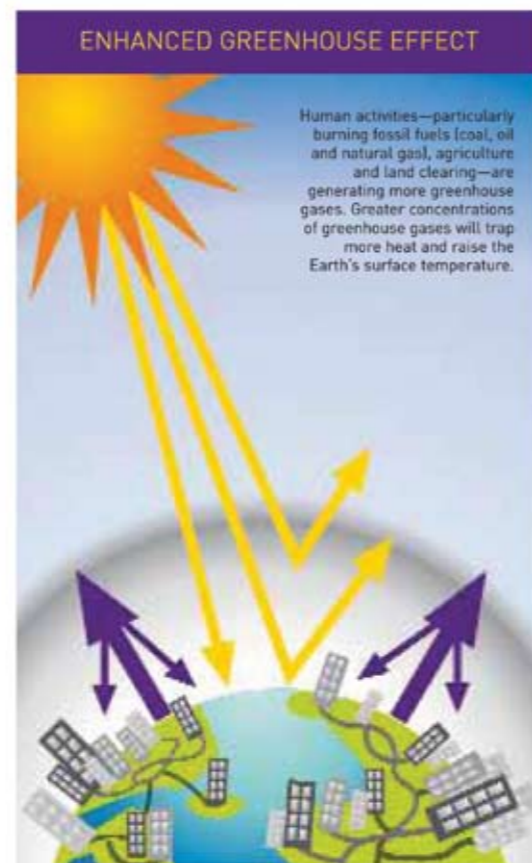


Figure 2. Diagram illustrating the enhanced process of global warming due to Greenhouse Gases.

Source: Extracted from the Department of Climate Change February 2008.

## 1.2 Efforts to Reduce Global Warming by Reducing Greenhouse Gas Emissions.

### International Efforts<sup>3</sup>

There are two main strategies in dealing with global warming. First is mitigation and second is adaptation. In mitigation, the overall objective is the reduction of greenhouse gas (GHG) emissions. The introduction of the UNFCCC and the Kyoto protocol are examples of how this strategy is being implemented. However, even with the continued rate of improvement due to mitigation strategies, global warming scientific consensus suggests that it will not be halted this way.

*Adaptation to climate change is vital as its impacts are already happening, and will worsen in the future. Shortages of water and food, increased strength of tropical storms, coastal inundation and changing spread of disease vectors will all lead to greater risks to health and life for billions of people, particularly in developing countries.*

*Extracted from: UNFCCC Adaptation 2008*

Therefore, adaptation strategies are a vital component in handling global warming. Simply put, adaptation is about modifying or adjusting people's normal way of life to such a degree that it will make people more resilient in coping with climate related risks and disasters.

The adoption of the Framework Convention on Climate Change (UNFCCC) in 1992 was a major step forward in tackling the problem of global warming. Yet, as GHG emission levels continued to rise around the world, it became increasingly evident that only a firm and binding commitment by developed countries to reduce emissions could send a signal strong enough to convince businesses, communities and individuals to act on climate change. Member countries of the UNFCCC therefore began negotiations on a Protocol – an international agreement linked to the existing Treaty, but which stands on its own (Extracted from UNFCCC Kyoto Protocol: Negotiating the Protocol 2008).

After two and a half years of intense negotiations, the Kyoto Protocol was adopted at the third Conference of the Parties to the UNFCCC (COP 3) in Kyoto, Japan, on 11 December 1997. The Protocol shares the objective and institutions of the Convention. The major distinction between the two, however, is that while the Convention *encouraged* developed countries to stabilise GHG emissions, the Protocol *commits* them to do so. The detailed rules for its implementation were adopted at COP 7 in Marrakesh in 2001, and are called the 'Marrakesh Accords'.

Because it will affect virtually all major sectors of the economy, the Kyoto Protocol is considered to be the most far-reaching agreement on environment and sustainable development ever adopted. However, any treaty must not only be effective in tackling a complicated worldwide problem, but must also be politically acceptable. Most of the world's countries eventually agreed to the Protocol, but some nations chose not to ratify it. Following ratification by Russia, the Kyoto Protocol entered into force on 16 February 2005.

The Protocol requires developed countries to reduce their GHG emissions (i.e. mitigation) below levels specified for each of them in the Treaty. These targets must be met within a five-year time frame between 2008 and 2012, and add up to a total cut in GHG emissions of at least 5% against the baseline of 1990. United Nations-based bodies carry out review and enforcement of these commitments.

<sup>3</sup> Extracted from: [http://unfccc.int/kyoto\\_protocol/items/2830.php](http://unfccc.int/kyoto_protocol/items/2830.php)

**National Efforts in The Solomon Islands**

Nationally, the Solomon Islands have just started some work on climate change in regard to its obligations under the three treaties that were borne out of the UN Conference on Environment and Development held in 1992 at Rio de Janeiro, Brazil (the Rio Earth Summit). These three treaties are the; United Nations Convention on Biological Diversity (UNCBD); United Nations Convention to Combat Desertification (UNCCD) and; United Nations Frame Work Convention on Climate Change (UNFCCC). The conventions are intrinsically linked, operate in the same ecosystems and address interdependent issues.

The Solomon Islands ratified the United Nations Framework convention on climate change (UNFCCC) on 28 December 1994 and then become a party to the Kyoto Protocol, which it ratified on March 13<sup>th</sup>, 2003 (Ministry of Environment, Conservation & Meteorology 2006).

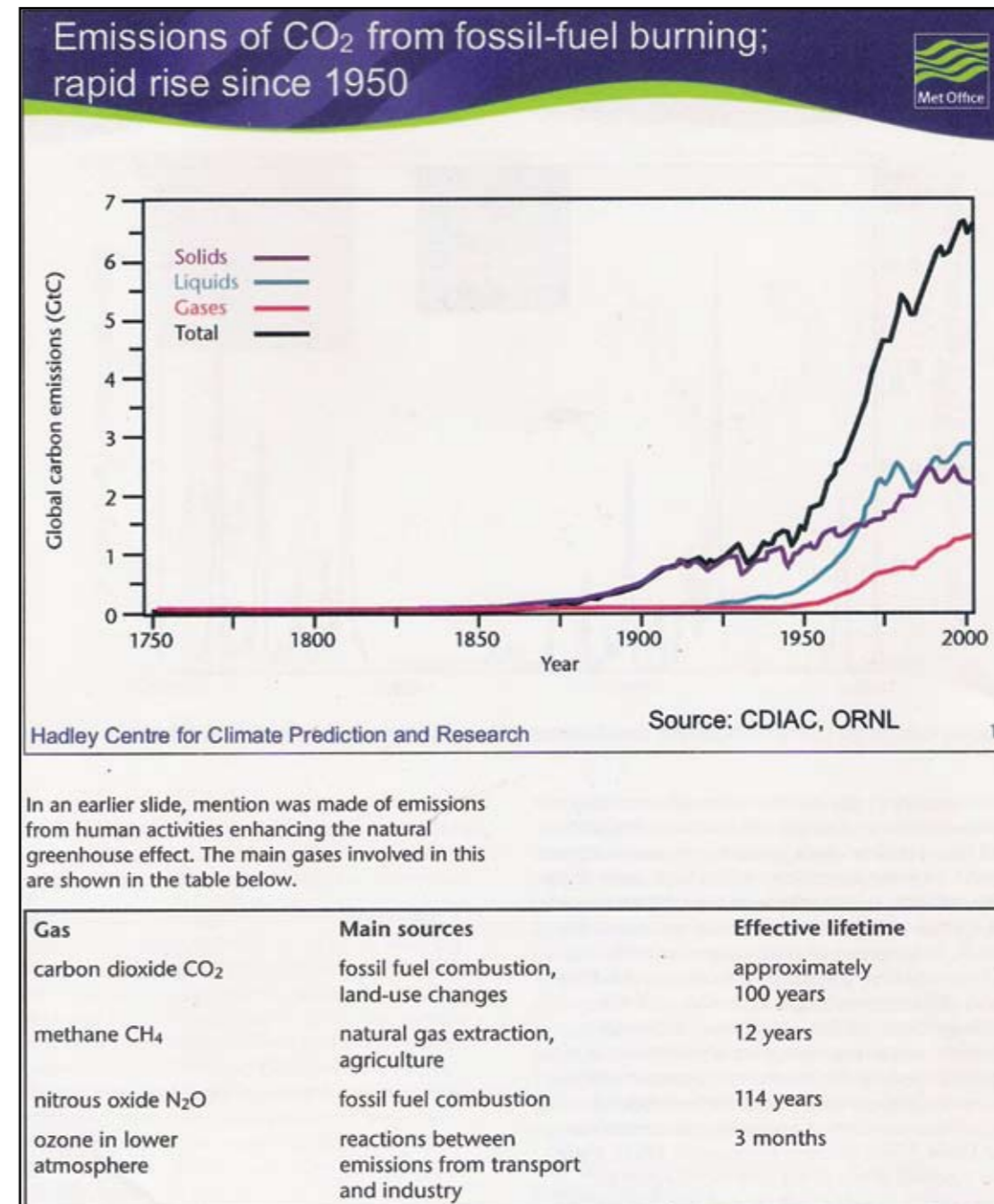
SOLOMON ISLANDS REPORTS UNDERTAKEN	
DATE COMPLETED	TYPE OF REPORT
1994	<ul style="list-style-type: none"> <li>A National Greenhouse gas inventory was completed with the support from Pacific Islands Climate Change Assistance Programme (PICCAP).</li> </ul>
2001	<ul style="list-style-type: none"> <li>Solomon Islands Initial National Communications Under the United Nations Framework Convention on Climate Change. Ministry of Culture, Tourism and Aviation and the Climate Change Country Team 2001</li> </ul>
In Progress	<ul style="list-style-type: none"> <li>Currently working on the National Capacity Self Assessment Report (NCSA).</li> </ul>
In Progress	<ul style="list-style-type: none"> <li>Second National Communication (NSC)</li> </ul>
In Progress	<ul style="list-style-type: none"> <li>National Adaptation Programme of Action (NAPA)</li> </ul>
In Progress	<ul style="list-style-type: none"> <li>Pacific Adaptation to climate change (PACC) project in the pipeline should start in March 2007.</li> </ul>
Other	<ul style="list-style-type: none"> <li>Pacific Islands Renewable Energy Project (PIREP) completed</li> </ul>
Other	<ul style="list-style-type: none"> <li>Pacific Islands Greenhouse Gas Abatement Renewable Energy Project (PIGGAREP)</li> </ul>

**Table 1. Reports relating to Climate Change undertaken in the Solomon Islands**

Source: Chanel Iroi 2007.

**1.3 Global warming cannot be halted – we need adaptation**

Across the world, scientists and experts whose studies are linked to climate change, have raised overwhelming concern that – despite efforts to reduce emissions of greenhouse gases to the atmosphere, and hence reduce global warming – even if we were able to stabilise global emissions at constant 1990 levels, ‘CO<sub>2</sub> concentration in the atmosphere would still go on rising because they have lifetimes of around 100 years’ (Hadley Centre 2005). Figure 3 illustrates the rapid rise in CO<sub>2</sub> emissions since 1950. As a result of this rapid rise in emissions, it is inevitable that there will be some degree of change in our climate. It is vital that we prepare as an international community and as a nation for these impacts.



**Figure 3. Emissions of CO<sub>2</sub> from fossil fuel burning.**

Source: Extracted from Hadley Centre 2005.

Whilst the highest concentrations of CO<sub>2</sub> in the atmosphere are mainly in the northern hemisphere where burning of fossil fuels occur the most (e.g. refer Figure 4), the small Island States in the Pacific, which include the Solomon Islands, are the most affected by the indirect impacts of such activities.

## 2. CURRENT AND FUTURE CLIMATE RISKS TO THE SOLOMON ISLANDS



**Figure 4. Industrial pollution is contributing to the production of GHG – a major cause of global warming.**

Source: Binsyo Yoshida United Nations Environment Programme 2006

Given its status as the largest humanitarian and voluntary organisation – with activity coverage in many of the communities, villages, towns and cities in all the continents and Islands in the globe in areas of disaster preparedness, response, and recovery – the Red Cross and Red Crescent movement is capable of integrating the use of traditional methods of adaptation with the newly introduced scientific ideologies. Therefore, the Red Cross and Red Crescent Societies have a major role to play in the adaptation to Climate Change.

The Red Cross/Red Crescent Climate Centre (RC/RC CC) was established in close partnership with the International Federation of Red Cross/Red Crescent Societies and the Netherlands Red Cross Society in 2002. The RC/RC CC is based in The Hague, Netherlands but supports all the RC/RC National Societies throughout the world, especially in the developing countries. The RC/RC Climate Centre operates in a so-called Triple A Principle:

- Awareness:** Information and educational activities about climate change and extreme weather events created at the RC/RC movement and among the general public
- Action:** Support the development of concrete climate adaptation activities within the existing context of disaster preparedness programme and
- Advocacy:** Raising concerns about the impacts of climate change on vulnerable people and offering practical examples of climate adaptation and disaster preparedness programmes within the IFRC and with the policy and political leaders globally

It has also focused on working with developing countries that are participating in the *Preparedness for Climate Change Programme*. The Programme has 4 Steps:

- Step 1: Organising a workshop on risks of Climate Change
- Step 2: Assessing the risks of Climate Change in the country and the priorities and programmes of the national society
- Step 3: Capacity building for Climate Change resilient RC/RC programmes and
- Step 4: Developing Climate Change resilient RC/RC programmes.

### 2.1 Geography and Population

Solomon Islands is an independent country consisting of an archipelago of 992 islands. Located in the South-West of the Pacific (Longitude 175 degrees East and 178 degrees West and latitude 15 degrees and 22 degrees South), the archipelago includes the large Islands of Guadalcanal, Makira, Malaita, Santa Isabel, New Georgia and Choiseul. The 725,197 sq. kilometres (280,000 sq. miles) stretches from the Southern tip of Papua New Guinea to the Northern seas of Vanuatu. The country is approximately 1,900 kilometres (1,200 miles) northeast of Australia. With dense forests and rugged-mountainous terrain of mainly volcanic islands of diverse flora and fauna, the Solomon Islands are comprised of both large islands and small low-lying atolls in the outskirts of the country's territorial waters, with spectacular crystal sandy shores and fringing reefs.

As of 2006 the majority of the 552,438 people on the Solomon Islands are ethnically Melanesian (94.5%). The two other significant groups are Polynesian (3%) and Micronesian (1.2%). There were 74 languages spoken in the Solomon Islands, although four of these are extinct. On the central islands Melanesian languages are spoken in many of the Provinces. Polynesian languages are spoken in RenBel Province, the Tikopians, Anuta and Fatutaka to the far east, Sikaiana to the north east, and Luaniua (Ontong Java Atoll, Lord Howe Atoll) to the north. Immigrant populations of Gilbertese (i-Kiribati) and Tuvaluans speak Micronesian languages. While English is the official language, only 1-2% of the population speak English; the lingua franca is Solomons Pijin (UNDP 2006).

The population is made up of 45% Anglicans, 18% Catholic, 12% Methodist and Presbyterian. There are also Baptists, Seventh Day Adventists, other Protestants and followers of local beliefs (UNDP 2006).

The economy relies heavily on timber exports, which are vulnerable to price fluctuations.



**Figure 5. Map of Solomon Islands.**

Source: UNOCHR, 6 November 2007

## 2.2 Current Climate

The Solomon Islands has a tropical climate with wet and dry seasons. The average mean temperature during the day ranges from 26 to 29 degrees Celsius and varies from 24 to 26 degrees Celsius during the night.

The country's rainfall is highly variable, depending on the type and size of the Island and its geographical location. On average, the total amount of rainfall is approximately 21 millimetres per day. The wet season normally lasts from November to April and then the dry season occurs from April to November. The regular weather sequence often leads to some special weather events such as tropical cyclones, floods and drought.

El Niño is a natural Global process. A typical El Niño event impacts the Solomon Islands every four to seven years, resulting in drought.

## 2.3 Current Natural Hazards

The geographical makeup of the Solomon Islands, and its proximity to the equator, has made it prone to many different types of natural hazards. The islands are mainly volcanic, consist of many coral atolls, are close to the Inter Tropical Convergence Zone (ITCZ), and are in the so-called 'Ring of Fire' or 'Volcanic Belt'. Natural hazards affecting the Solomon Islands include landslides, flooding, drought, earthquake, volcanic eruption and tsunamis. The three main natural hazards that already occur are; cyclones, common in almost all the parts of the country; earthquake and tsunami<sup>4</sup>. Coastal erosion which currently affects the coastal and atoll dwellers on the Islands like Ontong Java, Sikaiana and the artificial Islands in the northern region (Lau) of Malaita, and drought and flooding also occur.

Given the populations already affected by such natural disasters, climate change poses a potentially devastating threat to large sections of the country's population.

SUMMARISED TABLE OF NATURAL DISASTERS IN SOLOMON ISLANDS FROM 1931 TO 2007						
	No. of Events	Killed	Injured	Homeless	Affected	Total Affected
<b>Drought</b>	2	0	0	0	380	380
avg per event		0	0	0	190	190
<b>Earthquake</b>	2	35	0	500	1,000	1,500
avg per event		18	0	250	500	750
<b>Volcano</b>	1	0	0	0	6,000	6,000
avg per event		0	0	0	6,000	6,000
<b>Wave / Surge</b>	4	314	9	0	2,375	2,384
avg per event		79	2	0	594	596
<b>Wind Storm</b>	13	323	10	61,450	216,425	277,885
avg per event		25	1	4,727	16,648	21,376

**Table 2. Summary of Natural Disasters in Solomon Islands from 1931 to 2007**

Source: EM-DAT accessed 2007

<sup>4</sup> The most recent event occurred in the Western and Choiseul Provinces on April 2<sup>nd</sup> 2007 generated by an 8.1 earthquake.

## Cyclones

Clear evidence exists that the number of storms reaching category 4 and 5 globally have increased since 1970. In turn, there have been increases in the power dissipation Index (Emanuel 2005), due to increases in their intensity and duration (Trenberth et al., 2007). The largest increase was in the North Pacific, Indian and South West Pacific. The global view of tropical storm activity highlights the important role of the El Niño Southern Oscillation (ENSO) in all basins. The most active year was 1997, when a very strong ENSO began, suggesting that the observed record sea surface temperatures (SSTs) played a key role (Trenberth et al., 2007). For example, increased occurrence of tropical cyclones and positive trends in storm frequency and intensity dominate during recent decades in most regional studies (IPCC AR4, 2007).

The Solomon Islands has a tropical climate with wet and dry seasons. The country's latitude and its tropical climate is ideal for tropical cyclones. Tropical cyclones are the most devastating natural hazard that continuously threatens the country. The three main devastating impacts of cyclones are strong and violent winds, high seas and storm surges and flooding from heavy rains. The impacts on the environment are numerous and depend upon certain factors such as storm intensity, the area affected and its local and natural economy, the state of development, the status and integrity of physical and social infrastructure and community wealth (Allan W 2007). Figures 6 and 7 show the negative impacts caused by cyclones that hit the Solomon Islands. Table 3 indicates the impacts of the cyclones in the Solomon Islands in the recent past.



**Figure 6. Aftermath of cyclone Zoë in Tikopia Temotu Province.**

Source: Loti Yates, Director NDMO, 2007



**Figure 7. Storm surges and violent winds washed ashore a passenger vessel, Ranadi Honiara.**

Source: Loti Yates, Director NDMO, 2007

YEAR	NAME OF CYCLONES	NUMBER OF PEOPLE AFFECTED	PROPERTY LOSSES	OTHER LOSSES
1986	Namu	90,000	US\$100 million	103 dead
1993	Nina	30,000	SBD\$20 million	5 dead
1996	Fergus	30,000	Unknown	3 dead Relief - SBD\$1.9 million
2003	Zoë	1,300	SBD\$200,000	Unknown

**Table 3. Impacts of some of the major cyclones that have hit the Solomon Islands since 1986**

Source: SOPAC, IDA. Participant Training Manual. 2007.

### Flooding

Most of the Islands in the Solomon Islands are prone to cyclones, sea surges and heavy rains. The impacts of weather extremes over the past years are illustrated in the increases in the incidence, intensity and frequency of flooding as compared to the past. The most vulnerable populations that are hard hit by flooding are those living in the plains and those living in low-lying coastal areas such as those in the Atolls and artificial Islands. Urbanisation, environmental degradation and forestry practices are making flooding worse.



**Figure 8. Flooding in Balasuna, Guadalcanal Plains.**

Source: Loti Yates, Director NDMO 2007

### Example 1.

Since the flooding caused by cyclone Namu in the areas around Guadalcanal Plains in 1986, there has been minor flooding in that area and the spread of the floods has been over a relatively small area. However, in September 2007, for the first time in 20 years, the area had its biggest flood, which was caused by heavy rain and over-flow of rivers (see Figure 8). This is a negative impact of weather extremes and it has caused a great deal of damage to peoples' livelihood and properties. The National Disaster Management Office (NDMO) and the Guadalcanal Provincial Government had to intervene by assisting the flood victims as the intensity and the spread of the flooding was beyond that which the area normally experienced.

Loti Yates, Director NDMO. 2007



**Figure 9. Flooding caused by a king tide on the artificial Island of Walande, Malaita Province.**

Source: Loti Yates, Director NDMO, 2007

### Example 2.

In the atoll Islands and the artificial Islands in the Solomon Islands, coastal flooding is the most common hazard that impacts on the lives of coastal dwelling communities. Coastal flooding is becoming more frequent. That is, on the atolls like Ontong Java (Lord Howe) and the artificial Islands like Walande (see Figure 9), rising sea level, king tides and coastal erosion have played a major role in the inundation of the Islands and again this affects the peoples livelihood and properties

Loti Yates, Director NDMO. 2007

### Sea-Level Rise

Analysis of the longest available sea-level records, which have at least 25 years of hourly data from 27 stations installed around the Pacific basin, show that the overall average relative sea-level rise around the whole region is +0.77 mm/yr (Mitchell et al., 2001). According to the recent short-term sea level trends in the projections area based upon SEAFRAME data taken from twelve SEAFRAME stations in the Western Pacific through September 2006, the Solomon Islands trend (mm/yr) is +6.3 (Hall 2006). Tectonic plate movements also affects sea-level.

Sea-level rise is threatening all the islands in the Solomon Islands due to the fact that on all the Islands, either big or small, almost all the inhabitants are coastal dwellers. For instance, in big Islands like Guadalcanal, New Georgia, Malaita and Isabel, it is on the coastal zone that settlements, infrastructure and facilities are concentrated. On the other hand, small atoll and artificial Islands are generally more vulnerable. For example, on the atoll islands like the Lord Howe and the artificial Islands in the Malaita such as Walande (see Figure 10) and Sulufou, the rising sea level is now having a negative effect on the peoples' property, water resources, agriculture and fishery (Yates, 2007).

**Table 4. Recent short-term sea level trends in the Pacific**

Source: extracted from the *Climate Change in the Asia/Pacific Region, A Consultancy Report Prepared for the Climate Change and Development Roundtable 2006*

Recent short term sea level trends in the Project area based upon SEAFRAME data through September 2006				
Location	Lat / Long	Installation Date	Trend (mm/yr)	Change from previous month (mm)
Fiji	17 36'19"S / 177 26'17"E	Oct 1992	+2.7	0.0
Kiribati	01 21'45"N / 172 55'48"E	Dec 1992	+6.0	+0.1
Vanuatu	17 45'41S / 168 17'35'E	Jan 1993	+3.0	-0.1
Tonga	21 08'25"S / 175 19'45"W	Jan 1993	+8.1	-0.1
Cook Islands	21 11'58"S / 159 47'10"W	Feb 2993	+3.1	+0.2
Samoa	13 49'09"S / 171 45'21"W	Feb 1993	+6.7	-0.1
Tuvalu	08 30'10"S / 179 12'33"E	Mar 1993	+5.8	-0.1
Marshall Islands	07 06'27"S / 171 22'15"E	May 1993	+4.6	-0.1
Nauru	00 31'55"E / 166 54'33"E	Jul 1993	+7.5	+0.1
<b>Solomon Islands</b>	09 25'18"S / 159 57'19"E	Jul 1994	+6.3	-0.2
PNG Manus	02 02'10"S / 147 22'31"E	Sep 1994	+7.7	-0.2
FSM	06 58'24"N / 158 11'50"E	Dec 2001	+16.6	-0.9



**Figure 10. Aerial view of Walande artificial Island Malaita Province.**  
Source: Loti Yates, Director NDMO, 2007

**Example of coastal erosion on atoll Islands**



**Figure 11. Grave site on Luanguia, Ontong Java Malaita Province, during the 1950s**  
Source: Tara Rex & NDMO 2005.



**Figure 12. The same grave site in 2006.**  
Source: Tara Rex & NDMO. 2005.

Note: The photographs in Figures 11 and 12 are edited with the insertion of red lines and names to indicate how sea-level rise has caused an impact on the coastal area around the Ontong Java atoll.

**Earthquake and Tsunami**

Tsunami are another current natural hazard, although they do not happen as frequently as cyclones and flooding. Tsunami are a major threat to the Solomon Islands due to the country's position on the oceanic plate (Pacific tectonics), which is vulnerable to folding and faulting. Such plate tectonic movements cause earthquakes, which are frequently experienced in the Solomon Islands. When earthquakes occur in the ocean due to oceanic plate subduction, they can cause displacement of huge volumes of water that can cause tsunamis, which can cause devastating effects on people's livelihoods, property and the environment. The negative consequences of an earthquake and tsunami were experienced on 2<sup>nd</sup> April 2007 during the worst tsunami ever that affected the Western and Choiseul Provinces in the Solomon Islands (see Figure 13). While they are not directly linked to climate change, higher sea levels and increasing vulnerability due to climate change may increase the impacts of earthquakes and tsunamis.



**Figure 13. The aftermath of the April 2nd earthquake and tsunami at Vavudo village, South Choiseul, Choiseul Province.**  
Source : SIRC Disaster Management Dept, 2007

**Table 5. Overview of major tsunami that have affected the Solomon Islands.**

YEAR	DATE	HEIGHT	RICHTER	LOCATION
1926	16 <sup>th</sup> Sept	-	7.1	11.5 degrees South 160 degrees East
1931	31 <sup>st</sup> Oct	6m	8.1	10.5 degrees South 161.8 degrees East
1939	30 <sup>th</sup> April	6m	8.1	10.5 degrees South 158.5 degrees East
1950	8 <sup>th</sup> Nov	-	7.25	10.0 degrees South 159.5 degrees East
1959	17 <sup>th</sup> Aug	1m	7.25	7.5 degrees South 156.0 degrees East
1960	23 <sup>rd</sup> May	-	-	Chile
1966	28 <sup>th</sup> Nov	-	-	Santa Cruz Islands. Temotu Province
1966	31 <sup>st</sup> Dec	1m	7.7	11.9 degrees South 166.4 degrees East
1966	31 <sup>st</sup> Dec	0.8m	7.3	12.3 degrees South 165.6 degrees East
1974	31 <sup>st</sup> Jan	3m to 5m	6.9	7.5 degrees South 155.9 degrees East
1974	9 <sup>th</sup> Mar	3m to 5m	6.6	7.3 degrees South 156.2 degrees East
1977	20 <sup>th</sup> April	7.6m	7.5	9.9 degrees South 160.3 degrees East
1977	21 <sup>st</sup> April	1.3m	7.5	10 degrees South 160.7 degrees East
1991	9 <sup>th</sup> Feb	-	6.4	9.9 degrees South 159.2 degrees East
1991	14 <sup>th</sup> Oct	-	6.2	9.1 degrees South 158.5 degrees East
1998	10 <sup>th</sup> Aug	-	6.1	10.2 degrees South 160.7 degrees East
?	?	-	6.3	12.2 degrees South 165.3 degrees East
2005	22 <sup>nd</sup> Jan	-	6.4	Buala, Santa Isabel Province
2007	2 <sup>nd</sup> April	1m to 6m	8.1	Western and Choisuel Province.

Source: Lotti Yates Director NDMO. 2007.

The Solomon Islands have experienced 18 tsunami events from 1926 to 2007 (refer Table 5). 'The trend tends to indicate that there is a likely possibility of the country to experience one event of tsunami in every 4.3 years' (Yates, 2007). Earthquakes in or close to the Solomon Islands generated almost all the tsunamis.

#### 2.4 Trends in Vulnerability to Natural Hazards

There is evidence of gradual increases in the vulnerability of the Solomon Islands to natural hazards. There are several interlinking factors that contribute to this, some of which are discussed below.

##### **Population Growth**

Population growth is one of the key factors in the vulnerability trends to natural hazards. According to the country's national census report 1999, the population of Solomon Islands is 409,042 with an annual growth rate of 3.4%. 'In July 2006 it was estimated that the population had risen to 552,438 with a now lower growth rate of 2.61%' (UNDP RBAP Cluster Meeting. 2006).

Population growth is an issue that needs to be addressed as it is the critical element that tends to lead on to other issues such as increased conflict over land, water and food.

##### **Urbanisation**

Urbanisation is a trend that also increases peoples' vulnerability to natural hazards. Approximately 80% of the country's populations are rural dwellers, that have little or no access to essential services, and only 20% are said to have resided in urban areas, which have greater access to services. The observed steady trend of rural-urban migration is a worrying sign for many of the agencies in the country; especially the law enforcement agencies, Ministry of Lands, Ministry of Infrastructure, the health and education sectors, disaster management sectors, and humanitarian organisations such as the Red Cross and Red Crescent Movement.

In the Solomon Islands the major driving force of urbanisation is rural-urban migration. Honiara (see Figure 15) is the primary destination of this migration. Employment-seeking opportunities and the quest for a better standard of living play a major role in this urban drift. The lack of decentralised development and delivery of vital services to other provinces are areas in the country may also be a contributing factor to urbanisation. The main issues that result from urbanization are those of over-crowding and competition for living space. The classic example of these issues is the establishment of new squatter settlements within the city's boundary and around the outskirts of the Honiara city.

#### Example 1. The Lord Howe Settlement in Central Honiara.

The Lord Howe Settlement (see Figure 15) was established in the late 1960's. Its area is about 600 square meters and it has a population of approximately 800 people who are from the Malaita Outer Island of Ontong Java atoll that is commonly known in the Solomon Islands as the Lord Howe Islands.

Like other settlements, it has the characteristics of being vulnerable to natural hazards. First, its population size is large in comparison to the available land space. This has resulted in the problem of over-crowding and competition for land space. Land size determines the type of housing that could be built on the area and as a result there is poor design and low quality in some of the houses in the area. Some of the houses have been built with a combination of local and modern building materials and



**Figure 14. Honiara City, a major site of urban migration.**

*Source: SIRC DRR and CC Dept. 2007*

this makes the people particularly vulnerable during cyclone seasons.

Secondly, the issue of the location of the settlement is also a concern. The settlement is located on the low-lying coastal area very close to the sea and near the Mataniko river mouth. During tropical cyclones and heavy rain the area experiences flooding and during cyclones, the settlement also experiences very strong winds and high sea-surges. This has made the community vulnerable not only in terms of their environment but also the peoples' livelihood.

Although the specific location of the settlement causes its vulnerability, the underlying factor is rural-urban migration with more people coming to live in the area, and the vulnerability of Ontong Java may exacerbate this in future.

*Source: Nick Nuia. Lord Howe Settlement. 2008*

#### Example 2. Kua Hill Settlement

The Kua Hill Settlement is a settlement located on the bank of the Mataniko River. It is far from the sea but is situated on the base of the Skyline ridge in Honiara. The settlement is now becoming one of the largest within Honiara. Although it has some well-built houses, it still has the status as a squatter settlement.

Its vulnerability lies mainly in its location. Since it is situated on the base of a big hill and very close to the Mataniko River, peoples' livelihoods and the environment are prone to impacts caused by extreme weather events. The settlement has mostly experienced flooding caused by heavy rain and river over-flow. Sometimes it also experiences soil erosion. This sometimes creates difficulties for peoples' livelihoods in relation to their food gardens that are normally planted on the hillside, with few planted on the flat area near the river. Although the specific location of the settlement causes its vulnerability, the underlying factor is, again, rural-urban migration. Due to more people coming to live in the area, many more houses are built. Interestingly, most of the houses are being built along the slope of the hill, and this in-turn creates the vulnerability of the settlement to soil erosion, land-slides and flooding. Currently this trend is tending to increase. The flooding of February 2008 was the worst since 1999. The whole settlement was advised by the NDMO to move to higher ground as the flooding intensified in late afternoon and into the night. The trend of increasing flooding is also true for other squatter settlements such as Matariu, Fulisangho and Burns Creek.

*Source: Ruth Nuboa. NDMO. February 2008.*



**Figure 15. Lord Howe Squatter Settlement Honiara.**

*Source: SIRC DRR and CC Dept. 2007*

### Environmental Degradation

Environmental degradation is the most visible of all the inter-linked factors in the trend towards increased vulnerability to natural hazards.

The Solomon Islands has a rich marine and terrestrial environment. And even though it has various forms of legislation governing areas such as forests, agriculture and fisheries, which are seen as complementary in addressing some of the vulnerability to natural hazards, the country is yet to produce a policy to address the country's vulnerability to climate change.

The most obvious form of environmental degradation is logging (see Figure 16). Logging has generated 50% to 70% of the country's foreign revenue. In 2005 it accounted for SBD\$86.6 million in revenue for the national government (CBSI Annual Report, 2005). However, the trend shows that the more forests that are being logged and the more revenue being generated, the more vulnerable the communities are – especially with the direct and indirect impacts of deforestation. There is sufficient data that indicates that the deforestation rate as a result of logging related activities, which reached more than 1,000,000 cubic metres, is 4.5 times the sustainable yield (Ministry of Environment, Conservation and Meteorology 2006).

Solomon Islands is facing the urgent issue of losing its commercial native forests by 2012. Currently the harvesting of native forests by logging companies is well over the sustainable rate (around 1 million m<sup>3</sup> per year i.e. 4.5 times the sustainable rate).

Source: Agnetha Vave-Karamui. Environment/Forest Advocacy Officer. ECANSI. 2007.

Environmental degradation due to deforestation does not just affect the environment. It also affects the lives and livelihoods of people living in the area. For instance, cutting down trees for logging is making the area prone to landslide and soil erosion. It is also creating problems related to livelihood, such as reducing the nutrients in the soil and washing away the topsoil that people depend on for gardening and farming. Washing of soil into the rivers during heavy rain contaminates the rivers that people rely on for drinking and cooking and also causes greater risk of landslides. This will be more devastating if it is also combined with flooding and the results will be linked to other sectors such as health. For instance, if there is heavy rain and flooding causing drinking and cooking water to become contaminated, then health problems like diarrhoea will increase. Additionally, the pool of water that gets left behind after heavy rain and flooding increases the probability of malaria as it provides suitable breeding ground for mosquitoes that can transmit malaria.



**Figure 16. Aerial view of a logging site in the Solomon Islands. Nana, Makira/Ulawa Province.**

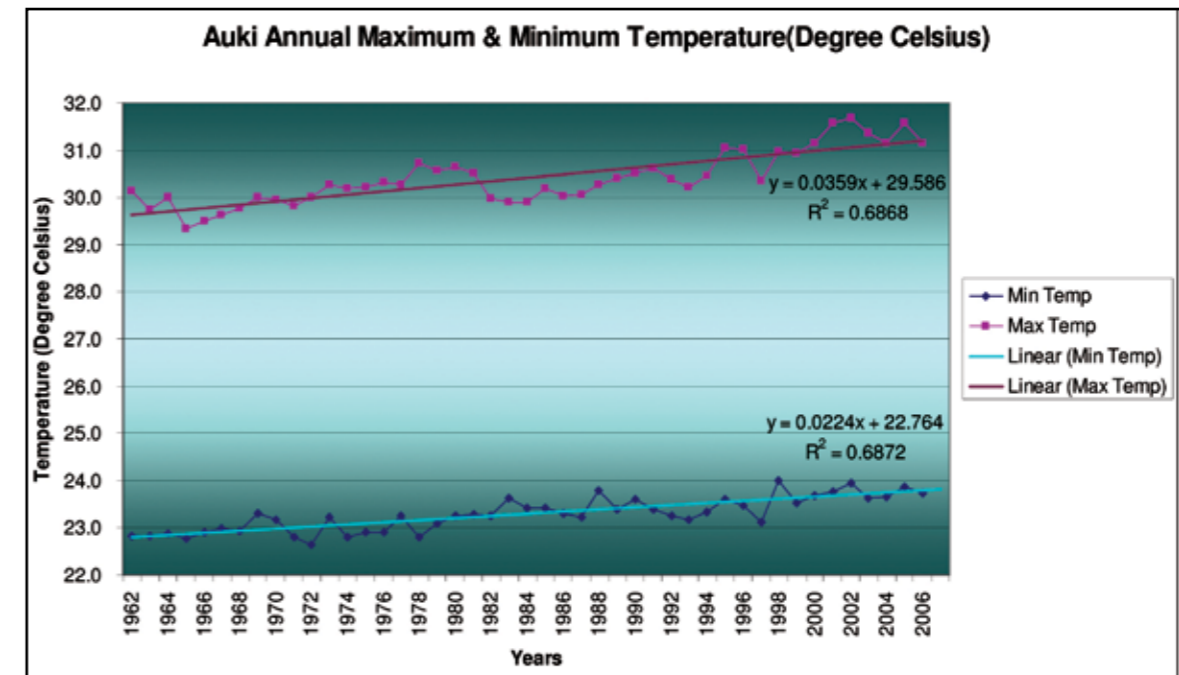
Source: Environmental Concerns Action Network of Solomon Islands (ECANS). 2007

### 2.5 Observed Trends in Climate

The Solomon Islands has limited available scientific data about long-term climatic trends. Much of the formerly available data had been burnt or destroyed during the ethnic tension in 1999 to 2003. This has been a setback for the country in terms of providing a clearer picture of the climate trends over the past 30 to 60 years.

The Solomon Islands Meteorological Services, however, do have some of the essential data on 'temperature and rainfall that can help give the scenario of some observed trends in the country's change in the climate although it can not provide the insight detail' (Yee 2007).

According to the Solomon Islands Meteorological Services Chief Climatologist, Douglas. Yee, the office has observed a steady increase in temperature in the country – although there are slight variations in each of the nine provinces in the country. Auki, in the Malaita Province, is the only station that has a sufficient data of temperature that has been recorded in a 44 year period (see Figure 17). The data indicates that since 1962 to 2006 there has been a steady increase in the temperature – rising by 1 Celsius.



**Figure 17. The trend in temperature for Auki, Malaita Province.**

Source: SI MET Office 2007.

As a result of the limited availability of scientific data, the country's agencies that are working on issues related to climatic change tend to rely on the experiences and oral stories about the obvious climatic changes from the people in the villages, particularly the old people.

#### Oral History: Farmer.

In the Guadalcanal Plains area, there have been increases of rainfall. Sometimes it is associated with tropical cyclones, low-depressions or a strong convergence zone over the country. Directly, these are the effects of Climate Change. Regina Vouza from California Village on GPPOL (Guadalcanal Plantation Palm Oil Limited) area stated that flooding caused by heavy rain is affecting the food gardens and farms in the area. The worst flood in the area since cyclone Namu in 1986 happened last year. However, since the end of 2007 up to the beginning of 2008, the continuous heavy rain on the area has destroyed a lot of food gardens and farms. These directly have caused food shortages in the area as well as for the city of Honiara as the main source of food supplies comes from the Guadalcanal Plains and have a devastating effect on the farmers on the area as it reduces their earnings gained from selling their garden and farm products.

Source: Regina Vouza. 2008

#### Oral History: Town dweller.

Climate Change is real, according to James Medo, who resides in the Mamanawata seafront. Over the past five to ten years alone, there have been drastic changes along the shorelines of where he lives. The area used to have a long stretch of black sandy-beach where his house used to stand, far from where the sea-swash used to reach. However, the increases of more frequent tropical cyclones with powerful sea-surges are claiming the beach and the land. Today, a couple of houses in front of his house are already destroyed and the black sandy-beaches on the shoreline are disappearing.

Source: James Medo. 2008

#### Observations from the NDMO

Since becoming the Director of NDMO in 2003, the NDMO have made many assessments on extreme weather related disasters in almost all the parts of the country. And in some they have to respond with relief items for the victims. The most common disasters so far are flooding on low-lying areas such as plains, areas close to huge rivers and on smaller islands such as Tikopia, Lord Howe, Rennell and Bellona and other islands in Temotu Provinces such as the Reef Islands. In the meantime, more tropical cyclones means more response and again it has connections to Climate Change.

Source: Loti Yates. Director NDMO. 2007

## 2.6 FUTURE CLIMATE AND LIKELY CHANGES IN NATURAL HAZARD RISKS

Climate change is already happening and the likely changes in natural hazard risks will continue as changes in the climate are here to stay.

#### Future Global Climate

Projections of the future climate by the IPCC this century depend on many socio-economic factors such as the rate that the Earth's population grows. Thus, there is a range of predicted future temperature scenarios.

In the early and late 20th century the Surface Temperature (ST) changed (Refer to Figure 18). This indicates that warming is global and computer models have projected that the global surface mean temperature will increase by 1.4 to 5.8 degrees Celsius by the year 2100.

The unprecedented changes in the ST are likely to lead to both increases and decreases in rainfall, depending on the region. Projections have also indicated that the average Sea Level (SL) would probably rise by between 0.09 to 0.88 m (IPCC 2001), with significant regional variations.

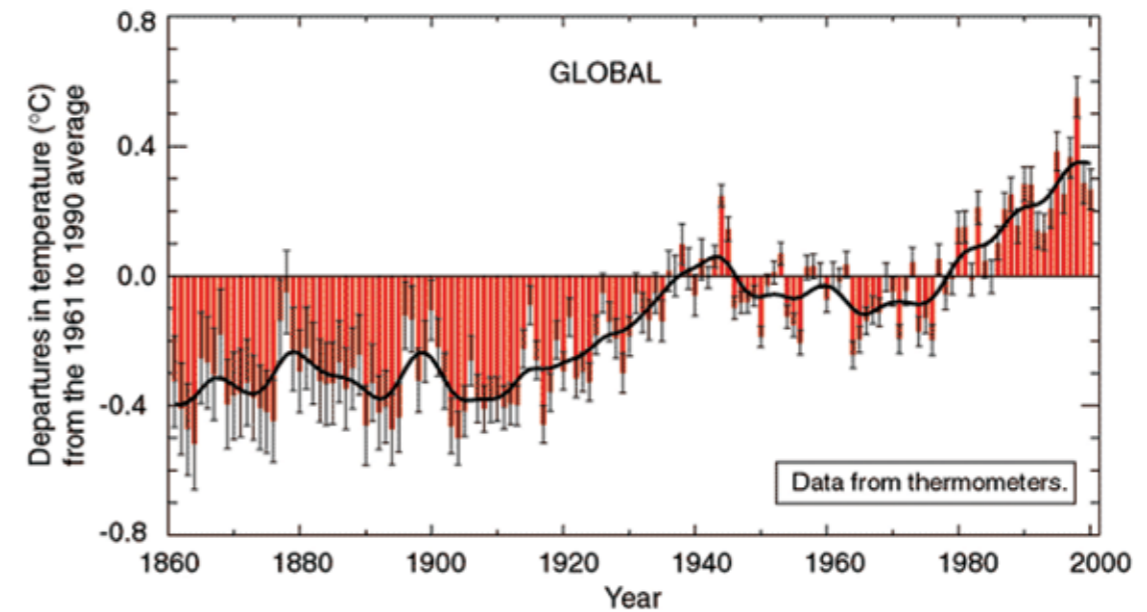


Figure 18. Combined annual land-surface air and sea surface temperature anomalies (°C) 1861 to 2000, relative to 1961 to 1990.

Source: IPCC 2001

#### Likely changes in natural hazard risks

The projections of future climate variability will have a profound and varied impact on the associated risks of a range of natural hazards.

The IPCC projections indicate that climate variability will increase and therefore there will be changes in the frequency, intensity and duration of extreme events. This means more tropical cyclones, heavy rain, hot days, heat waves and fewer cool nights. In-turn, this will increase the vulnerability of the most vulnerable people to the risks of natural hazards, hence; increase the risks of drought and floods in many of the world's regions as stated in the IPCC, Third Assessment Report 2001.

# 3. IMPACTS OF CLIMATE CHANGE ON LIVES AND LIVELIHOODS

Any negative impacts of climate change in the Solomon Islands will have profound consequences on the country's general population and the livelihoods on which they depend.

Very few scientific studies have been conducted into the country's marine and terrestrial ecosystems, which could provide good scientific data that would complement some of the work being carried out in areas like biodiversity, sustainable livelihoods and climate change. Evidence suggests, however, that the people of the Solomon Islands are particularly vulnerable to the direct and indirect impacts of climate change, especially the extreme weather events that may result from climate change. The impacts of climate change will affect the lives and livelihood of all Solomon Islanders and, more importantly, those who are already vulnerable.

## 3.1 Impacts on Agriculture

The Solomon Islands are very much dependent on subsistence agriculture with only approximately 20% of the population being urban dwellers. The negative impacts of climate change on the agricultural sector will definitely be a livelihood problem. In the Solomon Islands, subsistence agriculture has been threatened by the changes in climatic conditions. The obvious impact on the agricultural sector will be the increased frequency, intensity and direct destruction of peoples' livelihoods and the environment by the direct impacts of extreme weather events such as cyclones, floods and droughts. If these extreme weather events increase over time, it will be a national problem, as they will affect the subsistence farmers and the people who depend on them for agricultural products.

There have also been new negative impacts experienced in the agricultural arena in relation to the country's atoll Islands (Refer to example 3, Figures 19 and 20 and Fig 9 in Section 2.3).

### Example 1.

On the coastal lowland of Makira, taro production has less tubers and low yields in the recent years because of warmer temperature.

Source: Ministry of Environment, Conservation and Meteorology 2006.

### Example 2.

The Island of Malaita experienced a shorter fallow period during the warmer and drier conditions of the 1997/1998 El Niño.

Source: UNFCCC: Thematic Report for Solomon Islands. 2006

### Example 3.

In Malaita's outer Island atoll of Ontong Java or Lord Howe, recently experienced some devastating impacts on the atoll's agriculture from salt water intrusion and storm surges. (See Figures 19 & 20)

Source: Loti Yates. Director NDMO. 2007



Figure 19. NDMO assessors show the swamp taro that were killed by salt water intrusion.

Source: Rex Tara & NDMO, 2005



Figure 20. The yield of Taro that the atoll is now producing – fewer and smaller tubers.

Source: Rex Tara & NDMO, 2005.

## 3.2 Impacts on Human Health

Recently scientific studies have correlated the effects of climate variability and change with certain issues that affect the health of the general population. There needs to be more study as to which health issues in communities can be directly attributed to climate change.

Potential first order, or direct, health effects include deaths, injuries, illness and discomfort caused by change in average temperature and thermal extremes and more intense cyclones, storms and floods. Second order, or indirect, effects are those mediated through ecological and environmental factors. These include increased incidence rates of vector borne diseases (such as malaria and dengue fever), water-borne diseases (such as viral and bacterial diarrhoea) and diseases related to toxic algae (such as ciguatera fish poisoning). Nutrition-related illnesses may be considered as second order effects but also fall into the main category of higher order and cumulative effects. According to Hay (2003), human health impacts are likely to result from impacts in other areas, such as quality and quantity of water supplies, loss of coastal resources, reduction in ecosystem productivity and decline in agricultural productivity. At least from a human point of view, human health could be seen as an endpoint of primary impacts in these other areas.

According to the UNFCCC: Thematic Report for Solomon Islands 2006 the following health impacts have been identified; (Ministry of Environment, Conservation & Meteorology 2006)

- Direct impacts:
  - i. Climate stress,
  - ii. Thermal factors,
  - iii. Effects of ultraviolet radiation on human beings increase skin cancer and
  - iv. Possible alterations in immune responses – effects on eye diseases.
- Indirect impacts:
  - v. It changes nutritional quality to human health requirements,
  - vi. Volume in food production which are vital for human consumption,
  - vii. And heat related morbidity and mortality.

In the Solomon Islands, there have been observed correlations between certain changes in the climate and human health implications. Limited studies and data are available to link these climatic changes to the impacts that they have on human health, however, logically, climate plays a vital role in sustaining human health and the changes that are happening now are certain to have some sort of negative implications on human health. These have already been experienced in the Solomon Islands.

#### Example 1 – Increase in temperature and Malaria

Temperature affects two key factors in the malaria transmission cycle. As temperature increases, the mosquito biting rates increase. The viral replication rate in the mosquito host also increases, making it capable of passing the virus on to the next human sooner. Together these factors may contribute to an increasing epidemic potential (or transmission efficiency), as temperature warms.

Source: Hay 2003.

In the Mountainous areas of Islands like Guadalcanal, Malaria incidence is known to have been relatively low but now there has been an increase in incidences

Source: Luke Honiola. 2008

This is said to be the effect of higher humidity, which enables mosquitoes to survive and live longer at higher altitudes.

Source: UNFCCC: Thematic Report for Solomon Islands. 2006

#### Example 2 – Flooding due to prolonged rainy periods and diarrhoea

Devastating impacts from natural phenomenon like extreme weather events such as tropical cyclone with prolonged heavy rain has many consequences to people's health. Diarrhoea is a classic example.

In November 2007 to January 2008 there is general increase in the case of diarrhoea, according to the observed results from clinics around Honiara. This is due to the prolonged rain which has caused flooding to the tributaries that feed into the main water catchment areas. As such, during very heavy rain, most households in Honiara sometimes have brown water being supplied to them. This sometimes is said to have been a contributing factor to the increase of diarrhoea incidences, and it happens when people drink water that is not clean or treated.

Source: Margret Magi. 2008.

#### Example 3 – Drought and Change in Diet

Drought is not so common in the Solomon Islands but in some parts of the country, there is evidence that long dry periods do occur and have numerous impacts on human health. In most instances the impacts on human health are due to the change in diet caused by the failed crops during the dry periods.

In mid 2007, the Reef Islands in Temotu Province were affected by a long dry period that affected their fruit trees and root crops that the people depend on as staple seasonal food. These show a reduction in the yields of fruits from staple seasonal fruit-trees source like the breadfruit, and making the people resort to imported goods like rice and other food. These change the people local nutritional food source to more conventional modern food source supplements, which has shown a shift from local to modern diet.

Source: Frank Menoia. 2008.

### 3.1 Water and Sanitation

Water is a crosscutting issue as it affects all the other sectors such as health and agriculture.

In the Solomon Islands El Niño and climate change will have impacts on water resources. Many low lying atolls rely on rain fall, with no rivers on their islands. El Niño influences patterns of flooding and drought. Significantly, the influence of El Niño has already been experienced in some parts of the country, particularly the coastal low-lying communities and the atoll islands which are mostly at risk from flooding, storm surges, high tides, and sea level rise that could result in water logging and salination.

Dry seasons are common when there is El Niño. Therefore, longer drought periods will result in increased rates of evapo-transpiration of forests and the reduction of water retention rates that will, in turn, have the potential to have drastic consequences on the water supply to rural and urban communities.

### 3.4 Coastal Livelihoods

#### Example 1. Lord Howe – Saltwater Infiltration and Intrusion

Intense tropical storms always have devastating impacts on water and sanitation. In 2006, tropical cyclone Jim caused significant damage on the atoll islands of Ontong Java, particularly on Luanguia and Palau islands. High seas and storm surges reached inland areas, which caused salination to food gardens and root-crops. This killed many crops on the islands, especially the swamp taro.

Similarly, sea-level rise is gradually causing saltwater infiltration to the atolls' freshwater supplies. Some wells on the islands are contaminated by saltwater which infiltrates into the water-table and freshwater aquifers. This makes fresh and clean drinking water scarce as water becomes unsafe for consumption and even to water crops. Therefore, in the two islands, rain-water is the best source of drinking water, but again not every household on the islands has access to a water tank to collect rain-water.

Source: Rex Tara. 2007

#### Example 2. Luvunabuli, Aola – Latrines contaminate wells

The Luvunabuli community is one of the vulnerable communities in Guadalcanal. It is located close to the Aola River, on a flat area that is very close to the sea.

Water and sanitation is one of the problems in the area and this can be made worse by climate change, particularly flooding and sea-level rise.

In the area, whenever there are heavy rains, flooding frequently occurs. When that happens, flood-waters overflow into the wells, which are the main source of water for bathing, cooking, and washing. Furthermore, the rising tides, which seem to be increasing in the area, have caused salt-water infiltration into the wells. In most of the wells built close to the sea, the taste has been salty ever since very high tides started occurring in the area. Similarly, high tides also have negative impacts on latrines in the area. That is, if there is a very high tide, the water table rises resulting in a backflow of waste into the latrines, thus blocking the latrines, making them unhygienic and unfit to use.

Source: Orbed Kukiti. Luvunabuli Villager. 2007

## 4. TRADITIONAL KNOWLEDGE

Like any other Small Island State, most of the Solomon Islands communities consist of coastal dwellers. This means that many of the Islanders are very much dependent on the sea for their survival.

The real climatic impacts on coastal livelihoods are that of increased surface temperature, extreme weather events and sea-level rise. However, the impacts depend on the Island size. In other words, small atoll Islands like Ontong Java (Lord Howe), and Sikaiana (Stewart Island) will experience more severe negative impacts than the larger Islands like Guadalcanal and Isabel.

### Example 1. Marine Resources

In many coastal villages in the Solomon Islands, fishing is one of the means of survival, both as a food and a source of income. Nowadays, the rising sea temperature has caused the sea to be warmer than normal. As a result, people are beginning to paddle further out into the sea to fish. Most people said that fish that used to live in a slightly warm temperature of water are moving elsewhere because our sea is now becoming warmer than that we used to have in the past 10 to 15 years. The warmer waters also affect our coral reefs on which we depend much for reef-fish, clam-shell and many other edible marine resources. These warmer waters that we are experiencing now are causing coral bleaching and this is now destroying our coral reefs, killing corals and directly affecting the whole of the coral reef ecosystem. In turn, this reduces the fish stock that we used to have, hence, reduces our catch, food and money.

Source: Daniel Kikolo, Tagathaga Village, Isabel Province. 2007

### 4.1 Impacts of Climate Change

Climate change also has impacts on things such as the traditional knowledge that has long been the way of passing down the important information from one generation to the other. These impacts not only cause confusion but they also alter some of the Islanders' traditional beliefs and, more significantly, provide vital evidence that climate change is really happening in our Islands.

#### Example 1. The Changing Wind Pattern

According to Charles Kelly who belongs to the *Sogabiri* Tribe on the Island of Simbo in the Western Solomons, in the past their tribe has firmly believed in their traditional knowledge that has been handed down for generations. One example of this knowledge is the Changing Wind Pattern.

In Simbo, a pagan priest from the *Sogabiri* tribe can tell when there will be a very strong wind and for how long the wind will last. The wind normally occurs from the month of December to May each year. This wind is locally known as '*Komburu*', or commonly known as the Westerly Winds.

The pagan priest can determine when the winds will start by observing the falling of the ngali nut. If all the fruit of the nut have fallen to the ground, then the winds will begin.

He can also determine the intensity and duration of the winds, by observing the fallen leaves of the '*Rarapo*' tree, which is a tree naturally grown along the coast of the Island. If the leaves fall under the tree, he knows that after three days the wind will stop. If the leaves fall in the interior of the village or in the inner land on the Island, he knows that the high-seas, strong wind or continuous wind will stop after eight days. If the leaves of the tree do not fall after three days, he knows that the '*komburu*' will continue.

Nowadays he has a very difficult time in trying to determine when there will be '*Komburu*' and how long it will last. The difficulty is simply due to the changing wind pattern.

Source: Charles Kelly, SIRC Secretary General. 2008.

### 4.2 Adaptation Measures

Locally, many island communities in the country already have their own strategies in dealing with some of the impacts of Climate Change and these measures are based on traditional knowledge.

#### Example 1. Local Tide and Storm Surge Protector

In Ontong Java atoll, sticks are cut and erected along the seashore, which act as a tide protector or barricade during storm surges, and prevent the sea from washing away sandy beaches, properties and vegetations (see Figure 22). In some instances, this has helped in reducing coastal erosion.

Source: Loti Yates 2007



Figure 21. A local tide protector in Ontong Java Malaita Province.

Source: Loti Yates, Director NDMO, 2007

# 5. NATIONAL CLIMATE CHANGE AND DISASTER MANAGEMENT STRATEGIES AND STRUCTURES



## 5.1 Institutional Arrangements for Climate Change

The Solomon Islands Meteorological Services (MET) is the custodian and the focal point of all the climate change related programmes and activities in the Solomon Islands.

The MET, through the Pacific Islands Climate Change Assistance Programme (PICCAP) project, which was facilitated by SPREP, has established a climate change unit. The climate change unit is a separate unit from the climate unit of the MET. It focuses specifically on all the climate change tasks and activities, which covers the country's obligations under the various climate change conventions and protocols such as the preparation and enabling of the National Communications (NC) and National Adaptation Programme of Action (NAPA).

The execution of projects, however, involves a number of important government institutions that play important roles in addressing climate change issues (Ministry of Environment, Conservation and Meteorology 2006).

The Environment and Conservation Division is responsible for many environmental issues and has its functions mandated by the Environmental Act 1998. It is also the responsible institute for the implementation of the National Environment Strategy (NEMS).

The National Disaster Council (NDC) plays the lead role in the coordination of national responses to disasters that are natural, climatic and man-made. The NDC has been liaising with the MET on raising awareness on issues of climate change and induced natural disasters, and on promoting adaptation measures.

The Energy Division with the Department of Mines and Energy has been responsible for the energy sector in the country. The country has a draft National Energy Policy Framework which has a section on the promotion of renewable energy and environment considerations in energy development. This policy development has been the significant step forward so far in the country's effort in climate change mitigation.

The department of Agriculture has been an active player and has been undertaking a lot of activities relevant to mitigation and adaptation to climate change.

The Department of Planning and Aid Coordination can play an important role in mainstreaming issues that may be related to climate change. Currently no climate change issues have been clearly stated in the National Economic Recovery, Reform and Development Plan 2003 – 2006 (NERRDP). However, there is a high possibility of including climate change as it is now becoming one of the world's greatest concerns.

Importantly, other institutional sectors are playing vital roles in the Solomon Islands climate change arrangements in promoting programmes in which climate change is a component. These include international and regional organisations, the private sector and Non-governmental organisations (NGOs). Annex 4/7 outlines what different Institutions and NGOs are doing and lists the opportunities from these ongoing projects that may be useful for the SIRC.

### Example 1. Solomon Islands Red Cross Society

SIRC is one of the lead agencies in trying to address the issue of climate change. Currently it is working on developing adaptation strategies to address the effects of climate change on humanitarian work and disaster risk reduction activities related to the impacts of climate change on the most vulnerable communities.

**Example 2. Kastom Garden.**

One of the NGOs that are visible in conducting tangible work on some adaptative measures in climate change is the Kastom Garden. The organisation is currently developing adaptation strategies for the effects of climate change in addressing food security. It has some pilot projects in Makira and Guadalcanal Provinces.

In addition to these examples, other organisations and agencies may have their own arrangements. However, the most critical element for success in the future work of the NGO sector in relation to climate change, is that they must link to the national and regional frameworks. In the case of the SIRC, as well as the national and regional arrangements, it has links to the arrangements of the IFRC Strategy 2010 and the RC/RC Climate Centre and is now trying to be included in the country's national arrangements.

**5.2 The Government's mitigation and adaptation strategies**

The Solomon Islands Government, through its various ministries, departments and agencies, is contributing to the work of addressing the country's overall obligations in relation to climate change. For instance, the Solomon Islands Meteorological Services is the focal point of climate change in the country, and attempts to ensure that the climate change obligations are being met. Other agencies include the Ministry of Environment and Conservation that is working on the Solomon Islands National Capacity Self Assessment (NCSA) Reports, and the Ministry of Mines and Energy, which works on reporting on the energy aspect of climate change.

INSTITUTIONS	PROJECTS/INITIATIVES	OBJECTIVES/ISSUE ADDRESSED
<b>GOVERNMENT</b>		
Department of agriculture and livestock	Sustainable Land Management Project	Addressing Food Security
	RAMSI and AusAid Rural Livelihoods Strategy Project	Improving rural livelihoods and reducing the vulnerability of rural people, in ways that are economical, environmentally and socially sustainable.
Forestry	Forest Management Project	Reforestation and afforestation programmes.
Environment and Conservation	National Capacity Self Assessment Project (NCAS)	Assessing capacity issues to UNFCCC and cross-cutting issues
	International Waters Programme	Sustainable use of marine and coastal resources
	National Biosafety Project	Propagation of genetically modified food
MET	National Adaptation Programme of Action (NAPA)	
NDMO	Pacific Adaptation on Climate Change (PACC)	Coastal land management

**Table 6. Table showing some arms of Government with mitigation and adaptation roles<sup>5</sup>**

Source: extracted and modified from the Ministry of Environment, Conservation and Meteorology 2006.

<sup>5</sup> Refer to Annex 4/7 for some of the strategies implemented by some government departments in detail.

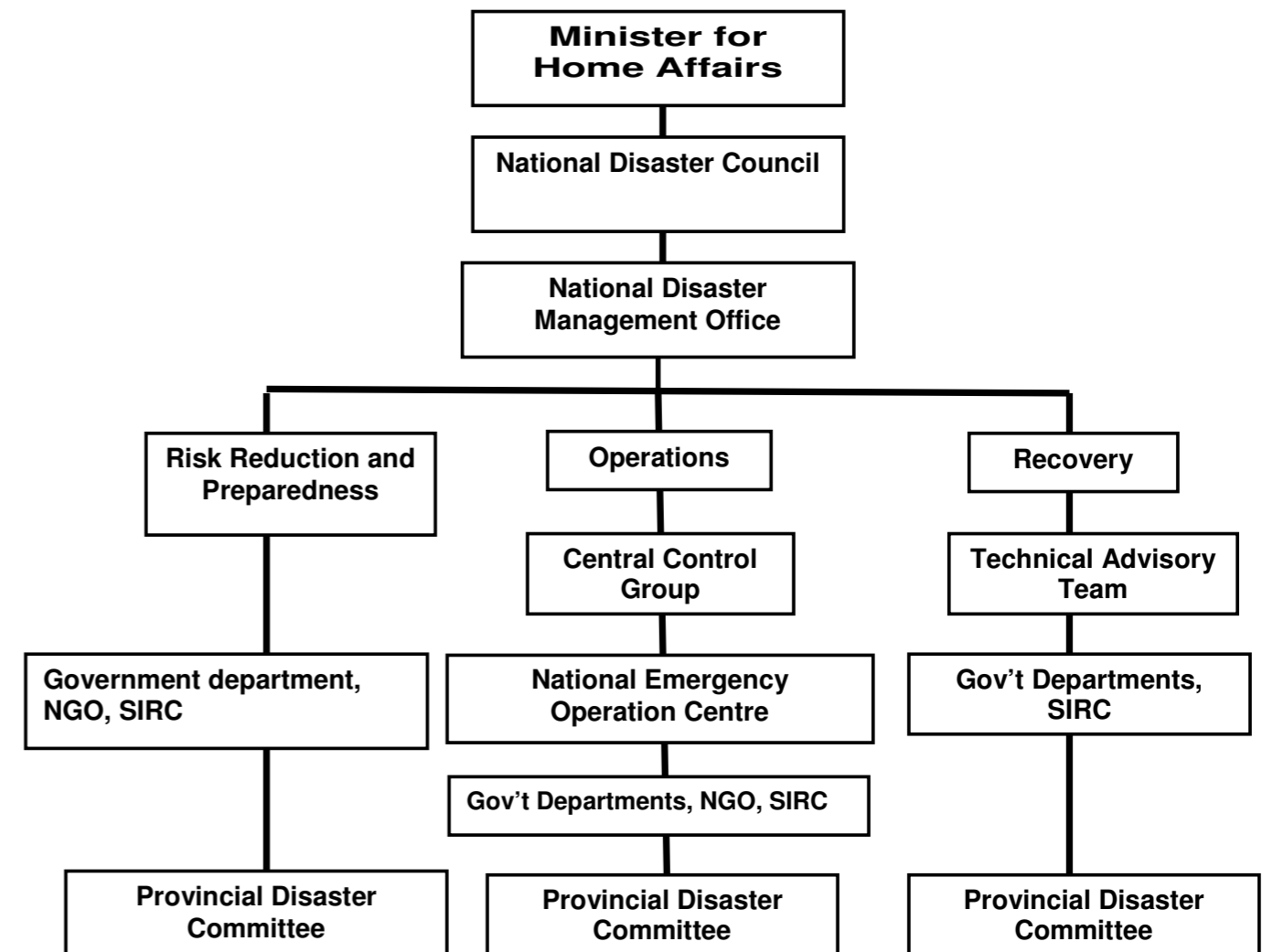
**5.3 Institutional Arrangements for Disaster Management**

In the Solomon Islands, the National Disaster Council (NDC) is the body that formulates and implements the disaster management policies. The National Disaster Management Office (NDMO) is the implementing arm of these policies and operates in close cooperation with the government departments, other stakeholders and the Provincial Disaster Committee according to established development procedures (see Figure 23).

The National Disaster Council (NDC) is chaired by the Minister for Home Affairs/Permanent Secretary and serviced by the National Disaster Management Office (NDMO).

**Figure 23. The Institutional Arrangements for Disaster Management.**

Source: SIRC National DM Plan. 2007.



**5.4 The Role of Red Cross in National Disaster Management**

Solomon Islands Red Cross Society, by the act of the National Parliament (a separate act from the Non Governmental Organizations Act) was established in 1983 as an auxiliary (extra supporter) of the public authorities dedicated to protecting human life and dignity in the Solomon Islands, thereby promoting lasting peace. Hundreds of people in the Red Cross help those hurt by armed conflict, social disturbances, natural disasters, and other human tragedies. Victims around the country and region come to trust the people of the Red Cross to be there to provide important humanitarian services.

The people of the organisation help anyone in urgent need. No regard is paid to political, racial, religious, or ideological differences. No point of view or person is favoured over another. Neither influence nor pressure will change these facts.

Red Cross members help people to prepare for, recover from, and, if possible, prevent the effects of tropical cyclones, floods, fires, sea level rise, diseases, or other disasters that threaten individuals or communities.

They help people prevent and handle emergencies through Commercial and Community Based First Aid training and health skills. Where needed and possible, they save hundreds of lives by promoting reliable supply of blood. They also share the resources necessary to improve service to people throughout the Solomon Islands, regionally and internationally. They give new direction in the lives of disabled children through special education to read and write in sign language. The financial support of individuals, business houses, donor friends, and governments makes this work possible.

The Solomon Islands Red Cross Society may actively offer assistance to disaster victims through its Branches in a spirit of cooperation with the public authorities. It may also undertake longer-term assistance programmes. Such programmes should be designed to reduce vulnerability to disasters, and prepare for future possible disasters<sup>6</sup>.

### 5.5 Roles within the National Disaster Management Structure (NDMS)

#### General Roles of the NDMS<sup>7</sup>

The national disaster management structure, as outlined in the Solomon Islands National Disaster Management Plan, states that the Solomon Islands Red Cross Society shares the following general roles and responsibilities with other Disaster Management stakeholders in relation to natural disasters:

- a) Prepare operational disaster plans and submit these to the National Disaster Council for consultation;
- b) Ensure assets required for adequate disaster response are maintained in good working order and disaster stock is replenished as necessary;
- c) Inform personnel on preparedness and emergency arrangements;
- d) Contribute to the implementation of disaster prevention, preparedness and mitigation policies as decided by the NDMO;
- e) Cooperate with NDMO at the National and Provincial levels (through PDC) during all emergency operations;
- f) Share information with the NDMO and other relevant agencies on assessment results;
- g) Secretary General or Deputy Secretary General (or nominated senior officer) will liaise with other DM stakeholders in the event of disaster;
- h) Provide input in the preparation of disaster rehabilitation plans with the NDMO;
- i) The Secretary General or Deputy Secretary General to be a member of the NDC.

<sup>6</sup> Refer to the SIRC Mission of Statement in the Preface and the arrangements in Figures 11 and 12 of that document.

<sup>7</sup> Extracted from the SIRC National DM Plan. 2007

#### Specific Roles of the National Disaster Management Structure

Furthermore, the Solomon Islands National Disaster Management Plan assigns specific roles and responsibilities to the Solomon Islands Red Cross Society as the following;

- a) Assist in public awareness campaign and training through Branch officers and National Headquarters;
- b) Assist in post-disaster survey and assessment particularly in the area of the most vulnerable populations' needs in liaison with other DM stakeholders;
- c) Red Cross will provide relief items as appropriate within its capacity based on the results of its assessment;
- d) Notify the International Federation of Red Cross and other Red Cross external partners and request assistance when required;
- e) Devise and undertake other relief measures as appropriate in coordination with NDMO;
- f) Undertake Voluntary Blood Donor Recruitment if required and within capacity of SIRC;
- g) Assist in tracing of missing persons.

In addition, the Solomon Islands Red Cross Society Disaster Preparedness and Response plan have specific roles assigned for the Branch Level, National Headquarter Level and the International Level in relation to the general disaster management structure of the SIRC. Refer to diagram in Figure 24.



**SIRC STRUCTURE DURING DISASTER**

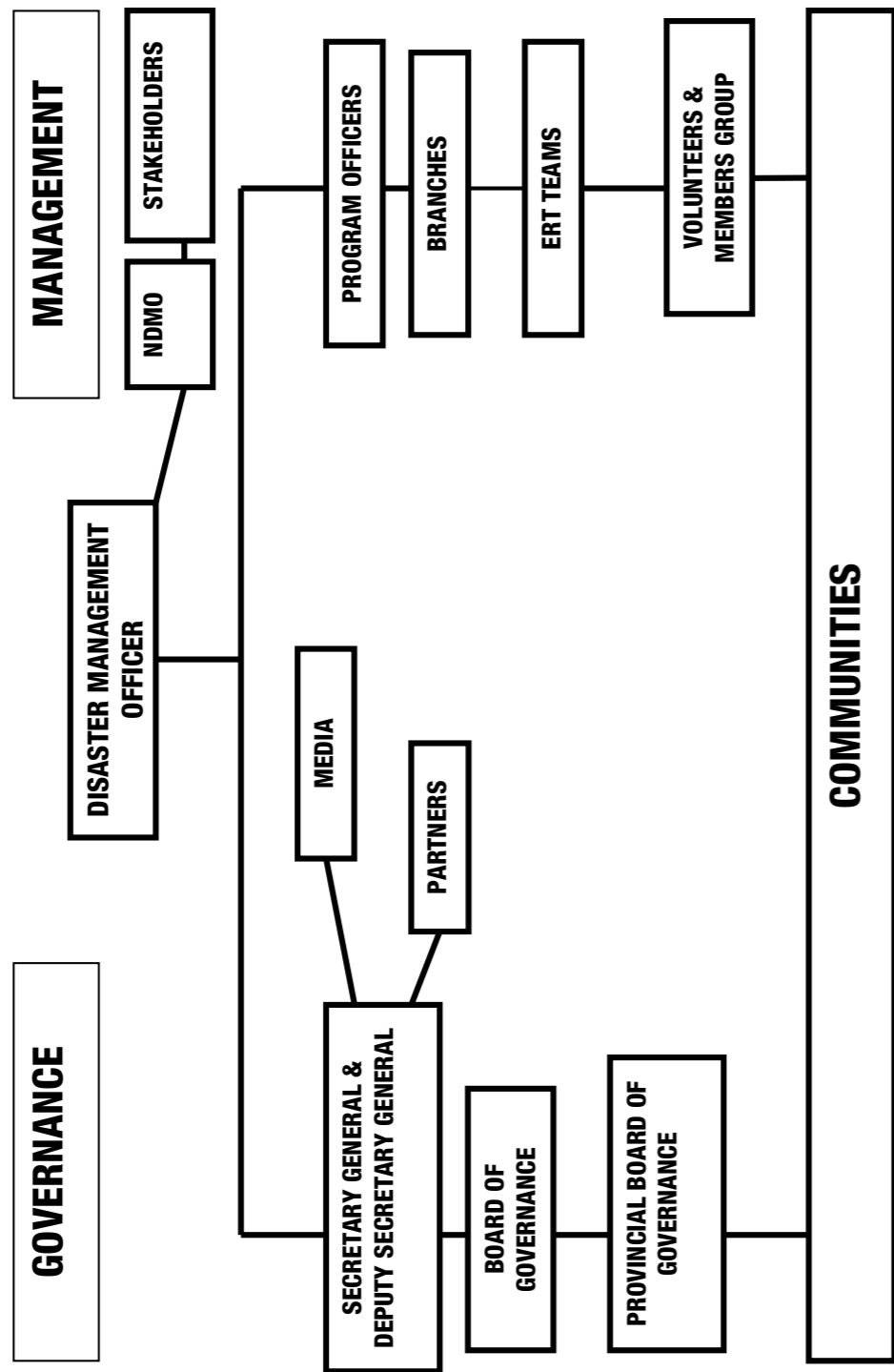


Figure 24. The Structure of SIRC during Disaster Operation. Source: SIRC National DM Plan. 2007.

**National Disaster Management Structure during Emergency Operations**

During an emergency operation, at the National level coordination and control is provided by the National Disaster Council (NDC), which includes the Permanent Secretaries of key departments (see Figure 25). At the Provincial levels the Provincial Disaster Committee (PDC) is responsible for the emergency operation in close cooperation with the National Disaster Council. Solomon Islands Red Cross Society is a member of the National Disaster Council and works closely with the Government Departments, other Disaster Management stakeholders and the Provincial Disaster Committee.

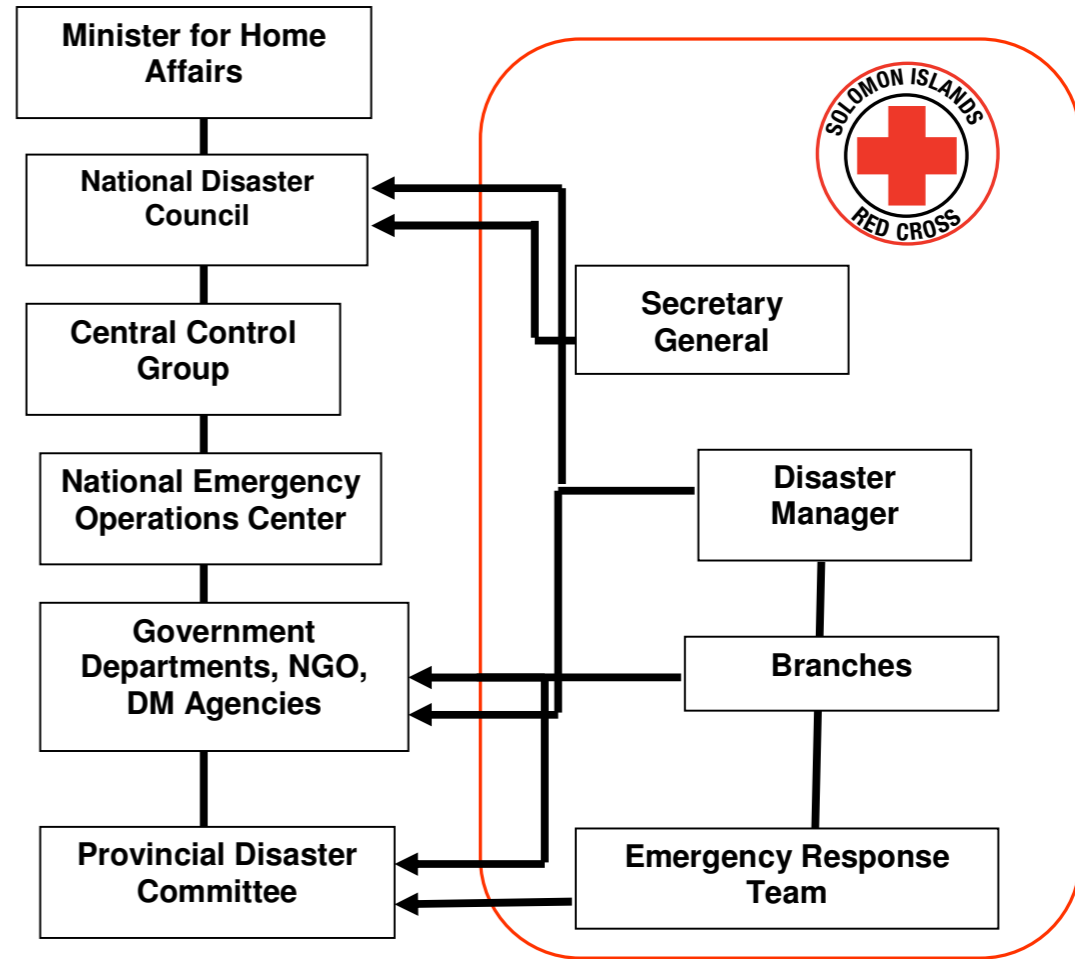


Figure 25. The organisation structure during emergency operations.

Source: SIRC National DM Plan. 2007.

# 6. DISASTER RISK REDUCTION WITHIN THE NATIONAL RED CROSS/ RED CRESCENT NATIONAL SOCIETY AND THE IMPLICATION OF CLIMATE CHANGE

## 6.1 Disaster Risk Reduction as part of RC/RC disaster management Mandate<sup>8</sup>

The Solomon Islands Red Cross Society has been mandated by the Solomon Islands Red Cross Society Act 1983, which was enacted by the National Parliament on 19<sup>th</sup> June 1983.

In addition, the Solomon Islands Red Cross Society Constitution which was adopted in 29<sup>th</sup> March, 2004 has spelled out the General Objectives and Principles of SIRC in Chapter 2, Article 5 of the constitution as follows:

*(5.1) The general objectives of the Society shall be to prevent and alleviate human suffering with impartiality, making no discrimination as to nationality, race, sex, religious beliefs, language, class or political opinions*

*(5.2) For this purpose, its task is in particular:*

*(2) To contribute to the improvement of health, the prevention of disease and the mitigation of suffering by a programme of training and services for the benefit of the community, adapted to national and local needs and circumstances.*

*(3) To organise, consistent with any national plan, emergency relief services for the victims of disasters, however, caused and to provide education in disaster and conflict preparedness.*

*(4) To recruit, train and assign such personnel as are necessary for the discharge of its responsibilities.*

*(6) To promote the Fundamental Principles of the Movement and international humanitarian law in order to develop humanitarian ideals among the population, particularly among children and youth, ideas of peace, mutual respect and understanding among all peoples.*

Therefore, the SIRC, under the Solomon Islands Law and as an auxiliary body to the government, has an obligation to try and help prevent and alleviate human suffering in relation to the country's Disaster Management. Disaster Risk Reduction and Prevention is one of the core components of this obligation. This means 'preventing suffering by helping people prepare for and avoid exposure to situations that can increase their vulnerability'. This also is in line with the IFRC 2010 Strategy, page 6.

## 6.2 Risk Reduction activities of the Solomon Islands Red Cross Society

In the broader Disaster Management spectrum, the Solomon Islands Red Cross Society is involved in all the three key phases of Risk Reduction and Preparedness, Operations and Recovery. The overall focus is mainly on Disaster Response. This however, is intrinsically linked with Disaster Preparedness; for instance through the Disaster Preparedness Containers and the Emergency Response Teams. These are activities that focus on preparing for response. Indirectly, this has also been a risk reduction or preparedness activity due to its role in making communities aware of the likely consequences of disasters and how they can respond to them.

The SIRC, in addition to its four core programmes (1. Disaster Management; 2. Health Promotion; 3. First Aid, and; 4. Dissemination), has expanded and increased its programmes and activities with the introduction of several new programmes, including the *Preparedness for Climate Change*, and the *Voluntary Blood Donor Recruitment (Blood Bank) Programmes* in 2007. Each of these programmes has a clearer focus and has started to play vital roles in the broader arena of SIRC Disaster Risk Reduction. Table 7 summarises the SIRC Programmes and activities that relate to Risk Reduction.

<sup>8</sup> The italics statements included here are selected and extracted as direct quotes from the Solomon Islands Red Cross Society Constitution, 2004

Table 7 provides an overview of some of the SIRC programmes, the activities involved, the objectives of the activities and their achievements so far.

**Table 7. Solomon Islands Red Cross Society Programme Overview**

PROGRAMMES	ACTIVITIES	OBJECTIVES	ACHIEVEMENTS
<b>1 Disaster Management</b>	1. Disaster Preparedness Container Programme (DP Containers)	Readily available stock of relief supplies that could be issued to victims of disasters during a response.	3 x DP Containers in Honiara. 1 x DP Storage in Auki, Malaita Province. 1 x DP Storage in Gizo, Western Province. 1 x Storage in Lata, Temotu Province.
	2. Emergency Response Team (ERT)	Have trained RC personnel who can be deployed into disaster affected areas to do assessment and relief distribution.	There are now ERT teams in 8 of the country's Provinces, all except Isabel Province.
	3. Vulnerability Capacity Assessment (VCA)	To work with communities in disaster prone areas using the VCA Tools to facilitate and gather information from the communities and making themselves identify the risks and vulnerability on their area and then help them decide on suitable coping strategies.	Currently 6 VCA have been conducted in 3 of the country's Provinces. Malaita – 2 Sites. Guadalcanal – 4 Sites. Western – 1 Site. The VCAs have brought communities to work together in Risk Reduction activities.
<b>2 Health Promotion</b>	1. Pilot Project in Weather Coast, Guadalcanal Province.	Able to make informed choices about behaviours that are safe and lead to improved health and well-being	Most people in the communities of Guadalcanal pilot project areas are now found to have practised hand washing before preparing food and before eating as habit.
	2. Pilot Project in Malu'u, Malaita Province.	Able to make informed choices about behaviours that are safe and lead to improved health and well-being	Villages like Kwene and Darawarau with Mana'abu have cleaned up their villages and built better roads after attending PHAST training workshops

3 <b>First Aid</b>	1. Commercial Based First Aid	<ul style="list-style-type: none"> <li>i. To earn income for the NS</li> <li>ii. To support the day to day expense of the department</li> <li>iii. To support the community based First Aid activities.</li> </ul>	<ul style="list-style-type: none"> <li>i. Own bank account</li> <li>ii. More than 400 people paid for training</li> <li>iii. 12 first Aid instructors with current certificates.</li> </ul>
	2. Community Based First Aid	To prepare communities for medical emergency	Conduct CBFA training in almost all the provinces in the Solomon Islands.
	3. First Aid Materials	<ul style="list-style-type: none"> <li>i. To have adequate material for the FA trainings</li> <li>ii. First Aid kit in stock for sale</li> </ul>	<ul style="list-style-type: none"> <li>i. CPR manekins in All the RC branches</li> <li>ii. 100 First Aid kit in stock for sale</li> </ul>
4 <b>Dissemination</b>	<p>Honiara:</p> <ul style="list-style-type: none"> <li>1. Workshops</li> <li>2. School Awareness</li> <li>3. Radio Spot</li> <li>4. Community awareness</li> </ul>	<ul style="list-style-type: none"> <li>i. To equip the internal target groups (staff &amp; volunteers) with RC working tools- I.e. Fundamental Principles &amp; Code of Conduct in disaster operation, and follow them at all times.</li> <li>ii. To prepare and make aware the external stakeholders (including public) to understand RC and its humanitarian help and respect it.</li> <li>iii. To campaign for general respect to the Red Cross emblem and who are protected by it during armed conflicts.</li> </ul>	<ul style="list-style-type: none"> <li>i. More people tend to respect the SI Red Cross and its properties, even during internal disturbances of 2006 April Riots &amp; stoning in Chinatown area during 2007 under 23 Inter-Provincial Soccer competition.</li> <li>ii. Improvement of our public relationship since our staff and volunteers have observed the Fundamental Principles and conducts &amp; preached the true work of the Red Cross.</li> <li>iii. SI Red Cross was the first Pacific National Society to organize the Regional RC Dissemination &amp; Communication officers in Honiara.</li> </ul>
	<p>Provinces:</p> <p>Community Awareness.</p>	<ul style="list-style-type: none"> <li>i. To make the communities aware of the work of the Red Cross to help the most vulnerable populations of our communities.</li> <li>ii. To campaign for general respect to the emblem and people or objects use it.</li> </ul>	<ul style="list-style-type: none"> <li>i. More communities are aware of the Red Cross' important humanitarian role in disasters. And they tend to trust the Red Cross.</li> <li>ii. Less improper uses of the Red Cross emblem found in our communities. Besides, the emblem becomes visible as a helper during manmade and natural disasters.</li> </ul>

5 <b>Voluntary Non-Remunerated Blood Donor Recruitment [Blood Bank]</b>	1. Workshops	To increase the knowledge of people on the importance of blood donation	Positive feedback from participants and dissemination of the information
	2. Community awareness	<ul style="list-style-type: none"> <li>i. To reach the community who were not aware of the benefits of blood donation.</li> <li>ii. To have a safe and healthy blood.</li> </ul>	<ul style="list-style-type: none"> <li>i. There have been great increases of people willing to donate blood.</li> <li>ii. People within the communities have safe and healthy blood due to awareness.</li> </ul>
	3. Recruiting, maintaining and caring for donors.	<ul style="list-style-type: none"> <li>i. To have new and safe donors</li> <li>ii. To have recognition and appreciation for donors</li> </ul>	<ul style="list-style-type: none"> <li>i. Now there are 1,767 people who are blood donors. 300 of these are repeat donors</li> <li>ii. All these donors being recognized through sending of cards.</li> </ul>
6 <b>Preparedness for Climate Change</b>	1. Workshop	Making Staff, Board of Governance, Volunteers and Partners of SIRC know the Issues of CC and its implications to the work of the NS.	23 participants including those from SIRC Provincial Branches. 5 guest speakers that included the MET, NDMO, Environment and Conservation and SIRC. The biggest Red Cross Climate Change Step 1 workshop so far in the Pacific.
	2. Awareness programmes	Making schools and communities aware of what climate change is, its causes, impacts and implications, and what we can do to cope with it.	The target groups (students) are found to be instrumental and influential due to the fact that they represent all the Provinces in the country and have the potential to spread the message. For instance, to their families during dinner or to their relative back in the villages when they go for their holidays.
	3. Networking and Partnership	Create links and partnership with the key climate change partners and disaster management stakeholders Locally, Nationally, Regionally and Internationally.	Locally the SIRC have strong community network and partners through the SIRC members groups in all the country's Provinces. Strong and good relations with schools in and around Honiara. Nationally, the SIRC now established good partnership with the MET which is the focal point of climate change in the country, strong ties with the NDMO and good relations with the Environment and conservation division of the SIG and other CC and DM stakeholders. Regionally and Internationally, the SIRC have established good relations with other Red Cross NS, IFRC, Climate Centre and other Regional Organisations.

**6.3. Implications of Climate Change for Disaster Risk Reduction by the Solomon Islands Red Cross Society**

Table 8 shows the likely causes and consequences of Climate Change on SIRC programs. It also presents future actions needed and areas of collaboration. Future new areas of work may be in water and sanitation, food security and nutrition

**Table 8. Implications of Climate Change for Programs at SIRC**

PROGRAMMES	ACTIVITIES	LIKELY CONSEQUENCES TO SIRC ACTIVITIES/ PROGRAMMES	WHAT CAUSES THE LIKELY CONSEQUENCES.	WHAT SIRC MUST DO.
<b>1 Disaster Management</b>	1. Disaster Preparedness Container Programme (DP Containers)	<ol style="list-style-type: none"> <li>The programme will not cater to meet the demand of response to disaster victims if it is a nation wide disaster given only 3 DP containers and 3 storages in the country.</li> <li>Need to increase the number and capacity of the DP containers and storages.</li> <li>Extend the programme to the provinces that are prone to disasters.</li> <li>Need more funding to maintain the programme.</li> </ol>	The increased frequency and intensity of tropical cyclones and other natural disasters like flooding and drought.	SIRC will have to increase the numbers and capacity of its DP containers and storages
	2. Emergency Response Team (ERT)	<ol style="list-style-type: none"> <li>Very difficult for the SIRC to train more new ERT Teams and find ways that the established teams can be maintained and kept up to date with the changes in relation to the assessment forms and procedures to be taken in different types of disasters.</li> <li>More disasters mean more personnel needed to do response. SIRC does not have money to do regular trainings and simulation exercises.</li> <li>Not all the team members will be available. For instance, if they are victims of a disaster themselves, they cannot perform their tasks.</li> <li>Lack of safety equipment to be used during disaster operations. example, safety booths, helmets, gloves and etc.</li> </ol>	<ol style="list-style-type: none"> <li>The responses to extremes like cyclones and flooding are expected to be greater and longer than before.</li> <li>More money is needed if the training is to be expanded throughout the country.</li> </ol>	There is some work in integrating other programmes such as the First Aid and climate change preparedness into the ERT manual. However, more work is still needed for the Teams to also train in Risk Reduction activities.
	3. Vulnerability Capacity Assessment (VCA)	<ol style="list-style-type: none"> <li>It is focused on identifying risks and vulnerabilities of the most vulnerable communities. However, since there are always several priorities that the communities identify as their risks and vulnerabilities, it has always been difficult to try and solve the problems as a "one off". At the same time it raises expectations that the Red Cross will meet all the risks and vulnerabilities identified.</li> <li>Other Provinces and communities that are most vulnerable to certain natural hazard are left out and this is due to the SIRC selection criteria.</li> </ol>	Increases in extreme weather events means increased risks and vulnerabilities for many communities especially those in disaster prone areas.	The VCA activities need to be fairly distributed to the most vulnerable communities and the SIRC VCA selection criteria should allow some provision for this. SIRC see potential in using VCA to identify local adaptation priorities.

<b>2 Health Awareness &amp; Promotion</b>	1. "Promotion Project" in Weather Coast, Guadalcanal Province and Malu'u, Malaita Province.	Number of malaria cases on an increase in the Weather Coast and also in the places where health program does not venture into because of the criteria of project selection Malaria still on the increase in the northern region of Malaita province. Other common health issues related to CC B diarrhoea.	Increased rain in the Weather Coast over the past months of 2007 Increases in warmer temperature & poor supply of mosquito netting to vulnerable communities have affected the population	SIRC should participate in the distribution of mosquito netting and also be involved in the dissemination of information on the impact of logging in the communities. There is need for SIRC to expand the HAP coverage in the country on basic hygiene. The communities in Malaita should be encouraged to include the village setting in the future programs to reduce malaria
	1. Commercial Based First Aid	Reduction of First Aid clients and funds	Diversion of funds for other needs First Aid money is used on other things e.g. More water is needed because of heat	
<b>3 First Aid</b>	2. Community Based First Aid	<ol style="list-style-type: none"> <li>Lose interest on First Aid</li> <li>Loss of First Aid training venue</li> </ol>	<ol style="list-style-type: none"> <li>People put their worry on many other things than first aid e.g. more time for gardening, now that climate has affected crop planting.</li> <li>CBFA usually held in environment where is conducive to learn. With increased frequency and intensity of weather extremes, venues for trainings are affected.</li> </ol>	An increase in the number of extreme events will require more First Aid.
	iii. First Aid Materials	Materials that could be used in commercial and community based First Aid Training.	There are still limited materials available (First Aid Booklets). Therefore need more production.	
<b>4 Dissemination</b>	Honiara and Provinces			
	1. Workshops	Isolated parts of the Solomon Islands have not been reached by Dissemination; for instance, North Choiseul & Tikopia.	<ol style="list-style-type: none"> <li>This is due to very high cost (but limited funds) and transport difficulties to reach those places.</li> </ol>	An increase in extreme weather events means more responses for the Red Cross and therefore, more dissemination will be needed.
	2. School Awareness	Dissemination does not reach most parts of the branches.	<ol style="list-style-type: none"> <li>Trained branch disseminators do not effectively disseminate the IHL &amp; Fundamental Principles because they are loaded with other RC tasks.</li> </ol>	
	3. Radio Spot	Quarterly newsletter & 2008 Calendar are not done.		
4. Community awareness				

<p><b>5</b></p> <p><b>Voluntary Non-Remunerated Blood Donor Recruitment [Blood Bank]</b></p>	<p>1. Workshops</p> <p>2. Community awareness</p> <p>3. Recruiting, maintaining and caring for donors.</p>	<p>This program should be implemented in other Provinces</p> <p>This activity can be more effective in donor management and prevention on the infectious disease</p> <p>i. Recruitment of donors can be more effective for stand by purposes</p> <p>ii. Provision of healthy lifestyle can maintain good donors in return.</p>	<p>There is still misunderstanding of blood donation</p> <p>Cater for the capacity of the victimize community</p> <p>Provision of all blood donors is under the beneficial of the community</p>	<p>SIRC must include programs of blood donation.</p> <p>This activity must be emphasized</p> <ul style="list-style-type: none"> <li>• Support from both the community and the donor</li> <li>• Increased disasters will mean increased demand for blood</li> </ul>
<p><b>6</b></p> <p><b>Preparedness for Climate Change</b></p>	<p>1. Workshop</p> <p>2. Awareness programmes</p> <p>3. Networking</p>	<p>Climate Change is a new topic to most Solomon Islanders. And so, trying to simplify some of the technical terms especially the climatic terms and graphs is difficult. That is, although it is good to simplify, we do not want to lose the essence of those terms.</p> <p>i. The message being disseminated is need to be clearly understands by the target audiences.</p> <p>ii. Materials used also need to be simple so that it can be easily understand by the people especially those in the village level. For instance, posters, movies, stickers, pamphlets, read books and etc.</p> <p>iii. Materials used are sometimes not appropriate to use in a particular country. For example, in the Solomon Islands we do not experience the direct impacts of climate change on things like ice/snow-melting but we experience impacts by cyclones.</p> <p>i. There is still lack of climate change related information that is being exchanged between the climate change stakeholders in the country. And this maybe the result of different regulations that each stakeholder has of which it is acceptable.</p> <p>ii. Stakeholders are still working independently and this may cause duplication of work and activities if others are unaware.</p>	<p>Climate Change is now becoming a big issue and everybody has the right to at least know about it because it is all of us who are affected.</p> <p>The SIRC and other climate change stakeholders would like all individuals in the country to be aware of the climate change issue. The implications on awareness will be a set back for this task to be accomplished.</p>	<p>There is need for a climate change workshop in the country, especially in the national level. This will give those who are in authority the insight into the issue on the country level.</p> <p>So far the SIRC have started to develop some of its materials. Currently, apart from the climate centre and IFRC, it uses other materials from other stakeholders such as WWF and NDMO during awareness programmes.</p>

## 7. CONCLUSIONS AND NEXT STEPS

This report has identified a whole range of inter-related sectors that are threatened by climate change, and examined the associated implications in relation to the programmes and activities in the humanitarian work of the Solomon Islands Red Cross Society. In addressing the issue on the global scale, the regional and local levels need to be aware of the issue and act on it. Given the strong link with the international, regional, national and local communities, the Solomon Islands Red Cross Society and the Red Cross and Red Crescent Movement have a very important role to play in dealing with this global agenda. *In considering mitigation and adaptation opportunities, SIRC is both obliged and ideally placed to take into account the plight of the most vulnerable people and communities in relation to the socio-economic development and the sustainable management of their livelihoods.*

The implications of not acting now will have drastic effects on the current operational structure of the National Society, the governmental machineries and NGOs. So far, much work has already been done by several government departments that are secretariats to the country's obligations on the climate change related conventions and protocols. So too have the NGOs who have in many ways contributed to addressing the issue by implementing projects on mitigation and adaptation.

Important stakeholders such as the Ministries of Agriculture, Lands, Fisheries, Health and Energy and Mines, as well as relevant government and non-government agencies like the MET, Environment & Conservation Division, NDMO, are critical in developing policy that could cater for addressing all the aspects of climate change that directly or indirectly affect the country.

The Solomon Islands Red Cross Society, with the support of the Red Cross/Red Crescent Climate Centre, Netherlands Red Cross Society and the IFRC, has now undertaken the *Preparedness for Climate Change Programme*, which has shown great progress and has contributed significantly to the country's climate change arena since its establishment in early February 2007.

The SIRC recognises the challenges faced with climate change and is committed to tackling them, especially in relation to adaptation measures that link to the IFRC 2010 Strategy, RC/RC Climate Centre goals and the National and Regional Frameworks that contribute to achieving the country's obligation under the UNFCCC. SIRC plan to look for community level adaptation projects based on a sound understanding of local climate change vulnerabilities and capacities. These may include learning from traditional knowledge, rainwater harvesting on low-lying atolls, mangrove replanting, food security and water sanitation.

## 8. ANNEXES

### Annex 1/7: Methodology

The compilation of this report was made possible after nearly a year of gathering information using various methods. These methods include consultation with several in-country climate change and disaster management partners and individuals. Sources include interviews, direct observations, and use of secondary data from reports and the Internet.

#### Interviews.

In consultation with the various partners, interviews were conducted with individuals in specific divisions and departments that have programmes related to the purpose of this report. Interviews were also conducted with villagers and several key informants from several areas included in the report that were identified as climate change and disaster vulnerable sites in the country.

#### Direct Observation.

Direct observation was also a tool used. Several sites were used as case studies in the report based on direct observation and interviews.

#### Photographs.

Photographs were used in the report as both primary and secondary data. Primary – the photos that were taken by the team who helped to compile the report. Secondary – the photos that were obtained from other partners and agreed to be used in the report.

#### Secondary Data.

The use of information from the previous reports and the internet were used as supporting data in several sections of the report. These include information from national, regional, international and technical aspects of the purpose of this report.

### Annex 2/7: Explanation of Greenhouse effect in more detail and some additional references on other Climate Change related aspects.

For more detailed explanations on the Greenhouse Effect refer to the following:

[www.unfccc.int](http://www.unfccc.int)

[www.ipcc.ch](http://www.ipcc.ch)

[www.climatecentre.org](http://www.climatecentre.org)

[www.metoffice.gov.uk/research/hadleycentre/obsdata/cet.html](http://www.metoffice.gov.uk/research/hadleycentre/obsdata/cet.html)

[www.metoffice.gov.uk](http://www.metoffice.gov.uk)

For more detailed information on sea level rise in the Pacific refer to the following:

[www.bom.gov.au/pacificsealevel/](http://www.bom.gov.au/pacificsealevel/)

For more detailed information on UNFCCC Thematic Report for Solomon Islands refer to:

Siho. Fred, Ministry of Environment, Conservation and Meteorology UNFCCC: Thematic Report for Solomon Islands 2006

**Annex 3/7: Summary Table of Solomon Islands Fulfillment of its Obligations**

(Extracted from the UNFCCC: Thematic Report for Solomon Islands.)

Obligations	What it Addressed?	How far in addressing?
<b>Mitigation</b>		
Art 4.1 (a)	Develop GHG Inventories	First GHG Inventory completed
Art 4.1 (b)	Formulate national and regional programmes containing <i>mitigation</i> and <i>adaptation</i> measures	The draft National Implementation Strategy (NIS) should be a guide to formulate such programmes.
Art 4.1 (c)	Cooperate in development and transfer of technology in all relevant sectors that reduce or prevent emissions	A regional mitigation option in energy undertaken under PICCAP. The draft NIS should assist in this area. A regional program on Mitigation is currently being developed by SPREP.
Art 4.1 (d)	Promote sustainable management of sinks	The NIS is the avenue to address the issue
Art 4.1 (f)	Take climate change into consideration in social, economic and environmental policies	The NIS is the avenue for a way forward
<b>Adaptation</b>		
Art 4.1 (b)	Formulate national and regional programmes containing mitigation and adaptation measures	The draft NIS should be a guide to formulate such programmes
Art 4.1 (e)	Cooperate in preparing for adaptation; develop integrated plans for coastal zone management, water resources and agriculture and for the protection of areas affected by drought and flood	The first Vulnerability and Adaptation (V&A) Assessment undertaken. The NIS and the National Adaptation Programme of Action (NAPA) should be avenues for a way forward.
Art 4.1 (f)	Take climate change into consideration in social, economic and environmental policies	The NIS is a way forward
<b>Reporting</b>		
Art 4.1 (j) and Art 12	National Communications to the COP, with information related to implementation	Initial NC submitted. The proposal for the Second NC in progress.
<b>Gathering and Dissemination</b>		
Art 4.1 (g) and Art 5	Promote and cooperate in scientific research, systematic observation, development of data archives	There are regional and national programmes in place to address this issue.
Art 4.1 (i)/Art 6	Promote and cooperate in education, training and public awareness related to climate change	<ul style="list-style-type: none"> <li>· Climate Change issues incorporated in the national curriculum.</li> <li>· Training of experts in GHG Inventory and V&amp;A.</li> <li>· A Climate Change Unit is established.</li> <li>· Training in negotiation skills.</li> <li>· Participation in international negotiations.</li> </ul>

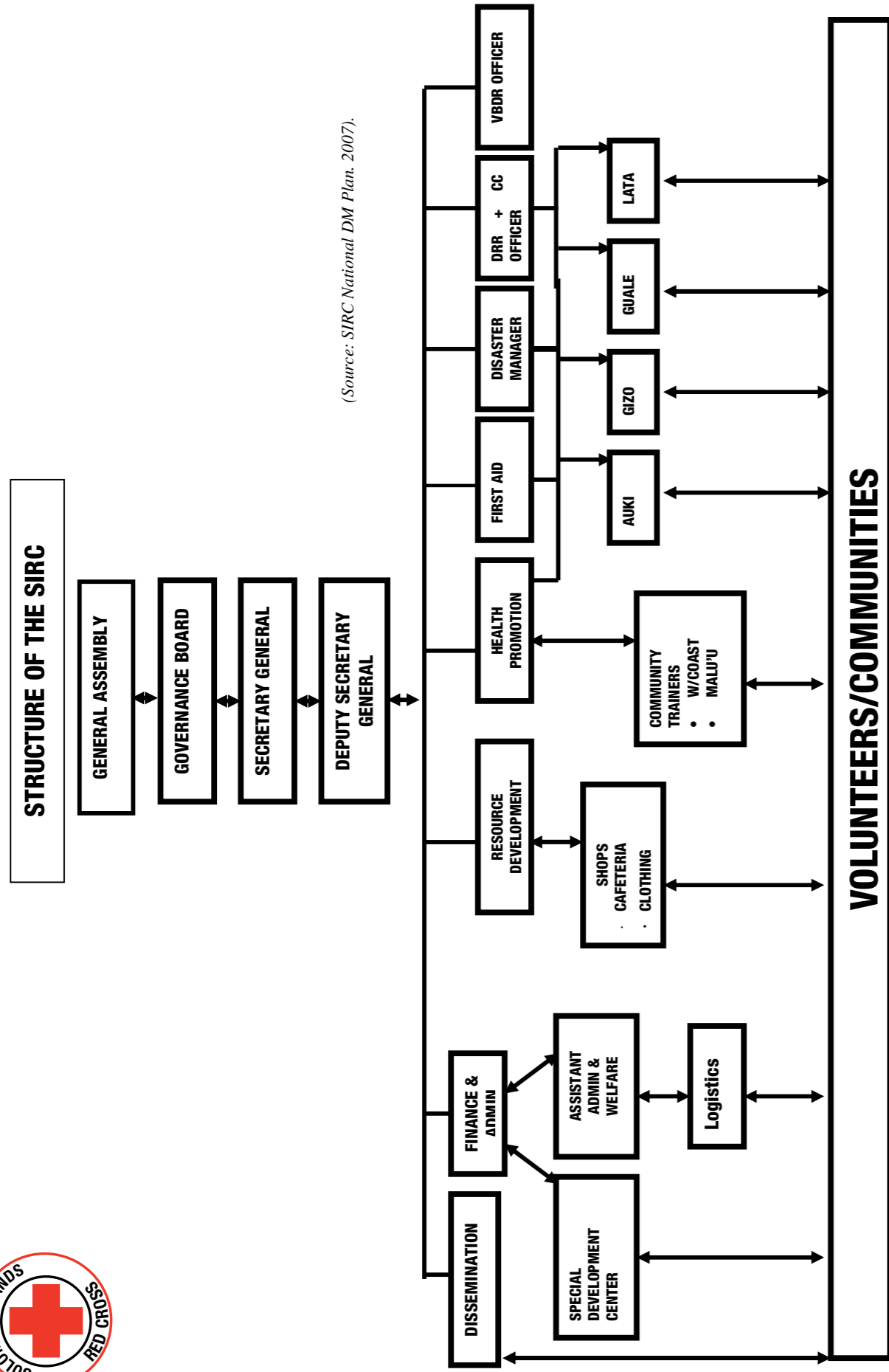
<b>Other Obligations</b>		
Art 4.3	Funding for developing countries	<ul style="list-style-type: none"> <li>· The Global Environment Facility (GEF) provided funding to produce the Initial NC.</li> <li>· The GEF will fund the Second NC.</li> <li>· The Special Climate Change Fund is created under the Convention to assist developing countries implement the Convention</li> </ul>
Art 4.4	Funding for particularly vulnerable developing countries	· Funding for NAPA.
Art 4.5	Transfer of technology particularly adaptive technology	The Adaptation Fund once operational should fund such a technology
Art 4.7	Links commitment to funding and technology transfer	The funding mechanisms in place will ensure that appropriate technologies are transferred to developing countries
Art 4.8	Actions for developing countries	A five-year Programme on Adaptation is still being negotiated at the COP.
Art 4.9	Actions to consider special needs of LDCs	NAPA is the avenue to deal with this Article.
Art 12	Communication of information regarding implementation of the convention – 'National Communications'	Initial NC submitted in 2004

**Annex 4/7: Some of the Projects and initiatives undertaken in the Solomon Islands by different Institutions and the opportunities that may be useful for the SIRC.**

(Extracted from the UNFCCC: Thematic Report for Solomon Islands.)

Institutions	Projects/ Initiatives	Funding Agency	Objectives/ Issue addressed	Opportunities relevant to climate change and maybe useful to the SIRC
<b>Government</b>				
Department of agriculture and livestock	Sustainable Land Management Project	GEF	Addressing Food Security	Mitigation and Adaptation strategy for land management and food security
	RAMSI and AusAid Rural Livelihoods Strategy Project	RAMSI	Improving rural livelihoods and reducing the vulnerability of rural people, in ways that are economical, environmentally and socially sustainable. (AusAid. 2004).	Mitigation and Adaptation strategy through a holistic approach in livelihood
Forestry	Forest Management Project	AusAid	Reforestation and afforestation programmes.	Help stabilisation and regeneration of carbon sinks and develop reforestation programmes.
Environment and Conservation	National Capacity Self Assessment Project (NCAS)	GEF	Assessing capacity issues to UNFCCC and cross-cutting issues	Develop an action plan framework to address capacity needs for climate change
	International Waters Programme	GEF/SPREP	Sustainable use of marine and coastal resources	Coastal adaptation and mitigation activities such as mangroves protection and replanting
	National Biosafety Project	GEF	Propagation of genetically modified food	Issue of climate change and environment factors
MET	National Adaptation Programme of Action (NAPA)	GEF	The coordinating body for the development of all sectors "Adaptation to Climate Change programmes"	To have some input in the implementation of the NAPA in the country
NDMO	Pacific Adaptation on Climate Change (PACC)	SPREP	Coastal land management	Adaptation and mitigation for coastal areas

<b>Non-Government Organisations and Donor development related initiatives on Climate Change</b>				
The Nature Conservancy	Arnavons Community Marine Conservation Area	TNC	Buffer site for breeding due to coral bleaching	Developing management of coastal areas
World Wide Fund for Nature (WWF)	Roviana and Vonavona Lagoons Marine Resources Management Programme	WWF	Development and coastal management and logging activities	Mitigate the effects of climate change
Foundation of the peoples of the South Pacific International (FSPi)	MPA in Langa Langa lagoon		Marine resources management	
Kastom Garden	Food security projects in Makira and Guadalcanal		Food Security	Developing adaptations strategy on the effects of climate change
ECANSI			Coastal area management and mangroves replanting	
SIRC	Preparedness for Climate Change Programme and Disaster Risk Reduction	Climate Centre, Netherlands Red Cross and IFRC	Implications of the impacts of climate change on Humanitarian work and the most vulnerable communities	Develop adaptation strategy to the effects of climate change on humanitarian work and disaster risk reduction activities relates to the impacts of climate change on the most vulnerable communities



Annex 5/7: Overview of Solomon Islands Red Cross Society

Annex 6/7: Solomon Islands Red Cross Society Climate Change Background Report Key Contact List

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## THE SOLOMON ISLANDS RED CROSS

Solomon Islands Red Cross Society, by the act of the National Parliament (a separate act from the Non Governmental Organizations Act) was established in 1983 as an auxiliary (extra supporter) of the public authorities dedicated to protecting human life and dignity in the Solomon Islands, thereby promoting lasting peace. Hundreds of people in the Red Cross help those hurt by armed conflict, social disturbances, natural disasters, and other human tragedies. Victims around the country and region come to trust the people of the Red Cross to be there to provide important humanitarian services.

The people of the organization help anyone in urgent need. No regard is paid to political, racial, religious, or ideological differences. No point of view or person is favoured over another. Neither influence nor pressure will change these facts.

But the Solomon Islands Red Cross is more than a philosophy, or a historical institution. It is part of a worldwide belief that human life and dignity are worthy of respect and protection from the ravages of man and nature. It is a belief made real every day by the actions of skilled and trained people who are moved by a deep personal desire to help others without regard for their own material gain.

Red Cross members help people to prepare for, recover from, and, if possible, prevent the effects of tropical cyclones, floods, fires, sea level rise, diseases, or other disasters that threaten individuals or communities. They help people prevent and handle emergencies through Commercial and Community Based First Aid trainings and health skills. Where needed and possible, they save hundreds of lives by promoting a reliable supply of blood. They also share the resources necessary to improve service to people throughout the Solomon Islands, regionally, and internationally. They give new direction in the lives of the disabled children through special education to read and write in sign language. The financial support of individuals, business houses, donor friends, and governments makes this work possible.

# PRINCIPLES

## THE FUNDAMENTAL PRINCIPLES OF THE INTERNATIONAL RED CROSS AND RED CRESCENT MOVEMENT

### HUMANITY

The international Red Cross and Red Crescent Movement, born of a desire to bring assistance without discrimination to the wounded on the battlefield, endeavours in its international and national capacity to prevent and alleviate human suffering wherever it may be found. Its purpose is to protect life and health and to ensure respect for the human being. It promotes mutual understanding, friendship, co-operation and lasting peace amongst all peoples.

### IMPARTIALITY

It makes no discrimination to nationality race, religious beliefs, class or political opinion. It endeavours to relieve the suffering of individuals, being guided solely by their needs and to give priority to the most urgent cases of distress.

### NEUTRALITY

In order to continue to enjoy the confidence of all, the Movement may not take sides in hostilities or engage at any time in controversies of a political, racial, religious or ideological nature.

### INDEPENDENCE

The movement is independent. The National Societies, while auxiliaries in the humanitarian services of their governments and subject to the laws of their respective countries, must always maintain their autonomy so that they may be able at all times to act in accordance with the principles of the Movement.

### VOLUNTARY SERVICE

It is a voluntary movement not prompted in any manner by desire for gain.

### UNITY

There can only be one Red Cross or Red Crescent Society in any country. It must be open to all. It must carry on its humanitarian work throughout its territory.

### UNIVERSALITY

The International Red Cross and Red Crescent Movement, in which all Societies have equal status and share equal responsibilities and duties in helping each other, is worldwide.