LOSS AND DAMAGE GAP ANALYSIS FROM CLIMATE CHANGE
KIRIBATI COUNTRY REPORT
JUNE 2015

Prepared by Malia Talakai for the Secretariat of the Pacific Environmental Programme (SPREP) and GIZ
# Table of Content

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Introduction</strong></td>
<td>1</td>
</tr>
<tr>
<td>1.1 Background</td>
<td>1</td>
</tr>
<tr>
<td>1.2 Objective of the Gap Analysis</td>
<td>2</td>
</tr>
<tr>
<td>1.3 Methodology</td>
<td>2</td>
</tr>
<tr>
<td>1.4 Framework for analysing the gaps</td>
<td>3</td>
</tr>
<tr>
<td>1.5 Challenges</td>
<td>3</td>
</tr>
<tr>
<td>1.6 Content of the report</td>
<td>3</td>
</tr>
<tr>
<td><strong>2. COMMON UNDERSTANDING OF LOSS AND DAMAGE</strong></td>
<td>5</td>
</tr>
<tr>
<td>2.1 Background to loss and damage under the UNFCCC</td>
<td>5</td>
</tr>
<tr>
<td>2.2 Working definition of loss and damage</td>
<td>5</td>
</tr>
<tr>
<td>2.3 Loss and damage from extreme events and slow onset event.</td>
<td>6</td>
</tr>
<tr>
<td>2.4 Loss and damage under the Cancun Adaptation Framework</td>
<td>7</td>
</tr>
<tr>
<td><strong>3. CURRENT STATE: LOSS AND DAMAGE SECTOR SPECIFIC</strong></td>
<td>8</td>
</tr>
<tr>
<td>3.1 Knowledge of loss and damage from climate change</td>
<td>8</td>
</tr>
<tr>
<td>3.2 Loss and damage issues, events and impacts</td>
<td>8</td>
</tr>
<tr>
<td>3.3 Loss and damage projects &amp; programme</td>
<td>13</td>
</tr>
<tr>
<td>3.4 Loss and damage plans, policies, legislation</td>
<td>20</td>
</tr>
<tr>
<td>3.5 Loss and damage tools, guidelines, methodologies,</td>
<td>23</td>
</tr>
<tr>
<td>3.6 Non-economic losses</td>
<td>25</td>
</tr>
<tr>
<td>3.7 Migration, displacement and population mobility</td>
<td>26</td>
</tr>
<tr>
<td><strong>4. LOSS AND DAMAGE NEEDS</strong></td>
<td>30</td>
</tr>
<tr>
<td>4.1 Needs identification &amp; description</td>
<td>30</td>
</tr>
<tr>
<td><strong>5. RECOMMENDATIONS ON LOSS AND DAMAGE ACTIONS/PROGRAMMES</strong></td>
<td>35</td>
</tr>
<tr>
<td><strong>6. REGIONAL CONCEPT PAPER FOR LOSS AND DAMAGE ACTIONS</strong></td>
<td>37</td>
</tr>
<tr>
<td><strong>7. REFERENCES</strong></td>
<td>40</td>
</tr>
</tbody>
</table>
### List of Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADB</td>
<td>Asia Development Bank</td>
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<td>AOSIS</td>
<td>Alliance of Small Island States</td>
</tr>
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<td>CCCPIR</td>
<td>Coping with Climate Change in the Pacific Island Region</td>
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<td>COP</td>
<td>Conference of the Parties</td>
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<td>ENSO</td>
<td>El Nino-Southern Oscillation</td>
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<td>EU</td>
<td>European Union</td>
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<td>GEF</td>
<td>Global Environmental Fund</td>
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<tr>
<td>ICT</td>
<td>Information and communications technology</td>
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<tr>
<td>ILO</td>
<td>International Labour Organization</td>
</tr>
<tr>
<td>IPCC</td>
<td>Intergovernmental Panel on Climate Change</td>
</tr>
<tr>
<td>KAP</td>
<td>Kiribati Adaptation Programme</td>
</tr>
<tr>
<td>KJIP</td>
<td>Kiribati Joint Implementation Plan on Climate Change and Disaster Risk Management</td>
</tr>
<tr>
<td>KNEG</td>
<td>Kiribati National Expert Group</td>
</tr>
<tr>
<td>LDC</td>
<td>Least Developed Countries</td>
</tr>
<tr>
<td>PIC</td>
<td>Pacific Island Countries</td>
</tr>
<tr>
<td>SIDS</td>
<td>Small Island Developing States</td>
</tr>
<tr>
<td>SPC</td>
<td>Secretariat of the Pacific Community</td>
</tr>
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<td>SPREP</td>
<td>Secretariat of the Pacific Environment Programme</td>
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<td>UN</td>
<td>United Nations</td>
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<td>UNESCAP</td>
<td>United Nations Economic and Social Commission for Asia and the Pacific</td>
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<td>UNFCCC</td>
<td>United Nations Framework Convention on Climate Change</td>
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<td>UNDP</td>
<td>United Nations Development Programme</td>
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<td>USAID</td>
<td>United States of America AID</td>
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<td>USCCSP</td>
<td>United States Climate Change Science Programme</td>
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<td>WASH</td>
<td>Water, sanitation and hygiene</td>
</tr>
</tbody>
</table>
1. INTRODUCTION

1.1 Background

Recent developments have seen the topic of climate change related loss and damage move into the mainstream of international climate change negotiations. This was evidenced with the adoption of the Warsaw International Mechanism on Loss and Damage at COP 19 in 2013 and then at the most recent COP in Lima during which developed countries agreed to a proposed inclusion of the topic in the official post-summit statement. To date however, the discussion on loss and damage has focused mainly on the concept as a principle – i.e. that polluting developed countries should compensate small island countries for the loss and damage incurred as a result of man-made climate change. This has been part of the discussion about longer-term scenarios in which the boundaries of adaptation options are exceeded, i.e. adaptation is no longer capable of withstanding the (progressively severe) impacts of climate change. However while the principle of loss and damage is now firmly entrenched in the international climate change agenda, the subject is characterised by a shortage of empirical information, and remains theoretical in nature. Recognising the pressing need to inform the debate with solid on-the-ground research-based evidence, the Secretariat of the Pacific Environment Programme (SPREP) sought an expert on loss and damage to conduct a gap analysis on loss and damage issues in three Pacific Island Countries (PICs), as a first step towards establishing a coherent on-going programme on this issue in the region.

SPREP is an inter-governmental technical organisation mandated by the Pacific Islands Forum Leaders to service the environmental programming needs of PICs. This includes the issue of climate change and SPREP is the lead regional organisation in this field. SPREP plays a key role in supporting PICs in the UNFCCC negotiations process and provides active support to a Regional Loss and Damage Working Group established under the auspices of the Pacific Climate Change Round Table. The loss and damage gap analysis will align with and complement the workplan of the Regional Loss and Damage Working Group. It will also assist in providing empirical evidence to link the national to the regional and international levels.

The loss and damage gap analysis is funded by a grant from GIZ through its Global Programme on Risk Assessment and Management for Adaptation to Climate Change. It forms part of GIZ’s preparatory activities geared towards the development of a four-year programme of support to the Pacific Island Region commencing in 2015. Currently GIZ’s support to the region is channelled through the Secretariat of the Pacific Community (SPC) through a programme entitled: Coping with Climate Change in the Pacific Island Region (CCCPIR). The Geoscience Division of SPC has actively been working on assessing the economic impact of natural disasters in the region and has built up a significant repository of knowledge. The loss and damage
gap analysis has therefore sought to involve SPC and CCCPIR as active partners in the study.

1.2 Objective of the Gap Analysis

The main objective of the assignment is to conduct a gap analysis study on loss and damage issues in a cross-section of PICs so as to inform the development of a programme of activities on loss and damage at the regional level, as well as to feed into international negotiations on climate change.

Countries included in the study are Samoa (volcanic island with Polynesian ethnicity), Vanuatu (dispersed chain of volcanic islands with Melanesian ethnicity) and Kiribati (dispersed atoll islands with Micronesian ethnicity). The gap analysis focuses on identifying the main issues with respect to loss and damage in these countries with a view to establishing information, knowledge and capacity needs, including perceptions at community levels on climate change and loss and damage.

The national studies include a focus on key sectors in the context of small island developing states (SIDS), such as public and private infrastructure, environment, fisheries, agriculture, tourism as well as social and other private sectors. Of particular interest to SIDS are the issues of vulnerable groups and their dependence on ecosystems, the nature and extent of non-economic losses, patterns of migration, displacement, and human mobility.

1.3 Methodology

Methods to complete the gap analysis involved a combination of literature review, document analysis, in-country stakeholder consultations, and expert group discussions. National counterparts were identified to assist the expert consultant with data collection, liaising with national stakeholders and facilitating country visits. Following is a more detailed description of the different methods used:

a. Review of leading literature on loss and damage and an overview of the status of existing knowledge with emphasis on empirical studies;

b. Document analysis of relevant government policies, reviews, reports, etc. in the sectors concerned in the three countries;

c. In-country consultations with:

   • Government stakeholders from relevant sectors, including climate change, disaster management, economic and development planning, agriculture, forestry and fisheries, tourism, trade and industry, social development, environment and foreign affairs, women, youth and other vulnerable groups
   • Private sector stakeholders with an economic interest in loss and damage
   • Development partners engaged in loss and damage discussions
• Men and women from communities that are already being impacted by climate change

1.4 Framework for analysing the gaps

Three simple steps were used to analyse the data collected. The first step involved identifying the current status of events. The second step involved identifying needs to bridge the gaps and the third step involved formulating recommendations in the form of proposed future actions. This third step was guided directly by the needs identified in the second step.

More specifically, the first step involved an assessment of the current knowledge of loss and damage; identification of loss and damage issues and impacts by sector; current projects and programmes on loss and damage; current plans, policies and legislation on loss and damage; current tools, methodologies and guidelines on loss and damage and an assessment of non-economic losses and migration, displacement and population mobility. The second step, involved identifying country-level needs, describing those needs based on the assessments carried out in the first step. The third step involved formulating country-specific recommendations to address the sector-specific needs identified in the second step of the analysis.

1.5 Challenges

Time constraints were the major challenge with the project in terms of being able to fulfil all of its requirements. The terms of the project imposed a very tight timeframe of 60 days for the completion of three gap analyses in three culturally, geographically and economically distinct PICs. These gap analyses included conducting data collection and in country consultations over a vast region which presents particular travel challenges. While some of this challenge was mitigated by engaging in-country specialists, the breadth of sectorial coverage requested was nevertheless a challenge for one / two in-country specialists to cover. Project design on follow on work should bear in mind these specific challenges.

1.6 Content of the report

This report is divided into 7 parts. Part 1 provides a background to the gap analysis and the project objective, the methodology used and some of the challenges involved. Part 2 focuses on developing a common understanding of loss and damage. This is done by providing a brief background to loss and damage under the UNFCCC, proposing a working definition of loss and damage and outlining the scope of loss and damage, as well as setting out the current treatment of loss and damage under the UNFCCC. Part 3 looks at the current state of knowledge of loss and
damage, in-country loss and damage issues identified by sector including impacts experienced, an assessment of the current projects, programmes, plans, policies, legislation, tools, guidelines and methodologies available on loss and damage and an assessment of non-economic losses, migration, displacement and population mobility. Part 4 identifies and describes the needs based on the gaps and/or information lacking from the assessments in part 3. Part 5 provides key national recommendations towards a national programme on loss and damage, part 6 provides a concept paper on regional actions on loss and damage drawn from the three country recommendations and finally part 7 provides a list of references consulted for this report.
2. COMMON UNDERSTANDING OF LOSS AND DAMAGE

2.1 Background to Loss and Damage under the UNFCCC

In 1991, Vanuatu as the Chair of the Alliance of Small Island States (AOSIS) proposed as part of the UN Framework Convention on Climate Change an insurance scheme to address the consequences of sea level rise. Although this was not taken up entirely under the 1992 agreement, reference to insurance is made in Article 4 (8) of the Convention. It states that in the “implementation of the commitments in this Article, the Parties shall give full consideration to what actions are necessary under the Convention, including actions related to funding, insurance and the transfer of technology, to meet the specific needs and concerns of developing country Parties arising from the adverse effects of climate change and/or the impact of the implementation of response measures, especially on” small island countries and other countries also identified under Article 4 (8).

In the run up to the global climate change conference in Copenhagen, AOSIS included in its proposed legally binding Protocol, a section that establishes an international mechanism to comprehensively address the long standing needs of small island developing states. The AOSIS loss and damage proposal can be categorised into the following key areas:

- Risk assessment;
- Risk management, including through risk sharing and risk transfer;
- Approaches to address slow onset events; and
- Approaches to address recovery, rehabilitation and permanent losses.

Although Parties at the Copenhagen meeting did not agree on a binding outcome, the same proposal with a few amendments formed AOSIS’s position calling for the establishment of an international mechanism to address loss and damage from the adverse effects of climate change. At the 19th session of the Conference of the Parties in Warsaw, Parties to the UNFCCC established the Warsaw International Mechanism on Loss and Damage under Decision 2/CP.19.

2.2 Working definition of Loss and Damage

The growing importance of loss and damage for the international community has been highlighted by the IPCC (2014). However, in the context of the UNFCCC, there is yet to be an agreed definition of loss and damage. Nevertheless, Warner et al (2012) have proposed a working definition of loss and damage: "the negative effects of climate variability and climate change that people have not been able to cope with or adapt to".

The scope of loss and damage has been recognised to result from a spectrum of climate change impacts, from extreme weather events to slow onset processes.
UNFCCC, 2012; Warner et al., 2012). Loss and damage emanating from climate change impacts can be economic in nature, such as loss of income or damage to property and assets, and non-economic, including cultural, social and psychological impacts of climate change, as well as the loss of biodiversity and ecosystem services, amongst others (Morissey and Oliver-Smith, 2013).

Verheyen (2012) breaks loss and damage into three categories: i) avoided, ii) unavoidable and iii) unavoidable. Avoided loss and damage is used to characterise the impacts of climate change that are avoided by mitigation and adaptation. Unavoided loss and damage could have been avoided, but has not been because of inadequate mitigation and adaptation efforts. Lastly, there is some loss and damage that is unavoidable no matter how ambitious mitigation and adaptation efforts are. Those impacts that are either unavoidable or unavoidable will need to be addressed by a range of approaches beyond mitigation and adaptation, such as risk transfer tools and insurance and risk retention measures including social safety nets and contingency funds. Ultimately, the more successful mitigation and adaptation efforts are, the less loss and damage will be incurred.

### 2.3 Loss and Damage extreme and slow onset events

Siegele (2012) points out that novel climate conditions and unprecedented climate change impacts may occur on a variety of temporal and spatial scales. A distinction is sometimes made between “rapid onset” and “slow onset” events. A rapid onset event may be a single, discrete event that occurs in a matter of days or even hours, whereas slow onset events evolve gradually from incremental changes occurring over many years or from an increased frequency or intensity of recurring events.

A technical paper on slow onset events produced by the UNFCCC in 2012, further highlights that there are some important relationships between rapid onset and slow onset events. Drought, for example, is an extreme weather event, but it is also closely linked to slow onset, incremental climatic change. This has also been highlighted by the IPCC (2007). In addition, the phenomenon of an ecological threshold or tipping point has been identified which is “the point at which there is an abrupt change in an ecosystem quality, property, or phenomenon, or where small changes in one or more external conditions produce large and persistent responses in an ecosystem. Ecological thresholds occur when external factors, positive feedbacks, or nonlinear instabilities in a system cause changes to propagate in a domino-like fashion that is potentially irreversible. Once an ecological threshold is crossed, the ecosystem in question is not likely to return to its previous state” (USCCSP, 2009, p.1). The IPCC further observed that the “limits to resilience are faced when thresholds or tipping points associated with social and/or natural systems are exceeded, posing severe challenges for adaptation” (IPCC, 2012, p.20).
2.4 Loss and Damage under the UNFCCC’s Cancun Adaptation Framework

In the context of defining loss and damage, the Cancun Adaptation Framework established under UNFCCC decision 1/CP.16, identifies slow onset events to include “sea level rise, increasing temperatures, ocean acidification, glacial retreat and related impacts, salinization, land and forest degradation, loss of biodiversity and desertification”. The technical paper on slow onset events produced by the UNFCCC (2012) provides a detailed outline of some of the impacts of slow onset events listed under the Cancun Adaptation Framework.
3. CURRENT STATE: LOSS AND DAMAGE ISSUES/SECTOR SPECIFIC

The Kiribati Joint Implementation Plan for Climate Change and Disaster Risk Reduction describes the climate change and disaster risk context of Kiribati as an island atoll with a fragile economy and environment, that is vulnerable to climate change and has little capacity to cope with natural and man made disasters (KJIP 2014-2023). Climate variability, driven by natural phenomena such as the ENSO, causes extreme weather events, coupled with climate change extreme weather events are predicted to become more frequent (KJIP 2014-2023).

The following sectorial agencies were involved in the Kiribati country consultation: Department of Agriculture, Department of Tourism, Meteorological Office, Office of the Kiribati Adaptation Programme (KAP), Ministry of Health, Ministry of Finance, Ministry of Public Works and Utilities, Ministry of Education (Curriculum Section), Land Office and the Kiribati National Expert Group on Climate Change (KNEG).

3.1 Knowledge of Loss and Damage

There is an understanding and knowledge of climate change issues but very little is understood and known about loss and damage, specifically. The understanding and knowledge of loss and damage from climate change varies by sector from low, medium to high. For instance, in the tourism and agricultural sectors, the knowledge of loss and damage is very low. In the Meteorological Office, the understanding of loss and damage is in relation to natural disasters, but very little is understood about loss and damage in the context of climate change, particularly slow onset events.

However, for other sectors and departments, the knowledge and understanding of loss and damage from climate change is growing due to the loss and damage associated with climate change impacts becoming more frequent in Kiribati. Some of the frequent experiences of loss and damage include the losses and damages to coastal structures and infrastructure from frequent king tides and extreme weather events. Additionally, loss and damage to territory is an imminent issue with sea level rise, coastal erosion, seawater intrusion and overtopping being experienced throughout the Kiribati islands.

3.2 Loss and Damage issues, events and impacts

Those involved in managing key sectors in Kiribati identified loss and damage events, whether extreme or slow onset events, of importance for their specific sectors. Those loss and damage events were identified in relation to what the sector management views as important and based on impacts in sectors from events that are currently being experienced and reported at the national level or impacts from
events that are observed in relation to global research, literature, observation and monitoring.

The KJIP 2014-2023 does not clearly make reference to loss and damage from climate change. What it does, however, is identify the following climate change related events and impacts as peculiar to Kiribati. These include saltwater inundation, droughts, sea level rise, sea surface temperature rise, ocean acidification and cyclones with severe storms and extreme sea levels. These events have been observed from 1950-2009 and include climate projections of these events for Kiribati over the 21st century. Observation of climate trends in Kiribati observed over the period of 1950-2009 for sea surface temperature shows it has risen since 1970s with varying levels in the different islands. Projections show with very high confidence that it will continue to increase (Bell et al 2011). Drought impacts can be severe in Kiribati with the recent drought from April 2007 – early 2009 severely affecting the southern Kiribati islands and Banaba (KJIP 2014-2023). Although tropical cyclones rarely pass through Kiribati, storm surges and extreme sea levels occur occasionally. Sea level rise has also been recorded to fluctuate from year to year at levels of 26cm and especially as a result of ENSO (KJIP 2014-2023). Future projections show with very high confidence that sea level will continue to rise. Ocean acidification has been observed as increasing based on international monitoring which includes the large-scale distribution of coral reefs across the Pacific. Future projections of ocean acidification show with very high confidence that it will continue to increase.

In summary, the 21st century projections show with high confidence that the land surface air temperature will continue to increase; the sea surface temperature with very high confidence will continue to increase; sea level rise is projected with very high confidence to increase; ocean acidification with very high confidence will continue to rise; and weather events will be more extreme and frequent (KJIP 2014, p.23).

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<thead>
<tr>
<th>Agricultural and Livestock Divisions/Ministry of Environment, Lands and Agricultural Development</th>
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<td>The following loss and damage issues were identified by the agricultural sector:</td>
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1. Lack of understanding of what loss and damage is, the different loss and damage events and the loss and damage impacts that are of concern to the sector.

2. The sector is also under staffed and does not have the capacity to assess loss and damage and respond to it, not only in terms of personnel and technical skills but also in terms of financial resources.

3. The loss and damage impacts that are currently being experienced by the sector are mainly losses and damages to agricultural crops in the plantations (both commercial and food security crops), home gardens, livestock animals, soil
production, arable and cultivable lands, loss of Kiribati seasonal patterns, loss of medicinal and traditional plants that are important for medical purposes and for cultural activities such as handicrafts.

Tourism Division/Ministry of Communication, Transport and Tourism Development

Tourism is very small in Kiribati and is only starting to develop. Tourism depends on the natural attractions and infrastructure in place and any impacts on these will impact the tourism sector. Kiribati tourism focuses on different areas. For instance, the Gilbert’s group, focuses mainly on business travellers that are frequent visitors, for the Line Islands people visit for fishing and bird watching and is an area that is regularly visited by cruises. There is also a growing group of visitors to Kiribati under the banner of climate change. These visitors visit to view and experience the impacts of climate change in Kiribati.

Some of the impacts the sector currently faces are damages to infrastructure such as buildings and roads, and the eroding of tourist sites.

Meteorological Office

The Meteorological Office was formerly under the Ministry of Communication but has recently moved under the Office of the President together with climate change and natural disaster units. This is an attempt by the President to centralise these key departments to improve services and to also minimise disaster risk and the impacts of climate change. The Meteorological Office has a role in collecting weather data and information. Recently, the work of the Meteorological Office expanded to include the prevention of weather related disasters.

The Meteorological Office does not deal specifically with loss and damage issues or but rather they deal with the collection of data and analysing those data to be used by sectors and the communities. Some of the information collected includes, general weather forecasting, rainfall outlook and general information for the communities and the public. The Meteorological Office in Kiribati currently relies on the Fiji Meteorological Office for forecasting which often means delays in receiving information. The information is provided in English and the Kiribati language. The Kiribati information has been well received by the communities.

Kiribati Adaptation Programme Phase III

The Kiribati Adaptation Programme (KAP) focuses on three elements, namely water, coastal resilience and protection, and capacity building, focussing particularly on supporting government in their policy streams and in building their awareness. Although the programme is on adaptation, the impacts to the focus areas often highlight the limits of adaptation in Kiribati. KAP Phases I and II looked at planning
and identifying key elements, with very little implementation while Phase III focuses mainly on implementation.

The main focus of the water element involves leak protection, making better use of the water supply especially in South Tarawa and also identifying new resources for North Tarawa. The main loss and damage events that impact on water include the changes in rainfall patterns, sea level rise, and overtopping. Rainfall patterns could affect the ground water supply and sea level rise and overtopping cause water contamination and salinization. Water projects focus on making water more accessible and readily available to avoid impacts of less water or damage to the water supply or source of supply. However, the KAP III projects are not on loss and damage.

On the coastal element of KAP III, it looks more at building resilience rather than loss and damage. It has two components, which look at engineered structures such as sea wall and mangrove planting to provide natural protection. The main impacts include those from increased cyclone activity and increased storminess. These have the potential to increase wave energy on the shoreline of islands in Kiribati. Most of the shorelines are not in a state where they can tolerate waves. The recent cyclone Pam in the region provides an example of overtopping events that occurred in the outer islands, which resulted in inundation into the community areas and saltwater intrusion into the baibai pits.

### Ministry of Health

Loss and damage is a new concept to the Ministry of Health although the experiences from climate change impacts are not new. The main climate change and/or loss and damage issues for the health sector include loss and damage to infrastructure that is located near the coast, losses and damages to medical supplies and equipment, and impacts on water quality and water security. The losses and damages are associated with impacts of spring tides and sea level rise, particularly during spring tide season.

Other important issues for the health sector include the introduction of climate change related diseases such as vector and water borne diseases.

### Finance Division/Ministry of Finance and Economic Development

The Ministry of Finance and Economic Development plays an important role in the national context in relation to budgetary and national projects on climate change and on building resilience of sectors and communities to climate change. Although there is some understanding of climate change impacts within the ministry, there is very little known about loss and damage from climate change as a concept.
The Ministry relies a lot on technical experts from the Ministry of Environment and the Ministry of Works and Public Utilities. The Office of the President is also coordinating on climate change and the work that the Ministry conducts involves financing mitigation strategies, adaptation strategies, and assisting sectors to cost out their strategies and finding ways to finance those strategies, actions and plans.

A key challenge for addressing loss and damage for the Finance Division is the limitation of resources, finance, technology and capacity, to address additional impacts from loss and damage. Loss and damage is an additional burden on the country on top of its current limited resources to address adaptation to climate change.

**Curriculum Development Office/Ministry of Education**

There is little understanding of what loss and damage is in the whole climate change discussion and/or agenda. However, there is better understanding of climate change adaptation and building resilience to climate change. Some of the loss and damage related concepts that are discussed in the Curriculum Development Office include the loss of culture due to changing weather patterns and to the impacts of climate change on food security.

**Ministry of Internal Affairs**

The Ministry of Internal Affairs has three divisions, which include rural planning, funding and council projects; and culture division and local government. There is very little knowledge and understanding of loss and damage within this ministry.

The major climate change concerns for the Ministry of Internal Affairs and its divisions in terms of climate change loss and damage is sea level rise and the impacts from spring tides. Spring tides affect most islands, some more seriously than others. The current loss and damage currently being experienced includes losses and damages to government infrastructure such as buildings, causeways, roads and hospitals, as well as coastal erosion and overtopping.

**Land Office/ Ministry of Environment, Lands and Agricultural Development**

The Land Office is under the Ministry of Environment, Lands and Agricultural Development. The main loss and damage issues include: loss of land, land degradation, coastal erosion and seawater intrusion. The impacts of eroded lands, land degradation and loss of land productivity result from coastal erosion and seawater intrusion.

**Kiribati National Expert Group (KNEG)**
The Kiribati National Expert Group was set up as part of the Kiribati Joint Implementation Plan (KJIP) for Climate Change and Disaster Risk Management. It consists of representatives of the different sectors, communities and NGOs. The understanding of loss and damage in the different sectors varies from low, medium to high.

Representatives of the Kiribati National Expert Group identified the following loss and damage slow onset events to include sea level rise, salinization, ocean acidification, temperature rise, land degradation and climate variability. These events are in line with those identified by the Kiribati Joint Implementation Plan for Climate Change and Disaster Risk Reduction. These events are both observed and projected. Some of the impacts currently being experienced include coral bleaching, salty, brackish water and saltwater intrusion due to inundation and overtopping, damage to coastal structures due to coastal erosion and sea level rise, land and property loss, loss of agricultural land and land productivity, land degradation, loss of agricultural crops and livestock and water contamination.

Limited capacity to deal with current sector functions would mean additional capacity constraints on sectors when it comes to addressing loss and damage. Sectors currently do not have the people to assess and conduct valuations of the losses after major events or disasters. There are not enough resources to deal with loss and damage including compensation and rehabilitation costs.

Other loss and damage issues include the loss of biodiversity, eroding of tourist sites, loss of medicinal and traditional plants for medical and for cultural purposes, and changes to Kiribati seasonal patterns. These loss and damage issues are more in line with those that are identified to fall under the non-economic losses category identified by Morrisey et al (2013) and by the UNFCCC (2013).

### 3.3 Current Loss and Damage projects / programmes

There are no specific projects on loss and damage in Kiribati. However, there are some projects that are currently in place that address some aspects of loss and damage indirectly, such as sea level rise monitoring and coral reef impact monitoring that are part of current adaptation projects. Brief descriptions of these projects are provided below including observed limitations in addressing loss and damage. (Please note that this is not an exhaustive list of projects.)

#### 1. Republic of Korea: Pacific Islands Climate Prediction Services Project

Provides nationally tailored seasonal climate prediction information and builds the prediction capacity of Pacific Islands. The project is funded for three years from 2015-2017. The project will also develop region-specific downscaling methodologies and establish a climate prediction system. It will utilize the APCC’s multi-model ensemble prediction system and support the Pacific Met Desk Partnership. The APCC will not only provide information but will also assist Pacific
Island Countries and Territories to self operate the system after transferring the dynamical seasonal forecasting system to the SPREP Pac Met Desk Partnership.

The activities under this project will be useful for building a loss and damage information system. However, it is not yet tailored for loss and damage specific events, impacts and needs.

2. Vegetation and land mapping and improving food security for building resilience to a changing climate in Pacific Island Communities
The objective of this project is to evaluate and implement innovative techniques and management approaches to increasing the climate change resilience of terrestrial food production systems in the selected countries. It will do so through the introduction of integrated agricultural production systems based on assessments of the climate resilience of existing sites and supported through GIS tools and techniques.

Nothing in this project addresses loss and damage specifically.

3. EU/UNESCAP/ILO/UNDP enhancing the capacity of Pacific Island Countries to address the impacts of climate change migration
This is currently piloted in Kiribati, Nauru and Tuvalu.

The project aims at building the knowledge base on migration, improving migration data collection mechanisms, and enhancing national capacities to effectively participate in regional and bilateral migration schemes, particularly with regards to seasonal workers programmes in Australia and New Zealand.

The outcomes of this project are aimed at effective preparedness, response and recovery and strengthening institutional arrangements for disaster risk management and climate change. However, there is no link to migration as a non-economic element of loss and damage from climate change.

4. USAID Adaptation to Climate Change (Abaiang, Kiribati)
The government of Kiribati is leading a ‘whole of island’ integrated approach to climate change adaptation and disaster risk management. Abaiang atoll is the first pilot site. The project looks at safe sources of water and community water management. It will enable communities to better understand the vulnerabilities they are facing. The activities include integrated vulnerability and adaptation assessment, water quality testing, installation of water supply infrastructure and upgrading weather stations.

The project focuses on water quality and water security but does not however address loss and damage. There is also no clear linkage between testing for water quality and loss and damage from saltwater intrusion and salinization.

5. The Nansen Initiative (Expected to end in 2016)
Is a consultative process intended to build consensus on the development of a protection agenda addressing the needs of people displaced across international borders by natural disasters, including those that are climate change related.

While the process addresses the issue of migration and the needs of persons displaced across borders in relation to disasters, internal displacement or management of migration as an adaptation measure, it is not clear if the process addresses migration and displacement as an element of loss and damage and more specifically as a potential non-economic loss.

6. Implementation of the Strategic Program for Climate Resilience: Pacific Region-ADB Project Number 46449-001 Regional-Capacity Development
The project looks at climate change adaptation and disaster risk reduction and their integration into national and local policies and plans. The main output is the mainstreaming of climate change and disaster risk reduction in national and local development policies and plans. The project will also establish a regional technical support mechanism.

The project does not address the mainstreaming of loss and damage into national development policies and plans.

7. Vegetation and land cover mapping and improving security for building resilience to a changing climate in Pacific Island Communities
The project is a pilot project and will end in 2015. Its objectives are to evaluate and implement innovative techniques and management approaches to increasing climate change resilience of land-based food production systems for communities in the selected Pacific Islands, including Kiribati.

The project does not specifically address loss and damage.

8. Finnish-Pacific Project to reduce vulnerability of the Pacific Island Countries Livelihoods to the Effects of Climate Change
The project is a pilot project and will end in 2017. The objective of the project is to improve understanding of weather and climate services to improve the general decision making of grassroots communities and policy makers during the life of the project with the aim of continuing and sustaining long term improvement of weather and climate services in addressing the needs of people and sectors adapting to climate change and reducing risks of extreme events.

The project addresses extreme events but it does not address slow onset events.

9. USAID-Pacific Islands Coastal Community Adaptation Project
The project focuses on building resilience of vulnerable coastal communities in the Pacific region to withstand more intense and frequent weather events and ecosystem degradation in the short term and sea level rise in the long term. The key actions of this project include rehabilitating and constructing new, small-scale
community infrastructure, building capacity for community engagement for disaster prevention and integrating climate resilient policies and practices into long-term land use plans and building standards.

The project addresses sea level rise but it is not clear what aspect of sea level rise the project will be addressing and whether it takes into account residual and permanent losses and damages from sea level rise.

10. South Pacific Sea Level and Climate Monitoring Project
The project was implemented in IV phases with phase I from 1991-1995 and phase IV from 2006-2010. The objectives of the project include: maintaining the investment in existing and new monitoring infrastructure; continuing the core process of collecting, analysing, storing and disseminating high quality sea level data from SPSLCMP stations; and enhancing institutional capacity through training and technology transfer.

The project addresses key aspects to the collection of baseline information on sea level rise, which is considered a loss and damage slow onset event.

11. Synergistic impacts of global warming and ocean acidification on coral reefs
It is not clear whether this project is still current. The project develops equations describing changes in coral growth rates in response to increased temperature and ocean acidification. The data enable the development and refining of models for the evaluation of future impacts of climate change on Pacific coral reef communities. Results will help define appropriate management responses and prioritization interventions at the most vulnerable sites.

This is an important project to assessing the impacts of ocean acidification on coral reefs and finding adaptable solutions. However, this project does not address the impacts of ocean acidification on other marine species such as shellfish and does not consider ocean acidification in the scope of loss and damage from slow onset events.

12. Technical support project for island GUAN
The Global Climate Observing System (GCOS) Upper Air Network consists of stations selected from World Weather Watch. The goal of the project is to provide a technical support and programme management solution to ensure upper air programmes that are part of GUAN are operated in the Pacific effectively.

Weather observation could provide important baseline information for extreme events but the project does not address slow onset events. It is also not clear whether the project will be on-going.

13. Pacific Storms climatology products
The project dates to 1999 so it is not clear if this project is current or if it continued.
The objectives of the project include: users being able to explore how extreme events have been expressed historically and may be expected in a changing climate. The information will be critical in risk assessment scenario development in support of coastal land use planning and resource management. This will provide high quality science based information for decision making and policy making especially with coastal planning. This will include outputs such as a broad range of in-situ station and remotely sensed derived data products for the Pacific basin and a formulation of new integrated and/or regional climate indices.

The project is limited to extreme events and does not address slow onset events.

14. ADAPT Asia-Pacific
The project has an end date of May 2016. The principal objective of ADAPT Asia Pacific is to establish a fully functional and self-sustaining adaptation project preparation facility that will support the preparation of specific projects, but build on the capacity of the region’s governments to independently access climate adaptation funds.

The project does not address the preparation of specific loss and damage projects.

15. Kiribati Adaptation Program Phase III- Increasing Resilience to Climate Variability and Hazards
The objectives of the project are to: improve the climate resilience of the Kiribati government and communities by strengthening their capacity to manage climate change effects and improve the management and governance of water resources and infrastructure, increase availability and quality of water at the community level and protect targeted coastal areas from storm waves and flooding.

The project does not address loss and damage.

16. Coping with climate change in the Pacific Island Region (CCPIR)
The project has an end date of December 2015.

The objectives of the project are to enhance the competency and capabilities of local populations, national government authorities and regional organizations in order to cope with the effects of climate change and to combat its causes. The project includes reviewing policies and integrating adaptation considerations into them and focuses on the management of land, coastal natural resources and well as tourism.

The project does not specifically address loss and damage.

17. Pacific Island Global Observing System
The objectives are to develop capacity for the application of climate information to cope with climate variability and change and to establish a robust sustainable Pacific Islands climate observing system that meets long-term climate observation needs.
This project does not address loss and damage specifically. However, it contributes to approaches to address loss and damage especially on the application of scientific climatic information and the potential outputs identified for the project, which include rescuing all existing climate data for the region and digitising them and increasing the number of professionals at all levels in the field of science relating to climate, hydrology and oceanography in the Pacific Island countries.

**Agricultural and Livestock Divisions/Ministry of Environment, Lands and Agricultural Development**

There are currently no specific projects in place on loss and damage.

However, what the Agricultural Division is currently doing is working on strengthening its links and connections to the Office of the President for assistance in responding to some of the climate change impacts on food security and agricultural productivity. Current projects involving the agricultural sector in the list above are focused on adaptation and not on loss and damage.

**Tourism Division/Ministry of Communication, Transport and Tourism Development**

Loss and damage is very new to the Tourism Division and its staff. There is also no specific project or programme in place on loss and damage. However, the Tourism Division is currently part of the KNEG and is working closely with the Kiribati Adaptation Programme (KAP) as part of its institutional strengthening and capacity building in the area of climate change adaptation. This includes putting together activities on climate change for the tourism sector.

**Meteorological Office**

There are currently no specific projects or programmes at the Meteorological Office on loss and damage. However, its current function does contribute to providing the public with key information for preparation. The Meteorological Office’s current functions are to provide weather forecasts rather than providing guidance. It looks more into ensuring people have time to prepare to minimise the impacts of weather, climate variability and climate change.

The Meteorological Office provides the general public with an Extreme Spring Tide Prediction Forecast. With this information, a calendar is formulated and distributed to the general public with dates of when to expect extreme spring tides. Information from calendars are used to predict overtopping and inundation in coastal areas specifically on Tarawa. The Meteorological Office also provides information on rainfall, wave storms and seasonal forecasting and collects and analyses the data on impacts from these phenomena.
Currently the Meteorological Office also provides data on sea level trends for Kiribati and does some minor work on sea surface temperature. However, coral bleaching in relation to sea surface temperature is something that is currently not monitored. There are also no specific products in place to target the fisheries sector in terms of sea surface temperature.

**Kiribati Adaptation Programme III**

There are currently no specific projects or programmes on loss and damage. However, the Kiribati Adaptation Programme III is currently implementing adaptation projects on water, coastal resilience and capacity building and strengthening. Part of what the KAP III includes regular monitoring and testing of the salinity of underground water. The salinity of underground water is caused by sea level rise, impacts of spring tides, overtopping and inundation.

**Ministry of Health**

Loss and damage is new to the Health Sector and there are currently no projects in place on loss and damage.

**Finance Division/Ministry of Finance and Economic Development**

Loss and damage is also a very new concept for the Finance Division. However, the financial impacts of loss and damage to the country as a result of the impacts of spring tides, coastal erosion, overtopping and inundation are not new.

There are currently no specific projects or programmes on loss and damage from climate change. However, the Finance Division is currently working with other sectors (Ministry of Public Works and Utilities) and partners on road and causeway rehabilitation projects and on restructuring the Tarawa airstrip.

**Curriculum Development Office/Ministry of Education**

There are currently no projects or programmes on loss and damage. However, the Curriculum Development Office is currently involved in developing curriculum that takes into account climate change and its impacts.

**Ministry of Internal Affairs**

There are no specific projects or programmes on loss and damage at any of the divisions of the Ministry of Internal Affairs.

**Land Office/Ministry of Environment, Lands and Agricultural Development**
There is currently no specific project or programme on loss and damage in the Land Office. However, work that is currently being done by the Land Office includes assessment work such as site visits and other desktop work that is GIS based. Although some assessment work has been conducted, actual remedial work on the ground is still very limited and inadequate. This is mainly because of the lack of resources, lack of technical expertise to do the work and limited capacity within the Land Office.

**Kiribati National Expert Group**

There are currently no projects or programmes specifically on loss and damage in any of the sectors in Kiribati. However, some of the current work that is currently being done and where members of the KNEG have identified as adding value to addressing loss and damage include: having an early warning system in place, national weather and climate forecasting, promoting and improving ground water and rainwater harvesting, increasing public awareness on climate change impacts.

The KNEG also identified limitations in terms of what is currently in place. Including the lack of approaches to address compensation for loss of land and property as a result of sea level rise and coastal erosion and the high cost associated with rehabilitation of coastal infrastructure.

### 3.4 Loss and Damage plans, policies, and legislation

This section looks at the current sector/department/organizational policies, strategic plans and legislation. The aim is to identify what current policies, plans and legislation is there on loss and damage.

For most sectors, the concept of loss and damage from climate change is very new and loss and damage as a concept understood in the context of the UNFCCC is not clearly reflected in the current national policies such as the Joint Implementation Plan for Climate Change and Disaster Risk Management 2014-2023 and the Kiribati Development Plan 2009 – 2014.

Although there is no clear reference to loss and damage in these two policies, both policies in fact have identified extreme and slow onset events such as sea level rise, drought, salinization, rise in air and sea surface temperature as important to Kiribati. Sectors have also identified observed and experienced impacts that are already happening in Kiribati and some of these impacts are either due to extreme events or slow onset events.
Agricultural and Livestock Divisions/Ministry of Environment, Lands and Agricultural Development

Loss and damage is not in the current policies, plans and legislation of the agricultural sector. It is however, something the sector wishes to work on in the future.

Tourism Division/Ministry of Communication, Transport and Tourism Development

The Tourism Plan 2009-2014 is out of date and is yet to be updated. The Plan did not take into account climate change nor loss and damage.

Loss and damage is a very new issue to the tourism sector. It is identified as something the sector could consider in the future but the most pressing need for the tourism sector is building the capacity to understand loss and damage and how it relates to the sector.

The sector has requested the support of the South Pacific Tourism Organisation (SPT), to assist them with the updating and review of their previous plan. The tourism sector is part of the KNEG and through its involvement and participation in the KNEG, is aiming to incorporate climate change and loss and damage into the sector plan.

Meteorological Office

Loss and damage is not in the Meteorological Office plans and policies.

The Meteorological Office however is under the Office of the President and climate change is high on the President and the government’s agenda. The roles and functions of the Meteorological Office include improving services to the public to minimise the impacts of climate change.

In the past three years, the Meteorological Office has been collaborating with other Sectors and Divisions such as Water and the Engineering Unit to develop a drought response plan. Additional collaboration includes working with the Water Division and the Disaster Unit in developing disaster plans.

Kiribati Adaptation Programme III

The Kiribati Adaptation Programme is not a sector and as such does not have policies, plans or legislation on loss and damage. It has however identified some important areas arising from its activities in the country that are relevant to loss and damage.

In regards to loss and damage, atolls are sensitive element to coastal impacts, whether they are climate change driven or due to normal climate variability. In
Kiribati, beach mining occurs in Tarawa. This is effectively taking material from active coastal beach zones for use in construction. Taking material from the coast means it is not available to buffer the effects of climate change impacts. There are many beaches that are in a precarious state due to anthropogenic influences as well as environmental and climate influences.

Changes in sea level will exacerbate damage that is likely to occur particularly to beaches diminished by beach mining or in an eroded state. Although beach mining and aggregate mining are both licensed, they are not policed well. Options for substituting other material and resources are very limited. This is an institutional limitation for Kiribati.

### Ministry of Health

Loss and damage is new to the Ministry of Health. It is also not in any of its current plans, policies or legislation.

### Finance Division/Ministry of Finance and Economic Development

Climate change and loss and damage are not captured in the Ministry of Finance and Economic Development plans, policies and regulations yet. However, climate change is highlighted in the National Development Plan 2012-2015 and the Ministry of Finance and Economic Development is bound by the National Development Plan 2012-2015. The plan identifies extreme and slow onset events although it does not specifically make reference to them impacts that could lead to loss and damage.

The Ministry however, works with losses and damages the country is experiencing currently.

### Curriculum Development Office/Ministry of Education

Loss and damage is not in the Curriculum Development Division’s plan and policies. Similarly with the Ministry-wide plan, policies and regulations. The Ministry of Education has a Sector Strategic Plan 2012-2015. The National Curriculum Policy does make reference to sustainable measures, adaptation and awareness measures in relation to informing the young generation. This is embedded in one of the learning areas of the national curriculum, which is the Kiribati Communities Studies. There is a Kiribati Community Studies Officer that is working closely with the members of KNEG. There are also numerous inputs from other sectors such as agriculture into the development of context specific and appropriate curricula for Kiribati.

### Ministry of Internal Affairs
Loss and damage is not in the Ministry of Internal Affair’s plans, policies and legislation.

**Land Office/ Ministry of Environment, Lands and Agricultural Development**

Loss and damage is not in the plans, policies or legislation of the Land Office.

**Kiribati National Expert Group**

Most sectors have developed plans and policies and have either incorporated or are planning to incorporate climate change, climate change adaptation and climate change impacts but none specifically address loss and damage from climate change. In a number of sectors this may be a result of the lack of knowledge on approaches to deal with loss and damage. For example, in the Ministry of Public Works and Utilities, there is a clear maintenance plan that deals with damages but it is under resourced and currently has no dedicated mechanism to enable its implementation.

### 3.5 Tools, guidelines, methodologies

This section provides an assessment of the current tools, guidelines and methodologies on loss and damage in the different sectors.

**Agricultural and Livestock Divisions/Ministry of Environment, Lands and Agricultural Development**

There are currently no tools, guidelines or methodologies available on loss and damage in the agricultural sector.

**Tourism Division/Ministry of Communication, Transport and Tourism Development**

There are no tools, guidelines or methodologies on loss and damage in the tourism sector.

**Meteorological Office**

There are currently no tools, guidelines or methodologies on loss and damage in the Meteorological Office.

**Kiribati Adaptation Programme III**

The Kiribati Adaptation Programme III does not have any tools, guidelines or methodologies on loss and damage.

**Ministry of Health**
There are no available tools, guidelines or methodologies on loss and damage in the Ministry of Health.

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<tr>
<td>There are no tools, equipment, guidelines and methodologies to undertake loss and damage assessments for informed decisions in the Land Office.</td>
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<th>Kiribati National Expert Group</th>
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<tr>
<td>While sectors have noted that currently there are no tools, guidelines and methodologies to assess specifically loss and damage from climate change specifically, there are other tools available that are currently used as part of current adaptation projects, programmes or part of normal sector functions on adaptation and building resilience. These include:</td>
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   i) Surveying equipment and tools, especially for the assessment of coastal erosion
   ii) GIS based technologies that provide satellite imageries
   iii) Survey forms and sheets
   iv) Earth Thrusting
   v) EC Meters
   vi) EM34
### 3.7 Non-economic losses

In 2013, the UNFCCC released a technical paper on non-economic losses in the context of the work programme on loss and damage from climate change. The paper refers to non-economic losses as what “can be understood as the remainder of items that are not economic items” (UNFCCC 2013, p.3). Items falling under the definition of non-economic losses are those not commonly traded in markets and where there is also the absence of a market price. These characteristics make assessing the value of non-economic losses very challenging (ibid).

Non-economic losses can occur from both slow onset and extreme events, such as the loss of territory to sea level rise, and loss of life from extreme events such as cyclones (UNFCCC 2013, p.4). The paper further identifies areas where non-economic losses might occur, including, *inter alia*, life, health, displacement and human mobility, territory, cultural heritage, indigenous/local knowledge, biodiversity and ecosystem services (UNFCCC 2013, p.4, Morrisey et al 2013).

Non-economic loss in the context of loss and damage from climate change is a fairly new and emerging concept to most sectors in Kiribati. However, sectors identified key areas that align closely to the areas identified by Morrisey et al (2013) and the UNFCCC (2013). They include traditional knowledge especially in traditional farming, cultivation, food preparation and preservation, traditional seasonal patterns for planting and for fishing, culture and identity, lifestyle, land and cultural sites.

### Knowledge

Non-economic loss in the context of loss and damage from climate change is a fairly new and emerging concept to most sectors in Kiribati. There is limited knowledge and understanding of what non-economic loss is and its scope.

However, sectors did highlight key areas that were within the scope of what non-economic losses are. Those areas closely align with those identified by Morrisey et al (2013) and the UNFCCC (2013). Sectors identified the following areas which fall under the scope of non-economic losses: loss of traditional knowledge especially in traditional farming and food preservation, changes in the seasonal patterns for planting and for fishing, loss of culture and identity, social and un-avoidable new lifestyle changes, loss of cultural sites and loss of land.

### Current programmes/projects

There is very little consideration of non-economic losses. There are also no specific projects or programmes that address non-economic losses in the context of loss and damage.
However, traditional knowledge is being considered in adaptation activities in the agricultural sector although this is currently being done on a very limited basis. The impacts of climate change on culture are also not considered in any labour mobility or migration programme.

### Plans, policies and legislation

Non-economic losses in the context of loss and damage from climate change are not in the plans, policies or legislation of the sectors covered in this report. As mentioned above, this is a fairly new concept and sectors are considering incorporating this important area in future work and into their plans and policies.

The Kiribati Joint Implementation Plan (KJIP) for Climate Change and Disaster Risk Management does not specifically reference loss and damage or non-economic losses but it identifies observed and potential impacts in agriculture and food security to include loss of traditional agricultural skills and knowledge. In addition to the observed and potential impacts, the KJIP also provides some actions on documenting traditional knowledge in relation to cultivation, preparation and preservation techniques for traditional food crops and fruit trees.

### Tools, guidelines and methodologies

There are currently no tools, guidelines or methodologies in place on non-economic losses, including the assessment of non-economic losses.

### 3.8 Migration, displacement and population mobility

Migration, displacement and population mobility is already happening in Kiribati. Kiribati people are already experiencing movement from village to village or from island to island because of employment, family or due to loss of land or impacts to land where land becomes inhabitable. However, no official work has been conducted on internal mobility.

External migration is also happening and Kiribati people are already migrating to other countries within the region and elsewhere. Mostly for re-settlement and labour migration but not yet as part of external migration, displacement and population mobility resulting from loss and damage due to climate change.

Kiribati is also part of regional and international migration schemes such as the Pacific Access Category and the Recognised Seasonal Employer Work Scheme. The Office of the President deals with the policy aspects of migration. The Ministry of Labour deals with labour mobility schemes, which are linked to the Kiribati Climate Change Adaptation Policy.
Knowledge

Communities and government sectors are aware that internal migration and population mobility from village to village and from island to island is already happening in Kiribati. People move for various reasons, which include employment, family, loss or damage to land. However, as mentioned above no work has been done on internal migration to determine patterns of internal population mobility and displacement.

External migration is not unfamiliar to Kiribati people. People migrate abroad for employment, resettlement and to participate in regional schemes such as the Pacific Access Category, Recognised Seasonal Employer Work Scheme and Seasonal Workers Programme by the New Zealand Government and the Seasonal Workers Scheme by the Australian Government. Sectors are aware of this population mobility although most of the sectors do not deal with migration, displacement and human mobility.

Current projects and programmes

Migration, displacement and population mobility due to the impacts of climate change is a very sensitive issue for Kiribati. Kiribati people are very attached to their islands. Their lands and their islands are their sense of pride, identity and culture. Work on population displacement and population mobility is part of the normal function of the Ministry of Internal Affairs. However, no formal work has been conducted on displacement and internal population movement.

It is understood that at some point leaving the island is inevitable. However, migration, displacement and population mobility due to climate change is seen as a last option for Kiribati. There is currently one programme on migration, displacement and population mobility due to climate change in Kiribati. The programme is called Migration with Dignity established under the Migration with Dignity Policy established in 2011.

1. Migration with Dignity Programme under the Ministry of Education
The Curriculum Office and the Ministry of Education have placed an important emphasis on the Migration with Dignity policy and the Curriculum Office has started developing curriculum geared to implementing this policy. The aim of this programme is to equip the young generation with the relevant knowledge, skills and values that they need so that when the time comes to migrate, they are fully prepared with the knowledge and skills to survive in another country.

Other programmes on migration are not climate change related and include:

2. National Programme on population mobility
The Ministry of Internal Affairs deals with displacement of people and communities...
from areas affected within a village or within the national context. However, it does not deal with migration, displacement or population mobility beyond the national context.

3. Recognised Seasonal Employer (RSE) Work Scheme
This is a labour scheme provided by the Government of New Zealand, specifically in the horticulture and viticulture industries due to shortages of local workers. This scheme facilitates the temporary entry of additional workers from overseas including the Pacific and Kiribati to harvest and pack crops.

4. Pacific Access Category
The Pacific Access Category Scheme of the New Zealand Government allows citizens of several Pacific Island countries including Kiribati to be granted residence class visas in New Zealand. Each year, 75 citizens from Kiribati are eligible to register under this scheme.

5. Seasonal Workers Programme (Government of Australia)
The seasonal Workers Programme offers seasonal labour for those employers in selected locations in the agriculture and accommodation industry who cannot meet their seasonal labour needs with local labour. The programme is also aimed at contributing to the economic development of the participating countries by providing access to work opportunities in Australia.

Plans, policies and legislation
There is currently one policy in place on migration, displacement and population mobility related to climate change.

1. Migration with Dignity Policy
In 2011, President Tong presented migration as a long-term strategy if rising temperatures increase environmental, social and economic damage in coming years. The aim of this policy is long-term forward planning and the key element of this policy is the up-skilling of Kiribati nationals at all levels, focusing first on the vocational and technical levels. This programme is part of the Migration with Dignity Policy that was introduced in 2011.

The policy is based on a calculated awareness that delays in finalizing a new global climate treaty will lock in adverse environmental impacts over coming decades. The 2011 report on Kiribati from the Pacific Climate Change Science Program has projected increases in annual average air temperature and sea surface temperature. While sea-level rise is a long-term concern, the country faces more immediate challenges from changing rainfall patterns, ocean acidification and extreme weather events that adversely affect food security, water supply and coastal infrastructure.

2. Recognised Seasonal Employer (RSE) Work Policy (Government of New Zealand)
This is a labour scheme provided by the Government of New Zealand, specifically in the horticulture and viticulture industries due to shortages of local workers. This scheme facilitates the temporary entry of additional workers from overseas including the Pacific and Kiribati to maintain harvest and pack crops.

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4. LOSS AND DAMAGE NEEDS

4.1 Needs Identification and Description

This section identifies the needs of specific sectors, departments and organisations in relation to loss and damage. The needs are identified and the descriptions are based on the analysis performed in Section 3, above, particularly what is needed to address loss and damage in the sector contexts.

Agricultural and Livestock Divisions/Ministry of Environment, Lands and Agricultural Development

The specific needs of the agricultural sector in relation to addressing loss and damage include:

- Build sector’s understanding and knowledge of loss and damage and its impacts on the sector;
- Strengthen institutional capacity to respond to loss and damage;
- Build the sector’s capacity to do assessments on loss and damage impacts including impacts on food security;
- Secure funding for emergency response to loss and damage on food production;
- Incorporate loss and damage assessment tools on agricultural based food production in the central assessment tools at the office of the President (Climate Change Adaptation/Disaster Risk Management Unit); and
- Develop guidelines for producing products (this can be, e.g. information or insurance products) required for responding to loss and damage impacts on food and food security.

Tourism Division/Ministry of Communication, Transport and Tourism Development

The specific needs of the tourism sector include:

- Build the sector’s understanding and knowledge of loss and damage. This could be through the provision of training for staff on climate change generally and on loss and damage;
- Develop and build the sector’s capacity to deal with loss and damage. This can include employing specific persons to work on climate change, loss and damage, scientific research, assessments, collection and analysis of loss and damage data;
- Develop infrastructure needed to improve the tourism sector such as roads, accommodation;
- Share lessons learned from other Pacific islands; and
- Finance and means of support.

Meteorological Office
The following loss and damage related needs are specific to the Meteorological Office:

- Better understanding of loss and damage - what it is and how loss and damage fits into the current function of the Meteorological Office;
- Institutional capacity such as maximising the operational weather and monitoring stations to other islands that currently do not have stations. This also includes the need for more staff in the Meteorological Services Office, training staff on loss and damage, weather forecasting and monitoring of loss and damage;
- Equipment and tools. The Meteorological Office currently does not have radar equipment that will improve the quality of forecasting. The current tools used include satellite and computer models that will require access to and the use of fast performing internet. The internet in Kiribati is a slow connection, often delaying the receipt of information;
- Public awareness on loss and damage, including the preparation of information products and the translation of information for the community and public; and
- Finance and means of support to cover initiatives on loss and damage.

### Kiribati Adaptation Programme III

The Kiribati Adaptation Programme III identifies some of the following needs in relation to loss and damage:

- More awareness and understanding of loss and damage particularly the impacts of slower onset events;
- On the ground resources to be able to make assessments at the technical level, and enforce policies and regulation;
- Capacity of personnel on the ground to regularly use the equipment available, perform regular water testing, and monitor coastal impacts;
- More data and scientific information on the impacts in different sectors such as water and coastal areas, to be able to address impacts sooner and to begin to make longer term projections on slower onset impacts; and
- Finance and means of support for current work such as maintenance and staffing but also to implement additional work on loss and damage.

### Ministry of Health

The Ministry of Health identifies the following sector needs in relation to loss and damage:

- Better understanding of loss and damage and how they impact on the health sector;
- Capacity building - including staff training and awareness programmes on loss and damage;
- Scientific research and information on climate change and on loss and damage, including information on vector and water born diseases; and
• Finance and means of support to enable the sector to do extra work on climate change and loss and damage.

**Finance Division/Ministry of Finance and Economic Development**

The Ministry of Finance identifies the following needs:

- Continue working closely with other sectors and the Kiribati National Expert Group (KNEG);
- Capacity building - including training on loss and damage monitoring and assessment of individual events and their impacts, and having additional staff in the relevant sectors to work on loss and damage; and
- Finance and the means of support to enable the sectors to address loss and damage.

**Curriculum Development Office/Ministry of Education**

The Curriculum Development Office identifies the following needs:

- Better understanding of loss and damage;
- Capacity building - including more staff to work on developing curricula that takes into account climate change and loss and damage. Staff will need training and up-skilling particularly in the area of climate change and loss and damage;
- System to document traditional and local knowledge and record what is loss;
- Communication system - to provide learning for students and communities but also to provide information for communities. This could include information on loss and damage; and
- Finance and means of support for additional work on loss and damage including staffing, development of resources for learning.

**Ministry of Internal Affairs**

The Ministry of Internal Affairs identifies the following needs:

- Better understanding of loss and damage and the different impacts leading to it;
- Capacity building - Strengthening the current system to include work on loss and damage. This would include hiring additional staff and the training existing and new staff on loss and damage;
- Financial support for additional work on loss and damage.

**Land Office/ Ministry of Environment, Lands and Agricultural Development**

The Land Office identifies the following needs:

- Understanding the potential for loss and damage to land due to climate change impacts;
• Capacity building - including proper training of staff on the technical aspects of loss and damage, whether it be observation, monitoring, assessment, data collection and analysis;
• Tools and equipment - essential to the monitoring and assessment of loss and damage;
• Financial support for additional work on loss and damage.

**Kiribati National Expert Group**

The Kiribati National Experts group identifies the following needs:
• Better understanding of loss and damage especially in the different sectors and the impacts on different sectors. This includes a better understanding of non-economic losses, migration, displacement and population mobility;
• Strengthening scientific knowledge and expertise on impacts of loss and damage especially on slow onset events including a detailed assessment of the islands and especially on the baseline information on the different impacts of climate change on different sectors;
• Capacity building: including building the capacity of sectors to understand loss and damage; conduct research; collect data and information; monitor and observe impacts; conduct impact assessments; develop tools, guidelines, methodologies; staff training to enhance sector capacity to carry out assessments, mainstream loss and damage considerations into national plans and policies; and strengthen internal coordination and inter-sectorial collaboration on loss and damage, including more cross-sectorial projects;
• Institutional capacity - additional staff to work (monitor and assess) on loss and damage is a key priority, training of existing staff on loss and damage;
• Tools - Observation and monitoring stations, tools, equipment in more islands, including tools to monitor;
• Development of standardised guidelines, methodologies and tools for risk assessment in each sector;
• Design pilot projects to test the draft guidelines, methodologies and tools;
• Development of products and approaches to address slow onset impacts faced by Kiribati;
• Development of risk management approaches and tools, risk transfer and risk sharing tools, such as insurance, appropriate for a variety of climate change impacts, including identifying the costs and benefits of using those tools;
• Identify and design pilot projects to demonstrate the use of these tools in different sectors, in order to test the approaches and identify best practices;
• Means of Implementation – Financial, technological and capacity building support for projects and programmes on loss and damage; and Identify and facilitates access to resources and technical support for the implementation of national programmes that is to be developed from this gap analysis.
In relation to non-economic losses, migration, displacement and population mobility, many sectors noted the need to:

- Enhance the understanding of non-economic losses; and
- Collect information and record patterns of internal migration.
5. RECOMMENDATIONS ON LOSS AND DAMAGE ACTIONS/PROGRAMMES

This section provides recommendations for addressing the needs identified in Kiribati to address loss and damage from the impacts of climate change. The recommendations are based on the analysis of gaps and needs in this report, and will require dedicated financial and technical support from regional and international organisations with the appropriate expertise:

1. Develop better understanding of the issue of loss and damage, especially on slow onset events and impacts at the national level (government sector specific), provincial and community levels. This should include the issues of non-economic losses, migration, displacement, and population mobility.

2. Capacity building. Initially, capacity building on a broad scale would address many of the needs identified by the sectors covered in this report. Accordingly, capacity building activities should include the following topics:

   - Developing better understanding of the issue of loss and damage, especially on slow onset events and impacts at the national level (government sector specific), provincial and community levels;
   - Training on risk assessment, risk reduction and risk management across different sectors, including the use of standardised guidelines, methodologies and tools developed to carry out risk assessments;
   - Establishing research capabilities aimed at fostering internal collaboration among sectors on loss and damage, especially in the area of slow onset impacts;
   - Strengthening national and inter-sectorial policy coordination and collaboration on loss and damage; and
   - Enhancing human capacity dedicated to working on loss and damage additional to current sectorial work at all levels: national, provincial and community.

3. Develop ongoing training programmes on loss and damage to initiate newcomers and deepen and update baseline knowledge gained during initial capacity building activities set out in Recommendation 1. above. Among other things, these programmes should respond to expressed needs at the national and sub-national levels; be tailored to the audience concerned; take a cross-sectorial approach (where appropriate); and link into regional / international programmes, where relevant.

4. Build lasting country-level expertise and scientific knowledge on loss and damage, especially in the areas that will affect Kiribati in the long-term: ocean acidification, sea level rise and land and sea temperature rises.
5. Develop standardised and appropriate guidelines, methodologies and tools for risk assessment in each sector, including the assessment of slow onset events.

6. Design pilot projects to test the draft guidelines, methodologies and tools.

7. Expand observation and monitoring stations to more islands.

8. Formulate plans and policies to clearly take into account loss and damage.

9. Prepare and periodically review long-term assessments of risks to loss and damage from extreme weather and slow onset events, especially those that have been identified as relevant by the different sectors. These assessments could be done sectorally; however, there should be a mechanism for analysing the assessments across sectors. The assessments would serve a number of uses, including the exploration of regional level risk transfer/insurance mechanisms and identifying where support is required for national-level initiatives.

10. Identify risk management approaches and tools, including risk transfer and risk sharing tools, such as insurance, appropriate for a variety of climate change impacts, including identifying the costs and benefits of using those tools, and including approaches to address permanent losses. Design pilot projects to demonstrate the use of these tools in different sectors, in order to test the approaches, identify best practices.

11. Regional and international organisations should assist Kiribati with identifying and facilitating access to the financial and technical support required for the implementation of policies, plans and programmes to put in place a country-wide approach to address loss and damage to the impacts of climate change, both from extreme weather events and slow onset processes.
6. REGIONAL CONCEPT PAPER FOR LOSS AND DAMAGE ACTIONS

This regional concept paper was drawn from the recommendations in each of the three country reports associated with this project. It was formulated with the assistance of representatives from the Government of Samoa and the Government of Kiribati, representatives from SPC, SPREP and UNESCO through a two-day workshop that was held in Apia, Samoa on the 24th - 25th July 2015. A representative from the Government of Vanuatu was not able to attend. However, countries will have the opportunity to make inputs into this paper as SPREP and GIZ conduct national and regional consultations on what should be included in a regional programme on loss and damage.

<table>
<thead>
<tr>
<th>THEMES FOR REGIONAL ACTIONS ON LOSS AND DAMAGE</th>
<th>ACTIVITIES/PROJECTS/PROGRAMMES</th>
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<tbody>
<tr>
<td>Planning, establishment of activities</td>
<td>National and regional consultation to get buy-in and support</td>
</tr>
<tr>
<td><strong>Definition</strong>- loss and damage, rapid onset events and slow onset events, non economic losses, permanent losses how do you differentiate between loss and damage and adaptation</td>
<td>Literature review on existing definitions -practitioner's definition/purpose of definition, who is defining for what purposes? (Possible collaboration with USP graduate school)</td>
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<tr>
<td>Consultation</td>
<td>Cross Cutting issues: need capacity building, and communication</td>
</tr>
<tr>
<td><strong>Awareness</strong>- loss and damage, rapid onset events and slow onset events, non economic losses</td>
<td>Awareness campaign- policy makers, DRR, SRDP, politicians, CROP Agencies, Cross Cutting issues: need capacity building, and communication</td>
</tr>
<tr>
<td><strong>Baseline information:</strong> on observation and long term monitoring</td>
<td>Case studies to establish baseline information on slow onset events on the following: - Case studies on coast line monitoring - Case study on coral bleaching link to fisheries</td>
</tr>
</tbody>
</table>
| Baseline information on impacts | Case studies to establish baseline information on slow onset events on the following:
- Documentation of impacts of the above listed climate change phenomena
- Documentation and sharing of lessons learned from above (guidelines, methodologies)
- Identify thresholds, tipping points related to the above climate change phenomena (permanent losses)
- Migration (internal)

Cross Cutting issues: need capacity building, and communication |
| Knowledge management | Identifying options for information, management (collection, management, storing and sharing) ensure information is accessible:
- Documentation of impacts of the above listed climate change phenomena
- Documentation and sharing of lessons learned from above (guidelines, methodologies)

Cross Cutting issues: need capacity building, and communication |
| **Governance** | Capacity building, Institutional strengthening (national level)-information management, capacity building, internal coordination and collaboration, plans and policies  
*Issues identified here are cross cutting across the different themes* |
| **Explore options on approaches, tools, methods to address Loss and Damage** | Review risk modelling (e.g. PCRAFI and others) to include those things above (Climate Change phenomena)  
- Explore tools for risk transfer e.g. insurance, faalavelave, micro finance  
- Explore options to address permanent losses, e.g. Migration, Economic diversification, technology  
Cross Cutting issues: *need capacity building, and communication* |
| **Means of Implementation** | Identify options to generate, facilitate access to finance and technology to address loss and damage  
Cross Cutting issues: *need capacity building, and communication* |
| **Scope out next phase of this project** | SPREP |
7. References

AOSIS Insurance Scheme for Climate Change Convention, 1993. World Environmental Library. http://www.nzdl.org/gsdlmod?q=d-00000-00----off-0envl- -00-0----0-10-0-----0--0direct-10---4--------0-1l--11-en-50---20-about---00-0-1-00-0-4----0-0-11-10-0utfZza8-10a=d&cl=CL1.3&d=HASH0135a950495c115243e15a5d.5.3.9 (accessed 19.06.15)

Building Resilience to Climate Change for Food Security in the Pacific Region. SPC-USAID. http://www.spc.int/lrd/focus-areas/climate-change/34/building-resilience-to-climate-change-for-food-security-in-the-pacific-region (accessed 22.06.15)

Climate change and health, World Health Organization, n.d. Available at http://www.who.int/mediacentre/factsheets/fs266/en/ (accesses 12.05.15)


Technical Paper on Non-economic Losses, 2013. UNFCCC. Available at http://unfccc.int/resource/docs/2013/tp/02.pdf (accessed 15.05.15)

The Pacific Sea Level Monitoring & COSPPac Project. Australia Bureau of meteorology. Available at


Warsaw International Mechanism on Loss and Damage. http://unfccc.int/resource/docs/2013/cop19/eng/10a01.pdf (accessed 15.05.15)