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FUTURE OF WORK FOR CLIMATE RESILIENCE IN THE PACIFIC ISLANDS



**FUTURE OF WORK
FOR CLIMATE
RESILIENCE IN THE
PACIFIC ISLANDS**

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Future of Work for Climate Resilience in the Pacific Islands

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FOREWORD

This policy brief is part of the forthcoming ‘Just Transition for Climate Resilience in Asia-Pacific’ report. The Asia-Pacific region is developing its resilience in the face of increasing natural disasters and the changing climate. The challenges associated with transitioning to a low-carbon economy, through which we seek to make our communities healthier, safer and even more resilient, can also provide new work opportunities. Making this transition suitably rich in green and decent jobs will help to ensure the wellbeing of people and communities, and the sustainability of our livelihoods and societies.

The positive nature of such a transition can be seen if one looks at how we can enable the greening of economies and production, rather than seeing a dichotomy between unsustainable dirty jobs to be discontinued and sustainable clean jobs to be created. We must learn to recognize these opportunities and design strategic policies and interventions, driven by respect for the environment and the Decent Work Agenda. There is an urgent need for green employment policies to be developed, focused on the prevention and mitigation of, and adaptation to, the impacts of climate change. This change in

work processes will require the combined efforts of governments, employers and workers through social dialogue.

Efforts by all stakeholders are needed for the promotion of green jobs, which are central to sustainable development and resource productivity, and which assist in responding to the global challenges of environmental protection, economic development and social inclusion. Such jobs create decent employment opportunities, enhance resource efficiency and can help build a low-carbon sustainable society.

This policy brief highlights how the Pacific Islands are at a crossroads where better jobs can be developed in response to climate change. It also outlines how the Pacific region could transform itself through job creation related to areas of climate change mitigation; if the local populations, especially younger people, are given the right skills and training. Future jobs should also be created in line with the guiding principles of a just transition, which are designed to promote decent work on a large scale and to ensure that social protection for vulnerable employees operates where needed.



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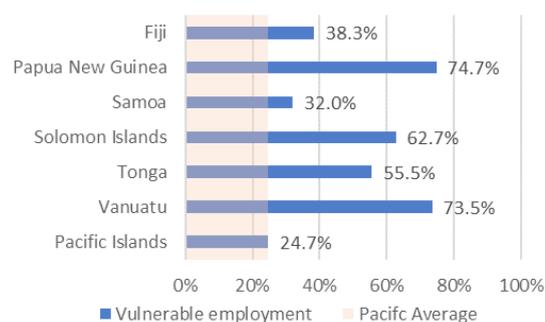
FUTURE OF WORK FOR CLIMATE RESILIENCE IN THE PACIFIC ISLANDS

Introduction

A just transition will help achieve a green economy and sustainable development that will, in turn, create green jobs, support climate action and help combat social injustice. The Pacific Islands region is an economically and culturally diverse area, but one sharing similar challenges and opportunities across countries. On average, the population is growing and 62 per cent of the population is of legal working age (ie. aged 15-64 years). The majority of employment is in services and agriculture. The transition of the Pacific Islands region to an environmentally sustainable region will be accompanied by major societal changes and not insubstantial economic risks.

Across the Pacific Islands, 24.7 per cent of employment is classified as vulnerable. Papua New Guinea and Vanuatu have the highest levels of vulnerable employment, at around 75 per cent, most likely due to their heavy reliance on agriculture (Figure 1). Own-account and contributing family workers are more likely to experience low job and income security than employees and employers, as well as having lower coverage by social protection systems and employment regulation.

Figure 1. Vulnerable employment, 2018

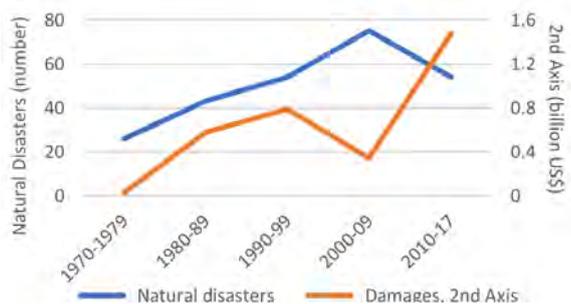


The region is highly exposed to climate change impacts. According to the World Risk Report, five Pacific countries are among the top twenty countries that are globally most at risk from disaster. This is due to their high level of exposure to natural hazards and their poor economic and social situations, which make them particularly vulnerable. Of concern is that 14.7 per cent of the total land area in the Pacific Islands region is less than 5 metres above sea level and 12.6 per cent of the total population lives in this area.

According to the Emergency Events Database, there has been a general increase in the number of natural disasters, as well as an increase in the financial impact of the damages per decade since the 1970s (Figure 2). When natural disasters occur,

vulnerable workers and people living in poverty are the most affected due to their poor financial and social situations, which limit their capacity to cope and adapt. This results in the displacement of people in search of more security. Decent jobs can be created by developing preventative measures to limit infrastructure and property damage, and by increasing institutional capacity to respond to climate events, particularly for small businesses.

Figure 2. Natural disaster occurrence and damage costs in Pacific countries

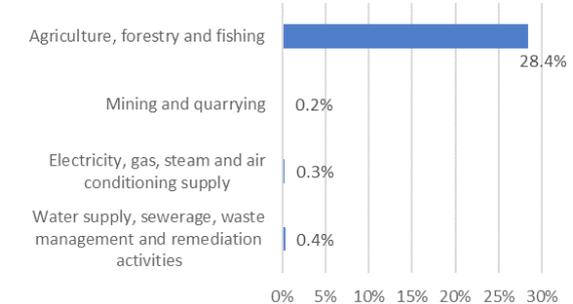


As countries in the Pacific region prepare for, and respond to, climate change impacts, green job creation can help with these response measures. According to recent data, 28.4 per cent of total employment in the region was in the agriculture, forestry and fishing sector (Figure 3). Although reliance on agriculture is significant, there are opportunities for job creation in sustainable production and organic farming. There will also be increased job prospects in other sectors of the green economy where employment is currently much lower, such as new green jobs in resource management and protection, and natural resource utilization within public administration.

The development of larger renewable energy capacities and a shift towards more

energy efficient production and consumption will profoundly impact the creation of green jobs. This increase in green jobs will need to be accompanied by related education system reforms, including addressing the lack of teachers and trainers in new green areas, together with ensuring that workers, particularly younger people, have the necessary skills.

Figure 3. Employment in sectors with strong green jobs potential, Pacific region



Specific policies and measures are needed to overcome the environmental and socio-economic challenges existing in the Pacific region to enable a green and just transition that can create more quality jobs and green jobs.

1. How climate change and green jobs are affecting labour markets in the Big Ocean States (BOS)¹

The eleven Pacific member states² of the ILO are a diverse group of countries in terms of population size, land area and economic development (see Table 1 and Figure 4). At one extreme, Papua New Guinea (PNG) officially has a population of over 8.2 million - although unofficial estimates are higher - and a land area of 462,840 square kilometres (km²) containing rich mineral and gas resources and vast forests. At the other extreme, Tuvalu's population of around 11,000 people lives in the world's fourth smallest country and relies heavily on ocean resources and offshore employment to make a living. As an atoll country, Tuvalu is at high risk of natural disasters, including cyclones and tsunamis, and has a longer-term risk from rising sea-levels related to climate change.

Kiribati has the lowest gross domestic product (GDP) per capita among the BOS. Kiribati consists of 32 low-lying atolls and one raised limestone island with an Economic Exclusive Zone (EEZ) of 3.5 million km² (see Table 1 and Figure 4). The vast distances between some of its island groups and from major markets are significant constraints. Kiribati has few natural resources and tourism is negligible. Exports are mainly limited to coconut products and fish.

Palau's GDP per capita is more than eight times higher than that of Kiribati. Palau is associated with the United States of America (USA) under the Compact of Free Association, as a result of which it receives a high level of per capita development assistance and Palauans have residential and work rights in the USA. The special relationship with the USA and a successful tourism industry are behind Palau's relative economic success.

Table 1: Selected statistics for the Big Ocean States

	Land area (km ²), 2018	Population ('000), 2017	GDP per capita (current USD), 2017	Remittances as % of GDP, 2016
Cook Islands	n/a	n/a	n/a	n/a
Fiji	18,270	905.5	5,589.39	1.7
Kiribati	810	116.4	1,594.29	9.6
Marshall Islands	180	53.13	3,843.12	14.6
Palau	460	21.73	13,338.10	0.8
Papua New Guinea	462,840	8,251.16	2,488.90	0.0
Samoa	2,840	196.44	4,280.84	17.3
Solomon Islands	28,900	611.34	2,132.12	1.7
Tonga	750	108.02	3,959.08	20.0
Tuvalu	30	11.19	3,549.97	11.9
Vanuatu	12,190	276.24	3,123.61	2.4

Source: ILO 2018 Pacific Islands Factsheet (data compiled from World Bank Indicators, available at <https://data.worldbank.org/indicator>, accessed 1/2/2019 for population, land area and GDP per capita; Asian Development Bank. 2018, for remittances as % of GDP). <https://www.adb.org/sites/default/files/publication/419891/basic-statistics-2018.pdf>

1. The ILO refers to its Pacific Island member states as "Big Ocean States" (BOS). This term emphasizes the enormous exclusive economic zones of ocean that these countries control, especially compared to their mostly small land areas. However, the term is not currently used by other institutions. In this report, the terms "BOS" and Pacific Island countries are used to refer to the same group of countries.

2. Cook Islands, Fiji, Kiribati, Palau, Papua New Guinea, Republic of the Marshall Islands, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu.

The BOS include both countries that are highly dependent on remittances (such as Samoa and Tonga), while remittances are negligible in the Melanesian countries (Fiji, PNG, the Solomon Islands and Vanuatu) (see Table 1).

Overall, economic activity is concentrated in a few sectors where the BOS have comparative advantages, including agriculture (most BOS), fisheries (most BOS), and tourism (particularly the Cook Islands, Fiji, Palau, Samoa, Tonga and Vanuatu). Mining and logging are important in PNG and the Solomon Islands.

Despite these enormous differences, most BOS share some characteristics including distance from major markets, geographical dispersion, high transport and utility costs (partly as a result of remoteness and dispersion), and exposure to natural hazards and climate change impacts. As a result, most BOS face significant development challenges.

Labour markets in the Big Ocean States

Across the region, most of the population is engaged in agriculture, largely on a subsistence basis. Other important industries for employment are tourism and fishing (see Table 2).

The large number of subsistence agricultural workers is one of the reasons for the high rate of vulnerable employment (see Figure 5), because own-account and contributing family workers often experience low job and income security and little to no social protection. Across the region, 24.7 per cent of employment is classified as vulnerable. Papua New Guinea and the Solomon Islands have the highest level of vulnerable employment, at approximately 80 per cent.

The regional labour market is characterized by considerable gender inequality, which is shown by several indicators, including a much higher labour force participation rate of men (see Table 3) while women are more likely to be unemployed or in vulnerable employment (see Figure 5).

Figure 4: Map of Pacific Islands region



Source: www.ilo.org/suva/about-us/lang--en/index.htm

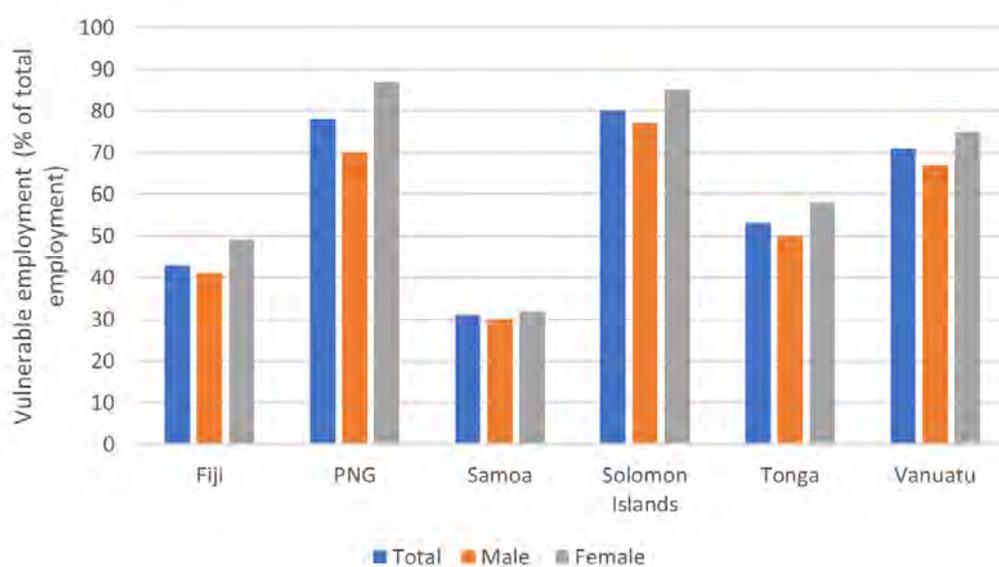
Table 2: Labour force by economic sector

	Labour force (15+) ¹ (year)	Labour force by selected industry (total number)		
		Agriculture (ILO modelled estimates for 2019) ²	Commercial Fisheries (2015) ³	Tourism (2014) ⁴
Cook Islands	8,000 (2016)	n/a	65	n/a
Fiji	342,000 (2016)	135,000	3,658	41,500
Kiribati	39,000 (2010)	n/a	1,094	2,200
Marshall Islands	13,000 (2011)	n/a	2,674	n/a
Palau	9,000 (2014)	n/a	46	n/a
Papua New Guinea	3,336,000 (2011)	758,000 ⁵	11,440	24,000
Samoa	47,000 (2017)	2,000	327	n/a
Solomon Islands	414,000 (2013)	n/a	2,356	6,500
Tonga	36,000 (2006)	n/a	142	2,000
Tuvalu	4,000 (2016)	n/a	185	n/a
Vanuatu	100,000 (2009)	n/a	228	10,500

ILO compilation from sources and notes:

1. Various national sources, based on ILOstat, <https://www.ilo.org/ilostat>, accessed 6 February 2019
2. ILO estimates for 2019, ILOstat <https://www.ilo.org/ilostat>, accessed 6 February 2019
3. Forum Fisheries Agency. 2017.
4. Perrottet & Garcia. 2016.
5. The estimated number of Papua New Guineans engaged in agriculture appears low, compared to data from PNG's 2011 Census when 2,482,610 Papua New Guineans were engaged in agriculture, hunting and fishing (National Statistical Office Papua New Guinea, 2013). ILO's estimate is likely to exclude millions of subsistence farmers.

Figure 5: Vulnerable employment in selected Big Ocean States by gender, 2018



Source: World Bank Indicators. Available at <https://data.worldbank.org/indicator>, modelled ILO estimates, derived from ILOSTAT database (accessed on 13 May 2018)

Notes: Vulnerable employment is defined as the sum of own-account workers and contributing family workers.

Table 3: Labour force participation rates and gender gap in selected Big Ocean States, 2016

	Total	Men	Women	Gender gap
Fiji	54.3	71.2	37.0	34.2
Papua New Guinea	70.4	71.1	69.6	1.5
Samoa	41.2	58.1	23.2	34.9
Solomon Islands	67.3	73.5	61.1	12.4
Vanuatu	71.0	80.5	61.7	18.8

Source: ILO Office for Pacific Island Countries. 2017a.

Note: The small gender gap in Papua New Guinea is a result of the majority of Papua New Guinean's working in subsistence agriculture. If only formal employment was considered, it would be much larger.

Migration

Past and present migration and overseas employment opportunities differ greatly between the BOS nations. The Cook Islands, Fiji, Samoa and Tonga have experienced considerable emigration (see Table 4). New Zealand has specific migration schemes for Samoans, Tongans, Fijians, and very small numbers of Tuvaluans and people from Kiribati, known as I-Kiribati, while Cook Islanders are New Zealand citizens with full residential and work rights in New Zealand.

Palau, the Marshall Islands and the Federated States of Micronesia have free access to the USA under the Compact of Free Association.³ There are few migration opportunities for Papua New Guineans and Solomon Islanders.

In addition to permanent migration flows, seasonal and temporary migration opportunities for Pacific Islanders have developed over the last decade. New Zealand's Recognised Seasonal Employer scheme and Australia's Seasonal Worker Programme attempt to fill seasonal

labour shortages in the horticulture and viticulture industries. These seasonal schemes provide important employment opportunities in terms of the number of participants. In the 2017/2018 season, 8457 visas were issued under the Seasonal Worker Programme (SWP) in Australia. Vanuatu had the most participants, taking up 40 per cent of that total, followed by Tonga with a 33 per cent share (Howes 2018).

In July 2018, Australia introduced the Pacific Labour Scheme under which up to 2,000 workers from Nauru, Kiribati and Tuvalu can access low and semi-skilled temporary work opportunities in Australia within the hospitality, tourism and aged-care sectors. These schemes do not offer permanent relocation opportunities. However, by providing income, they reduce the vulnerability of poorer households and communities to the adverse impacts of climate change, and they contribute to livelihood diversification. Climate change challenges have already intensified migration pressures in the BOS and there have been associated policy responses (see section 2).

3. The Compact of Free Association is an international agreement governing the relationship between the United States and the three northern Pacific Island nations of the Federated States of Micronesia, the Marshall Islands, and Palau. The Compact has been implemented since the countries' independence (1986 for the Marshall Islands and Federated States of Micronesia, and 1994 for Palau).

Table 4: Outmigration totals

	Total migrant stock, 2017	Migrants as % of population, 2017	Main destination country
Cook Islands	17,488	n/a	New Zealand
Fiji	90,156	10.0%	Australia
Kiribati	4,053	3.5%	Nauru
Marshall Islands	1,428	2.7%	U.S.
Palau	2,958	13.6%	Northern Mariana Islands
Papua New Guinea	3,015	0.0%	Australia
Samoa	74,861	38.1%	New Zealand
Solomon Islands	2,212	0.4%	Australia
Tonga	32,666	30.2%	New Zealand
Tuvalu	2,350	21.0%	New Zealand
Vanuatu	5,060	1.8%	New Caledonia

Source: United Nations, Department of Economic and Social Affairs. Population Division. 2017.

Note: The migrant stock does not include the overseas born children of migrants.

Impacts of climate change on labour markets in the Big Ocean States

As a result of its unique environment and fragile economic structure, the BOS region is particularly vulnerable to the impacts of climate change. While the Melanesian countries of PNG, the Solomon Islands, Vanuatu, Fiji and, to a lesser extent, Samoa are comparatively land-rich, the other BOS have limited agricultural land and their economic activities are mostly concentrated on low-lying coastal areas. In Tuvalu, the majority of the population lives on land that is less than two metres above sea-level and the threat of sea-level rise and storm wave impacts are particularly severe.

BOS are exposed to a wide variety of natural hazards, including cyclones, droughts, earthquakes, floods, landslides, tsunami and volcanic eruptions. The World Risk Index measures the disaster risk of countries. Vanuatu and Tonga have the highest disaster risk levels worldwide. In terms of regions, Oceania has the highest World Risk Index values. Nine of the fifteen countries bearing the highest risk worldwide are island states, including six BOS: Vanuatu; Tonga; the Solomon

Islands; Papua New Guinea; Fiji; and Kiribati (Bündnis Entwicklung Hilft 2018).

Over the past several decades, extreme weather events have increased in frequency and intensity and are only expected to increase further. Under current climate change trends, the frequency and intensity of natural hazards will increase. This includes rapid onset events such as cyclones, and slow onset events such as changes in precipitation patterns and sea-level rise.

The BOS are already adversely affected by a loss of productive farmland from saltwater intrusion and the substantial financial drain required by rehabilitation efforts. For instance, the total economic value of the effects caused by Tropical Cyclone Pam on Vanuatu in 2015 was estimated to be approximately US\$449.4 million, which included US\$270.9 million in damage costs, and US\$178.5 million attributed to losses. This damage was equivalent to 64.1 per cent of Vanuatu's GDP (Government of Vanuatu 2015).

No assessment of the impact of climate change on labour markets in the BOS has been undertaken. The Asian Development

Bank (ADB) published a sobering analysis of the general economic impact of climate change in the Pacific under different scenarios (ADB 2013). Based on the ADB analysis, the possible scale of the impact of climate change on labour markets is likely to be considerable and will be exacerbated by the low level of economic diversification in the BOS.

Climate change is expected to affect agriculture, fisheries and tourism in a number of ways (see Table 5). While the initial impact on labour markets is likely to be adverse, climate change will also create new opportunities which are discussed in sections 2 and 5.

Table 5: Adverse impact of climate change on labour markets in major industries

Agriculture	<p>Agriculture is one of the most important industries across the region from an employment perspective.</p> <p>For coastal communities, food production could be hit due to the effects of land erosion, saltwater contamination in groundwater and estuaries, cyclones and storm surges, heat stress and drought (Barnett 2011).</p> <p>Climate-induced disasters can destroy crops and the infrastructure that supports the industry (ILO Office for Pacific Island Countries 2017a). For example, tropical cyclone Winston, which hit the Pacific in February 2016, ravaged Fiji's agricultural industry, causing damage to crops, livestock, sugar plantations, fisheries and forestry of F\$542 million, of which F\$80.3 million is attributed to damage costs and F\$460.7 million is attributed to losses (Government of Fiji 2016).</p> <p>The ADB (2013) expects losses from climate-induced disasters in excess of 50 per cent in key crops in PNG and the Solomon Islands by 2050.</p> <p>As most agricultural workers in the BOS are not skilled in activities other than farming, the adverse effects of climate change on agriculture may result in increased rural unemployment (ILO Office for Pacific Island Countries 2017a).</p>
Fishing	<p>Some 22,000 workers (0.5 per cent of the workforce) are employed in the commercial tuna fishing industry (see Table 2). Leaving out PNG, 1.1 per cent of the region's workforce is employed in commercial fishing.</p> <p>Climate change is predicted to impact fisheries through shrinking yields, increasing yield variability, reducing profitability and heightening the risks associated with fishing. Catches of skipjack tuna are predicted to decrease by more than 30 per cent in the Western Pacific and PNG (ADB 2013).</p> <p>Due to these changes, labour demand in the fishing supply chain is expected to become more vulnerable.</p> <p>At the same time, fish is an important resource for food security throughout the region and many coastal communities rely on subsistence fishing. Subsistence fishing will be impacted by productivity loss and climate-induced disasters (ILO 2014).</p>
Tourism	<p>Tourism is a large employer in many BOS (see Table 2), with a strong multiplier effect on employment indirectly creating a substantial number of jobs. In the six BOS for which data is available, 86,700 workers are employed in tourism (2 per cent of the workforce, rising to 6.7 per cent if PNG is excluded from the data).</p> <p>The expected effects of climate change in the form of sea-level rises and more severe natural disasters will also directly impact vital coastal tourism infrastructure. Moreover, ocean acidification will lead to coral bleaching, further diminishing the attractiveness of the BOS as tourist destinations (ILO Office for Pacific Island Countries 2017a). As a result, the ADB predicts a decline in tourist numbers by one third and an associated decrease in revenues of 27 to 34 per cent for the region by the end of this century (ADB 2013).</p> <p>Many tourism companies are likely to dismiss workers as a result of declining tourist numbers and also due to increasing operating costs for cooling, insurance, and disaster recovery.</p> <p>Climate change is also likely to alter tourism seasonality and therefore increase demand for casual workers while reducing full-time employment.</p>

Impact on vulnerable people

When natural disasters or negative climate change impacts occur, vulnerable people (including women, youth, children, the elderly, people living with disabilities, and people belonging to ethnic or religious minorities) and people living in poverty are hardest hit. Women and youths are particularly vulnerable because they are overrepresented in the informal economy and are more likely to be unemployed or in vulnerable work. Vulnerable people in all these groups have less access to resources with which to restore their livelihoods or adapt to climate change (ILO Office for Pacific Island Countries 2017a).

For women, although no data is available for the BOS, there is evidence that gender inequality and discrimination against women and girls can place them at higher risk of the effects of climate change and natural disasters (World Bank 2016b). Studies have shown that disaster fatality rates are much higher for women than for men, primarily due to gendered differences in support to cope with such events and insufficient access to information and early warnings. Furthermore, women's livelihoods often depend on natural resources that are most impacted by rising sea levels, flooding and increased salt-water intrusion. In Vanuatu, for instance, the impact of Cyclone Pam negatively affected women's ability to generate income and provide food for their families (World Bank 2016b).

Disasters and climate change also potentially increase the exposure of women to sexual and gender-based violence. Women in the BOS are already subject to high levels of sexual and gender-based violence, but violence has the potential to

escalate following disasters and climate events. Global evidence shows that sexual and gender-based violence rises after natural disasters due to stress, economic pressures, strained resources and overstretched health and other services. For example, after two tropical cyclones in Vanuatu in 2011, reported domestic violence cases increased by 300 per cent (World Bank 2016b).

There is the risk that climate change mitigation and adaptation could reduce women's share in total employment numbers, as employment gains associated with mitigation and adaptation measures are likely to create jobs in currently male dominated industries, such as renewables, manufacturing and construction (ILO 2018). There is therefore a risk that climate change will at least temporarily widen existing gender gaps.

Green jobs in the Big Ocean States

The transition to a green economy will inevitably cause job losses in certain sectors as carbon- and resource-intensive industries are downscaled. At the same time, there will be new job opportunities in replacement industries. Mitigation policies could support new types of sustainable agriculture and fishing, underpin eco-tourism activities, and support a move towards renewable energy and new forms of waste management. In addition, infrastructure projects to mitigate climate change impacts, such as the construction of sea walls, will also create employment opportunities. In the long run, climate change can trigger innovation and create growth, especially if governments adopt mitigation policies that ensure that opportunities are maximized. No estimates of the number of job losses and new job

opportunities that may result from climate change are available for the BOS region.

There remains an urgent need for comprehensive empirical research on the current status and future prospects of green job creation initiatives, sector specific climate change adaptation and mitigation strategies, and for the introduction of coherent policies to ensure a just transition.⁴

Development plans in the Big Ocean States

Although BOS economies are already relatively 'green' in terms of low greenhouse gas (GHG) emissions,⁵ there is considerable scope for green economic policies. Several BOS have recognized the urgency to prioritize climate change in

their development strategies and plans.

Fiji, for instance, has aligned its 5-year and 20-year National Development Plans with the Paris agreement on climate change and aims to achieve zero-net global GHG emissions by 2050 (Republic of Fiji, Ministry of Economy 2017). Kiribati (see Box 1), PNG, Samoa, the Solomon Islands, Tonga and Vanuatu have also included objectives on environmental sustainability and climate change resilience in their respective development strategies or plans. However, employment generation has not explicitly been linked to environmental action in any of these plans. Therefore, there is scope to promote the link between the environment and employment under the process of a just transition.

Box 1: Policies in Kiribati

Being one of the few nations in the world that consists almost entirely of coral atolls, Kiribati is extremely vulnerable to climate change. Environmental threats include pollution of the lagoons, build-up of solid waste, depletion of water, pollution of water from salinity and waste products, deforestation, depletion of inshore fisheries, coastal erosion and threats to marine life from pollution and plastic wastes.

The Government of Kiribati has recognised the threat of environmental degradation and climate change and has responded strongly. **The Kiribati Joint Implementation Plan for Climate Change and Disaster Risk Management 2014-2023** sets out a holistic approach to integrate climate change and disaster risks into all sectors and to coordinate priorities for action. Among others, significant efforts on solid waste management have been made with donor partner support and the Phoenix Islands Protected Area has been closed to all commercial fishing which will contribute to the conservation of fish stocks and to food security. The Kiribati Development Plan 2016-19 includes the goal to facilitate sustainable development through approaches that protect biodiversity and support the reduction of environmental degradation as well as adapting to and mitigating the effects of climate change (Government of Kiribati, 2016).

4. An important step towards exploiting the links between climate change and decent work is the cooperation between the ILO and the Samoa based Secretariat of the Pacific Regional Environmental Programme (SPREP) which supports action on climate change. The cooperation was formalised with the signing of the ILO-SPREP Memorandum of Understanding (MoU) in July 2018 which provides a framework to foster joint initiatives that link decent work and climate resilience through Green Job creation and green entrepreneurship.

5. Pacific Island countries are contributing a mere 0.003% of the global GHG emissions but are the most vulnerable group of countries to climate change. In the BOS, electricity generation and transportation are the two biggest GHG emitters. Agriculture is also among the five top emitting industries in many BOS (ILO and ITC, 2018).

2. A Just Transition in the Big Ocean States: what does it mean?

The rationale for a Just Transition (JT) comes from evidence that transitioning to low-carbon economies can create green and decent jobs, despite comprehensive restructuring in sectors such as energy extraction and production, manufacturing, agriculture and forestry. According to the Guidelines for a Just Transition towards environmentally sustainable economies and societies, adopted by the ILO in 2015, decent work can be advanced if social dialogue is maintained and if there is a mix of coherent macro-economic, labour market, social protection, occupational safety and health, and environmental policies (see Annex).

Fiji has emerged as a respected advocate for sustainable development and ocean preservation. It led negotiations on climate change at the COP23 meeting in Bonn, Germany in 2017 and has taken on a leadership role to address climate change issues at the local, regional and global levels, with the plight of small island developing states at the centre of its concern. A working group on just transition and decent work was created under the Fiji Presidency of the COP23 Climate Action Pacific Partnership.

Just transition is of particular relevance in the BOS due to their vulnerability to climate change impacts and existing decent work shortcomings, with high rates of vulnerable employment. Jobs in farming, fishing, forestry and tourism, which provide employment for the majority of Pacific Islanders, rely directly on the

effective management and sustainability of a healthy environment. However, important climate change initiatives in the region have happened without ILO involvement and without any reference to decent work and employment (see, for example, SPC's Framework for Resilient Development in the Pacific 2017-2030). Mitigation policies have the potential to ensure a just transition.

Policy responses in the Big Ocean States

In the Pacific region, the just transition process has been advanced through the organisation of the inaugural Knowledge Sharing Dialogue on Just Transition, Decent Work and Climate Resilience in the Pacific Islands, which was held in Apia, Samoa, on 7-9 November 2018. This meeting was attended by the ILO's 11 Pacific member states, and representatives from Australia, New Zealand, the Food and Agriculture Organisation, Secretariat of the Pacific Regional Environmental Programme (SPREP) and the ILO. The dialogue was the outcome of the 2017 ILO Forum on the Future of Work held in Fiji. It focused on exchanging knowledge, experiences and best practice examples, supporting capacity building, technology transfer and resource mobilization in the areas of green job creation and climate resilience.

Concrete actions undertaken in the Big Ocean States

At the dialogue, the BOS shared their countries' actions for climate change adaptation across a variety of fields, as outlined below.

Table 6: Sector-based actions by countries in the Big Ocean States

<p>Agriculture</p>	<p>Several BOS are taking action towards diversifying their agricultural production or introducing new techniques as part of their climate change adaptation strategy. On Nassau Island in the Cook Islands for instance, cabbage has been introduced in order to diversify from the traditionally grown taro. In Palau, where taro grows in swampy areas, which are now drying, new agriculture techniques have been introduced to plant taro in drier areas.</p>
<p>Tourism</p>	<p>In Palau, waters are being polluted, corals damaged and fish dying due to the effects of sunscreen. The government signed a law that restricts the sale and use of sunscreen and skincare products that contain certain chemicals, which are believed to be toxic to marine life and which can make coral more susceptible to bleaching. Since the beginning of 2018, Palau also implements the Pristine Paradise Environmental Fee under which each visitor is charged \$100. It is part of Palau's move to promote high value tourism and the primary financing mechanism for the Palau National Marine Sanctuary.</p>
<p>Waste management</p>	<p>The issue of waste management was raised at the dialogue by SPREP. Waste management can be exacerbated by climate change, especially when landfills are close to the shoreline and are likely to be flooded as sea-levels rise. This poses high risks of pollution.</p> <p>A Solid Waste Management Project has been implemented in nine BOS. Under the project, waste material is exported to China. Metal recycling is sustainable in the Pacific due to the density of the material, while it is not commercially viable to ship plastics out of the region.</p>
<p>Renewable energy</p>	<p>Most BOS have ambitious plans of reaching 100% renewable energy by 2030. The International Solar Alliance between Fiji, Kiribati, Nauru, Tonga, Tuvalu and Vanuatu aims to increase solar applications for agricultural use and solar mini-grids for communities.</p> <p>So far, limited local employment has been created during the establishment of renewable power plants and there have been few beneficial employment effects. Moreover, maintenance is mostly done by international experts, adding both to the cost and time involved with maintenance.</p>
<p>Fisheries</p>	<p>Fisheries are affected by climate change and the pollution of oceans. With its fish stock depleting, Palau has decided to take drastic action. In 2015, the Palau National Marine Sanctuary Act, which is one of the world's most ambitious ocean conservation initiatives, was legislated. The Palau National Marine Sanctuary, in which commercial fishing will be completely banned, will encompass over 80% of Palau's EEZ, an area of almost 500,000 km². The remaining 20% will be reserved for traditional fishing, to serve Palau's domestic and tourism needs. In November 2018, two bills were introduced in the Senate to postpone the implementation of the ban from 2020 to 2030 in order to compensate for falling revenues due to a decline in tourist arrivals, drop in fishing rights fees and low revenue from the Environmental Fee. The decision about the proposed postponement is yet to be made.</p>

The climate change, decent work and migration nexus

Given that the Pacific Island region is particularly threatened by climate change impacts and that there is a long history of migration in the region, the nexus between climate change, decent work and migration offers the potential for a just transition. The impacts of climate change and environmental degradation are causing people to move in search of alternative opportunities, and in many regions around the world, including the BOS, climate and environmentally induced migration is already a reality. The United Nations University's Institute for Environment and Human Security found that over 70 per cent of households in Kiribati would opt to migrate in the event of worsening climate change impacts (UNU 2016). Migration and relocation can either be internal or international (see examples in Boxes 2 and 3).

Rapid onset natural disasters such as cyclones and earthquakes frequently result in immediate displacement, which can be either permanent or temporary. On the other hand, the links between slow onset events such as sea-level rise and

migration are more difficult to establish because climate variables interact with other key drivers, including lack of decent work and employment opportunities.

Several BOS have sizeable diasporas in the Pacific Rim and remittances from these migrants constitute important contributions to household incomes. However, with the exception of Kiribati, labour mobility has yet to feature as an element in adaptation planning and represents a largely untapped mechanism in this regard (ILO 2017).

If climate change undermines livelihoods, people may have little choice but to move in search of work. Job creation in destination locations and labour migration governance can help provide alternatives to unsafe and irregular movements. The development of decent and sustainable work opportunities at home can help to make migration a choice rather than a necessity, while safe and regular labour migration pathways can provide an important source of remittances, skills and knowledge that support resilience at home. However, there are limited migration opportunities for the most vulnerable (ILO Office for Pacific Island Countries 2017a).

Box 2: Village relocations in Fiji and the Solomon Islands

The Solomon Islands has made international headlines as five small uninhabited islands have completely disappeared due to rising seas and erosion. But six populated islands had large swathes of land washed into the sea and on two of those, entire villages were destroyed and people were forced to relocate. Nuatambu island, home to 25 families, has lost 11 houses and half its inhabitable area since 2011 (The Guardian, 10/5/2016).

In Fiji, the village of Vunidogoloa on Vanua Levu, Fiji's second largest island, has been affected by regular flooding, soil erosion and the unabated rise of water surrounding the village, forcing villagers to ask the Fijian government for help. Between 2010 and 2014, the entire village of 156 villagers moved two kilometres inland, becoming the first village in Fiji to relocate.

Box 3: Relocation from Banaba (Kiribati)

Banaba or Ocean Island, is Kiribati's only raised limestone island. Phosphate mining was undertaken in Banaba between 1900 and 1979, stripping away 90% of the island's surface. The British colonial authorities relocated most of the population to Rabi Island in Fiji after 1945, with subsequent waves of migration in 1977 and 1981-1983 (McAdam 2011). The British colonial authorities also relocated I-Kiribati to what was then the British Solomon Islands Protectorate as it was more sparsely populated than Kiribati. The first wave of I-Kiribati arrived in the Western Province of the Solomon Islands in 1953.

Box 4: Climate change and migration in Kiribati

In order to fully leverage decent work opportunities abroad as a response to climate change threats, the former President of Kiribati, Anote Tong, established the concept of "Migration with Dignity" whereby I-Kiribati would have the necessary skills to find decent work abroad. This process is intended to ensure that the population remains at a level that supports Kiribati's climate change adaptation effort (Voigt-Graf and Kagan, 2017; Voigt-Graf 2016) and simultaneously make sure that people are agents in the migration process. The Government of Kiribati implemented the "National Labour Migration Policy", which was adopted in 2015. Its long-term vision is to "provide I-Kiribati with increased opportunities to migrate with dignity by accessing decent work opportunities abroad" (Government of Kiribati 2015). The Policy recognises the important role of international labour migration in addressing the lack of local employment opportunities and acknowledges that a permanent relocation of some of its citizens is part of Kiribati's long-term climate change adaptation strategy.

3. Opportunities to leverage lessons learned for a just transition

Ghana, the Philippines and Uruguay are pilot countries for the application of the 2015 Guidelines for a Just Transition (see Annex for more details). Some lessons from the Philippines pilot can be leveraged for the BOS.

The Philippines pilot ran from June 2016 to June 2018, and was aimed at enabling the tripartite constituents (government, workers' and employers' organizations) to influence the process of structural change towards a sustainable economy in such a way that decent jobs were created on a significant scale and in a sustained and inclusive manner. The

project was embedded in a wider legal context, supporting the operationalization of the Philippine's Green Jobs Act 2016 (or Republic Act 10771), and in the framework of national goals as well as international commitments, including the 2030 Sustainable Development Agenda. A list of the main activities undertaken as part of the Philippines pilot is included in the Annex. Some experiences of specific relevance to the BOS are discussed in the next section.

Given the small size of the workforce of many BOS, a regional approach to just transition is preferable, so that regional standards and guidelines can be developed that can be adjusted to suit individual countries. Some activities could be organized at a regional level in order to take advantage of economies of scale.

Table 7: Key lessons from the Philippines pilot

Tripartite ownership	<p>The Philippines pilot shows the importance of the tripartite constituents having ownership of the just transition process. This was achieved by establishing a tripartite project advisory committee and multipartite technical working group. Training workshops on green jobs and just transition were organized for the tripartite constituents.</p> <p>Social dialogue will be imperative in the BOS to make environmental governance more labour-friendly by promoting frameworks, legislation and policies that include labour and environmental concerns equally.</p>
Existing legislation	<p>Before the pilot, the Philippines had already adopted the Green Jobs Act and the pilot supported the development of the associated Green Jobs Act Implementing Rules and Regulations. The goal of the Green Jobs Act is to accelerate the promotion of sustainable growth and decent job creation, while building resilience against climate change impacts. The Act provides for fiscal and non-fiscal incentives to enterprises generating green jobs across all economic sectors and requires a whole-of-government approach in its implementation.</p> <p>Since none of the BOS has a Green Jobs Act or similar legislation, the just transition process in the BOS could start with scoping studies on the feasibility of introducing such legislation.</p>
Need for statistics	<p>The Philippines pilot shows the importance of having reliable and up-to-date environmental and decent work data, which serve as a baseline to measure progress on just transition. At present, such data is largely unavailable in the BOS. In order to collect data on decent work and green jobs, labour force surveys and establishment surveys have to be organized. In order to measure regional progress and compare different countries' data, a uniform definition of green jobs is required.</p>
Skills development	<p>The Philippines has developed a National Green Jobs Human Resource Development Plan, which covers programmes in basic and higher education, and technical and vocational education and training (TVET). This plan also includes a database that identifies green job opportunities, and which provides information on skills requirements for green jobs. It will be necessary for the BOS to develop similar Green Jobs Human Resource Development Plans, especially as human resource development planning is still in its infancy in most BOS.</p> <p>Green business training programmes were also organized under the Philippines pilot. They demonstrated to business-owners how green technology can make businesses more competitive and attract customers.</p>
Industry transitions	<p>In the Philippines, the just transition framework addresses transition issues in the mining sector but does not explicitly address transition issues in other industries. The Philippine government issued closure and suspension orders for more than 20 mining companies. A policy framework to transition the mining sector was developed with the primary objective of supporting the transition of workers affected by cessation of mining operations, while also providing for strategies that will contribute to improving the performance of the mining sector.</p> <p>Among the BOS, PNG is particularly dependent on the mining and petroleum sector as a driver for economic growth. PNG could apply some aspects of the Philippines' just transition approach to its mining industry. The BOS could also include strategies for transitioning important industries in the region, namely agriculture, fishing, tourism and forestry/logging.</p>

Source: ILO. Policy Brief: Implementing the Just Transition Guidelines In Asia and the Pacific- Lessons from the Philippines pilot (2 April, 2018)

4. Knowledge systems and learning for just transition and climate resilience in the Big Ocean States: the knowledge sharing platform concept

At the Knowledge Sharing Dialogue held in Samoa in November 2018, strategies to advance just transition at the regional level were discussed. Participants considered the value of annual face-to-face dialogues, to understand other countries' policies and strategies linking climate change and the world of work. The host country, Samoa, stated in its final comments that the dialogue had shown genuine partnership between ministries of labour and environment. This showed evidence that green jobs could be the new vehicle to address climate change and that, despite the negative impacts of climate change, it also presented new opportunities.

The BOS adopted the concept of a Knowledge Sharing Platform on Just Transition, Decent Work and Climate Resilience (BOS KSP) to advance just transition. At the dialogue the ILO was invited to consider developing a Pacific Island focused assessment of green jobs, sustainable employment and the connection between climate change and the future of work. Participants agreed to hold annual dialogues and to rotate them between the BOS.⁶

Being mostly small countries in terms of population and workforce, the BOS will benefit from having a platform by which to share knowledge and experiences, as well

as shared facilities that are too expensive for individual countries to maintain, such as waste treatment. The platform will also facilitate joint applications for regional project funding, including access to financing.

Box 5: Green Climate Fund projects in the Big Ocean States

The GCF uses accredited entities, which can be private or public, non-governmental, sub-national, national, regional or international, to channel its resources to projects and programmes. In the BOS region, SPREP is accredited to the GCF. To date, only two of the ILO's member states in the Pacific have accredited entities, these are the Fiji Development Bank and the Ministry of Finance and Economic Management of the Cook Islands. Therefore, currently only Fiji and the Cook Islands can access GCF resources bilaterally, while the other BOS have to go through SPREP or other accredited entities operating in the Pacific region. During the dialogue held in November 2018, the ILO and SPREP identified five GCF projects in the BOS that are currently at the design stage for specific ILO involvement. These projects are: the Coastal and Marine Ecosystem Resilience Programme in Vanuatu, PNG, the Solomon Islands, Tonga, Niue, the Marshall Islands with possible extension to Palau, Nauru, and Fiji; GCF readiness support in PNG and Vanuatu; a Renewable Energy project in Kiribati, a water security and renewable energy project in Palau; and the Palau Energy Loans Programme.

6. The next three dialogues will be hosted by Kiribati (2019), the Cook Islands (2020) and Vanuatu (2021). Participants agreed to consider gaps in collecting employment data associated with climate change-related projects for discussion at the 2019 Dialogue.

5. Green jobs and climate resilience in the Big Ocean States: specific challenges in employment creation

Given the exposure of the BOS to climate change risks, there will be short-term job losses in industries that are directly affected by climate change. At the same time, new jobs could be created in replacement industries and through mitigation and adaptation measures. Climate change also has the potential to induce innovation and developments that will create green jobs and green business opportunities.

The challenge for BOS' governments is to prepare workers and entrepreneurs to fill these new roles.

Potential areas of green job creation

Comprehensive research on green job creation in the BOS is not available. According to a 2010 ILO study in Fiji, the Solomon Islands, Samoa and Vanuatu, tourism, renewable energy, food production, and recycling and waste management have the most potential for green job creation (ILO Office for the Pacific Islands 2010). Expected impacts of just transition on major industries are summarized in Table 8.

Table 8: Expected impacts of a just transition on key industries in the Pacific Islands

		Current situation	Expected impact under just transition
Industries with expected net employment losses	Forestry / Logging	<p>Illegal logging and logging at unsustainable levels occur particularly in PNG and the Solomon Islands.</p> <p>Working conditions in the industry are poor and there are undocumented migrant workers.</p>	<p>A move towards sustainable logging means that overall employment in the industry will be reduced.</p> <p>Decent work deficits in the industry will be addressed.</p>
	Mining	<p>The mining industry is relevant in PNG and the Solomon Islands.</p> <p>Mining operations have had detrimental effects on the environment such as polluting rivers, which in turn negatively impacts on the livelihoods of the local population.</p>	<p>Mining operations and mining employment are likely to decline, if examples from the Philippines pilot are applied.</p>

Established industries with expected new and different types of jobs	Agriculture	<p>Agriculture is one of the most important industries for employment, with the majority of Pacific Islanders engaged in small holder farming.</p> <p>Agriculture is among the top GHG emitting industries in the BOS.</p>	<p>New types of agriculture can help create green jobs and strengthen food security.</p> <p>The adoption of sustainable agricultural policies can create wage employment on organic farms and allow smallholders to diversify their sources of income.</p> <p>Strengthening linkages between agriculture and tourism could further strengthen the agricultural sector.</p> <p>Sustainable agriculture can also play an important role in climate change mitigation.</p>
	Fisheries	<p>Waters from the Pacific Island EEZs supply some 34% of the world's tuna catch. More than 60% of this is harvested by foreign vessels and more than 85% is taken out of the region for processing, highlighting considerable scope to develop this as a domestic industry.</p> <p>Current figures indicate that there are around 22,000 jobs held by Pacific Islanders in the sector, including some 11,400 in PNG (see Table 2).</p> <p>Fishing is hazardous and the fatality rate of fishers is typically several times higher than that for other workers. The 2007 ILO Convention on Work in Fishing (C188) and the accompanying Work in Fishing Recommendation 2007 (No. 199) set important standards for safe and decent employment on fishing vessels.</p> <p>Apart from commercial fisheries based upon the tuna industry, fish is a cornerstone of food security for many Pacific communities. Most of the food fish in the region is supplied by overfished coastal fisheries.</p>	<p>In 2015, forum leaders endorsed the Regional Roadmap for Sustainable Pacific Fisheries with strategies including effective management of tuna fishing in BOS' waters, continued efforts to reduce illegal fishing, progressive restriction of fishing on the high seas by foreign vessels, establishing high standards for employment, and establishing regional processing hubs in two or three BOS.</p> <p>In terms of employment, additional processing in Melanesia, and increased Pacific Island crew numbers for fishing vessels could result in 18,000 new jobs over the next 10 years (World Bank 2016a).</p> <p>A large number of women are employed in fish processing and a growing fishing industry is therefore likely to increase gender parity in the workforce (ILO and Forum Fisheries Agency 2016).</p> <p>For PNG, the Solomon Islands and Vanuatu, a gap is expected by 2035 between the recommended levels of fish consumption, and what the coastal fisheries are expected to supply (World Bank 2016a), posing risks to food security.</p>
	Tourism	<p>The pristine environment and unique cultures are the BOS' main tourist attractions. Tourism is less subject to factors that are barriers to other forms of economic growth, such as small and dispersed populations, small land areas, remoteness from markets, and limited natural resources (World Bank 2016b).</p>	<p>Eco-tourism offers significant opportunities for growth and employment in the BOS. Low volume, high yield tourism is preferred because it is less damaging to the environment. See the case study on eco-tourism below.</p>

Emerging and growing industries	Constructing climate change resilient infrastructure	<p>Globally, green jobs can be created by building sustainable, energy-efficient and climate-resilient infrastructure and barriers against natural hazards.</p> <p>At present, there is a lack of local, sustainable employment associated with climate change related projects. See Tuvalu example in Box 6.</p>	<p>As investment in climate change resilience and adaptation initiatives continues to expand, there is increased opportunity for governments to create local jobs through public projects (ILO Office for Pacific Island Countries 2014).</p> <p>The use of local labour should be encouraged and, in the case of donor-funded projects, should form part of the political negotiations on aid spending.</p> <p>Additional jobs could be created in maintenance, environmental planning, and monitoring and evaluation.</p>
	Renewable energy	<p>At present, the BOS lack the capacity to fully utilize their potential with respect to sustainable energy production, and continue to be highly dependent on fossil fuel imports.</p> <p>Some attempts have been made to implement green technologies, such as solar systems, as a means of electricity in rural areas of Fiji and the Solomon Islands, leading to green job creation.</p> <p>In general, limited local employment associated with renewable energy projects has been created, making the maintenance of the project dependent on international experts and curtailing the sustainability of the projects.</p>	<p>More green jobs will be created in the renewable energy sectors, particularly solar energy.</p> <p>There is also the need to start planning for the recycling and replacement of solar panels, which have a 25 year lifespan, and linking this to related waste management.</p>
	Waste management	<p>Green jobs already exist in waste management, including plastic and chemical waste.</p>	<p>Additional opportunities will be created through a circular economy to improve waste management and minimize waste.</p> <p>Jobs will also be generated from the expansion of wastewater treatment (ILO Regional Office for Asia and the Pacific 2017).</p>

Box 6: The Tuvalu Coastal Adaptation Project

The Tuvalu Coastal Adaptation Project is the first GCF project in the Pacific. It commenced in June 2017 and is set to be completed in 2024. Under the project, measures are implemented to reduce the impacts on key infrastructure from climate-induced sea-level rise and intensifying storm events, by building coastal resilience on three of Tuvalu’s nine inhabited islands, which is intended to protect a total of 2,780 metres of high-value, vulnerable coastline. The project is expected to create local employment opportunities (although related data is not yet available). The strengthening of human resources and building national capacity for resilient coastal management is also a key focus.

Green job creation in the tourism industry

Tourism is a prime industry example with which to highlight both the risks associated with climate change as well as the opportunities available through adaptation policies that can lead to green tourism growth. The tourism industry, which is the main export industry in the Cook Islands, Fiji, Samoa and Vanuatu, is vulnerable to natural disasters. Most tourists avoid disaster prone areas or destinations that are not perceived as being safe and secure. Climate change mitigation therefore has to include the development of preparedness strategies and institutional capacity to respond to the negative impacts of potential disasters. In addition, the industry in the Pacific region is challenged by inadequate conservation of the land and marine resources that support the industry. Despite these risks, tourism presents the best opportunity for sustainable economic development and growth in the BOS (South Pacific Tourism Organisation 2013).

A partnership has been formed between the South Pacific Tourism Organisation (SPTO) and the United Nations Development Programme (UNDP) to promote green tourism in the region and to assist businesses to transition to be more sustainable (UNDP 2017). On the one hand, tourism is dependent on a healthy environment, on the other hand it is also an energy and water intensive sector. The joint project by SPTO and UNDP aims to create more eco-tourist style accommodation in Samoa and Fiji, and to work alongside selected communities to create stronger links between the sustainable tourism industry and local communities.

In October 2018, the Environment Impact Assessment Guidelines for Coastal Tourism Development for the Pacific Islands and Territories was launched by the Secretariat of the Pacific Regional Environmental Programme (SPREP) and SPTO (SPREP 2018), which aims to ensure that the environment is taken into consideration in every coastal tourism development.

Coral reef protection is particularly important from both the environmental and economic points of view. From an environmental perspective, coral reefs on average reduce the wave energy that reaches shores by more than 95 per cent and are the most cost-effective way of stabilizing shorelines. From an economic perspective, these ecosystems provide food sources and income to local communities, as well as supplying a variety of recreational activities, including snorkelling, diving, fishing and boating for tourists. Across the planet, coral reefs attract 350 million people and in Palau, the lifetime value of a live shark is estimated at USD 1.9 million for dive tourism (see also Box 7).

Box 7: Palau's marine sanctuary

In Palau, measures to build sustainable tourism will provide employment and support government revenues. In 2015, Palau's Government legislated the Palau National Marine Sanctuary Act, designed to convert 80% of its territorial waters into a marine sanctuary by 2020, prohibiting commercial fishing, oil drilling, and seabed mining. While this measure impacts on the livelihoods of some Palauans, it is expected that tourism-related activities like diving and snorkelling will provide alternative livelihoods for those affected.

Even in those BOS countries in which tourism remains underdeveloped, such as PNG and the Solomon Islands, there is green growth potential. The Solomon Islands have outstanding dive and World War II historic sites, and a unique culture. The range of nature experiences provides enormous opportunities for eco-tourism (Perrottet and Garcia 2016). In PNG, tourism is negligible as a result of high costs and considerable security risks, especially in the major urban areas. However, the PNG Government has declared tourism development a national priority according to the PNG Tourism Master Plan, 2007-2017, identifying PNG's rich culture and potential for eco-tourism as strategic assets.

While there is considerable potential for green job creation in tourism and the other areas outlined in Table 6, the process will face similar challenges regarding employment generation to those faced more broadly in the BOS, including a lack of data for evidence-based policies, lack of appropriately skilled workers, a challenging business environment, large distances from markets, and high transport and utility costs.

Given that there is no guarantee that gains from green growth will be evenly distributed, mitigation policies that promote growth in sustainable agriculture and fishing, eco-tourism, renewable energy and other sectors have to be complemented by inclusive policies to make sure that all segments of the labour force benefit.

New opportunities are also emerging for innovative entrepreneurship and small business development based on investment in natural capital, the

production and use of green goods and services, and reliance on green energy.

Skills development and training

Green growth is dependent on technological change, which includes innovation and the development of new technologies, such as the renewable energy sector, and the transfer of existing green technologies. Since most innovation is concentrated in high income countries with enough funding for research, the BOS and other low-income countries largely rely on technology transfer.

New skills are required to implement and maintain green technologies. Therefore, a major challenge for greening labour markets is to ensure that workers have the skills required by the green economy. Technical and vocational education and training (TVET) systems in the BOS are currently not well aligned with industry needs, with the partial exception of Fiji. In general, TVET does not provide the quality of training required, and rarely responds to business needs and labour market demands (see ILO Office for Pacific Island Countries 2017b). Consequently, there are widespread skill shortages, particularly in technical and vocational areas. In some BOS, skills shortages have been compounded by the emigration of skilled workers.

In the green economy, skills shortages are particularly severe in the renewable energy sector and in the green building and construction sector (ILO Regional Office for Asia and the Pacific 2017). The skills required for green construction can differ substantially from conventional

construction. Training is also needed in environmental planning, monitoring and evaluation, and environmental engineering.

As regards skills for sustainable agricultural practices, the main challenge is that of reaching the dispersed and often very isolated populations engaged in agriculture, such as those on remote islands or in the Papua New Guinea Highlands.

One general strategy for aligning skills development with labour market needs is by increasing green industry involvement in TVET curriculum development and quality assurance (ILO Office for the Pacific Islands 2017a). Global evidence shows that skills development programmes are crucial for the achievement of a just transition. The ILO surveyed 27 countries (no BOS countries were included in the survey), of which approximately two-thirds had established platforms through which to anticipate skills needs. In some countries, specific bodies had been established to determine skills requirements for the green transition. While this led to positive changes in training for the sectors directly involved in the transition, such as renewable energy and waste management, they had comparatively little influence on the greening of the economy as a whole (ILO 2018).

At present, entrepreneurial skills are lacking across the BOS region. Micro and small entrepreneurs need business training as well as financial education, and access to financial services in order to reap the benefits of green entrepreneurship. The green economy could be a focal point for entrepreneurship training.

Need for information and data

The quality of general labour market data is poor in most BOS. No BOS has established a labour market information system and there are no harmonized labour market indicators with which to compare data between countries or over time. Gaps exist regarding general labour force data, vulnerable and informal employment rates, and participation of women and youths in the labour market. Only Fiji (2015/16) and Samoa (2016) have recently undertaken labour force surveys. Most BOS rely on their national censuses or Household Income and Expenditure Surveys for labour force data.

BOS governments require reliable decent work data to inform labour and employment policies and to assess the impact of climate change on employment and the status of and prospects for green job creation. The first step will be for the region to agree on a way to measure green jobs, so that national and sectoral projections as well as regional comparisons can be made. The significant potential for green job creation can only be fully realized with evidence-based policies, strategies and regulatory frameworks.

Summary of recommendations

Recommendations for the Big Ocean States governments

Given the small size of many BOS, a regional approach to just transition is

preferable, with regional standards and guidelines that can be adjusted to suit individual countries, and some activities being organized at the regional level in order to take advantage of economies of scale.

<p>Activity area 1: Local job creation</p>
<p>Climate change adaptation and mitigation policies will support employment opportunities in areas such as renewable energy, waste management and infrastructure projects. So far, there has been limited local employment associated with such projects, which have instead relied on international experts. In order to maximise local employment opportunities and make projects more sustainable, more local labour should be employed. Since many of the projects are donor-funded, the use of local labour should form part of the negotiations on aid spending.</p> <p>Recommendation #1: Insist on greater use of local labour in donor-funded projects, including skilled and highly skilled workers.</p>
<p>Activity area 2: Skills development</p>
<p>One challenge for BOS governments is to prepare workers and entrepreneurs to fill new roles in the green economy. Skills development, particularly in the TVET area, has to be aligned with labour market needs by increasing green industry involvement in TVET curriculum development and quality assurance.</p> <p>Recommendation #2: Develop a strategy for green industry involvement in TVET curriculum development.</p>
<p>Activity area 3: Data collection</p>
<p>At present, there is a lack of reliable decent work data in most BOS to inform labour and employment policies and to assess the impact of climate change on employment and the status of and prospects for Green Job creation.</p> <p>Recommendation #3: Develop and implement a strategy to measure progress on just transition, such as by organizing regular labour force and establishment surveys).</p>

Activity area 4: Legislation

None of the BOS has a Green Jobs Act or similar legislation.

Recommendation #4: Conduct scoping studies for the introduction of a Green Jobs Act or similar legislation.

Activity area 5: Industry transitions

Under just transition, central industries should transition towards becoming more environmentally sustainable, while also ensuring decent employment.

Recommendation #5: Develop policy frameworks and strategies for transitioning selected industries, such as agriculture, fishing, tourism, mining and/or forestry, depending on the BOS' situation.

Recommendation for development partners

Activity area 1: Local employment opportunities

So far, limited local employment has been created in donor-funded climate change adaptation and mitigation projects. For instance, during the establishment of renewable power plants, there have been few beneficial employment effects for Pacific Islanders. Moreover, maintenance is mostly done by international experts, adding both to the cost and time involved with maintenance.

Recommendation #1: Prioritize skill development and employment of Pacific Islanders in donor-funded projects to enhance the benefits for local workers and make the projects more sustainable.

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ANNEX

Definition of green jobs



Jobs that are green are central to sustainable development and resource productivity. They respond to the global challenges of environmental protection, economic development and social inclusion. Such jobs create decent employment opportunities, enhance resource efficiency and build a low-carbon sustainable society. Green jobs must be quality decent jobs and in line with the four strategic objectives at the heart of the decent work agenda:

- Set and promote standards and fundamental principles and rights at work.
- Create greater opportunities for women and men to decent employment and income.
- Enhance the coverage and effectiveness of social protection for all.
- Strengthen tripartism and social dialogue.

(Source: AP Brochure on Just Transition for COP23)

ILO's Guidelines for a Just Transition

Based on the conclusions of the 102nd International Labour Conference (2013), the ILO adopted the Guidelines for a **“Just Transition Towards Environmentally Sustainable Economies and Societies for All”** in November 2015.

The Guidelines include:

- employment-centred macroeconomic and growth policies;
- environmental regulations in targeted industries and sectors;
- creating an enabling environment for sustainable and greener enterprises;
- social protection policies to enhance resilience and safeguard workers from the negative impacts of climate change, economic restructuring and resource constraints;
- labour market policies that actively pursue job creation, limit jobs loss and ensure that adjustments related to greening policies are well managed;
- occupational safety and health policies to protect workers from occupational hazards and risks;
- skills development to ensure adequate skills at all levels to promote the greening of the economy;
- the establishment of mechanisms for social dialogue throughout policy-making processes at all levels; and
- policy coherence and institutional arrangements for the mainstreaming of sustainable development and ensuring stakeholder dialogue and coordination between policy fields.

Key themes for the Pacific region raised at the Knowledge Sharing Dialogue in Apia, Samoa, November 2018

- Sustainable agriculture and food security
- Renewable energy
- Water management and sanitation
- Waste management
- Circular Economy
- Capacity-building for constituents
- Policy design and implementation
- Local, sustainable employment from climate change projects
- Building entrepreneurship
- Appropriate regulatory and legislative framework
- Developing of small and medium-sized enterprises

- Skills-matching for youth
- Training for the informal sector
- Development of business continuity plans
- Disaster risk reduction
- Data collection and management
- Women's access to work
- Tourism
- Ocean management and fisheries
- Climate change awareness in schools.

Main activities of the Philippines pilot project

- Establishment of a tripartite project advisory committee and multipartite technical working group, which serves as the main platform for social dialogue, provides policy and programming direction, leads the just transition initiatives, and facilitates institutionalization of project results.
- Conduct of foundational training workshops on green jobs and just transition for tripartite constituents.
- Integration of the promotion of green jobs and the need to address just transition issues into national frameworks and policies, including the 2017-2022 Philippine Development Plan and the Philippines' Nationally Determined Contribution.
- Support the crafting of the Green Jobs Act Implementing Rules and Regulations.
- Development of the assessment and certification standards for the accession of incentives under the Green Jobs Act.
- Integration of the just transition framework into the development of the National Green Jobs Human Resource Development (HRD) Plan.
- Support to pilot the development of a comprehensive system of statistics on employment in the environmental sector and in green jobs, through labour force and establishment surveys.
- Conduct policy analysis and employment projections in key sectors to inform response measures to ensure a just transition, which feeds into the development of the Green Jobs HRD Plan and which informs the Nationally Determined Contribution.
- Updating of the Skills for Green Jobs country study, which analyses skills policies and strategies, skills provision at the national, sectoral, local or enterprise levels, and provides support to develop the government's strategic plan to green the TVET system.

- Conduct high level policy forums to facilitate integration of results into policy decision-making and development of relevant national frameworks.
- Pilot the green business training programme, in collaboration with the government, academe and training providers.
- Develop and conduct gender-responsive and inclusive advocacy strategies, together with key stakeholders.
- Development and operationalization of the comprehensive just transition framework to help address mining sector transition issues within a key mining region of the country.
- Conduct the regional dialogue on Green growth for jobs and social inclusion: Making the case for a just transition in Asia, which provided a platform through which to share the Philippines' experience in applying the just transition policy guidelines with other Asian countries and by which to identify ways to advance the initiative in the region.



Decent
Work



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