



UNITED NATIONS
UNIVERSITY

UNU-EHS

Institute for Environment
and Human Security

NAURU: CLIMATE CHANGE AND MIGRATION

RELATIONSHIPS BETWEEN HOUSEHOLD VULNERABILITY, HUMAN MOBILITY AND CLIMATE CHANGE

REPORT NO.19

November 2016

This report should be cited as:

Campbell, J., Oakes, R., and Milan, A. (2016). Nauru: Climate change and migration – Relationships between household vulnerability, human mobility and climate change. Report No.19. Bonn: United Nations University Institute for Environment and Human Security (UNU-EHS).



UNITED NATIONS UNIVERSITY
Institute for Environment and Human Security (UNU-EHS)

UNU-EHS PUBLICATION SERIES

NOVEMBER 2016

Report No. 19

DRIVE IN BAKERY SHOP

MAIN

FE



Table of contents

Acknowledgements.....	5
Acronyms.....	6
Glossary.....	7
Executive summary.....	9
Key Findings.....	11
Policy Implications and Recommendations.....	13
1. Background.....	17
1.1 Climate change and migration: global context.....	17
1.2 Framework of study.....	19
2. Country context.....	21
2.1 Physical geography and environment.....	21
2.2 Climate change projections for Nauru.....	22
2.3 Demographics.....	22
2.4 Economy.....	25
2.5 Gender.....	25
2.6 Migration from Nauru.....	26
2.7 Remittances.....	26
3. Methodology.....	29
3.1 Household survey.....	29
3.2 Qualitative analysis.....	30

4. Findings.....	33
4.1 Nauruans are already experiencing environmental change, particularly droughts.....	33
4.2 The adaptive capacity in Nauru to cope with climate change is limited and internal migration is not a solution.....	34
4.3 Nauru has some history of migration.....	37
4.4 Migration seems to be related to improved resilience and remittances.....	41
4.5 Migration is experienced differently by women and men.....	45
4.6 Migration demand is greater than the access to migration opportunities.....	47
4.7 Economic and cultural motivations will remain a primary driver of migration.....	47
4.8 Migration is less related to subsistence agriculture than in other parts of the world.....	48
4.9 Climate change will drastically impact migration demand.....	48
4.10 Many potential migrants will not have the means to migrate.....	51
5. Policy Implications and Recommendations.....	55
References.....	61

List of Tables

Table 1: The distribution of the household survey.....	30
Table 2: Livelihood risks classed as severe and their potential solutions according to PRA sessions.	35
Table 3: Migration destinations and reasons.	38
Table 4: Migration length by gender.....	43

List of figures

Figure 1: Conceptualization of migration decision making ...	18
Figure 2: A map of Nauru.....	23
Figure 3: Population of Nauru from 1950-2014	24
Figure 4: GDP per capita of Nauru from 1970-2014	24
Figure 5: Households affected by natural hazards 2005-2015	34
Figure 6: Incidence of household vulnerability by dimension.	36
Figure 7: Ease of access to destinations.....	37
Figure 8: The reasons for migration	39
Figure 9: Institutions able to assist households.....	40
Figure 10: Household vulnerability by migration experience	41
Figure 11: Household vulnerability by rental income and migration experience	41

Figure 12: Migration for education and work by income quartile	42
Figure 13: Mean AUD per capita income for households receiving remittances by type of migrant.....	43
Figure 14: Migration destination by gender	44
Figure 15: Migration reason by gender.....	45
Figure 16: Reason for non-migration.....	46
Figure 17: Perceived impact of economic and cultural factors on future migration	48
Figure 18: Most likely destination for future migration	49
Figure 19: Likely reason for future migration.....	50
Figure 20: Perceived impact of climate change manifestations on future migration	50
Figure 21: Perceived ability to migrate	51

Acknowledgements

This report has been produced by the United Nations University Institute for Environment and Human Security (UNU-EHS) as a part of the Pacific Climate Change and Migration (PCCM) Project entitled, 'Enhancing the Capacity of Pacific Island Countries to Manage the Impacts of Climate Change on Migration'. The PCCM project is a three-year project (2013-2016) funded by the European Union (EU) and implemented by the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), the International Labour Organization (ILO) and the United Nations Development Programme (UNDP).

UNU-EHS staff involved in the development of this report include Robert Oakes, Andrea Milan, Koko Warner, Noemi Cascone, Markus Schindler, Ann-Kristin Matthé and Jakob Rhyner. UNESCAP staff include Iosefa Maiava, Jillian Campbell, Malcolm Ponton, Justin Shone, Paul Tacon and Timothy Westbury. Local UNESCAP PCCM experts who made a significant contribution include Mavis Depaune. The University of the South Pacific played a crucial role in data collection.

Disclaimer: The contents of this publication are the sole responsibility of the research team and authors and can in no way be taken to reflect the views of the host government, EU or any organization in the United Nations system.

Acronyms

BPCBPC	British Phosphate Commission	UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
CCA	Climate Change Adaptation	UNFCCC	United Nations Framework Convention on Climate Change
DFAT	Department of Foreign Affairs and Trade	UNU	United Nations University
DRR	Disaster Risk Reduction	USP	University of the South Pacific
ENSO	El Niño Southern Oscillation	WIM	Warsaw International Mechanism
ILO	International Labour Organization	WHO	World Health Organization
IOM	International Organization for Migration		
MP	Member of Parliament		
NCD	Non Communicable Diseases		
NELD	Non-Economic Loss and Damage		
PRA	Participatory Research Approach		
RPC	Regional Processing Centre		
RSE	Recognized Seasonal Employer		
SDGs	Sustainable Development Goals		
SOE	State Owned Enterprises		
SIDS	Small Island Developing States		
SWP	Seasonal Workers Program		
TPB	Theory of Planned Behaviour		

Glossary

Climate Change Adaptation

The process whereby people, communities and institutions respond to the impacts of climate change

Disaster Risk Reduction

The process through which exposure and vulnerability to disasters is diminished

Displacement

The process in which people are forced to move from their normal place of residence due to a change in the political, social, economic or environmental situation

Environmental Migration

Movement which is directly caused by environmental change

Exposure

The condition of being physically present in an area which could be impacted by hazards

Q methodology

A research method which seeks to gain an understanding of shared attitudes or perspectives on a particular issue

Participatory Research Approach

A group of qualitative research tools which place people at the centre of the investigation

Relocation

A policy of planned resettlement of a community to a less risky place

Remittances

Flows of money sent from migrants to their families, one of the main reasons to move

Resilience

The ability of a community or system to absorb shocks

Theory of Planned Behavior

A theory which posits that decisions are taken as a result of attitudes, peer pressure and the ability to manifest the decision

Trapped Populations

Groups of people who are affected by a changing environment, but are unable to leave

Voluntary Migration

Movements in which people were not forced to move, but chose to do so

Vulnerability

The propensity to be affected by climate change, related to underlying socio-economic, demographic, political and cultural processes and conditions



Executive summary

The Pacific Climate Change and Migration (PCCM) project has two overarching goals:

- To increase protection of individuals and communities that are vulnerable to climate change displacement and migration through targeted national and regional policies and
- To increase labour mobility opportunities for Pacific Islanders, through well-managed labour migration schemes.

The objective of the present study is to build institutional capacity and knowledge to enable Nauru to improve plan and manage the impacts of climate change on migration. Through the development of indicators, the provision of new knowledge on labour migration and by analysing community attitudes to climate-related migration the report aims to both help the development of effective responses to climate change and national strategies to mitigate displacement risk and enhance national capacity to effectively participate in regional, bilateral and global schemes on labour migration.

This report is the first national empirical study representing the relationship between household vulnerability, human mobility and climate change in Nauru. The report is based upon accumulating data through quantitative and qualitative fieldwork carried out in Nauru in early 2015 by researchers from the United Nations University Institute for Environment and Human Security (UNU-EHS), the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP)

and University of the South Pacific (USP). The fieldwork consisted of a household survey undertaken on 155 household representatives which was complemented by Participatory Research Approach (PRA) tools and a Q study.



Key Findings

Nauruans are already experiencing environmental change, particularly droughts

Three quarters (74%) of Nauruan households experienced one or more impacts of environmental change in the last decade. In particular, drought and irregular rains have affected most families (61%). Droughts are of particular concern in Nauru due to the fact that there is no clean surface or ground water and the reverse osmosis facility on Nauru does not have the capacity to meet water demand during periods of prolonged drought.

Additionally, roughly one third of households noted that they experienced sea-level rise during the previous decade. Virtually all of the population of Nauru lives on the coast due to the lack of habitable land in the interior of the island (because of extensive phosphate mining). Due to the high population on the coast, households are exposed to sea-level rise and coastal erosion.

The adaptive capacity in Nauru to cope with climate change is limited and internal migration is not a solution

In most countries, internal migration can contribute to building the adaptive capacity to cope with climate change through income diversification and reducing the population in a particularly exposed area. In Nauru, internal migration will not result in remittances or reduce the demands on the environment, including water resources. However, some internal relocation may be necessary for households particularly vulnerable to coastal erosion.

Nauru has some history of migration

Roughly 10 per cent of people (and one-third of households) experienced migration between 2005 and 2015. The main destination for departures is Fiji, which accounts for almost half of all international movements (45%), followed by Australia (24%). Labour migration made up roughly 21 per cent of migration trips, while educational migration accounted for approximately half (51%) of all movements, reflecting the high number of departures to Fiji.

Migration seems to be related to improved resilience and remittances

Households which engage in short-term migration have a much lower vulnerability than the mean and households which engage in long-term migration are slightly less vulnerable than the mean. This could be because sending out migrants is an adaptive strategy for Nauruan households. The mean per capita income for households receiving remittances from overseas labour migrants is more than three times the household average income for people who do not receive remittances.

Migration is experienced differently by women and men

Women are more likely to migrate than men. Men are more likely to migrate for work (50% as opposed to 40% compared to women) and this implies that they are more prone to move to less established destinations in search for new job opportunities. Women are more likely to move for education than men

(25% compared to 19%). Nauru has few women in decision-making roles and high gender-based violence; thus it is likely that the way in which migration decisions are made and experienced is different for men and women.

Migration demand is greater than the access to migration opportunities

A significant proportion of the population of Nauru stated that they wanted to migrate between 2005 and 2012 but were unable to do so. A lack of the financial means for migration was the most common reason why migration was not realized, restricting 73 per cent of all unfulfilled migrants.

Economic and cultural motivations will remain a primary driver of migration

The importance of the Nauruan diaspora in migration decision-making was reflected with 52 per cent of households more likely to engage in migration if there was a migrant community in the destination. Other triggers for future migration include attainment of higher education (41%) and poor economic conditions as a push factor (39%).

Migration is less related to subsistence agriculture than in other parts of the world

Very few people felt that they would need to migrate if agricultural conditions or catching fish became more difficult. This finding is different from the impact that rainfall patterns have on migration in Africa and other parts of the world. This is most likely due to the very low dependence on subsistence in Nauru where most food is imported.

Climate change will drastically impact migration demand

More than one-third of households felt that migration would be a likely response if droughts, sea-level rise or floods worsened. Based on subjective opinions captured in this study, Nauruans perceive climate change as a serious threat to Nauru. Specifically, the erosion of the land and heightened tides are seen as triggers for people to reluctantly leave the island. One of the reasons for this reluctance is a strong concern about what it would mean for Nauruan culture.

Many potential migrants will not have the means to migrate

Only a quarter of household representatives (26%) believe that their households have the requisite finances to realise the migration of a member of the household. A similar proportion of households (28%) believe they would be able to get a visa for a trip. In contrast, over half of household representatives believe they have the contacts, education and procedural knowledge necessary to migrate.

Policy Implications and Recommendations

1. Steps should be taken to minimize future displacements.

This can be achieved through synergies in disaster risk reduction, climate change adaptation and sustainable development

The priority for Nauru is to prevent displacement and avoid resettlement as demonstrated by the Niue Declaration (2008) which enshrined “the desire of the Pacific peoples to continue to live in their own countries, where possible.” The chances of this being achieved can be maximized through the further integration of economic and social development, disaster risk reduction (DRR), resilience and climate change adaptation (CCA).

The Small Island Developing States Accelerated Modalities of Action (Samoa Pathway, 2013) provides an action plan for sustainable development and a mode for integrating the Sustainable Development Goals (SDGs) into national programmes. Further steps should be taken to develop sustainably, from a holistic perspective, considering environmental, social, economic and cultural perspectives. The Nauru Framework for Adaptation and Disaster Risk acknowledges the importance of adaptation and Disaster Risk Reduction (DRR), but significantly there is a gap between the production of the report and its implementation due to a lack of institutional capacity which should be addressed.

2. Despite these measures, future climate-related migration is likely in Nauru. Further research is required into how, why and where people will migrate

Under projected climate change, Nauru is likely to be increasingly affected by slow onset events such as changes in rainfall, drought and salt-water intrusion and sea level rise which will affect infrastructure. As a result, it is likely that voluntary migration will take place, while planned relocation and forced migration are possibilities. Such eventualities should be anticipated, understood and managed.

3. Well-managed voluntary migration could increase the adaptive capacity of Nauru to cope with climate change

Although displacement should be avoided, voluntary migration is already a way of life on Nauru and its positive impact can be a boon to sustainable development and avert forced displacement. Forms of temporary migration can have a beneficial effect on communities and households and can increase resilience to crises and adaptive capacities for “at risk” and vulnerable populations. This can be through reducing the burden on the household, learning new skills, diversification into new livelihoods and remittances which can be used for physical infrastructure improvements and have a dynamic impact on the livelihoods of the sending household. This aligns with Nauru’s long-term goal to develop “an economy based on multiple sources of revenue” (Nauru Government, 2009).

4. Planned relocation is a future possibility; steps should be taken to ensure it is done with dignity

Planned relocation is a future possibility to avoid displacements from climate-related hazards by proactively relocating “at risk” communities to a new and safer environment. Nauru is party to the Niue Declaration on Climate Change (2008) which emphasized “the importance of retaining the Pacific’s social and cultural identity”. Leaving Nauru poses risks to nationhood, control over land, territory, sovereignty, culture and livelihoods (Nansen Consultation, 2013) and represents non-economic loss and damage (NELD).

Relocation has historically been fraught with difficulties and is generally considered to have failed in the majority of cases. However, through learning lessons from past failures and with consultations with both sending and receiving communities it is not impossible to find a sustainable solution which respects the dignity and rights of respective communities (Nansen Consultation, 2013).

5. Without improved access to international migration, some Nauruans will be “trapped” by worsening environmental conditions, declining well-being and no opportunity to either migrate or generate income necessary for adaptation.

In the future, a worsening environmental situation and a deteriorating resource base could mean that the demand for migration will increase at the same time as household asset bases are eroded and households become more vulnerable and therefore less able to migrate. In this scenario, there could be an increase in the number of trapped persons. A lack of money and visas are the main obstacles for potential migrants, and an insufficient level of education is another limiting factor. Steps should be taken to address these issues to reduce the

initial expense of supporting migration borne by households to maximize the benefits and minimize the risks associated with migration flows. In this way migration can be a choice, and a way to improve resilience.

6. There is a history of migration and solidarity between Pacific nations, this should be consolidated into regional legal and political frameworks on mobility

The Samoa Pathway expresses the importance of fostering partnerships at the subnational, national, subregional, regional and international levels (Samoa Pathway, 2013). There is a history of clan and kinship networks on Nauru and faith-based organizations also provide support in times of need (Nansen Consultation, 2013), but under climate change such bonds should extend further, to the Pacific region and globally. In such a small country where there is little insulation from an environmental shock, it is necessary to reach out and build on existing relationships within the Pacific to include New Zealand and Australia (Nansen Consultation, 2013).

7. The recent UNFCCC agreement and global policy processes hint at a challenging but viable future for Nauru

The Paris Agreement, adopted at the United Nations Framework Convention on Climate Change (UNFCCC) Conference in December 2015 calls to limit global warming to 2°C above pre-industrial levels, and to strive for 1.5°C. The distinction between 1.5 and 2°C is vital, as the quantity and intensity of climate related events increases non-linearly between these two points. As a result, it seems likely that Pacific Island States such as Nauru will be unable to avoid severe impacts of climate change in the 21st century. However, the Paris Agreement also makes provisions for further resources for adaption, which Nauru needs to access.

The Agreement did not directly address the legal status of people displaced in the context of natural disasters and adverse impacts of climate change, but called for the establishment of a task force “to develop recommendations for integrated approaches to avert, minimize and address displacement related to the adverse impacts of climate change” (UNFCCC, 2015). Nauru has a chance to benefit from the fact that climate-related migration is firmly on the international agenda.





1. Background

1.1 Climate change and migration: global context

Whether the negative impact of climate change on livelihoods will trigger migration in the upcoming decades is the subject of debate. Since 1990 it has been theorized that climate change will result in flows of millions of internal and international migrants, moving from marginal environmental areas to places where they can have a more secure livelihood (Loneragan, 1998). The Foresight Report (2011) consolidated the literature on climate change, environmental change and migration and found that climate change could result in more migration. The Intergovernmental Panel on Climate Change (2015) concurs, stating that climate change could affect human mobility in a number of ways. There will be an increase in the frequency and intensity of extreme events which will force people from their homes, increased warming and drought will affect subsistence livelihoods and water availability and sea level rises will cause permanent displacements.

However, the impact of climate change on livelihoods could erode the capital necessary for migration and so lessen migration (Piguet, 2013). In the face of slow environmental change, those who are able to move—those with money, social networks and alternative livelihoods—may migrate independently. The vulnerable poor, those with no capacity to move when environments deteriorate, the young and elderly may be left behind or forced to resettle later (Warner and Laczko, 2008: 60). This has led to subsequent research into the idea of “trapped” populations, who are unable to migrate (Milan and

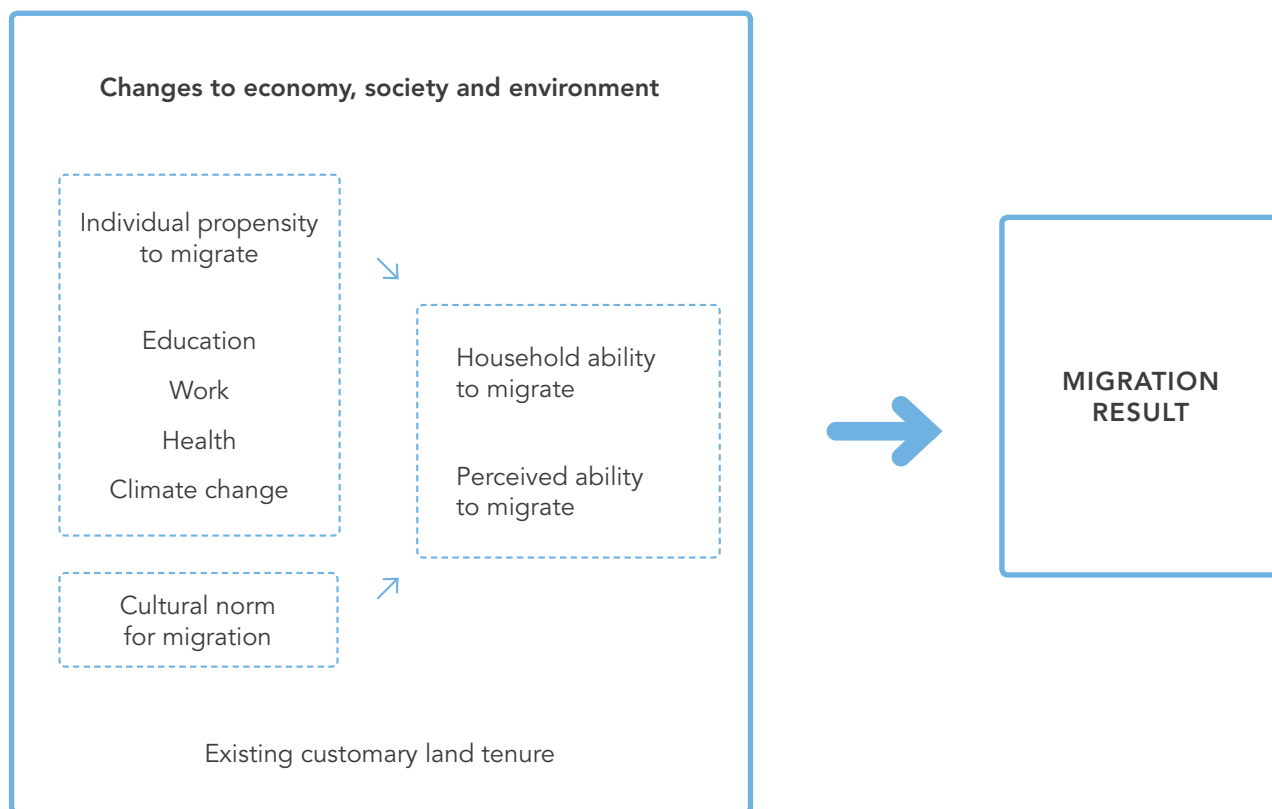


Figure 1: Conceptualization of migration decision making

Source: Adapted from Ajzen (1991)

Defining environmental migration

The International Organization for Migration (IOM, 2007) defines environmentally related migration as "...persons or groups of persons who, predominantly for reasons of sudden or progressive change in the environment that adversely affects their lives or living conditions, are obliged to leave their habitual homes, or choose to do so, either temporarily or permanently, and who move either within their country or abroad".

There are three main types of environmentally related mobility; migration, displacement and planned relocation (Warner et al., 2013). Migration infers a degree of choice in how and when to move. Displacement is forced as it means that persons have been pushed out of their homes either by isolated or repeated environmental events. Planned relocation is resettlement in a new area as staying in place is no longer viable.

planned behaviour (TPB) which posits that decisions are made through a combination of individual and community attitudes and the ability to manifest a decision (Ajzen, 1991). Under TPB It is assumed that there are two interrelated ways in which an individual may decide to migrate. The first is through a propensity to migrate for education, work, health or climate related reasons. The other reason for a desire to migrate is if a person is influenced by the social network. Whether this desire to migrate actually results in migration is affected by household vulnerability; in the study this is calculated through a vulnerability index which is used to approximate whether a household has the capability to migrate. This is comprised of the necessary funds, work opportunities, contacts and other requirements to manifest the migration decision in addition to the ability to access land at the destination if a place to live is required. There is one more component of ability, namely the perceived ability to migrate. That is, an individual and household must both possess the objective ability and the subjective ability to migrate (fig 1, p. 18). This means that a migration does not occur if an individual possesses sufficient skills and education to obtain a visa; they must also have a degree of confidence about their ability. A similar approach has previously been used to investigate climate-related migration (Smith, 2014).

Ruano, 2014; Warner and Afifi, 2014) and the need for national and international communities to consider policy options for both migrants and trapped populations (Black and Collyer, 2014; Warner et al., 2013; Warner et al., 2014).

1.2 Framework of study

This study takes the view that migration decisions are made in the context of the household (Stark and Bloom, 1985), but they are influenced by individual preferences and attitudes (Smith, 2014; Warner and Afifi, 2014). The project adopts the theory of





2. Country context

The Government of Nauru has highlighted a range of challenges to sustainable development including scarce water resources, limited land and soil, environmental degradation, dependence on a narrow range of economic sectors, dependence on imports, geographical isolation, low levels of education chronic health problems and aid dependence. These can lead to vulnerability and of these challenges are likely to be intensified under climate change (Republic of Nauru, 2015).

2.1 Physical geography and environment

Nauru is the world's smallest island nation consisting of a single, 21 square kilometre island. Freshwater resources are limited to groundwater lens and open brackish ponds. The groundwater resources are not considered potable due to high levels of E-Coli and salinity content. Due to this, Nauru is heavily dependent on reverse osmosis and rainwater harvesting for safe drinking water (Nauru, 2009). The majority of households have water harvesting units, enabling the storage of 28 days of potable water per house. National water storage can only contain enough water for eight days. This means that in times of drought Nauru has significantly less than the World Health Organisation (WHO) recommendation of 50-100 litres of clean water per person per day.

The majority of the interior of Nauru (80% of the total land) is uninhabitable due to phosphate mining activities which have left infertile soil with jagged limestone pinnacles up to 15

metres high. Nauru's fertile terrain, unaffected by mining, is limited to Buada district which is found in the interior and along the narrow coastal fringe. The growing population over the past decades has put increasing pressure on the limited coastal strip.

The highest elevation in Nauru is 61 metres above sea level (UNFCCC, 1999; Campbell & Warwick, 2014). Nauru experiences a hot humid tropical climate with temperatures ranging between 22°C and 35°C. The annual average rainfall is 2,126mm however the island experiences high variability of annual rainfall, partly due to the influence of the El Niño Southern Oscillation (ENSO). In the last four decades the water temperature has risen by 0.12°C per decade. Sea level rise due to thermal expansion and sea ice melt has been estimated at approximately 5mm per year, which is higher than the international average of 3.2 ± 0.4 mm per year. The seas around Nauru are also experiencing ocean acidification due to the amount of carbon dioxide which is absorbed into the ocean (Australian Bureau of Meteorology and CSIRO, 2014).

2.2 Climate change projections for Nauru

Earth surface and sea surface temperatures are expected to rise continuously in the 21st century. A rise of more than 1°C in annual and seasonal mean temperature by 2030 and of more than 3°C by 2090 is anticipated. Additionally, the mean sea level is expected to increase by around 5–15cm by 2030 and 20–60cm by 2090. Extreme sea-level events, king tides, and ocean winds will increase in Nauru due to changes in weather phenomena (Australian Bureau of Meteorology and CSIRO, 2014). Rainfall is expected to increase by more than 5 per cent by 2030 and more than 15 per cent by 2090. Extreme rainfall is expected to increase, while drought periods may decrease throughout the 21st century. Ocean acidification is expected to

increase throughout the 21st century due to the increasing oceanic uptake of carbon dioxide as a result of the increasing concentrations of atmospheric carbon dioxide (Australian Bureau of Meteorology and CSIRO, 2014). The health of reef ecosystems such as those around Nauru are already affected by coral bleaching, storm damage and fishing pressure and are expected to worsen dramatically once ocean acidification reaches a value below 3.5 by 2040 (Guinotte et al., 2003).

2.3 Demographics

In the latest census, the population of Nauru was recorded at 10,084 (Republic of Nauru, 2011). High population growth in Nauru was observed during the 1950's and 1960's as migrant workers from nearby Micronesian and Polynesian countries came to work in the mining industry. During the 1980's and 1990's the population continued to grow. However, since the mid-1990's the country has had a relatively stable population as fertility rates declined and foreign workers were repatriated due to the depletion of the mining activities (UNFPA, 2014). From 2001 to 2008 and again from 2012, Nauru came to an agreement with Australia to accommodate asylum seekers in the Regional Processing Centre (RPC), in return for aid assistance. This has resulted in a recent increase in the population with additional strain on resources, particularly water and the need to dispose of large quantities of waste. In addition, the RPC was constructed in an area previously proposed to be used for soil conservation (Republic of Nauru, 2015).

The fertility rate (average number of children a woman who lives to the end of childbearing years) in Nauru in 2011 was 4.3, one of the highest rates in the Pacific region (UNFPA, 2014). Nauru has a low life expectancy of 58 years old for men and 65 for women (Nauru Bureau of Statistics, 2015) – much



Figure 2: A map of Nauru

Source: UNOCHA Fiji (2016). The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

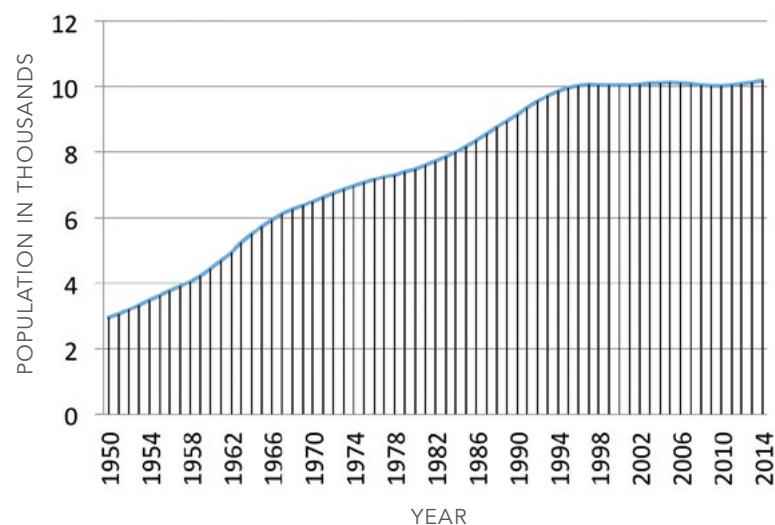


Figure 3: Population of Nauru from 1950-2014

Source: UNFPA (2014)

less than the global life expectancy of 71 (WHO, 2013). This is partially a result of the high levels of Non Communicable Diseases (NCD). Inhabitants of the island are amongst the most obese people in the world: 97 per cent of men and 93 per cent of women are either overweight or obese (Marks, 2010) and Nauru has the world's highest prevalence of type-two diabetes (40%). Heart and kidney diseases and cancer cause around three-quarters of deaths in Nauru (Ibid).

Education is compulsory for children from six to 16 years old and two additional non-compulsory years in higher secondary schools can be completed on the island. The gross enrolment ratio in secondary education in Nauru was above 80 which means 4 out of 5 children of secondary school age are enrolled in secondary school (Nauru Bureau of Statistics, 2015). Since

1987, students can attend the University of the South Pacific which has a campus on the island.

2.4 Economy

The mining of phosphate developed after World War I under a combined Australian-New Zealand-British venture; the British Phosphate Commission (BPC). In 1968, the island became independent and the control of the BPC was handed to Nauru (New Zealand Ministry of Foreign Affairs and Trade, 2013). In the 1970's and 1980's, the island was one of the wealthiest countries per capita in the world, mostly due to its phosphate

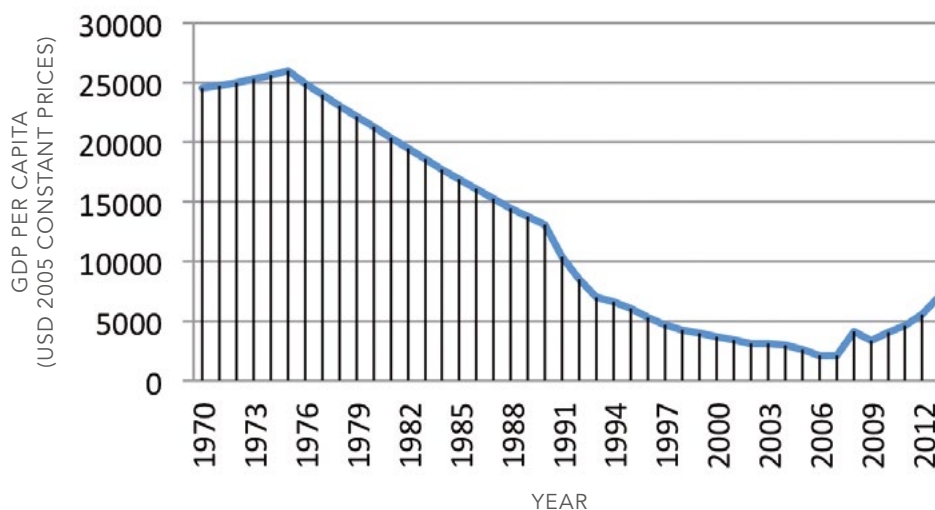


Figure 4: GDP per capita of Nauru from 1970-2014

Source: ESCAP (2015)

resources. By the late 1990's, a significant amount of the extractable primary phosphate had run out which led the country to rely heavily on foreign aid and loans, causing a high level of indebtedness and subsequently to a serious financial crisis. In 2004, in order to solve its financial problems, the Government of Nauru froze wages and obtained financial aid from the Pacific Islands Forum through the Pacific Regional Assistance to Nauru (PRAN) initiative (New Zealand Ministry of Foreign Affairs and Trade, 2013). The exploitation and extraction of a deeper layer of "secondary phosphate" started again in 2006, although the reserves of phosphate on the island are only projected to last for 20 years (Ibid).

The government, together with the many state-owned enterprises (SOEs) and agencies are the main actors in the

economy of the island (Asian Development Bank, 2007) while the private sector is relatively underdeveloped, limited by the small domestic market, geographical isolation and the cost of getting goods to international markets. There is no real estate market in Nauru, which has a negative impact on the incentive of individuals to maintain or improve the housing stock. The development of foreign business activity is also limited by the fact that the Nauruan authorities require a Nauruan licensee for any business owned by a non-Nauruan (WHO et al., 2011). Many Nauruans receive rent from Australian workers connected to the RPC, although this revenue stream is insecure for the future. Royalties from phosphate mining provide another significant source of income, a large proportion of which is spent overseas (HIES, 2013).

Partially as a result of land degradation, there is very little agriculture on Nauru. Instead, the country is heavily reliant on food imports. Wages and income on the island have not kept pace with rises in the food prices creating acute challenges for livelihoods. About half of all households engage in fishing on the reef or in the ocean, with 23 per cent engaged in deep-sea fishing (Ministry of Finance Nauru Bureau of Statistics, 2011).

2.5 Gender

Nauru has reached gender parity in primary education and more girls than boys receive scholarships for secondary education (Republic of Nauru, 2009). However, the proportion of women in paid employment is 38 per cent and women tend to work in gender-specific occupations like clerical jobs (Ministry of Finance Nauru Bureau of Statistics, 2011). Gender based violence is reported to be widespread and it is currently addressed politically by an interagency committee assembling different stakeholders (Government of Nauru, Nauru Millennium Development Goals Taskforce and UNDP, 2012). Until now, only two women have been elected to Parliament (Ibid.). The greatest barriers to female participation in policy and decision-making are cultural and traditional, with family ties often preventing female candidates from standing in elections (Ibid.).

2.6 Migration from Nauru

At present, Nauru is neither a country of immigration nor of emigration (Bedford et al., 2014), although from 2006 to 2011 emigration was more common with a net migration rate

was -17 per 1,000 (Nauru Bureau of Statistics, 2015). Nauru's experience with seasonal work programmes is limited (UNESCAP, 2014). In 2012, Nauru sent 10 workers to Australia through the Seasonal Worker Program (SWP), none of which were granted visa to stay in Australia (Australian Government and ILO, 2015). Subsequent recruitment requests for Nauruans have not been issued under the SWP (Ibid.). The scheme is viewed by the Nauruan government as an opportunity for migrants to save and then start a business: participants sign up for five years and are expected to save AUD9,000 per year, deemed sufficient capital to start a new business. Nauru is also involved in a new visa programme which allows a total of 250 people from Kiribati, Tuvalu and Nauru to apply for two year semi-skilled visas for Northern Australia. In 2005, Nauru sent 50 workers to work in the horticulture and viticulture industries in New Zealand through the pilot program of the Recognized Seasonal Employer (RSE) scheme (Australian Government and ILO, 2015). Six workers were invited to return but Nauru was not invited to participate in the subsequent RSE (Ibid.). In 2015, an Inter-Agency Understanding agreement was signed between both governments regarding Nauruan participation in the RSE and 20 Nauruan workers are now in New Zealand through the scheme (NZ Immigration, 2015). Workers in the international shipping industry (seafarers) are currently not formally recruited from Nauru (UNESCAP, EU and ILO, 2014). However, there is a new initiative to encourage the hiring of fisherman on foreign vessels working in the Pacific which provides a new opportunity as such seafaring trips can bring high incomes and remittances.

2.7 Remittances

The 2011 national census recorded that only 1 per cent of households receive remittances (Ministry of Finance Nauru Bureau of Statistics, 2011) and remittances make up only 0.2%

of the average annual income for households (2012/2013 HIES). The national Sustainable Development Strategy states as long-term milestone for 2025 a "significant increase in remittances from Nauru workers overseas" through improved labour market access for Nauruans (Nauru Government, 2009).





3. Methodology

This section provides a brief overview of the research aims and methodology. Further details are included in the Annex available online at: <https://collections.unu.edu/view/UNU:5856>

3.1 Household survey

A representative sample of the population were interviewed through a household survey. The survey was aimed at producing household-level data related to vulnerability and migration patterns and specifically to investigate the relationship between household vulnerability and migration. The United Nations University Institute for Environment and Human Security (UNU-EHS) and UNESCAP trained and guided local enumerators from the University of the South Pacific who interviewed a total of 155 household representatives, which covered a total of 1,246 individuals. The original survey materials were produced in English, then translated to Nauruan. Stratified and opportunistic sampling were used. All 14 communities in Nauru were covered in the survey. Within the communities, due to time and budgetary constraints, households were approached. The enumerators knocked on the doors of homesteads and asked to speak to the head of the household. If the head was not available, another adult was asked to partake in the survey. The representatives provided information and migration histories of individuals who are currently part of a household on Nauru. However, if an entire household migrated out of Nauru they would not show up in the survey. Likewise, if an individual is no longer deemed to be

part of a household they are not included in the data. No asylum seekers were interviewed in the course of the fieldwork.

In order to investigate vulnerability, a Vulnerability Index was created based on the Correlation Sensitive Poverty Index (Rippin, 2011; Rippin, 2012). The index aims to identify which households are vulnerable, based on six dimensions; economic situation, education, health, housing, connectivity, and community and social networks. The more vulnerable a household is in the respective dimension, the higher the index-value for the household would be. The nominal values of vulnerability only make sense when compared with other vulnerability values. Thus, a single vulnerability value does not allow judging the severity of the vulnerability ("high" or "low"). Therefore, for better readability, the numerical vulnerability values have been omitted from the illustrations of this report. Details on the vulnerability index are included in the annex.

3.2 Qualitative analysis

Participatory Research Appraisal (PRA) was included in the fieldwork to complement household survey data with information at the community level and to ensure that local perspectives were represented. PRA sessions were carried out in order to better understand livelihood risks, migration decision making and the institutions and organisations which can help with migration. Two PRA sessions on livelihood risks were conducted separately with women and men. Two PRA sessions were conducted on the reasons for migration; one with older adults and another with younger adults. One session on institutions which can aid with migration was conducted with participants of both genders. In order to gain a deep understanding of the range of shared attitudes on climate change and migration, a "Q" study (Brown, 1980) was conducted. This is a method for investigating opinions on a particular issue by

statistically analysing participants' ranking of statements connected about the issue. The Q study was conducted on 16 of the household representatives from a range of settlements who were interviewed for the household survey. The sample consisted of 10 men and six women.

COMMUNITY	HOUSEHOLD LEVEL	INDIVIDUAL LEVEL
	Frequency	Frequency
Aiwo	10	85
Anabar	5	41
Anetan	10	79
Anibare	12	118
Baitsi	3	31
Boe	13	91
Buada	14	112
Denigomodu	14	92
Ewa	6	38
Ijuw	13	110
Meneng	33	261
Nibok	13	91
Uaboe	6	58
Yaren	3	39
Total	155	1,246

Table 1: The distribution of the household survey.

Source: PCCM Nauru Fieldwork







4. Findings

4.1 Nauruans are already experiencing environmental change, particularly droughts

Three-quarters of households were impacted by a natural hazard between 2005 and 2015. Drought and irregular rains are the hazards which have impacted most families, affecting the majority of households. The absence of sources of potable surface water and the limited capacity of the single desalination plant further increase the constraints resulting from droughts and irregular rainfall. The related sea level rise and saltwater intrusion were the next most common events, affecting approximately a third and a sixth of households respectively.

According to the PRA activity on livelihood risks, both Nauruan men and women feel that climate change is one of many risks. In particular, coastal erosion is already having an impact on livelihoods. However, there are other pressing concerns that are also impacting well-being in Nauru. Many of these concerns are likely to be intensified under projected climate change, such as health, land management and water and sanitation. Both men and women felt that there were some actions that households, communities, the Government and others could take to alleviate risks. Any holistic solution would need to involve households and Government.

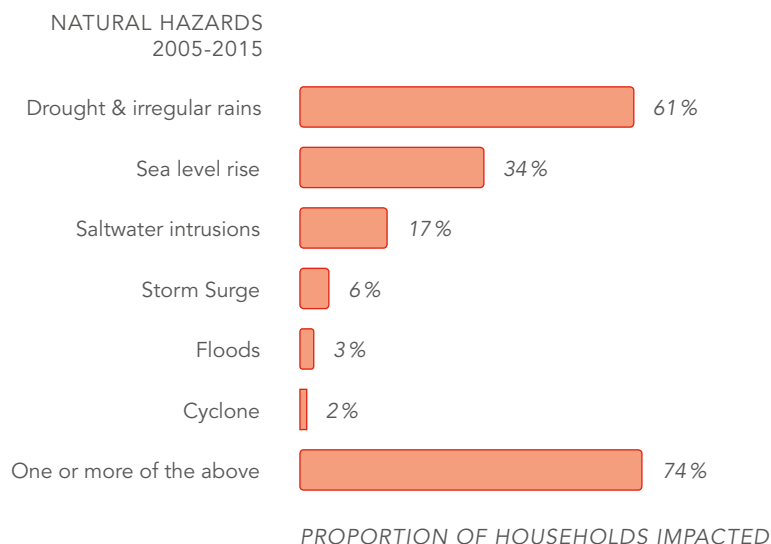


Figure 5: Households affected by natural hazards 2005-2015

Source: PCCM Nauru Fieldwork

4.2 The adaptive capacity in Nauru to cope with climate change is limited and internal migration is not a solution

Households are most severely vulnerable in terms of housing and the environment, where 27 per cent are highly vulnerable and another 69 per cent are in some way vulnerable. As noted above, housing issues were recognized by both men and women as a serious concern. Many people are also vulnerable in terms of social inclusion, health and nutrition and their economic situation.

The low education vulnerability reflects the level obtained and not necessarily the quality of the education. According to the

census, four of five secondary age children are enrolled in secondary school; however, the quality of the education received was identified as a concern. In addition, while approximately 70 per cent of adult Nauruans have a matriculation certificate, less than a quarter have a secondary leaving certificate and only 5 per cent have a tertiary qualification (Nauru census, 2011). Internal movement within Nauru may produce some benefits in reducing vulnerability to housing and environmental issues. Additionally, improved land management could help reduce vulnerability; however, internal mobility and land management is complicated by the lack of habitable land on Nauru, the percentage of people living on the coast and a lack of financial resources for households to improve their housing situation. Internal migration will not result in any reduced vulnerability in the other types of

	RISK	HOUSEHOLD SOLUTIONS	EXTERNAL SOLUTIONS
Women	Health	Healthy lifestyle	Awareness/provision of health care
	Education	Parent support group	More qualified teachers (locals and expat) and resources
	Coastal erosion	Coastal replantation (trees)	UN/governmental action
	No bank	Overseas banking	Bring back a bank
	Work culture	Nothing	Effective management
	Land issues	Sign land ownership agreements	Better land use management
	Lack of youth entertainment	Volunteer and fundraise for youth clubs	Create/build youth clubs
	Housing	Preventive measures and advocacy with government	Better housing scheme and skills training
	Real wages	Approach MPs on the issue	Raise wages, control prices
	Electricity	Conserve energy	Solar power system, raise awareness and energy efficiency training
Men	High level corruption	Group advocacy	Approval of "leadership code" in the Parliament
	Coastal erosion/land degradation	Sea walls/preventive measures	Environmental education
	Sea port	Demand results of environmental impact assessment	Renovation of sea port
	Youth violence	Parental education	Creation of more sport opportunities
	Health	Healthier lifestyle, use of traditional medicines	Better physical education in school, renew facilities
	Waste/sanitation	Refurbish septic tanks, compost toilets	Promote an alternative waste system
	Housing	Change mindset on land sharing (too complicated now)	Upgrade land property and land use planning

Table 2: Livelihood risks classed as severe and their potential solutions according to PRA sessions.

Source: PCCM Nauru Fieldwork

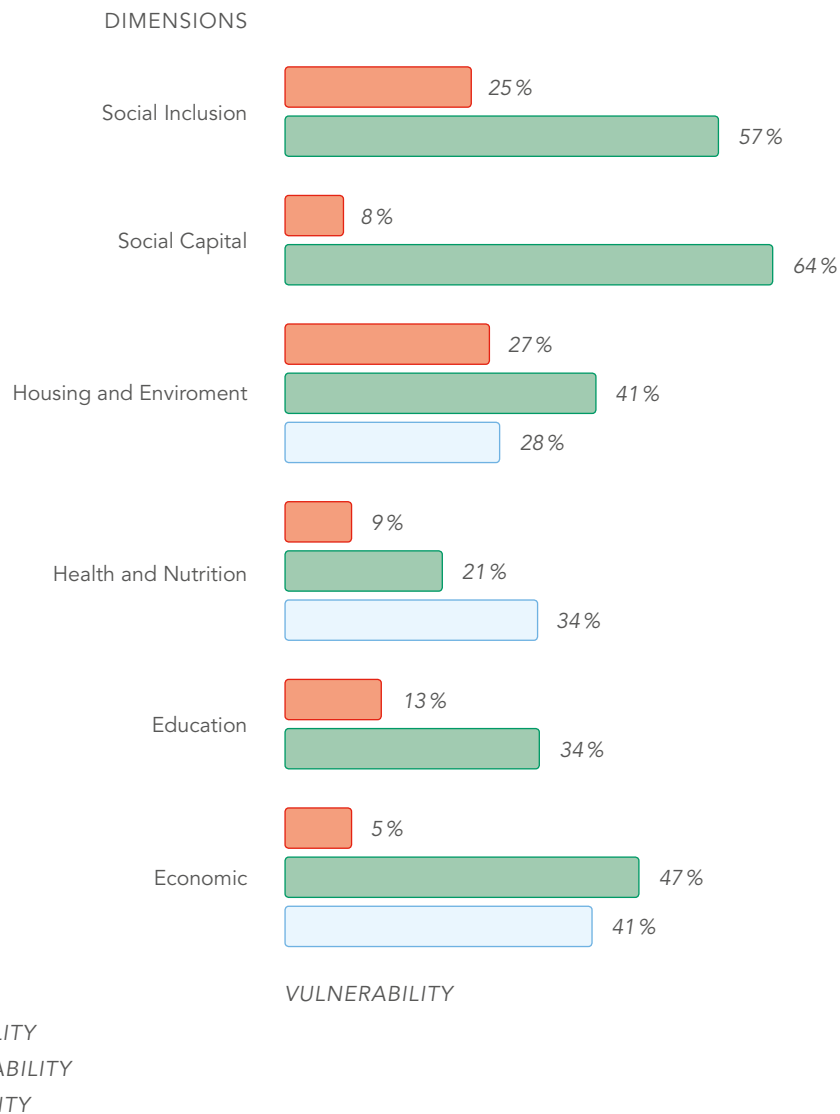


Figure 6: Incidence of household vulnerability by dimension.

Source: PCCM Nauru Fieldwork



Figure 7: Ease of access to destinations.

Source: PCCM Nauru Fieldwork

vulnerability and thus internal migration is unlikely to result in greatly improved adaptive capacity to cope with climate change.

4.3 Nauru has some history of migration

The household survey found a total of 1,006 movements in the period 2005-2015, meaning approximately 10 per cent of the population engaged in migration. One third of households experienced at least one migration event in the same period. Among migrant households, approximately half have only experienced one trip, 35 per cent experienced between two to four trips and 15 per cent of households experienced more

than five migration events in the last 10 years. The data does not include the exact age of the migrants at the time of migration. However, generalizations can be made based on the survey results. At the time of the survey, the majority (74.2%) of migrants were between 15 and 50 years old, while 58.2 per cent of the overall sample was situated in the same age category. 31.7 per cent of the migrants were between 15 and 24 years old and 42.5 per cent were aged 25-50. Additionally, the majority of migrants above 15 years of age (56.9%) completed secondary education (overall sample: 57.1%) and 12.9 per cent have tertiary or technical education (overall sample: 8.3%). Nineteen per cent of migrants of the same age category have completed some secondary education (overall sample: 20.9%). On average, the data suggests that although migrants have similar educational attainments

DESTINATION	PROPORTION OF MOVEMENTS	PROPORTION OF MOVEMENTS BY REASON			
		EDUCATION	WORK	MEDICAL	OTHER/ UNKNOWN
Fiji	45%	63%	20%	7%	10%
Australia	24%	26%	10%	6%	58%
Kiribati	7%	22%	0%	0%	78%
Marshall Islands	6%	0%	100%	0%	0%
Cuba	3%	100%	0%	0%	0%
Thailand	3%	25%	25%	50%	0%
New Zealand	2%	50%	50%	0%	0%
Other	10%	61%	21%	5%	13%

Table 3: Migration destinations and reasons.

Source: PCCM Nauru Fieldwork

than the overall sample, a bigger proportion of the migrant group reached a higher level of education.

The most popular migration destination for migrants is Fiji accounting for 45 per cent of all movements, followed by Australia which represents approximately a quarter of all movements. The Federated States of Micronesia, Tuvalu, and the Solomon Islands are destinations for work. Cuba and Taiwan have scholarship programmes that attract some Nauruan migrants. Thailand and India are destinations for medical related migration. A PRA activity on destinations produced similar results with Nauruans perceiving that Fiji and Australia are the easiest places to access, followed by the Marshall Islands, Kiribati and Solomon Islands.

The primary reason for migration was education (47%) while work explained 21 per cent of trips and medical reasons explained 7 per cent. A quarter of trips did not have a specific motivation as described by the household representative. This could be due to household representatives not knowing the exact motivations for other household members' movements, or migration could have multiple motivations. Two thirds of migration aimed at pursuing education is to Fiji, predominantly because the main campus of the University of the South Pacific is located there. The second most common destination for education is Australia, possibly reflecting the impact of its scholarship schemes, followed by Cuba. Almost half of migrants who moved primarily for work went to Fiji, with the Marshall Islands and Australia among other common destinations.

PRA activity on the reasons for migration

The PRA session supported the survey findings on the reasons for migration. Mature adults identify education, work opportunities, family reunification and better lifestyle as primary reasons for migration, with education (mostly tertiary) deemed as the most important reason why people leave Nauru. While young adults perceived work, sport, education, deportations, starting a new life, medical treatments, and obtaining citizenship elsewhere as reasons contributing to the migration decisions. Climate change and sea level rise are perceived to be relevant to migration, but not as important relative to other motivations. The low quality of teaching and education was recognized as a factor which is encouraging migration.

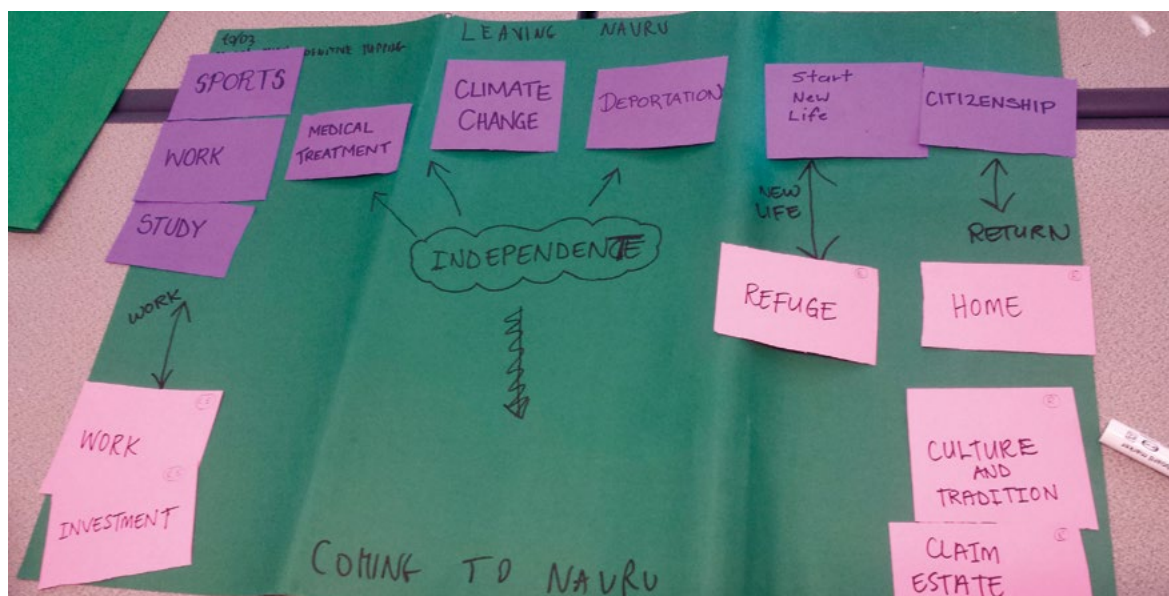


Figure 8: The reasons for migration.

Source: PCCM Nauru Fieldwork

PRA session on institutional support

In another PRA session, eight participants of mixed ages discussed key actors and institutions which can provide assistance in times of crisis. Family members were identified as the main source of assistance in difficult times. This was followed by participants reverting to wealthy Members of Parliament (MPs). Participants equally mentioned AusAid, which now part of the Department of Foreign Affairs and Trade (DFAT) and the European Commission as the third most important source of support. In the case of no assistance, provided by the abovementioned actors, participants explained one option is to either ask other wealthier families, or a family member overseas to send remittances. As a last resort, participants mentioned that Nauruans contact loan sharks to contract loans at high interest rates. Participants also highlighted that the Church is currently in crisis itself as people no longer donate regularly, so it cannot provide assistance. Furthermore, the participants explained that due to the small size of the island, a crisis occurring in Nauru often impacts everyone, restricting the utility of internal help mechanisms. It is worth noting that two members of the session disagreed with the outcome of the exercise and argued that according to them only family members are available to provide assistance.

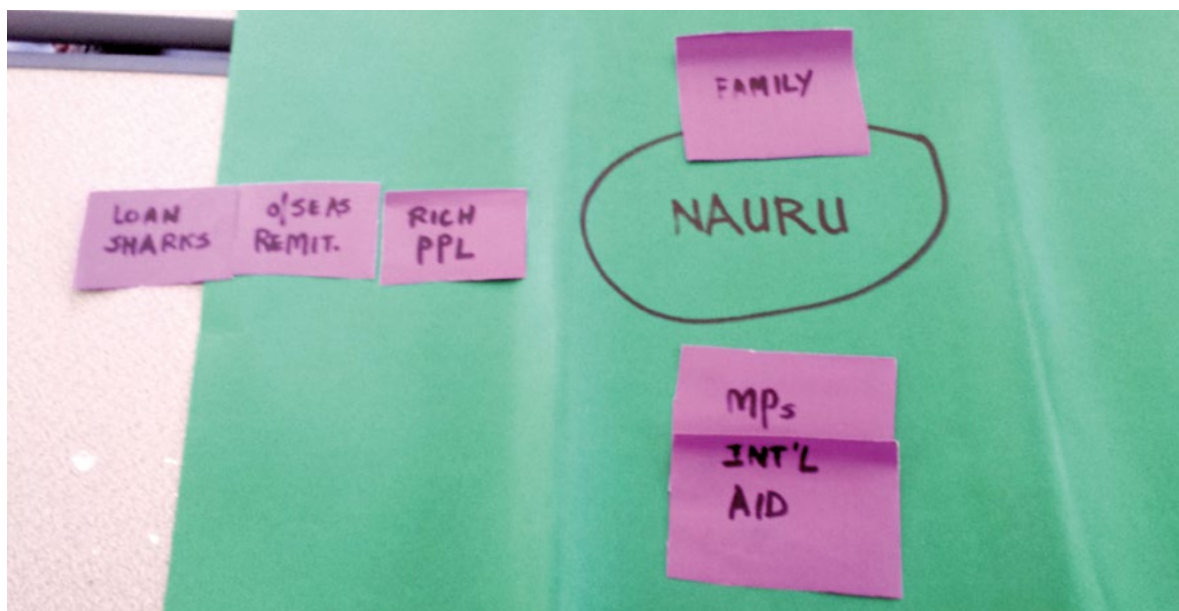


Figure 9: Institutions able to assist households.

Source: PCCM Nauru Fieldwork

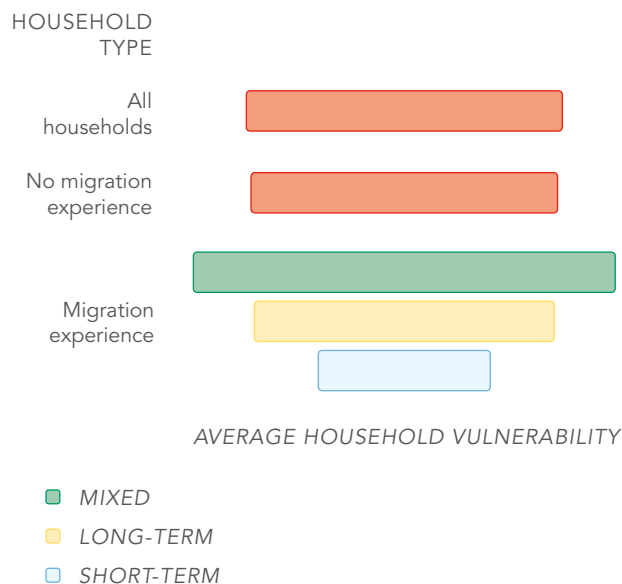


Figure 10: Household vulnerability by migration experience

Source: PCCM Nauru Fieldwork

4.4 Migration seems to be related to improved resilience and remittances

Households which engage in short term movements (3 months to 1 year) have a much lower vulnerability than the mean. Households which engage in long term migration (one year or more) are slightly less vulnerable than the mean. However, households which engage in both forms of migration have a much higher vulnerability than the mean. It could be that such households are in such a precarious state, that they engage in all forms of migration, although it should be noted that as the number of households engaging in multiple instances of migration is so low, this is based on a small number of households.



Figure 11: Household vulnerability by rental income and migration experience

Source: PCCM Nauru Fieldwork

The mean monthly household per capita income in Nauru was AUD245. The household per capita income was higher for households receiving rents for property or royalties from mining at AUD278 versus AUD212 for those not receiving rents. Both migrant and non-migrant households for which rent is the primary source of income have a lower vulnerability (fig.11, above). It can therefore be assumed that households receiving rent are more able to engage in migration on their terms.

For those households not receiving rental income, migration might be a necessity due to lower incomes. However, these households may have less ability to engage in migration. It is possible that those households not engaging in migration

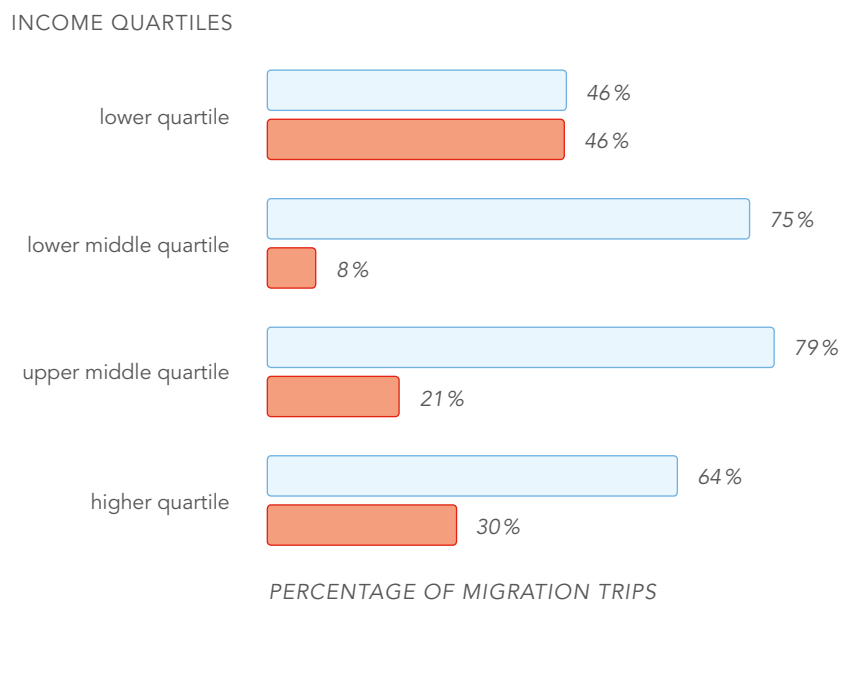


Figure 12: Migration for education and work by income quartile

Source: PCCM Nauru Fieldwork

which do receive rent make a choice not to migrate as there is no necessity to leave.

The survey showed that Nauru has high income inequality with large differences in the wealth of the top and bottom quarter of Nauru’s citizens. Excluding the top quartile, the mean per capita monthly income in Nauru for households that do not receive remittances is approximately AUD100, which is less than half of the overall mean income. Therefore, most households not receiving remittances are in a vastly inferior position to those who do receive remittances. Those

households which send remittances have a much higher monthly income than other households (AUD1,032). Those households which receive flows of income from migrants have an income which is much lower (AUD447), although still approximately double that of households which are not involved in any flows of income (AUD238).

Out of those who moved from households with the lowest incomes, equal proportions moved for both education and work (fig.12, above). Out of the households with the highest incomes, approximately two thirds of this quartile migrate

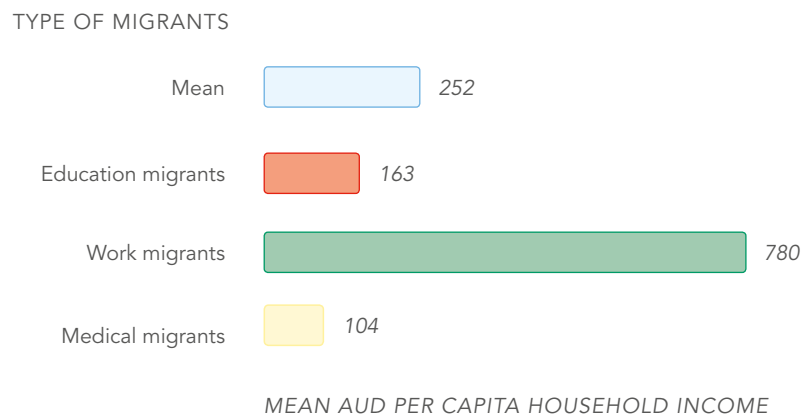


Figure 13: Mean AUD per capita income for households receiving remittances by type of migrant

Source: PCCM Nauru Fieldwork

for educational purposes and 30 per cent move for work. This suggests that the households in the lower quartile are more likely to engage in labor migration than other strata of society. In fact, nearly half (46%) of all work migrants come from this group. The other groups are much more likely to migrate for education and one third of all educational migrants come from the richest quartile. The middle quartiles tend not to migrate for work, but the higher quartile do, suggesting a two-tier labour migration model, whereby the members of the lower quartile income households may move to diversify incomes, while those from the higher quartile income households are able to take on higher level positions.

Out of those households which receive remittances, those which have sent migrants out to work have significantly higher per capita incomes than those households with migrants who left for other reasons (fig. 13, above). This suggests that these remittances are having a significant positive impact on the

household. Households that send financial support to people who have moved overseas for education come from households with much higher incomes than other migrants. This suggests that households with the lowest income are those that send out their members to find work abroad and therefore the boost to household incomes from remittances from migrants working abroad is vital to their household. It is the more affluent households who are able to send members abroad to study and are able to support these migrants financially.

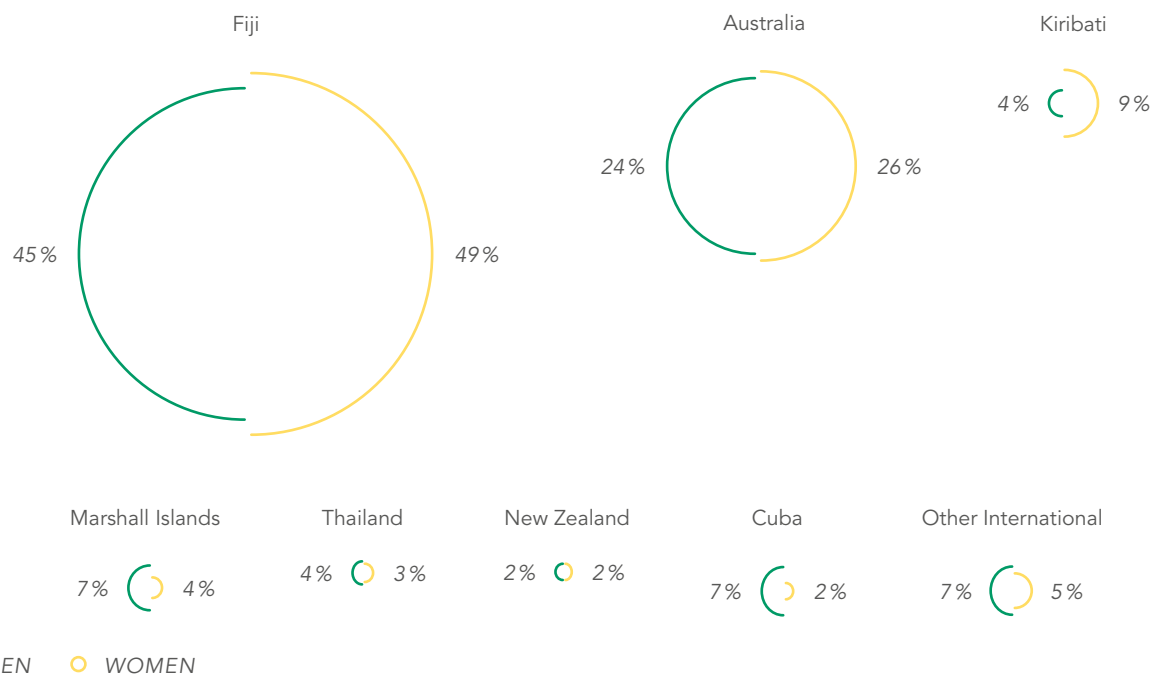


Figure 14: Migration destination by gender

Source: PCCM Nauru Fieldwork

DURATION	WOMEN	MEN
Less than 3 months	3%	3%
3 months up to 1 year	41%	30%
1 year up to 5 years	32%	48%
More than 5 years	24%	19%
Total	100%	100%

Table 4: Migration length by gender

Source: PCCM Nauru Fieldwork

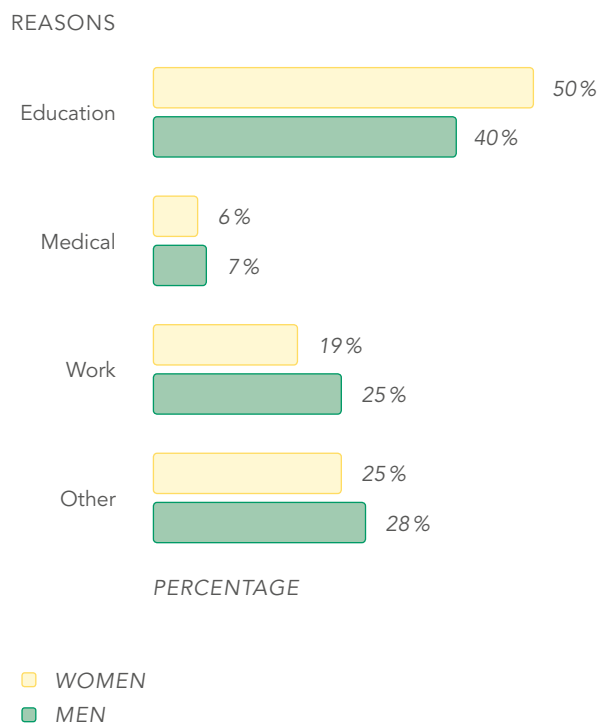


Figure 15: Migration reason by gender

Source: PCCM Nauru Fieldwork

4.5 Migration is experienced differently by women and men

Women migrate more often than men; 11 per cent of women and 9 per cent of men migrated between 2005 and 2015 and the length of their movements are broadly similar (table 4, p. 44). This is in contrast to the latest census which found that males were more likely than females to migrate (Nauru Government, 2012). Although men and women do move to

many of the same destinations, women are slightly more likely to visit the well-trodden routes of Fiji, Australia and Kiribati than men. Figure 14 (p. 44) reflects that men are more likely than women to go to less common destinations. Men are more likely to take trips of medium length (1-5 years), while women are more likely to take shorter trips (under 1 year).

As figure 15 (left) depicts, women are much more likely to migrate for education than for work. Similarly, men migrate mostly for education but the gap to work is much smaller. The gender difference in regard to medical reasons is very small (a slightly higher percentage of men migrate for this reason). The majority of educational migrants of both genders move to Fiji. Another popular destination for female educational migrants is Australia accounting for one fifth of educational movements of women. In contrast, a much lower proportion of male educational migrants move to Australia, they are more likely to move to Cuba instead. Male migrants are more likely than women to move to a wider variety of destinations for work, but the overall patterns are similar. Over half of female work-migrants move to Fiji and this is also the most popular destination for their male counterparts. The Marshall Islands are another significant working destination. Migration for medical treatment is not uncommon, but it seems that women are more likely to go to Fiji than men, who also travel to Australia.

In general women make their own decisions in Nauru. Women take decisions for issues which affect them in 31 per cent of households and together with men in 35 per cent of cases. In only 20 per cent of households do men take these decisions for women without consulting them.

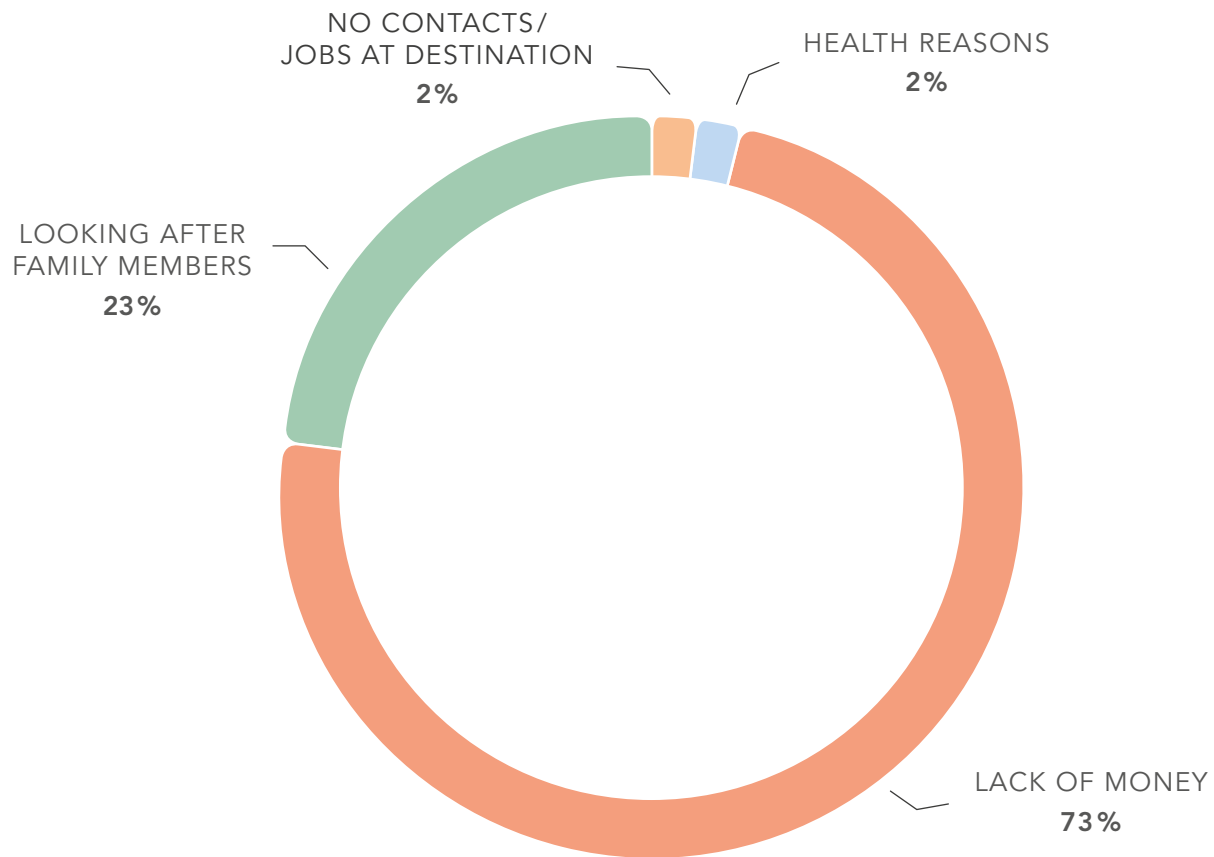
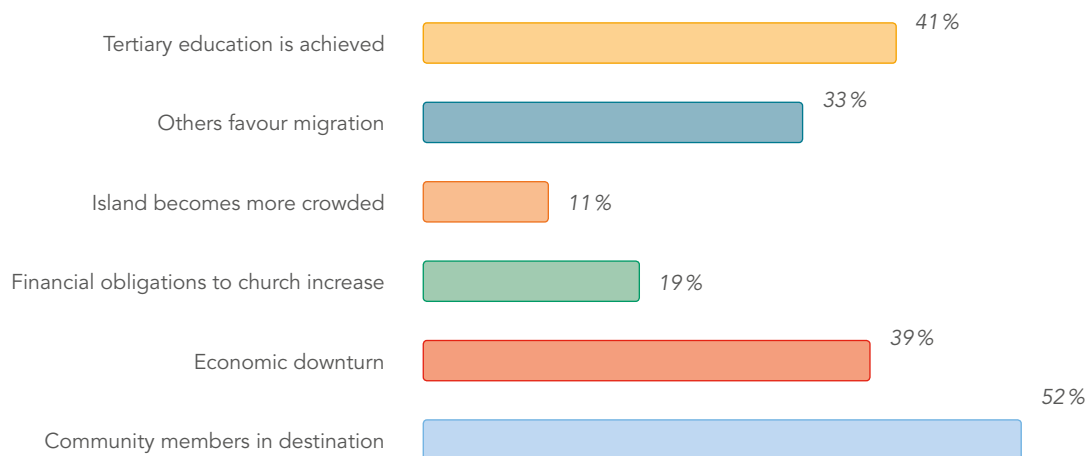


Figure 16: Reason for non-migration

Source: PCCM Nauru Fieldwork

ECONOMIC AND CULTURAL FACTORS



PERCENTAGE OF HOUSEHOLDS WHO WOULD MIGRATE IF THIS FACTOR WAS FULLFILLED

Note: This figure represents the percentage of households which feel that someone in the household would migrate if there were changes in different economic, cultural and personal factors.

Figure 17: Perceived impact of economic and cultural factors on future migration

Source: PCCM Nauru Fieldwork

4.6 Migration demand is greater than the access to migration opportunities

Seven percent of Nauruans wanted to migrate during the period 2005–2015, but were unable to leave. Most non-migrants (57%) did not provide a reason for inability to migrate, which might represent a reluctance to divulge the reason or simply that the household representative was unsure of the experiences of their householders. When a definite reason was given for non-migration, a lack of the financial means necessary for migration was the primary reason for not migrating (73% of cases). This is not surprising due to the fact that in all cases where finances posed the main reason for non-migration,

the monthly income of the household was below AUD500; for more than half the monthly income was less than AUD100. Family responsibilities was also a significant reason for not migrating; particularly, for women for whom family responsibilities made up 26 per cent of the reasons for not migrating.

4.7 Economic and cultural motivations will remain a primary driver of migration

The significance of social networks is shown by the large proportion of households which think they would experience

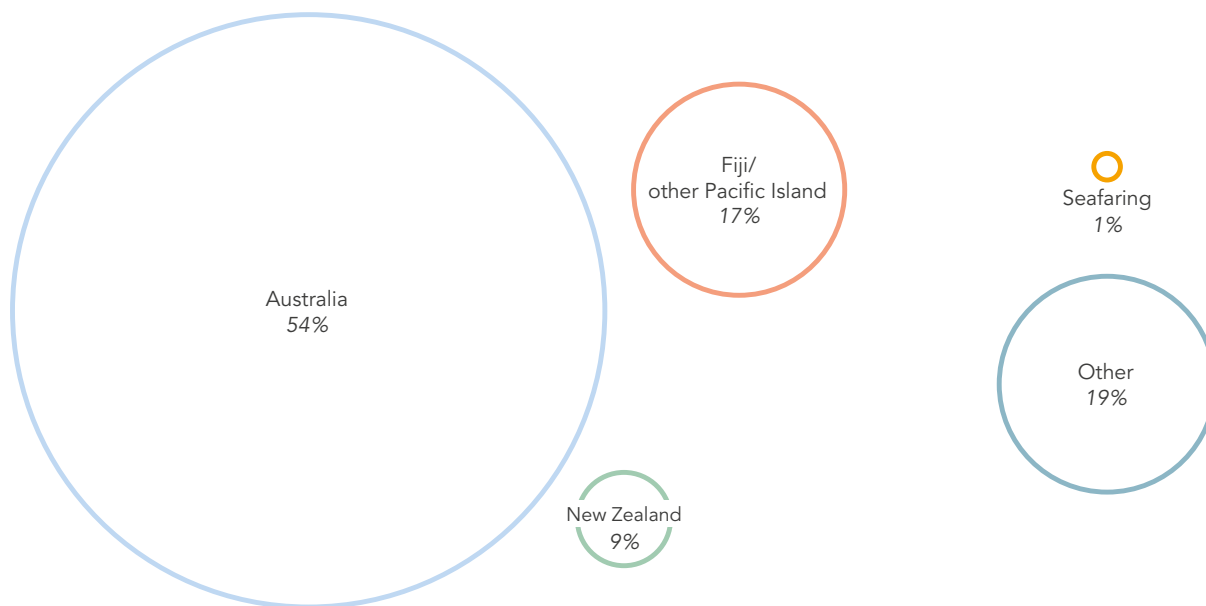


Figure 18: Most likely destination for future migration

Source: PCCM Nauru Fieldwork

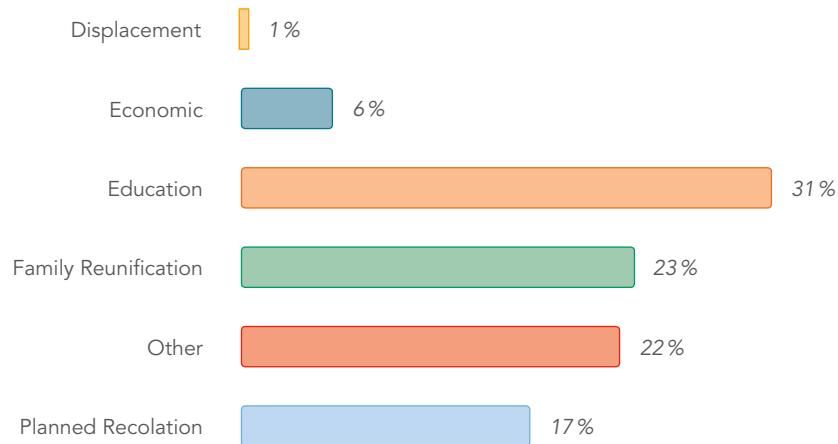
migration if there is already a community of Nauruans in the destination (52%, figure 17). Other important factors include if tertiary education is achieved or there is an economic downturn in Nauru, which would both result in approximately 40% of households sending out a migrant.

Approximately one-third of the respondents said that important decisions are made after consultation with four or more people outside of the household and a similar proportion of household decisions are taken after consulting with one to

three people, suggesting that migration decision making is generally a collective, social phenomenon. However, over a quarter of households do not consult with anyone outside of their household.

Nauruans foresee changes to existing patterns of migration in the future. Over half of households would prefer Australia as a migration destination, followed by Fiji or other Pacific islands (fig. 18, p.48). This is not in line with current migration trends as Fiji is by far the most common destination. Presum-

ECONOMIC AND CULTURAL FACTORS



PROPORTION OF MIGRANTS TRIPS

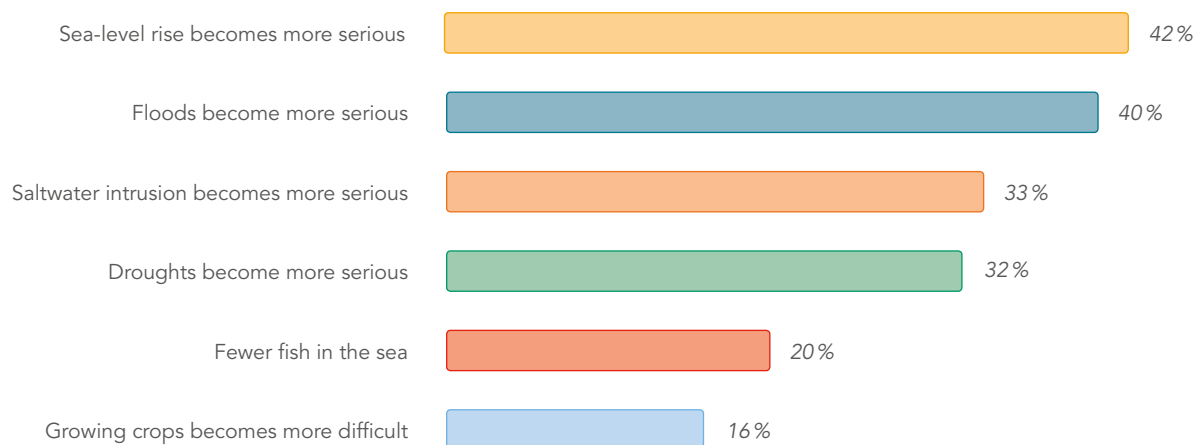
Figure 19: Likely reason for future migration

Source: PCCM Nauru Fieldwork

ably Australia is more desirable as it presents opportunities for higher incomes and remittances.

Respondents expect the most likely reason for future migration will be education, followed by family reunification. It is interesting to note that planned relocation is predicted to account for a significant amount of future trips. It would therefore seem that despite the fact that climate change does not appear to be driving migration at present, Nauruans understand the potential impacts climate change could have on the habitability of the island.

CIRTERIA TO BE FULILLED FOR MIGRATION



PERCENTAGE HOUSEHOLDS WHO WOULD MIGRATE
IF THIS CRITERIA WAS FULLILLED

Figure 20: Perceived impact of climate change manifestations on future migration

Source: PCCM Nauru Fieldwork

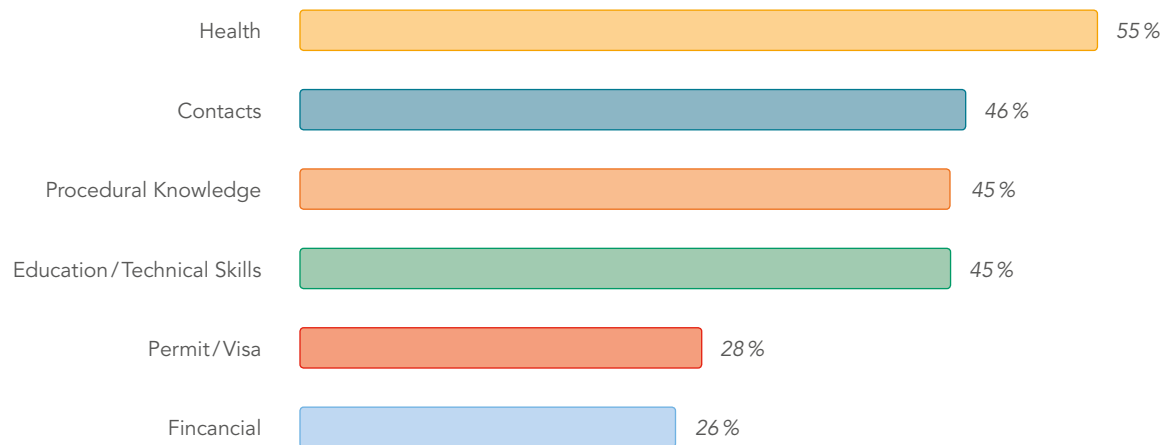
4.8 Migration is less related to subsistence agriculture than in other parts of the world

Only 20 per cent of Nauruans feel that a decrease in fishing opportunities would lead to migration, while for a decline in agricultural production, the figure is only 16 per cent. The national 2012/2013 Housing Income and Expenditure Survey highlights that only 1.2 per cent of annual income is obtained from subsistence agriculture and fisheries therefore, the low percentages reflect the low dependence on subsistence agriculture and the high dependence on imports.

4.9 Climate change will drastically impact migration demand

Although a decline in agricultural productivity is not likely to impact migration in Nauru, the occurrence of floods and sea level rise would encourage two-fifths of households to send out a migrant, reflecting the importance of environmental change. Droughts and the influence of saltwater intrusion on the limited groundwater that is available in Nauru is also a serious concern which would impact migration for roughly one-third of respondents.

CRITERIA FOR PERCEIVED ABILITY FOR POTENTIAL MIGRATION



PERCENTAGE HOUSEHOLDS WHO WOULD MIGRATE IF THIS FACTOR WAS FULLFILLED

Figure 21: Perceived ability to migrate

Source: PCCM Nauru Fieldwork

Note: This figure represents the percentage of households which feel that someone in the household would need to migrate due to each potential impacts of climate change

4.10 Many potential migrants will not have the means to migrate

Overall only one-quarter of the respondents feel that they have the financial means necessary to support migration (fig. 21). The main perceived barriers to future migration are financial and permit-related, as only comparatively few household representatives believe that the household possesses the necessary funds or would be able to get the paperwork for migration. A lack of the necessary contacts, education and procedural knowledge are also seen as significant barriers

The three attitudes revealed from the analysis of the “Q” study presented below show that while attitudes to climate, environment and migration are differentiated across Nauru, there are some central themes. Firstly, it is clear that Nauruans are a proud people who do not want to leave their land. Nonetheless, each of the three attitudes also believes that migration might become necessary in the future due to the impact of climate change. However, there is a perception that there are not currently sufficient options for Nauruans to pursue international migration and there is a lack of policy framework for managing migration.

Q STUDY: ATTITUDES TOWARDS CLIMATE CHANGE AND MIGRATION

Another perspective on future migration was provided by the Q study. It was carried out with 16 participants which produced data on attitudes towards climate change and migration. Of the 16 participants, 13 exhibited one of the below shared attitudes on climate change and migration. Any quotes given are the exact words of the participants.

Attitude 1: "If it comes to the worst, I would leave"

The seven participants associated with this attitude perceive serious problems, but feel that the community can overcome many of the difficulties they face. Nonetheless they are concerned of the impact of climate change and migration on the island's culture. Participants who comprise attitude 1 are aware of the threat of climate change which as they say is "gradually washing away our land and self-sufficiency is becoming problematic as I am unable to go fishing." The main threat perceived by those associated with attitude 1 is to Nauruan culture, one participant explained "if it comes to the worst, I would leave." They do not think that they are doomed due to climate change and they see strength in the community as "Nauruans value family ties very much and no matter what hardship we face, we can always rely on family to help."

Attitude 2: "Reefs and beaches won't protect us"

Only two participants were associated with this attitude. They are somewhat resigned to climate change and seem somewhat fatalistic with regards to environmental threats; they believe they have little power either to prevent climate change, adapt to it, or migrate away from it. For this reason, it could be argued that these participants feel trapped. Interviewees who are associated with attitude 2 perceive the threat of climate change and believe that king tides are a serious problem. They also highlight the limited space on Nauru which offers few options to move without leaving the island. They do not think that sea level rise or king tides can be overcome through physical barriers as "reefs and beaches won't protect us from king tides and unseasonal storms." They see migration as limited by material factors, and believe poorer members of society have difficulty in migrating. They also see a clear connection between God and climate change. On the one hand, they believe that God will protect Nauru, on the other hand, they believe that if the island is flooded, then they will stay and go down with it.

Attitude 3: "Migration is for everyone"

The four participants sharing this attitude can be termed egalitarian, to reflect the balanced and pragmatic views they hold on climate change, migration and human rights. Attitude 3 also recognizes the importance of the land for the people of Nauru, with one participant pointing out "because I was born in Nauru, I don't want to leave, but climate change makes me move." Migration is not seen as only an option for the rich, "but it's for everyone who want to migrate to another country." One of the participants believes that "people should stay on the island, floods and sea level rise only affect the coast." They believe it is possible to adapt to a changing climate and adverse economy though their family ties and through eating locally available produce. However, the interviewees do not think that the climate is having a serious impact on marine life.







5. Policy Implications and Recommendations

- 1. Steps should be taken to minimize future displacements. This can be achieved through synergies in disaster risk reduction, climate change adaptation and sustainable development**

Climate change mitigation is vital to limit climate change impacts. Small Island Developing States (SIDS) such as Nauru have played a minimal role in causing the changes in climate, but nonetheless they must take steps to limit their contributions. At the same time, due to inertia in the climate system, climate change and its impacts are inevitable (IPCC, 2015). Therefore, it is necessary to continue to plan for a different, more risky future. A priority for Nauru is to prevent displacement and avoid resettlement as demonstrated by the Niue Declaration (2008) which enshrined “the desire of the Pacific peoples to continue to live in their own countries, where possible.” The chances of this being achieved can be maximized through the further integration of economic and social development, disaster risk reduction, building resilience and climate change adaptation.

The 2030 Agenda for Sustainable Development adopted in 2015 recognizes how forced displacement could reverse hard won development progress and mobility has now been placed within three of the Sustainable Development Goals (SDGs). The Small Island Developing States Accelerated Modalities of Action (Samoa Pathway, 2014) provides an action plan for sustainable development and a mode for integrating the SDGs into national programmes.

Further steps should be taken to develop sustainably, from a holistic perspective and to take into consideration environmental, social and economic perspectives. Increased resilience could enable communities to remain where they live. The Government of Nauru has recognised the urgency of its situation and produced the Framework for Climate Change Adaptation and Disaster Risk Reduction (Republic of Nauru, 2015). It highlights the challenges facing Nauru including its geographical isolation, small surface area, environmental degradation and lack of finance. The framework acknowledges the importance of Climate Change Adaptation (CCA) and Disaster Risk Reduction (DRR), but national policies should be designed to be able to evolve. Most pressing, mobility should be fully integrated into DRR and CCA, development and national adaptation plans. Significantly there is a gap between the production of the report and its implementation due to a lack of institutional capacity.

The most severe environmental stress which affects Nauru concerns the availability and quality of water. In this way, it is possible that in the future, climate change will intensify pressure to migrate. Nauru is already water stressed and under projected climate change rainfall will become more unpredictable. This situation could be exacerbated by an increasing population. The population transiting through the Regional Processing Centre (RPC) has increased the population on Nauru and is putting pressure on the fragile natural environment. To address this issue, the government is investing in more desalinization plants.

2. Despite these measures, future climate-related migration is likely in Nauru. Further research is required into how, why and where people will migrate.

It is likely that migration will continue to be a normal activity on Nauru, most commonly for economic reasons. The household

survey reveals little evidence of climate change-related migration, but direct attribution is problematic to ascertain (Gemenne, 2011) and the inherent connectedness of a sustainable environment, economy and society means that it is likely that environmental change is already influencing migration decisions. Nauru is not as low lying as other Pacific states and so sea level rise will not cause mass displacement in the near future, nor is the island affected by cyclones. However, under projected climate change it is likely to be increasingly affected by slow onset events such as changes in rainfall, salt-water intrusion and sea level rise which will affect infrastructure and livelihoods. As Nauru is such a small state, economic and environmental shocks tend to be at the national level and family networks of support could be overwhelmed. As a result, it is likely that voluntary migration will take place, while planned relocation and forced migration are possibilities. It is necessary to include such eventualities in future planning.

3. Well-managed voluntary migration could increase the adaptive capacity of Nauru to cope with climate change

Voluntary migration is already a way of life on Nauru and its positive impact can be a boon to sustainable development, potentially averting forced displacement. Forms of temporary migration can have a beneficial effect on communities and households and can increase resilience to crises and adaptive capacities for at risk and vulnerable populations. This can be through reducing the burden on the household, learning of new skills, diversification into new livelihoods and remittances which can be used for physical infrastructure improvements and have a dynamic impact on the livelihoods of the sending household. The mean per capita income for households receiving remittances from overseas work migrants is more than three times the household average income for people who do not receive remittances.

The positive impact of migration on economic development would leave the government more resources to focus on the provision of education in support of skilled migration. This would align well with the Nauru's long-term goal to develop "an economy based on multiple sources of revenue" (Nauru Government, 2009).

Additionally, migration can act as a pressure release valve, i.e. if climate change decreases the carrying capacity of the island then migration provides a mechanism for some people to leave so that the island is more sustainable for those that stay behind. Migration is complementary to mitigation and adaptation, and can be considered a form of adaptation, particularly through circular migration.

4. Planned relocation is a future possibility; steps should be taken to ensure it is done with dignity

Planned relocation is considered as a last resort to avoid possible displacements from climate related hazards by proactively relocating at risk communities to a new and safer environment. Nauru is party to the 2008 Niue Declaration on Climate Change which emphasized "the importance of retaining the Pacific's social and cultural identity." Leaving Nauru poses risks to nationhood, control over land, territory, sovereignty, culture and livelihoods (Nansen Consultation, 2013) and represents non-economic loss and damages, an area covered by the Warsaw International Mechanism. The Q study largely corroborated the idea that people do not want to leave unless it is necessary. It also showed the plurality of perspectives on climate change and migration, including deeply spiritual viewpoints, indicating the importance of involving religious leaders in dialogues related to human mobility.

During the boom of the Nauru phosphate industry, in their capacity as United Nations Trustees, Australia, New Zealand and the United Kingdom came up with a plan to resettle Nauruans. This was to occur within the Trustee countries, in an Australian enclave or on an island off the coast of Queensland. Unsurprisingly the latter option was the only one seriously considered by the Nauruan delegation. At first glance Curtis Island seemed a better physical environment than Nauru, but the delegation rejected the plan after considering the potential loss of national identity and visiting the site and experiencing racism (Tabucanon and Opekin, 2011).

Nevertheless, if it is accepted that climate change will trigger movements, and due to the size of the island these movements will necessarily be international in nature it is vital to address this issue. These ideas are integral to the concept of migration with dignity, which is understood as maximizing the agency of people to decide whether, how, where and when to move. Such relocation has historically been fraught with difficulties and are generally considered to have been, in the majority of cases failures. However, through learning lessons from past failures and through consultations with both sending and receiving communities, it is not impossible to find a sustainable solution which respects the dignity and rights of the respective communities (Nansen Consultation, 2013). Stakeholder consultation and participation are essential in all policy processes to give communities a choice and ownership of the movement (Samoa Pathway, 2014). A raft of issues need to be considered when people move; opportunities for work, consideration and protection of cultural differences, land tenancy and ownership and the risk of conflict. These risks can be heightened through relocation. Such issues are given consideration in the Sendai Framework which recognizes the need for transboundary cooperation and the Agenda for Sustainable Development which calls for human treatment of displaced persons.

5. Without improved access to international migration, some Nauruans will be “trapped” by worsening environmental conditions, declining well-being and no opportunity to either migrate or generate income necessary for adaptation.

A large proportion of the population would like to have migrated, but have not had the opportunity or the means to do so. A lack of money and visas are the main obstacles for potential migrants, and an insufficient level of education is another limiting factor. As Nauruans have no options for internal migration, it must be noted that migration involves significant commitments in terms of finance and time. This means that multiple migrations are unlikely to occur in households with high vulnerability, discouraging income and livelihood diversification. It would be useful to further investigate the reasons for non-migration; in particular, where there might be hidden barriers to migration which are preventing a sizeable proportion of Nauruans from migrating. Women in particular are limited in their ability to migrate. Men are more likely to migrate for economic reasons than women. Women are more likely to migrate for education, but in spite of their educational achievements they might be constrained in the jobs they can do and the destinations in which they can work.

In the future, a worsening environmental situation and a deteriorating resource base could mean that the demand for migration will increase at the same time as household asset bases are eroded and households become more vulnerable and therefore less able to migrate. In this scenario, there could be an increase in the number of trapped persons. Planning should be proactive, not reactive. Steps should be taken to address these issues to reduce the initial expense of supporting migration borne by households to maximize the benefits and minimize the risks associated to migration flows. Currently most flows of Nauruans are to Australia and Fiji and Nauruans would benefit from a stronger global collaboration in the

context of climate change. Unless additional opportunities for migration open for Nauruans then much of the migration demand will remain unrealized.

At present, most opportunities for Nauruan migrants are for unskilled workers in agriculture, horticulture and viticulture. In order to increase the capacity for Nauruan migration, education levels need to improve. Both the Pacific Qualification Framework and Regional Education Framework can bring standardization to training and education in the region, thereby boosting their prestige internationally. In addition, migrants would benefit from cultural awareness training to ease the integration process after arriving (Nansen Consultation, 2013). Another way to support potential labour migrants is through capacity building, such as the provision of resume and interview workshops (ILO, 2013). People might lack the confidence to move to a new country and this could be tackled not only through diaspora-engagement and trainings, but also by offering practical advice and support on how to live abroad. Nonetheless it should be noted that most Nauruans will not migrate and others will want to return.

6. There is a history of migration and solidarity between the Pacific nations, this should be consolidated into regional legal and political frameworks on mobility

The Samoa pathway expresses the importance of fostering partnerships at the subnational, national, subregional, regional and international levels (Samoa Pathway, 2014). There is a history of clan and kinship networks on Nauru and faith based organisations also provide support in times of need, but under climate change such bonds should extend further, to the Pacific Region and globally. In such a small country there is little insulation from an environmental shock, it might be necessary to reach out to other countries in the region. There is a rich history of mobility in the Pacific and solidarity between Pacific nations in mutual assistance during and after disasters. For

example Cook Islands and Samoa have an agreement of mutual assistance in the event of a disaster. Nauru could build on existing relationships within the Pacific to include New Zealand and Australia (Nansen Consultation, 2013).

Despite Nauru's participation in seasonal work programmes with New Zealand and Australia, labour migration is not formally regulated in Nauru. Monitoring and supporting seasonal and other migration schemes are a prerequisite for migration to contribute to Nauru's sustainable development in the context of climate change. Nauru is currently working on a national employment policy which addresses both domestic and international employment. In order to ensure evidence-based policy making, such a policy could build upon a comprehensive labour market analysis, including a database on international job opportunities. An assessment of the skills available on Nauru and those demanded nationally and internationally would allow for the alignment of Nauruan education to labour market needs.

The positive dynamic impacts of educational migration could be improved with a more flexible implementation of the bonding period whereby scholarship holders have to return to Nauru. This could result in increased remittances and migrants would return to Nauru with additional skills and experiences to help the Nauruan economy and society develop. Moreover, Nauruan migrants can contribute to private sector development both via remittances and upon return, especially if the returnee uses savings as capital for business.

7. The recent UNFCCC agreement and global policy processes hint at a challenging but viable future for Nauru

On 22 April 2016 the 177 countries party to the Paris Agreement signed in New York, and Nauru was one of the first states to also ratify the agreement. The agreement is to

limit global warming to 2°C above pre-industrial levels, and to strive for 1.5°C. The distinction between 1.5°C and 2°C is vital, as the quantity and intensity of climate related events increases non-linearly between these two points. As a result, it seems likely that Pacific Island States such as Nauru will be unable to avoid severe impacts of climate change in the 21st century. A range of new policy processes must seek to address these impacts.

There are several new additions to the Paris agreement, which can be beneficial for Nauru's adaptation and migration policies. There is the promise of the transfer of USD100 billion per year from more developed countries for adaptation, the distribution of which will be streamlined through the Global Environmental Fund, Adaptation Fund and Green Climate Fund. Nauru should prioritize how to access these funds.

While those displaced within their own countries are protected by national laws and other international laws, a legal gap exists for cross-border migrants as a result of disasters or the impacts of climate change. This would be vital for Nauru, as all migration will necessarily be international. However, the Paris Agreement called for the establishment of a task force "to develop recommendations for integrated approaches to avert, minimize and address displacement related to the adverse impacts of climate change" under the Executive Committee of the Warsaw International Mechanism for Loss and Damage (UNFCCC, 2015). Recently leaders of the Pacific have called on the United Nations to create the new post of Special Representative on Climate and Security to lead on the subject (Waq, 2016). These developments present opportunities for a more resilient life on Nauru





References

Ajzen, Icek (1991). Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes* 50 (2): 179-211.

Asian Development Bank (2007). *Country Economic Report: Nauru*. URL: <http://web.archive.org/web/20110607064452/http://www.adb.org/Documents/CERs/NAU/CER-NAU-2007.pdf>

Asian Development Bank (2014). *Women's Policy for the Pacific Island of Nauru, the World's Smallest Republic*. URL: <http://www.adb.org/features/women-s-policy-pacific-island-nauru-worlds-smallest-republic>.

Australian Government, Department of Foreign Affairs and Trade (2015). *Australia Awards Pacific Scholarships (AAPS)*. URL: <http://dfat.gov.au/people-to-people/australia-awards/pages/australia-awards-pacific-scholarships-aaps.aspx>.

Australian Bureau of Meteorology and CSIRO (2014). *Climate Variability, Extremes and Change in the Western Tropical Pacific: New Science and Updated Country Reports. Pacific-Australia Climate Change Science and Adaptation Planning Program Technical Report, Australian Bureau of Meteorology and Commonwealth Scientific and Industrial Research Organization, Melbourne, Australia. Climate Change in the Pacific: Scientific Assessment and New Research Volume 2: Country Reports*.

Australian Government and ILO (2015). *Pre-Departure Training for Nauru Seasonal Workers: Trainer's Manual*. URL: http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-suva/documents/publication/wcms_355750.pdf.

Bedford, R. and Hugo, G. (2012). *Population Movement in the Pacific: A Perspective on Future Prospects*. Wellington: NZ Department of Labour. <http://www.border.gov.au/ReportsandPublications/Documents/research/pacific-population-report.pdf>

Bedford, R., Burson, B. and C. Bedford (2014). *Compendium of Legislation and Institutional Arrangements for Labor Migration in Pacific Island Countries*. URL: http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-suva/documents/publication/wcms_304002.pdf.

Black, R. and Collyer, M. (2014). Populations 'Trapped' at Times of Crisis. *Forced Migration Review* 45, 52-56.

Brown, Steven R. (1980). *Political Subjectivity*. New Haven, CT: Yale University Press.

Campbell, John & Warrick, Olivia (2014). *Climate Change and Migration Issues in the Pacific*. United Nations Economic and Social Commission for Asia and the Pacific. 34pp.

ESCAP (2015). ESCAP Statistical database accessed in November 2015: <http://www.unescap.org/stat/data/statdb/DataExplorer.aspx>

Foresight Report (2011). *Foresight: Migration and Global Environmental Change - One Year Review: October 2011-October 2012*. The Government Office for Science, London. URL: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/287852/1_2-1265-migration-one-year-review.pdf.

Government of Nauru, Nauru Millennium Development Goals Taskforce, UNDP (2012). *Nauru Progress Report 1990-2011 Millennium Development Goals*.

Guinotte et al. (2003). Future coral reef habitat marginality: temporal and spatial effects of climate change in the Pacific basin. *Coral Reefs*, December 2003, Volume 22, Issue 4, pp551-558.

Intergovernmental Panel on Climate Change (IPCC) (2014) Barros, V.R., C.B. Field, D.J. Dokken, M.D. Mastrandrea, K.J. Mach, T.E. Bilir, M. Chatterjee, K.L. Ebi, Y.O. Estrada, R.C. Genova, B. Girma, E.S. Kissel, A.N. Levy, S. MacCracken, P.R. Mastrandrea, and L.L. White (eds.). *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part B: Regional Aspects*. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge University Press, pp. 1613-1654, 2014

International Court of Justice (ICJ) (1990). Certain Phosphate Lands in Nauru (Nauru v Australia): Memorial of the Republic of Nauru, Volume 1. URL: <http://www.icj-cij.org/docket/files/80/6655.pdf>.

International Labor Organization (ILO) (2013). *My Guide to Employment – For Young People in the Pacific*. ILO Office for Pacific Island Countries. URL: http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-suva/documents/publication/wcms_230942.pdf.

Longeran, Steve (1998). The Role of Environmental Degradation in Population Displacement. *Environmental Change and Security Project Report* 4: 5-1.

Marks, Kathy (2010). Fat of the land: Nauru tops obesity league. *The Independent*. URL: <http://www.independent.co.uk/life-style/health-and-families/health-news/fat-of-the-land-nauru-tops-obesity-league-2169418.html>.

Milan, A. and Ruano, S. (2014). Rainfall Variability, Food Insecurity and Migration in Cabricán, Guatemala, *Climate and Development* 6: 61–68.

Ministry of Finance Nauru Bureau of Statistics (2011). Population Census 2011. <http://www.spc.int/prism/nauru/census-2011/census-2011-items>.

Nansen Consultation (2013). Report from the Nansen Initiative Pacific Regional Consultation. 21-24 May 2013. Rarotonga,

Cook Islands. <https://www.nanseninitiative.org/portfolio-item/pacific-outcome-report/>

Nauru Bureau of Statistics (2015). <http://www.spc.int/prism/nauru/>

Nauru Government (2009). National Sustainable Development Strategy 2005-2025. As revised 2009. URL: <http://www.adb.org/sites/default/files/linked-documents/cobp-nau-2016-2018-nsds.pdf>.

Nauru Government (2012). Millennium Development Goals, Nauru Progress Report 1990-2011. http://www.fj.undp.org/content/dam/fiji/docs/nauru_mdg_report_2011.pdf

Nauru Government (2014). Household Income and Expenditure Survey (HIES) 2012/2013 Main analytical report (April 2014). <http://www.spc.int/prism/nauru/nauru-documents?view=download&fileId=79>

New Zealand Ministry of Foreign Affairs and Trade (2013). URL: <http://www.mfat.govt.nz/Countries/Pacific/Nauru.php>.

New Zealand Ministry of Foreign Affairs and Trade (2015). New Zealand Scholarships - Nauru. URL: <http://www.aid.govt.nz/funding-and-contracts/scholarships/eligible-countries/Nauru>.

New Zealand Immigration (2015). Strengthening Pacific Partnerships Update. URL: <http://www.samoastrong.ws/assets/rse-spp-newsletter-autumn-2015.pdf>.

Niue Declaration on Climate Change (2008). 39th Pacific Islands Forum, Forum Communiqué Annex B (19-20 August 2008).

Piguet, E. (2013). From “Primitive Migration” to “Climate Refugees”: the Curious Fate of the Natural Environment in Migration Studies, *Annals of the Association of American Geographers* 103: 148–162.

Republic of Nauru (2011). Population and Housing Census. URL: http://www.spc.int/nmdi/nmdi_documents/2011_NAU-RU_CENSUS_REPORT.pdf.

Republic of Nauru (2015). Climate Change: Building our resilience. Republic of Nauru Framework for Climate Change Adaptation and Disaster Risk Reduction (RONAdapt).

Republic of Nauru, Women’s Affairs Department (WAD) (2014). Beijing +20 Review Nauru Report. URL: http://www.unwomen.org/~media/Headquarters/Attachments/Sections/CSW/59/National_reviews/Nauru_review_Beijing20.pdf.

Rippin, Nicole (2011). A Response to the Weaknesses of the Multidimensional Poverty Index (MPI): The Correlation Sensitive Poverty Index (CSPI). German Development Institute Briefing Paper 19/2011. URL: https://www.die-gdi.de/uploads/media/BP_19.2011.pdf.

Rippin, Nicole (2012). What is poverty? The Correlation Sensitive Poverty Index (CSPI) in: German Development Institute / Deutsches Institut für Entwicklungspolitik (DIE), Annual Report 2011-2012: building bridges between research and practice, 24-27.

Samoa Pathway (2013) Small Island Developing States Accelerated Modalities of Action https://sustainabledevelopment.un.org/sids2014/samoapathway#_ftn3

Siegel, Matt (2014). Crisis in tiny Nauru Puts Spotlight on Australia’s Asylum Seeker Policy. Reuters. URL: <http://www.reuters.com/article/2014/02/18/us-australia-nauru-insight-idUSBREA1H20U20140218>

Smith, C. D. (2014). Modeling Migration Futures: Development and Testing of the Rainfalls Agent-Based Migration Model – Tanzania, *Climate and Development* 6: 77–91.

South Pacific Regional Environmental Program (SPREP) 2014. Guidelines for the Design of a Conjunctive Water Supply System in Nauru. PACC Technical Report 8: 44pp.

Stark, Oded & Bloom, David E. (1985). The New Economics of Labor Migration. Papers and Proceedings of the Ninety-Seventh Annual Meeting of the American Economic Association. The American Economic Review 75 (2): 173-178.

Tabucanon, G.M. and Opeskin, B., (2011). The resettlement of Nauruans in Australia: an early case of failed environmental migration. *The Journal of Pacific History*, 46(3), pp.337-356.

UNESCAP (2014). *Climate Change and Migration Issues in the Pacific*. URL: <http://www.unescap.org/sites/default/files/Climate-Change-and-Migration-Issues-in-the-Pacific.pdf>.

UNESCAP, EU & ILO (2014). *Compendium of Legislation and Institutional Arrangements for Labor Migration in Pacific Island Countries*. URL: http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-suva/documents/publication/wcms_304002.pdf.

UNFCCC (1999). Republic of Nauru Response, 1st National Communication – 1999, Climate Change-response under the United Nations Framework Convention on Climate Change. Nauru's National Committee on Climate Change, the Energy Unit of the South Pacific Applied Geoscience Commission (SOPAC). URL: <http://unfccc.int/resource/docs/natc/naunc1.pdf>.

UNFCCC (2015). Adoption of the Paris Agreement. 21st Conference of the Parties to the United Nations Framework Convention on Climate Change (COP21). December 13, 2015. <http://unfccc.int/resource/docs/2015/cop21/eng/l09.pdf>.

UNOCHA Fiji (2016). Map of Nauru.

United Nations Population Fund Pacific Sub-Regional Office (UNFPA) (2014). Population and Development Profiles: Pacific Island Countries. http://countryoffice.unfpa.org/pacific/drive/web_140414_UNFPAPopulationandDevelopmentProfiles-PacificSub-RegionExtendedv1LRv2.pdf.

Waq, B. (2016). Nauru president: UN must appoint a climate and security envoy. Published on 24/05/2016. Climate Home <http://www.climatechangenews.com/2016/05/24/the-un-should-appoint-a-climate-and-security-envoy/>

Warner, K., Afifi, T., Kälin, W., Leckie, S., Ferris, B., Martin, S. F. and Wrathall, D. (2013). *Changing Climate, Moving People: Framing Migration, Displacement and Planned Relocation*. UNU-EHS Policy Brief. UNU- EHS.

Warner, W. and Afifi, T. (2014). Where the Rain Falls: Evidence from 8 Countries on How Vulnerable Households use Migration to Manage the Risk of Rainfall Variability and Food Insecurity. *Climate and Development* 6: 1–17.

Warner, K., Kälin, W., Martin, S. F., Nassef, Y., Lee, S., Melde, S., Entwisle-Chapuisat, H., Franck, M. and Afifi, T. (2014). *Integrating Human Mobility Issues with National Adaptation Plans*. UNU-EHS Policy Brief. UNU- EHS.

Warner, K. and F. Laczo (2008). A Global Research Agenda. Climate Change and Displacement. *Forced Migration Review* 31.

World Bank and International Fund for Agricultural Development (2014). Sending Money Home to Asia: Trends and Opportunities in the World's Largest Remittance Marketplace. URL: http://www.ifad.org/remittances/pub/money_asia.pdf.

World Health Organization Western Pacific Region (WHO), United Nations Development Programme (UNDP), The Pacific Research Center for the Prevention of Obesity and Non-Communicable Diseases (C-POND), Secretariat of the Pacific Community (SPC) 2011. *Trade, trade agreements and non-communicable diseases in the Pacific Islands, Intersections, Lessons Learned, Challenges and Way Forward*.

World Health Organization. 2014. Global Health Observatory (GHO). URL: http://www.who.int/gho/mortality_burden_disease/life_tables/en/.

Imprint

United Nations University
Institute for Environment and Human Security (UNU-EHS)

UN Campus
Platz der Vereinten Nationen 1,
D-53113 Bonn, Germany

+ 49-228-815-0200

+ 49-228-815-0299

e-mail: info@ehs.unu.edu

www.ehs.unu.edu

Copyright UNU-EHS 2016

Design: Aileen Orate
Proofreading: Aarti Basnyat

Picture credits: Cover, istock/aksum; UNU-EHS/Andrea Milan

The views expressed in this publication are those of the author(s).

Publication does not imply endorsement by the
United Nations University of any of the views expressed.



ISSN: 2304-0459

e-ISSN: 2304-0467

ISBN: 978-3-944535-47-0

e-ISBN: 978-3-944535-48-7

The background of the entire page is a photograph of a village scene. In the foreground, there is a gravelly path. To the left, a corrugated metal sheet leans against a structure. In the middle ground, there are several traditional huts with steeply pitched thatched roofs. The walls of these huts appear to be made of vertical wooden poles or bamboo. Behind the huts, there are lush green trees, including palm trees. The sky is overcast.

About UNU-EHS

The United Nations University (UNU) is a global think-tank and the academic arm of the United Nations. The mission of the Institute for Environment and Human Security (UNU-EHS) is to carry out cutting edge research on risks and adaptation related to environmental hazards and global change. The institute's research promotes policies and programmes to reduce these risks, while taking into account the interplay between environmental and societal factors.

→ www.ehs.unu.edu