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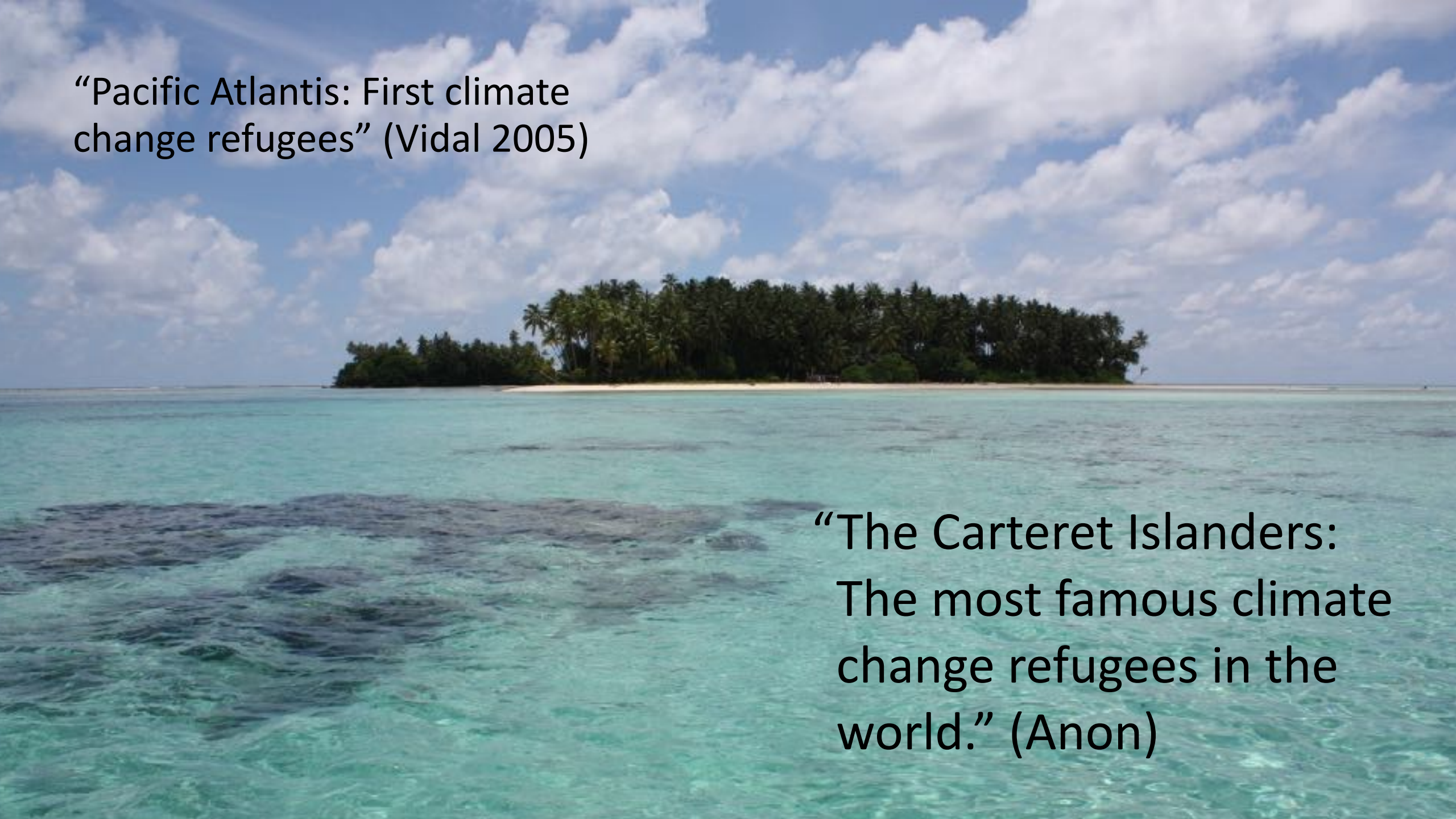
Research Paper Title

"We're not refugees, we'll stay here until we die!" – Climate change adaptation and migration experiences gathered from the Tulun and Nissan Atolls of Bougainville, Papua New Guinea

Symposium on Climate Change Impacts and Adaption Strategies in Coastal Communities, Apia, Samoa, 5-7 July 2017


“Pacific Atlantis: First climate change refugees” (Vidal 2005)
“The Carteret Islanders: The most famous climate change refugees in the world.” (Anon)

Acknowledgments

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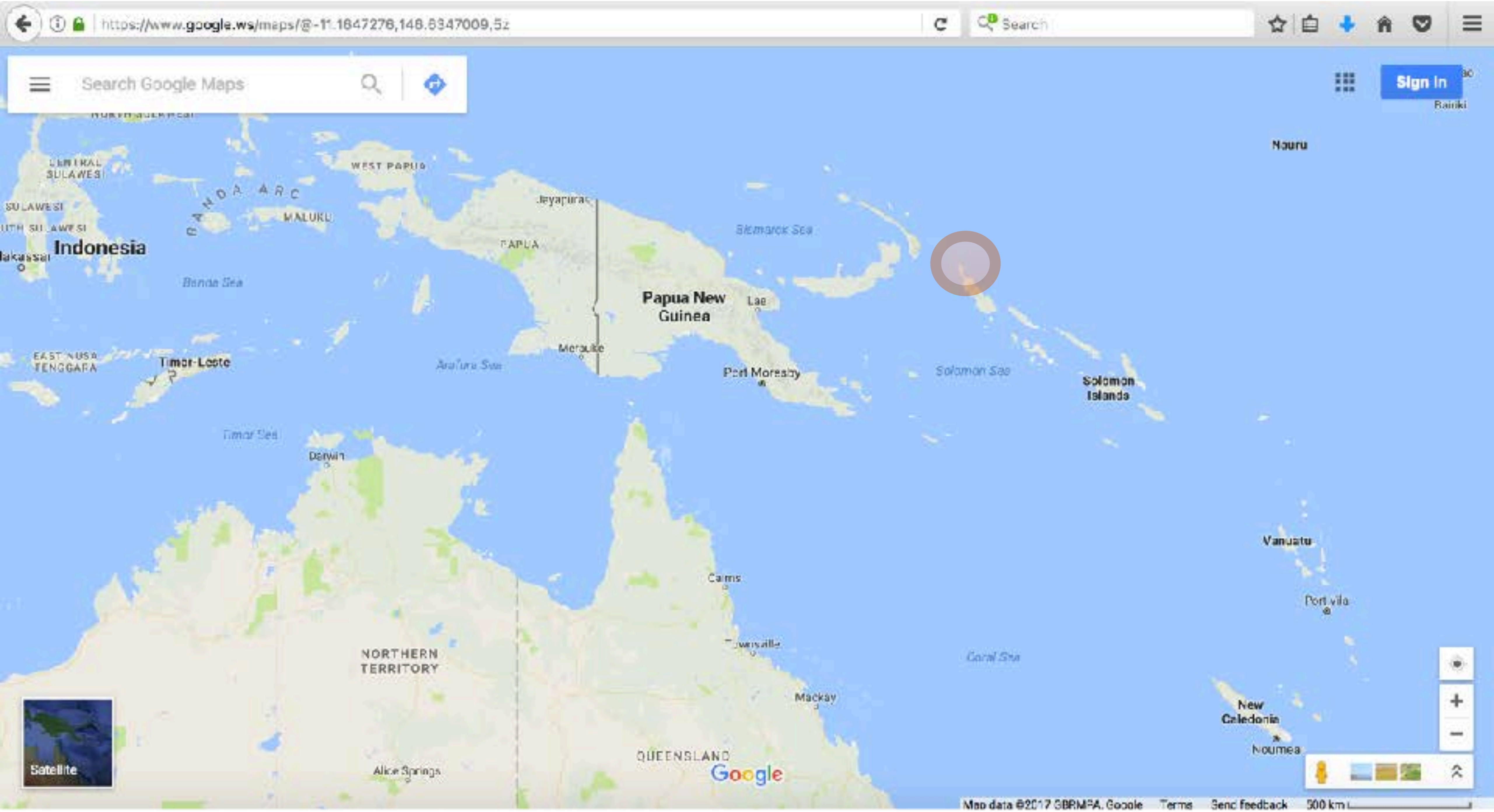
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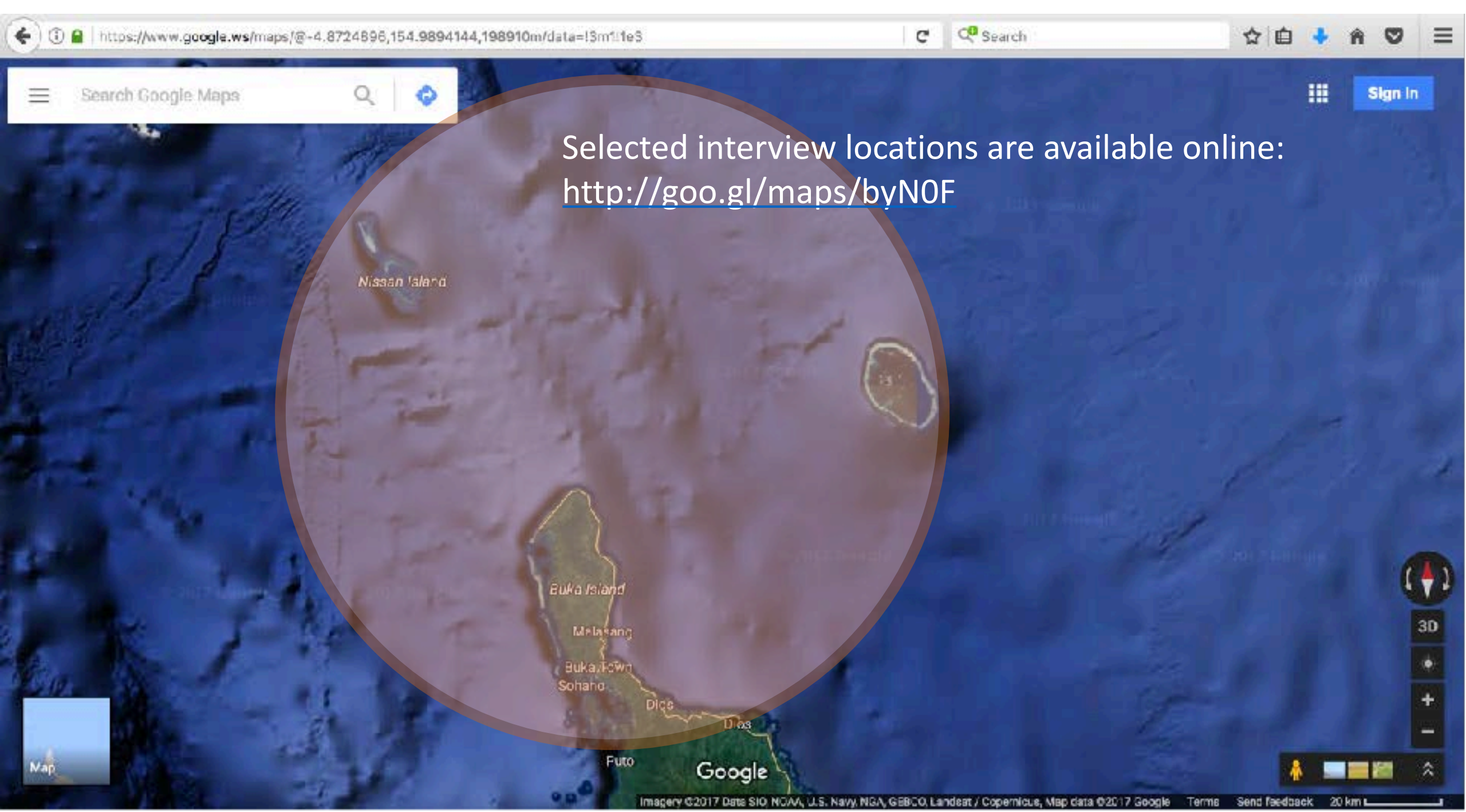
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Selected interview locations are available online:
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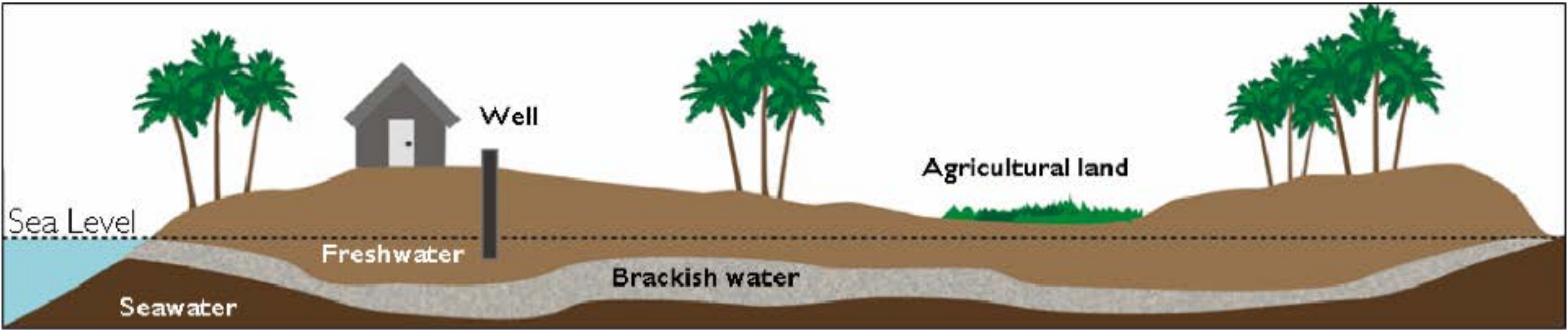
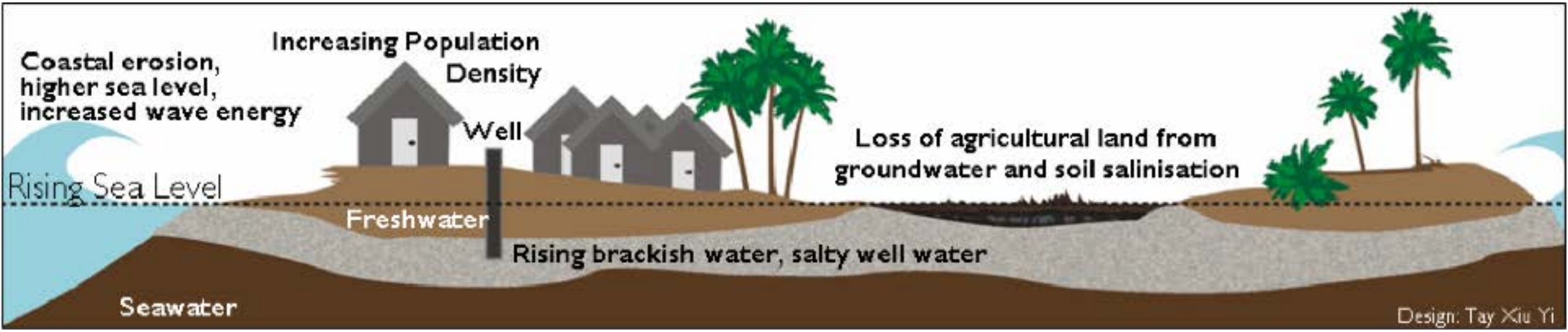
Island subsistence (normal sea level)



(Illustration © World Vision, quoted from Luetz 2017, p. 5; adapted from Aung et al 1998, p. 97)

Island submergence (rising sea level)



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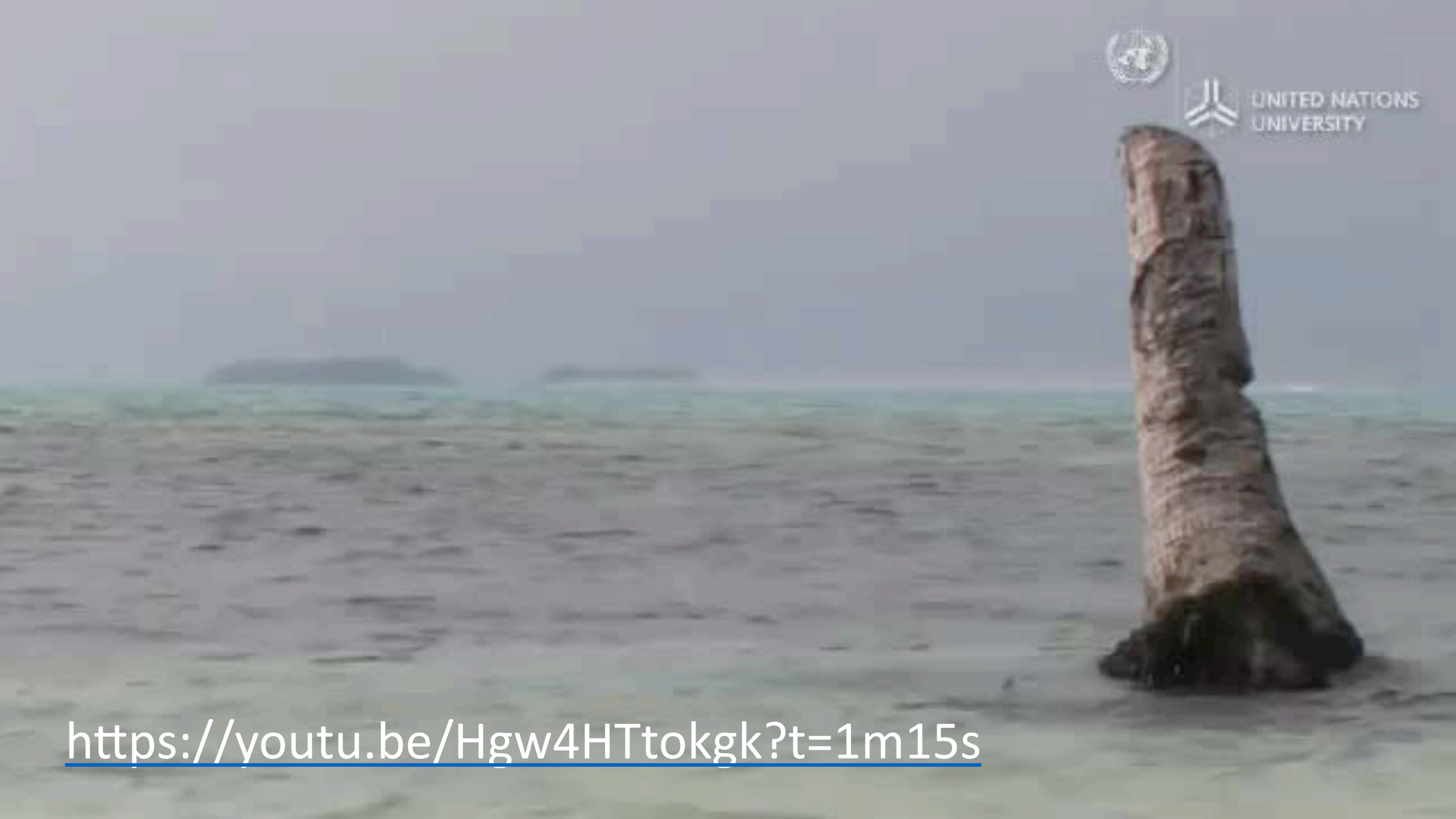

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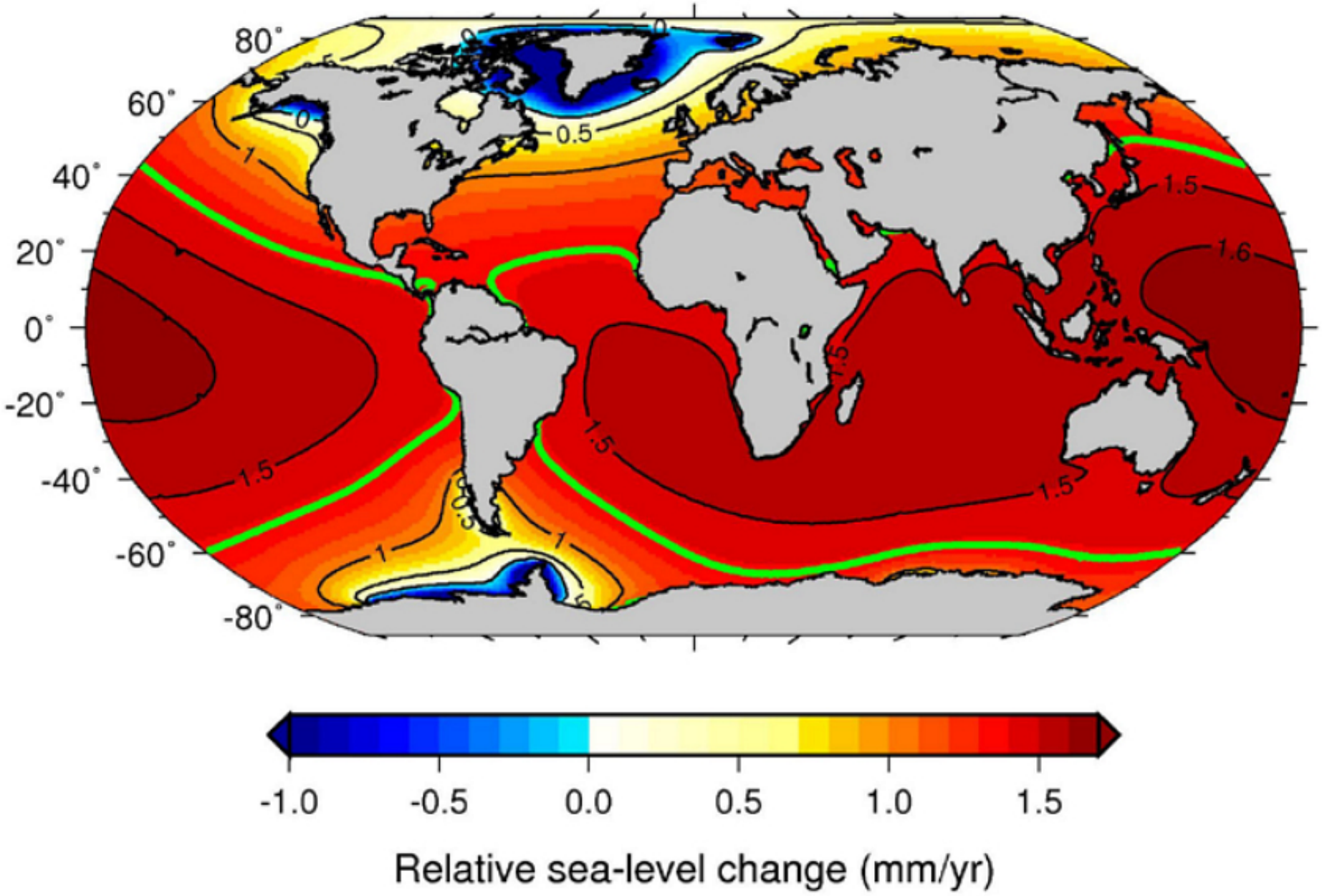
Taro plants Carteret Islands, Papua New Guinea, 1960 [picture slide] / Terence and Margaret Spencer, National Library of Australia, NLA



SLR rates in the region "amongst the highest globally" (Albert et al 2016, p. 2)

Source: Bamber and Riva 2010.

World Bank 2012, p. 33

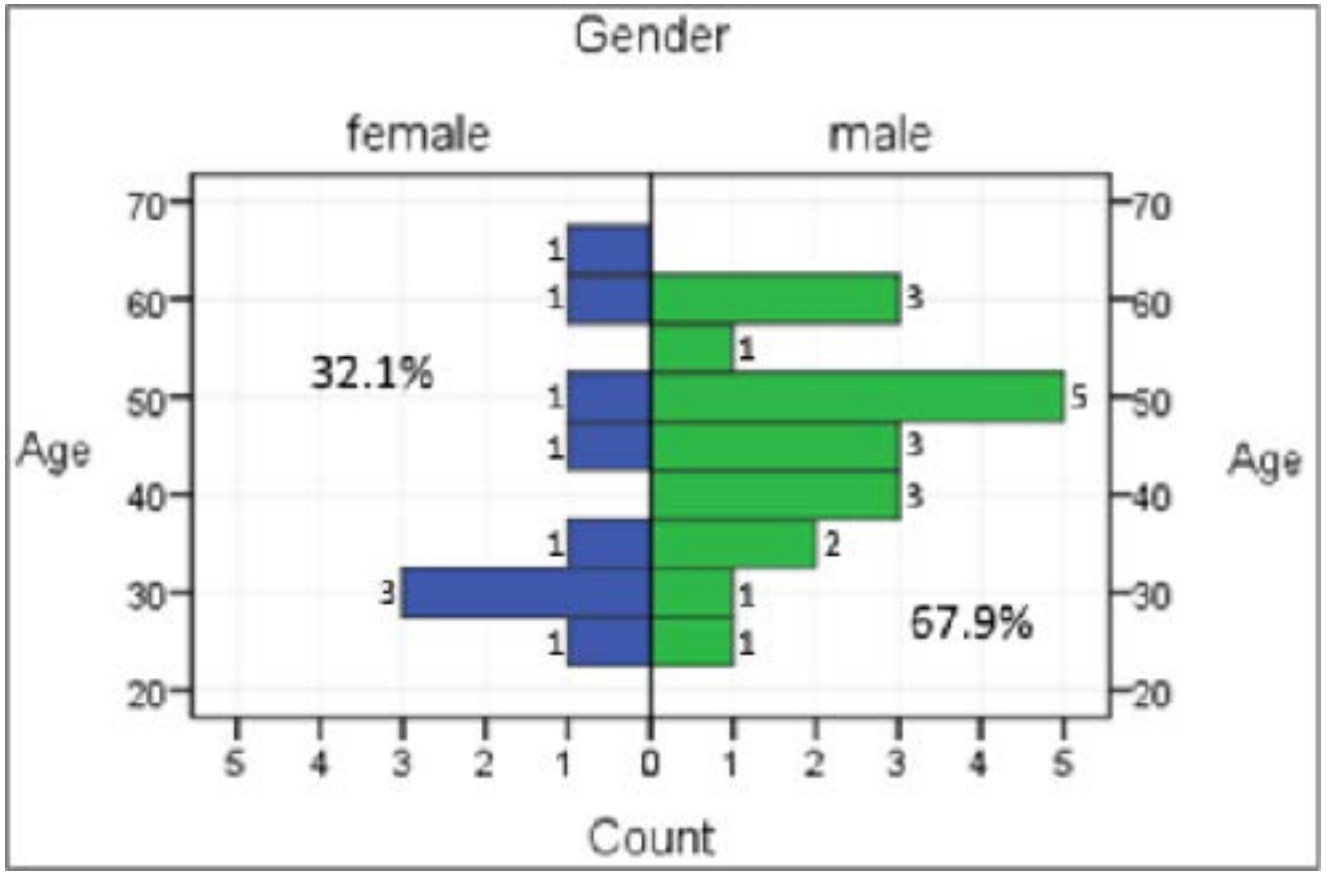
Research rationale

- Inquiry into **what lessons may be learned** from the experiences of forced human movements from, to and between atolls in Bougainville, PNG.
- Study extends previous research by expressly **inviting the participation of both migrants and hosts** in communities of origin and destination.
- In view of sensationalist representations and characterisations of the Carteret Islanders as "**the world's first environmental refugees**" (Gupta 2007, para. 4) or "**[t]he world's first climate change refugees**" (Tweedie 2009; cf MacFarquhar 2009; Harman 2013; Beldi 2016), this research was also interested to learn more about the preferred self-description/s.

Research Questions

- (1) What are the environment related push factors (ERPF)?
- (2) What are the non-environment related push factors (NRPF)?
- (3) What is the preferred terminology to characterise forced migrants?
- (4) What is/are the problem situation/s?
- (5) What is/are the proposed solution/s?
- (6) What is/are the preferred migration destination/s?

Research Methodology: **Data Collection**



- 28 semi-structured interviews
- avg. interview duration: 1 hour
- impromptu focus groups
- estimated 55-60 respondents
- respondents: 25-67 years
- mixed methods analyses

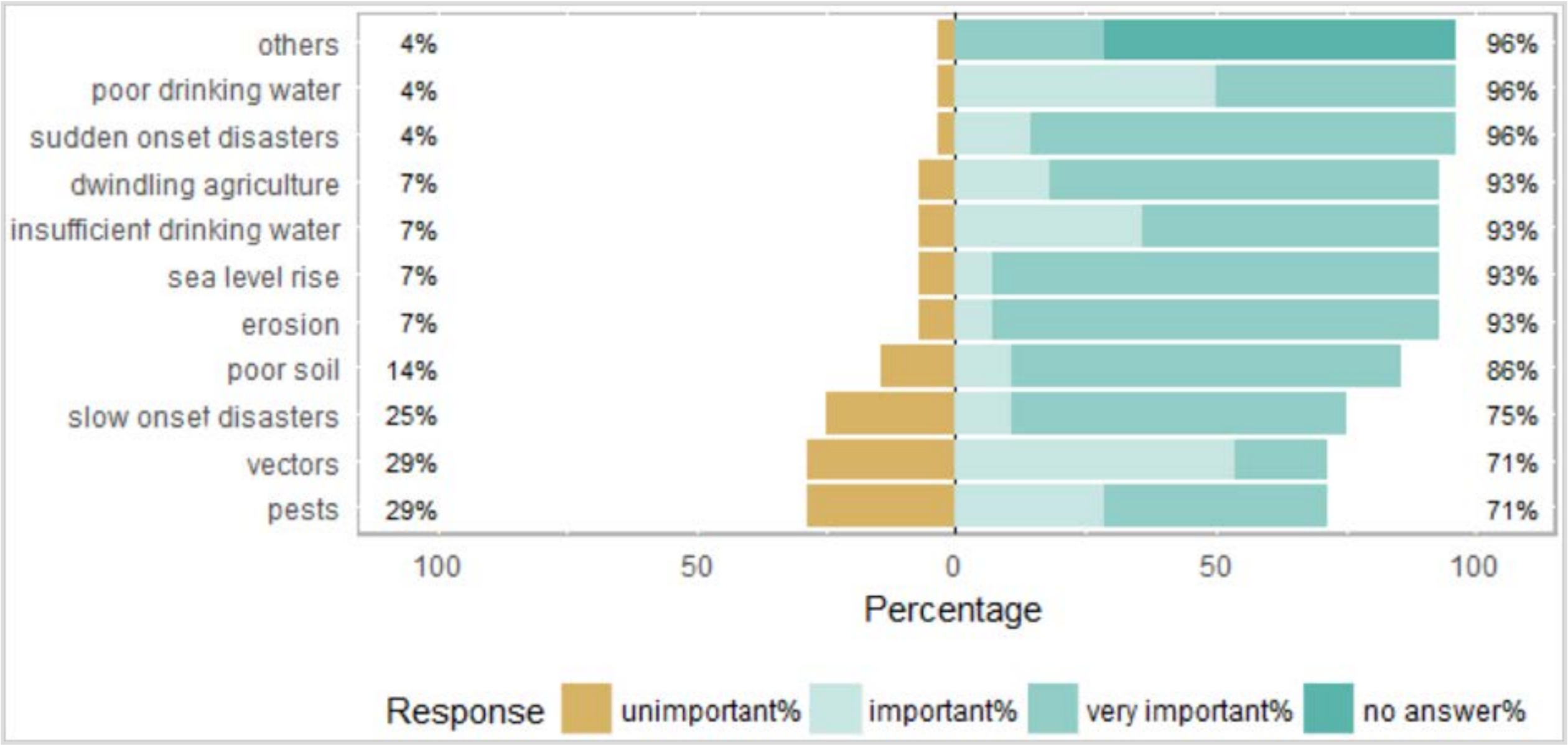
Study population pyramid, 2010: Total number of participants by age and gender;
Statistics: N=28, Missing=0, Mean age=44, Minimum age=25, Maximum age=67

Research Methodology:

Data Collection

Six locations comprising communities of origin and destination:
Port Moresby, Buka Island, Torotsian Island, Tulun Atoll, Tinputz, and Nissan Atoll in Bougainville

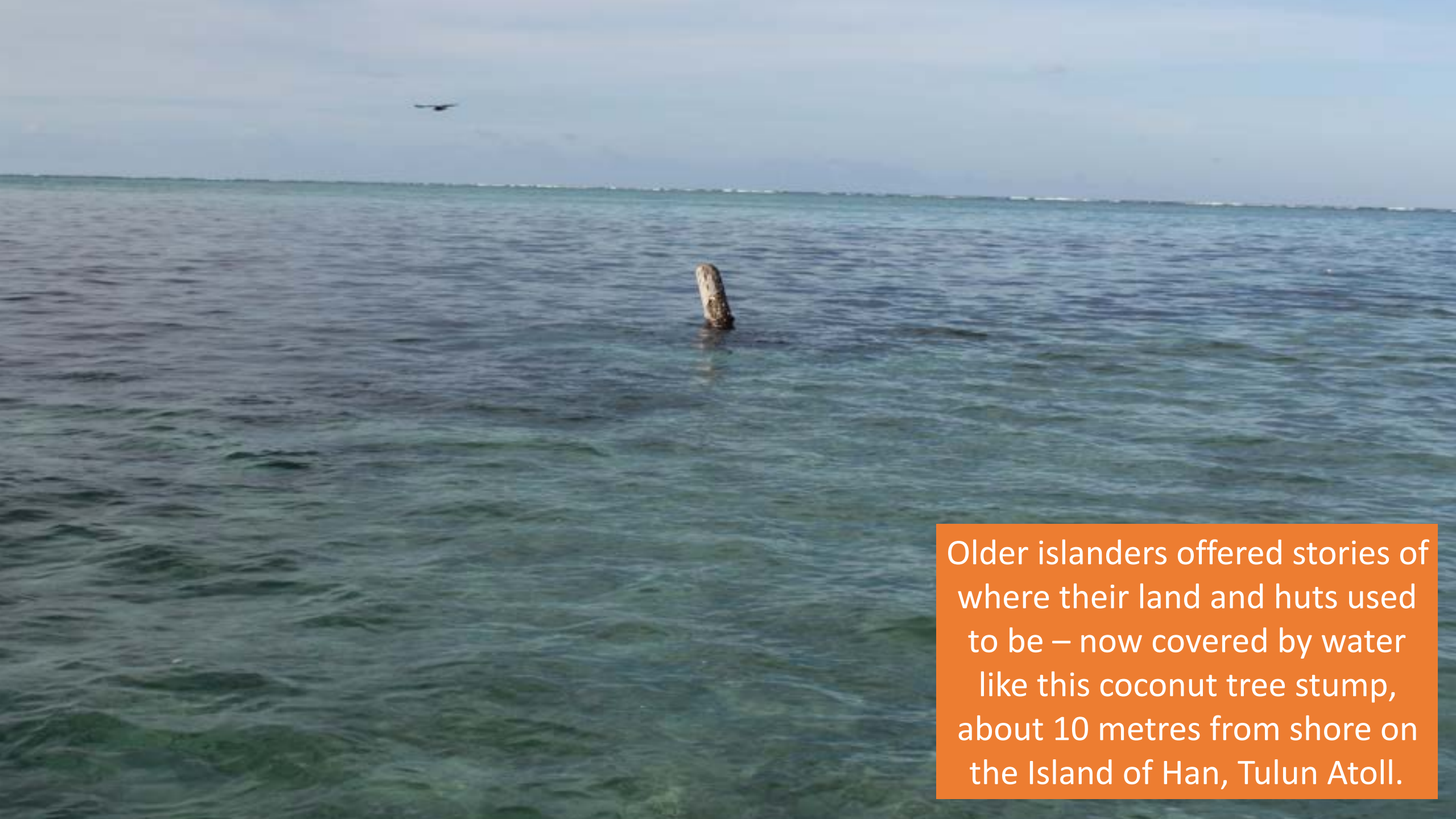
FINDING (1): Environment related push factors (ERPFs) are contributing to migration



Rainwater catchment system on the Island of Huene One, Tulun Atoll

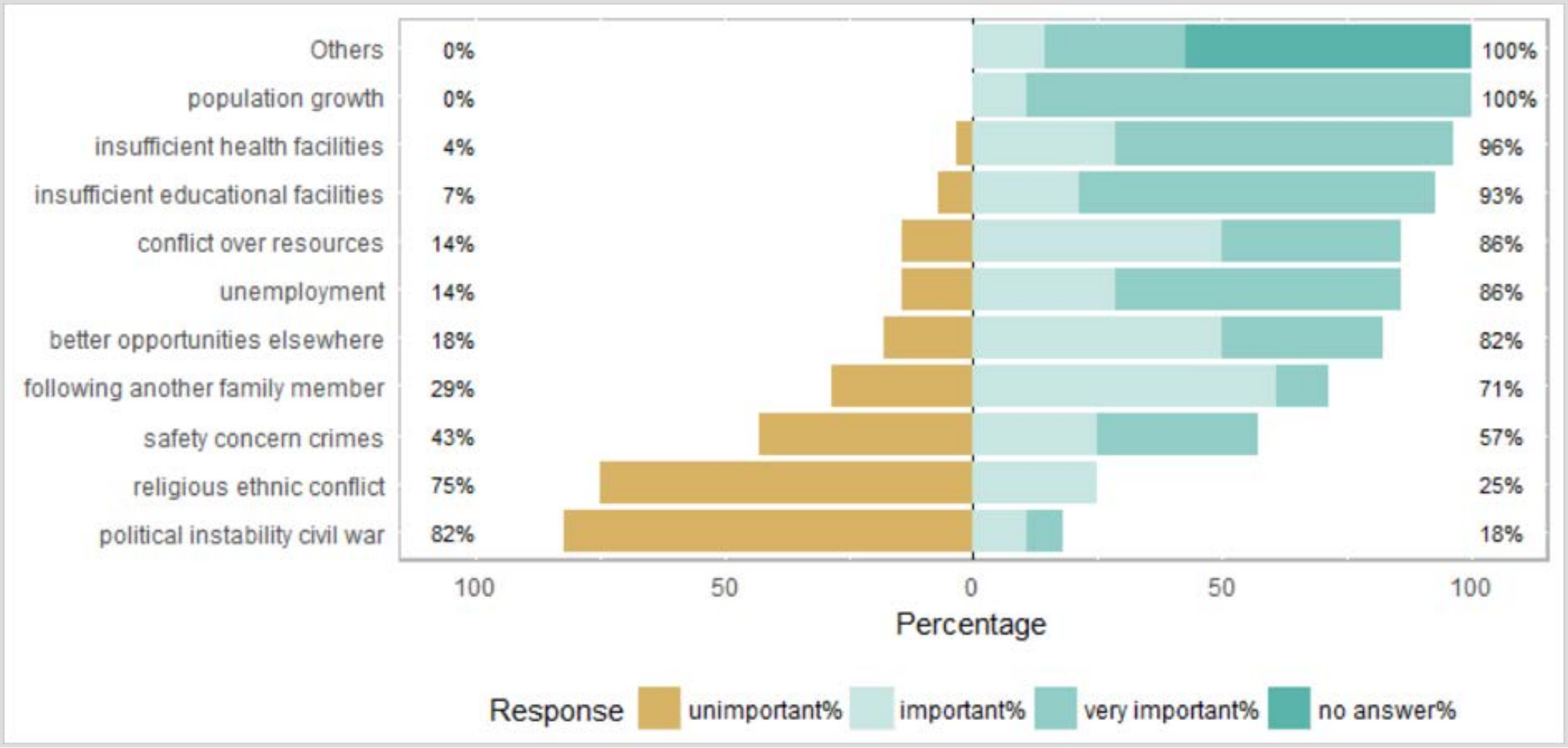
Research participants also pointed to coconut trees being gradually eroded away as evidence of the vulnerability of their coastal atoll environment.

(Photo: Johannes Luetz)

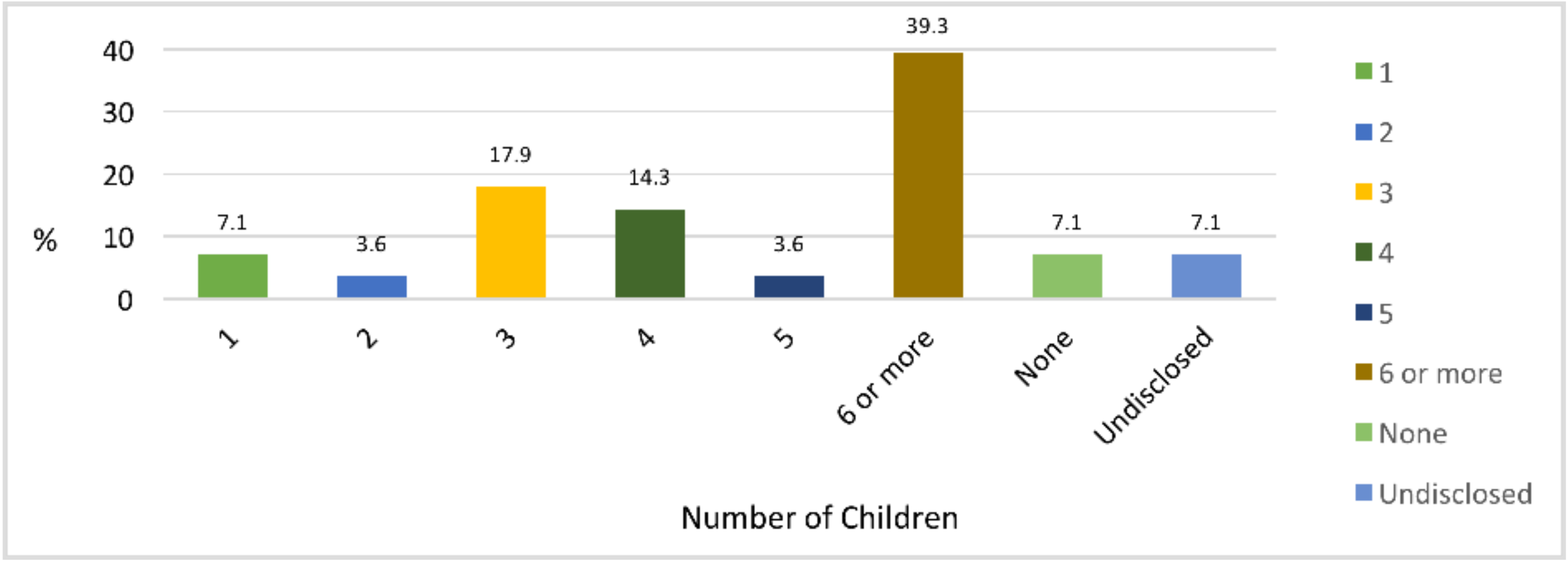


Older islanders offered stories of where their land and huts used to be – now covered by water like this coconut tree stump, about 10 metres from shore on the Island of Han, Tulun Atoll.

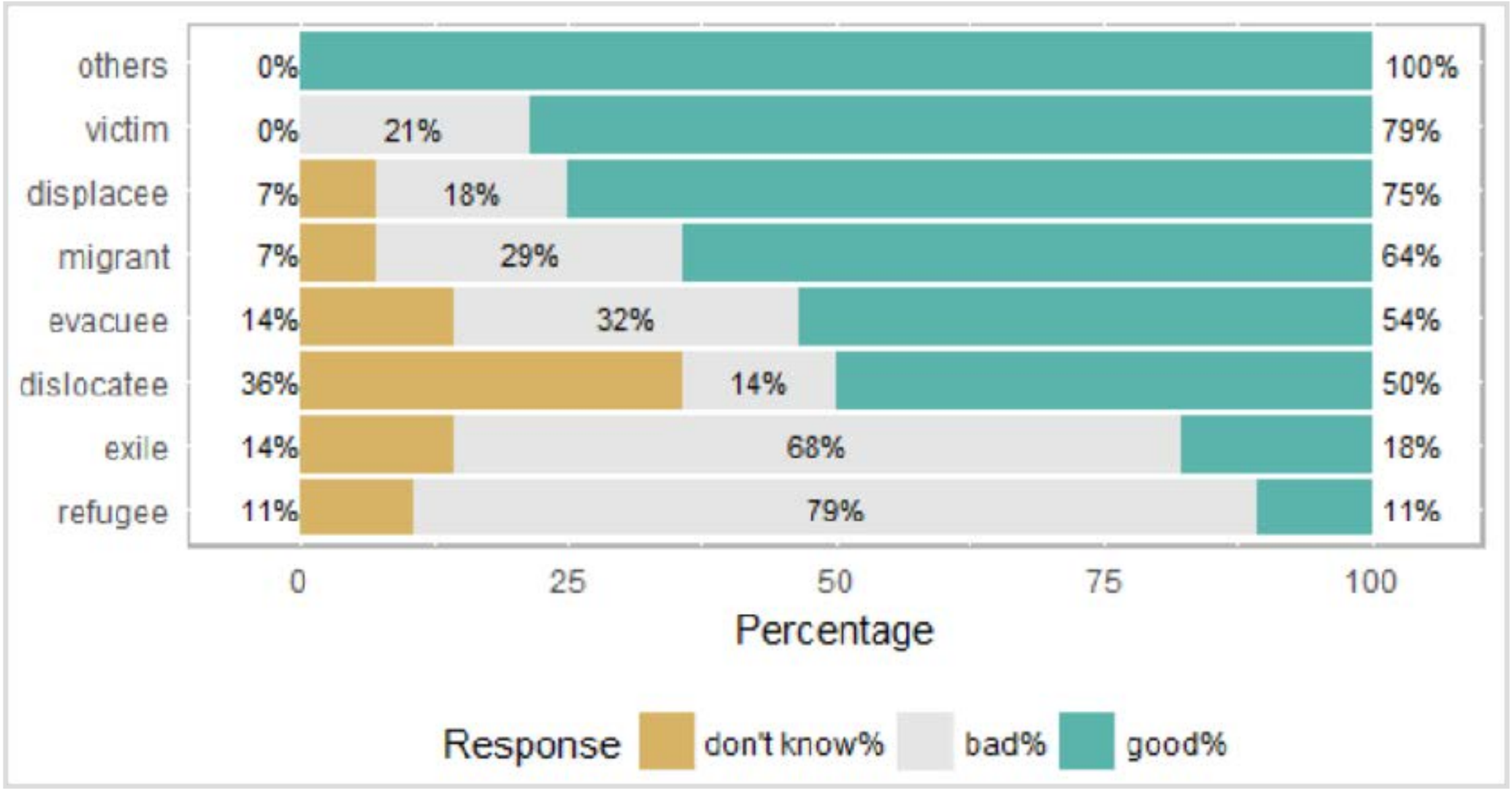
FINDING (2): Non-environment related push factors (NRPFs) are also contributing to migration, especially pop. growth



Number of children per participant:
39.3% of participants had 6 or more children



FINDING (3): Respondents resist the label "refugees" and seem to prefer local terminology



FINDING (3) continued:
Tok Pisin terms were offered as counter-proposals

- (1) ***tripman*** *(male) /* ***tripmeri*** *(female)* "someone who wanders from place to place" (Verhaar 1990, p. 355). The term conveys "flexibility" and is "not a sealed identity" — "passenger", "drifter", "traveller" (P4). If people return home, they "would no longer be called tripman or tripmeri" (ibid).
- (2) ***Turangu*** *(emphatic expression conveying empathy)* "Oh, poor one! Sweeping word that captures many contexts, … and strikes people's hearts in Pidgin language, used throughout PNG. For example: 'your friend, John, died yesterday.' Response: 'oh, poor one, Turangu!'" (P25).
- (3) ***Mekim wokabout*** "contextualised term that is easier to understand in Pidgin than 'migrant.'" (P26).

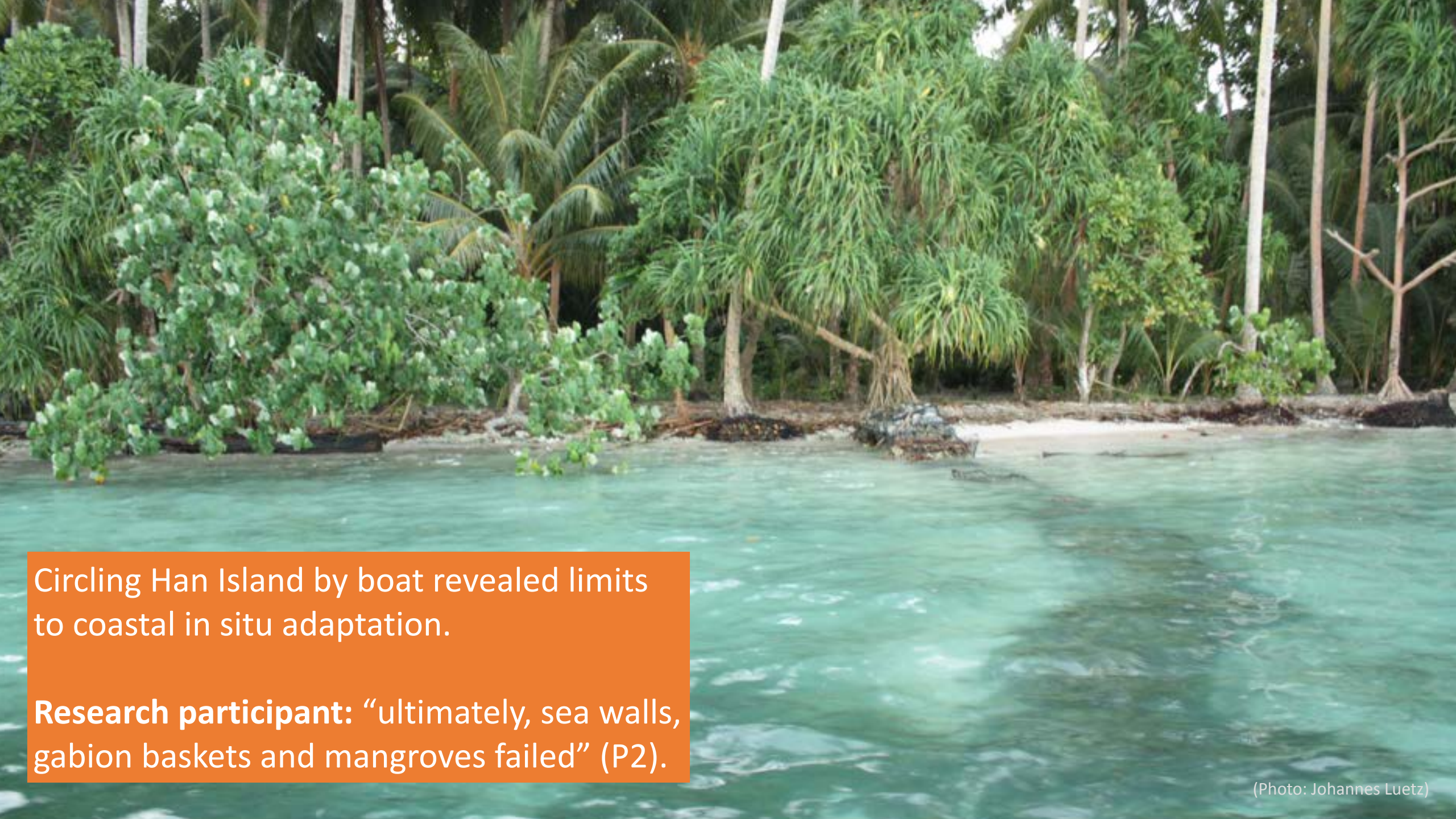
FINDING (4): The problem compound is complex and comprises dissimilar contributing factors

- The following issues were mentioned by participants as constituent parts of an overall complex problem commixture: Environment; climate change; geography (remoteness, inaccessibility); poor governance; disputes over customary land ownership; unemployment (limited cash economy); subsistence development context; limited access to reliable news, information and education; among others.

Traversing Han Island on foot revealed limits to coastal in situ adaptation.

Research participant: “ultimately, sea walls, gabion baskets and mangroves failed” (P2).

(Photo: Johannes Luetz)



Circling Han Island by boat revealed limits to coastal in situ adaptation.

Research participant: “ultimately, sea walls, gabion baskets and mangroves failed” (P2).

(Photo: Johannes Luetz)

Photo: Pip Starr

FINDING (5): The proposed solutions may be subdivided into “soft” and “hard” solutions

- **Soft:** more research; focus on younger people; etc.
- **Hard:** bring in mining waste from Panguna Mine

FINDING (6): Bougainville Island is the most preferred migration destination

There are two aspects in which islanders do not wish to leave: (1) they do not wish to leave their atoll islands, however, *if* forced to do so, then (2) they do not wish to leave their Bougainville region, language, culture, clan and family attachments.

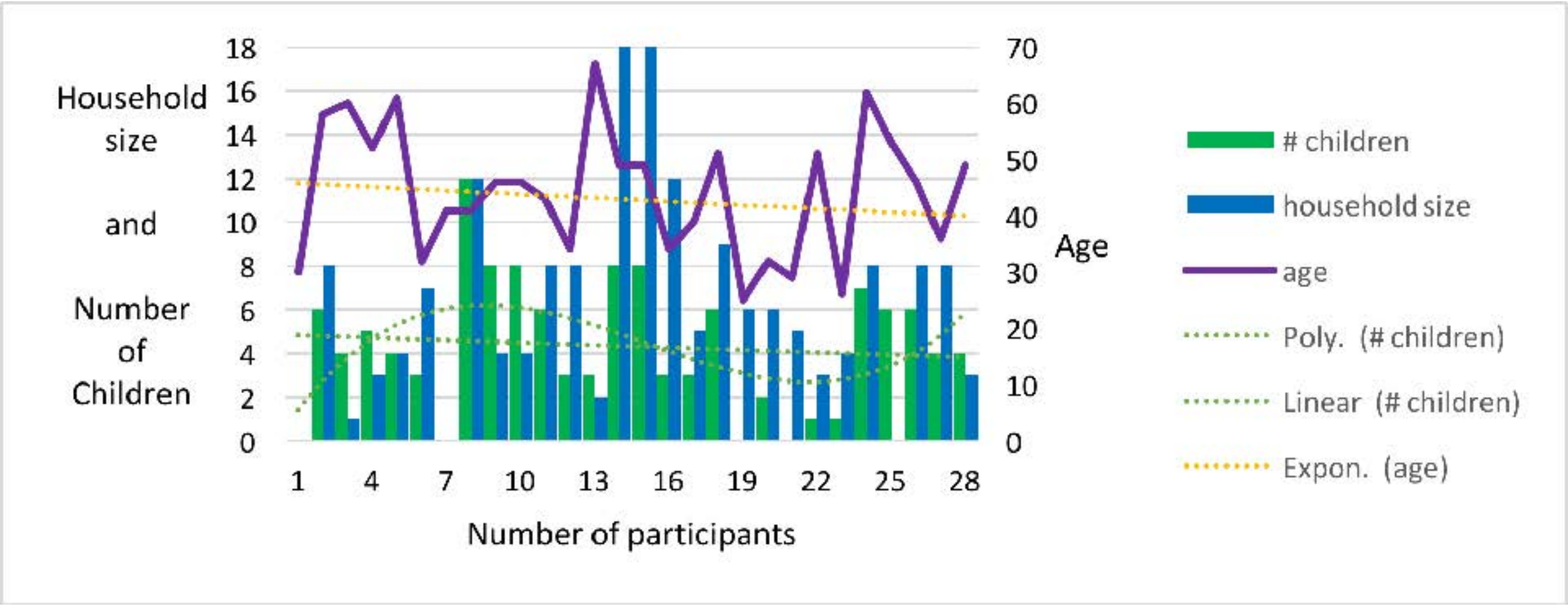
Discussion & Conclusion

"We are not refugees, we'll stay here until we die!"

- Research made it quite clear that ERPFs and NRPFs are interrelated and cannot be meaningfully discussed in isolation of each other, thus raising the need for **holistic development and migration approaches**.
- **Extreme population pressures** documented long before climate change entered mainstream consciousness.

Discussion & Conclusion

On average, each participant had 4.65 children



Participant fertility and educational attainment

	Children	Household	Age	Education
Children	----	.521**	.453*	-.438*
Household	.521**	----	-0.063	-0.341
Age	.453*	-0.063	----	-0.114
Education	-.438*	-0.341	-0.114	----

N=28, *P<0.05, **P<0.01.

Higher levels of education are commonly shown to be inversely related to childbearing (UN-DESA 1997; Basu 2002)

Discussion & Conclusion

"We are not refugees, we'll stay here until we die!"

- **This makes education a promising local adaptation response.**
- A single cause of migration arising uniquely and exclusively from the effects of climate change, as sometimes simplistically suggested in the mainstream media through headlines such as "Pacific Atlantis: First climate change refugees" (Vidal 2005), appears to fall well short of encapsulating the complex interplay of environmental, sociodemographic and historical realities that have long shaped the region through a combination of both "physical factors (tectonic movements, SLR, ENSO events, cyclones) and human factors (particularly intense where populations are growing)" (Connell 2015, p. 20).

Thank you!

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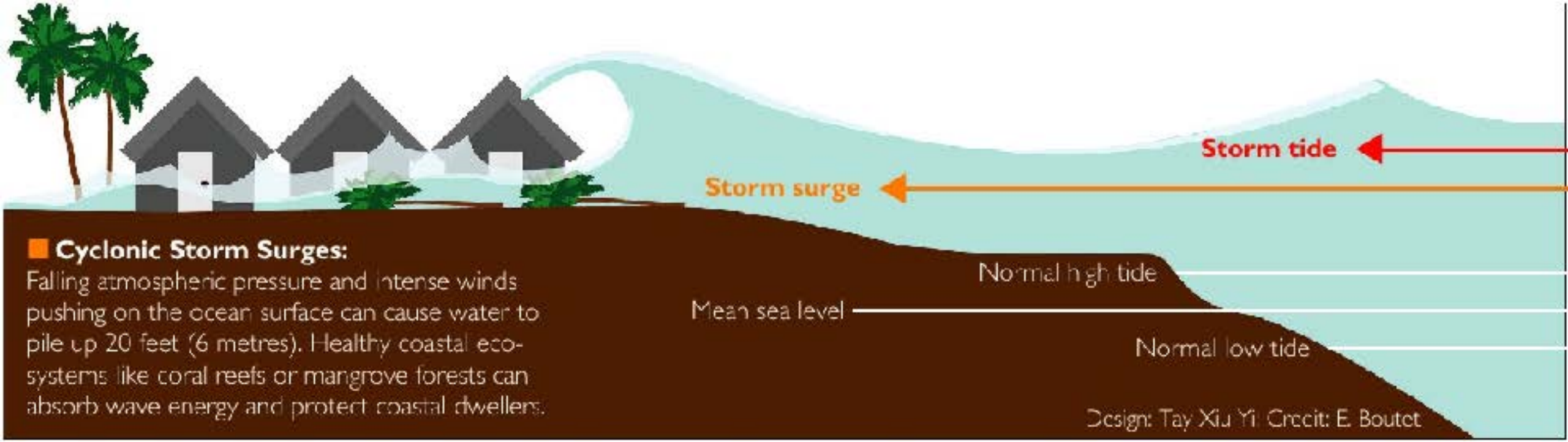
Backup slides



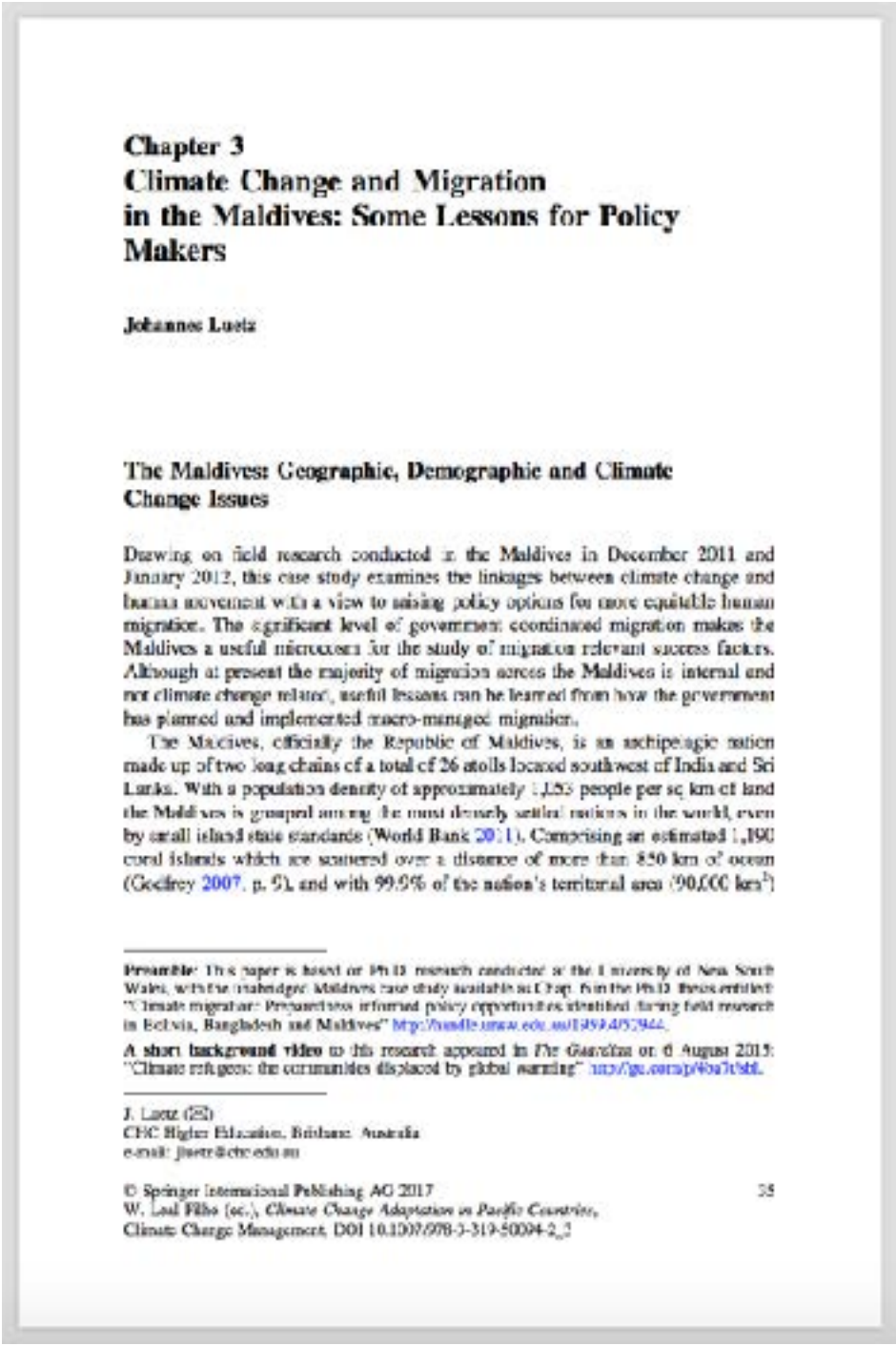
The most severe storm surges occur as a result of tropical cyclones – they are particularly severe when they occur during the time of a high tide.
(Illustration quoted from Luetz 2008, p. 65; based on NOAA 2012)

Research limitations and opportunities for future research

- The apparent comparative popularity of the term “victim”, relative to all other non-local alternatives, should be researched further as it appears to challenge positions presented in other research that “[i]slanders have no wish to be seen as … tragic victims, even if that elicits empathy and support elsewhere” (Connell 2015, p. 19; attributed to McNamara & Gibson 2009). The small participant sample remains as a limitation to the robustness of the inferred possibility that “victimhood” may perhaps not be quite as unpopular among some Pacific islanders as previously described (Campbell & Warrick 2014, p. 10).
- More research is needed to understand migration between rural and urban atoll island contexts. (cf, research in Maldives: Luetz, 2017). Campbell and Warrick (2014, p. 19) surmise that “[i]t is not unreasonable to anticipate that rates of rural-urban migration may be increased by climate change” (attributed to Locke 2009).

- Luetz, J M (2017) Climate Change and Migration in the Maldives: Some Lessons for Policy Makers. In: Leal Filho, W. (ed): *Climate Change Adaptation in Pacific Countries: Fostering Resilience and Improving the Quality of Life.* Springer, Berlin.

http://link.springer.com/chapter/10.1007/978-3-319-50094-2_3



Chapter 3
Climate Change and Migration in the Maldives: Some Lessons for Policy Makers

Johannes Luetz

The Maldives: Geographic, Demographic and Climate Change Issues

Drawing on field research conducted in the Maldives in December 2011 and January 2012, this case study examines the linkages between climate change and human movement with a view to raising policy options for more equitable human migration. The significant level of government coordinated migration makes the Maldives a useful microcosm for the study of migration relevant success factors. Although at present the majority of migration across the Maldives is internal and not climate change related, useful lessons can be learned from how the government has planned and implemented macro-managed migration.

The Maldives, officially the Republic of Maldives, is an archipelagic nation made up of two long chains of a total of 26 atolls located southwest of India and Sri Lanka. With a population density of approximately 1,353 people per sq km of land the Maldives is grouped among the most densely settled nations in the world, even by small island state standards (World Bank 2011). Comprising an estimated 1,190 coral islands which are scattered over a distance of more than 850 km of ocean (Godfrey 2007, p. 5), and with 99.9% of the nation's territorial area (90,000 km^2)

Preamble: This paper is based on PhD research conducted at the University of New South Wales, with the Gulhedige Maldives case study available as Chap. 8 in the PhD thesis entitled "Climate migration: Perspectives informed policy opportunities identified during field research in Bolivia, Bangladesh and Maldives" http://handle.unsw.edu.au/1959.4/53944.

A short background video to this research appeared in *The Guardian* on 6 August 2015: "Climate refugees: the communities displaced by global warming" http://gu.com/p/46u7t/stl.

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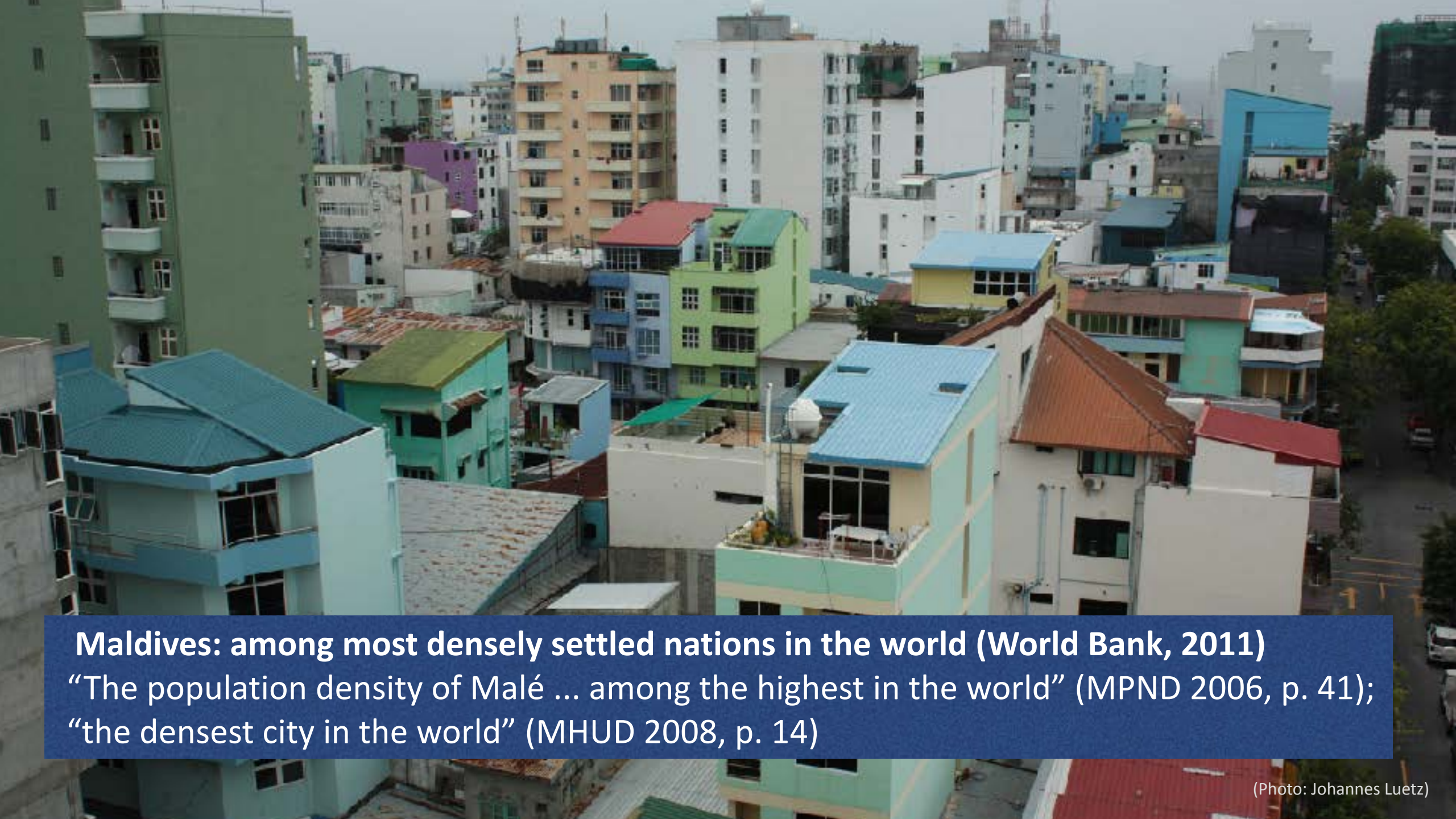
Maldives: Population 320,081 (World Bank, 2011)
Malé: Population 103,693 (MPND 2006, p. 8)
(80% of land less than 1 metre above sea level

Malé: 1.77 sq km

(Photo: Shahee Ilyas)



Maldives: among most densely settled nations in the world (World Bank, 2011)

"The population density of Malé ... among the highest in the world" (MPND 2006, p. 41); "the densest city in the world" (MHUD 2008, p. 14)

(Photo: Johannes Luetz)