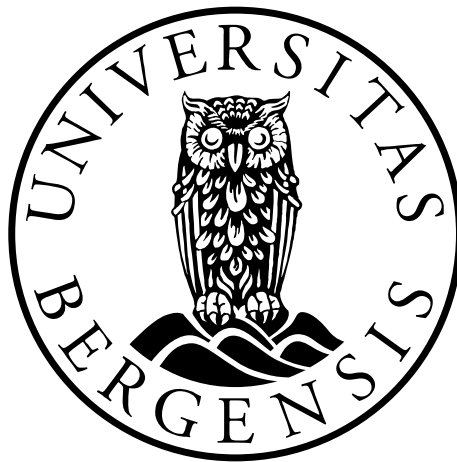


# After the Flood

Reflections on the Sociality of Saltwater  
Inundation on an Anthropogenic Atoll

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Thesis submitted in partial fulfilment of the requirements  
for the degree of M.A. in Social Anthropology at the  
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# Prologue

On 3 March, 2014, certain areas of the coral atolls of Arno, Mili and Majuro within the Republic of the Marshall Islands, in the central tropical Pacific, became flooded with saltwater. This flood was caused by an extreme weather event, an extraordinarily high 'king tide'; as the waters rose to unusually high levels during the early morning tide peak, waves were carried over the ocean-side reef wall and onto land. The following account has been constructed from interviews, images, and film documenting the event as it unfolded in Arno, around Rearlaplap's lagoon. I was not present in Rearlaplap at the time, and arrived 26 days after the event took place.

In the dark of night the L. family had to evacuate their *mõn kuk* (cookhouse), as it was located right next to Rearlaplap's lagoon; the very same lagoon through which the angry sea now poured onto the narrow strip of land the family inhabited. The east lagoon first experienced the surge as it came in atop the northwest-facing barrier reef. The waves spread out from the north along the lagoon-side beach towards the east, south and finally westwards. As the ocean surged onto land the waves dug away at the roots of the local vegetation, and it was not long before a coconut tree fell down onto the family's *mõn kuk*. In the early daylight hours the mother of the family was watching from just across the mud-road; from a neighbouring family's residence. A number of photographs from the event showed her sitting on a tired white picnic-chair made from plastic, her eyes sinking into her skull; dark rings beneath them, and a taut, blank and yet expressing face. Her gaze was directed downwards and onto her lap. A red and yellow muumuu; a dress introduced by the missionaries during their heyday, covered her shoulders and stretched down from her collarbone and midway down her shins. Behind her one could see the greens of the tropical atoll alongside her neighbour's housing; somehow spared from the devastations of the flood. The colours did nothing to compensate for the bleakness of her situation.

While all of this was going on the children of the family, five boys, banded together with the neighbour's girls and started chasing fish around the houses on the *weto* (land

tract). Cell-phone video showcased laughter and play as the kids capitalized on an otherwise unfortunate situation. As the kids eventually outmanoeuvred and cornered the fish one of the boys lifted up a machete; the brown wooden handle covered in fishing line so as to hold it together, and smacked the blunt end of the slightly rusted blade down hard atop the head of the fish. Dazed and without any hope of escape the fish was abruptly torn out of its element and into the air. The kids cheered triumphantly. In the nearby elementary school the children's textbooks became soaked as the mass of water intruded upon their foundation for learning. Indeed, most of Rearlaplap was covered in seawater from the lagoon to the ocean side. In the following days, and even months, the inhabitants of Rearlaplap would have to deal with the strife and hardships following the saltwater inundation of the extreme king tide the 3– 5 March. That being said a few exceptions could be found towards Malel, where a few villages suffered less severe waves, and therefore less severe inundation.

After the flooding, the main means of transportation between the local villages, the dirt-road, was washed out and covered with debris and rubble, and at certain places the road was cut off by fallen tree trunks. As if this wasn't bad enough most of the local *Kōrkōr* (outrigger canoes) had been flushed out to sea or pulled out into the lagoon, and had otherwise become damaged. The night was dark and the villages had become separated. The villagers had to wait for low tide to walk along the lagoon-side beach. The Rearlaplap medical station had been completely destroyed by the floodwaters, and the medic was cut off from the other villages due to the sorry state of the road. Luckily the only medicinal problems to occur due to the flood were of a less serious nature. Those who still had functioning Citizens Band radios (not destroyed by the flood) tried to contact the capital, Majuro, but this was in the middle of the night and most CB radios in Majuro were turned off. Contact proved difficult to achieve. Unbeknownst to the people in Rearlaplap Majuro was hit as well, where the extreme storm surge dug away at house foundations, cracked open tombs, and caused material damages forcing around one thousand<sup>1</sup> people to evacuate their homes. Water covered the streets, and some boats were swept away into the lagoon. A state of emergency was declared on 5 March, and attempts were made at distributing emergency aid to the affected parties. Following my departure from the

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<sup>1</sup> "About 940 family members" according to the 5 March Proclamation Declaring a State of Emergency by the President, Republic of the Marshall Islands.

Republic of the Marshall Islands, in July 2014, nine<sup>2</sup> more such floods have plagued the small island state.

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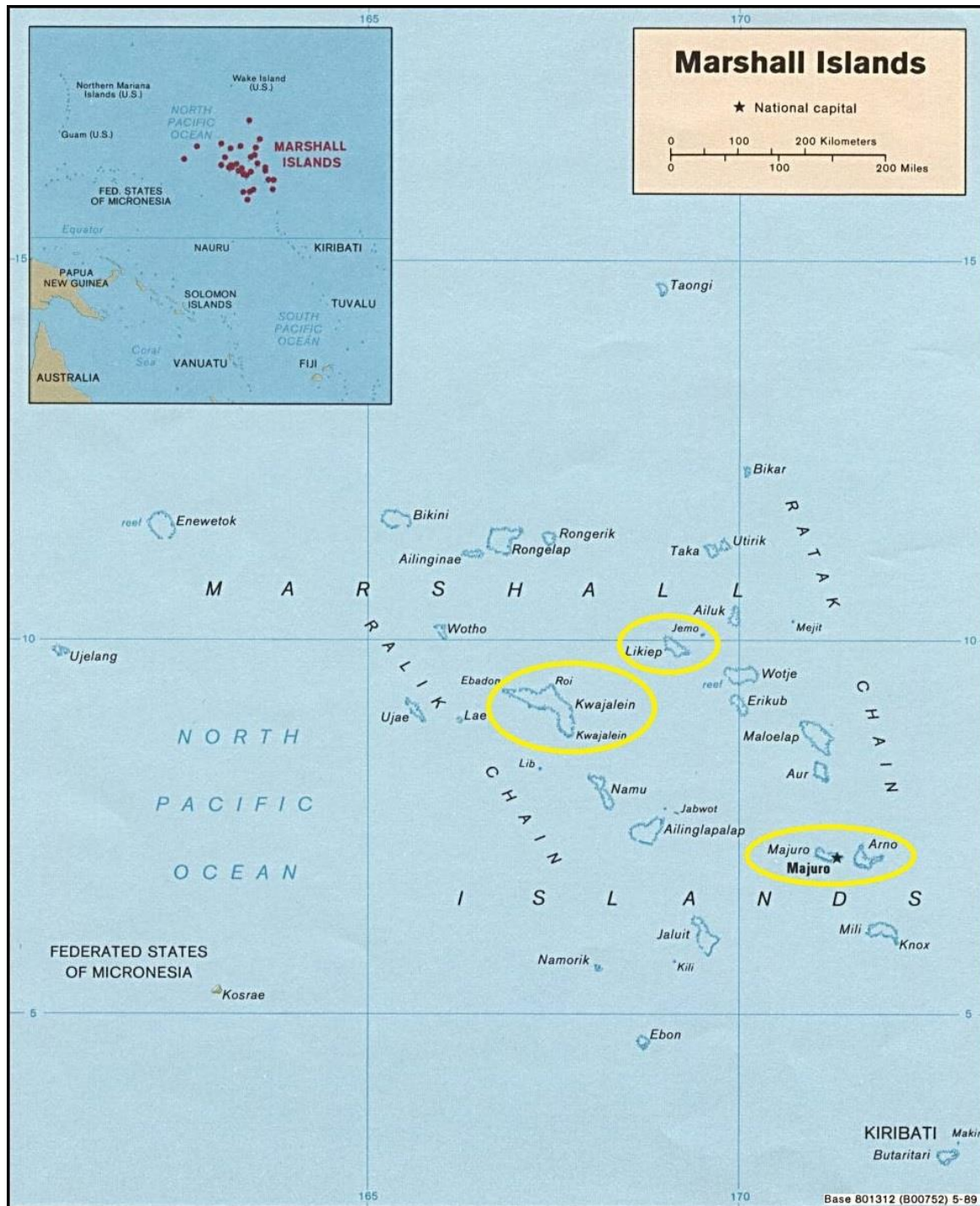
This thesis examines how Marshall Islanders live with climate change related events such as extreme weather, with specific emphasis on the 3 – 5 March flood of 2014. Flood events such as these provide significant watershed moments around which the rhythm of everyday life becomes drastically altered. The narrative structure of the text indicates the rhythmic shift by placing events that occur prior to the flood in past tense, whereas events following the flood are set in the present tense. In order to help us better understand the human dimensions of climate change, and the rapid and violent change that occasionally accompanies it, this thesis proposes an experimental reinterpretation of Donna J. Haraway's cyborg myth (Haraway, 1991: 149-181); in the hope that the blurring of boundaries that accompanies a cyborg hybrid will do our understandings of the social dimensions of climate change some good. While climate change certainly is environmental, its effects are equally social (and intimately so); however often the social aspects disappear in a sea of overly environmentally focused reports. Furthermore, whoever visits a Marshallese atoll will be struck by its anthropogenic elements; most of the environment, flora, and fauna, owe its current existence to prolonged human interaction. These atolls are in other words profoundly anthropogenic, and this realization lies at the core of this thesis. Lastly, it is difficult (if not impossible) to relate to the larger anthropological debate on climate change, from the standpoint of RMI, without accounting for Peter Rudiak-Gould's book *Climate Change and Tradition in a Small Island State: The Rising Tide* (2013). This thesis can therefore be seen as somewhat complimentary to Rudiak-Gould's book; as the thesis examines the post-disaster impacts of climate change on everyday life, whereas the book deals with a pre-disaster analysis of Marshallese narratives related to the idea of climate change.

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<sup>2</sup> The nine events occurred on October 2014, December 2014, January 2015, February 2015, July 2015, September 2015, April 2016, October 2015, March 2016; were of varying scale; and did for the most part remain outside mainstream media. At this time there is seemingly no official timeline on RMI inundation-events. I had to gather most of my information from social media; and more often than not from photo albums on Facebook. Consequently this means that some of the reported events may be erroneous with regards to the specificity of their dates.



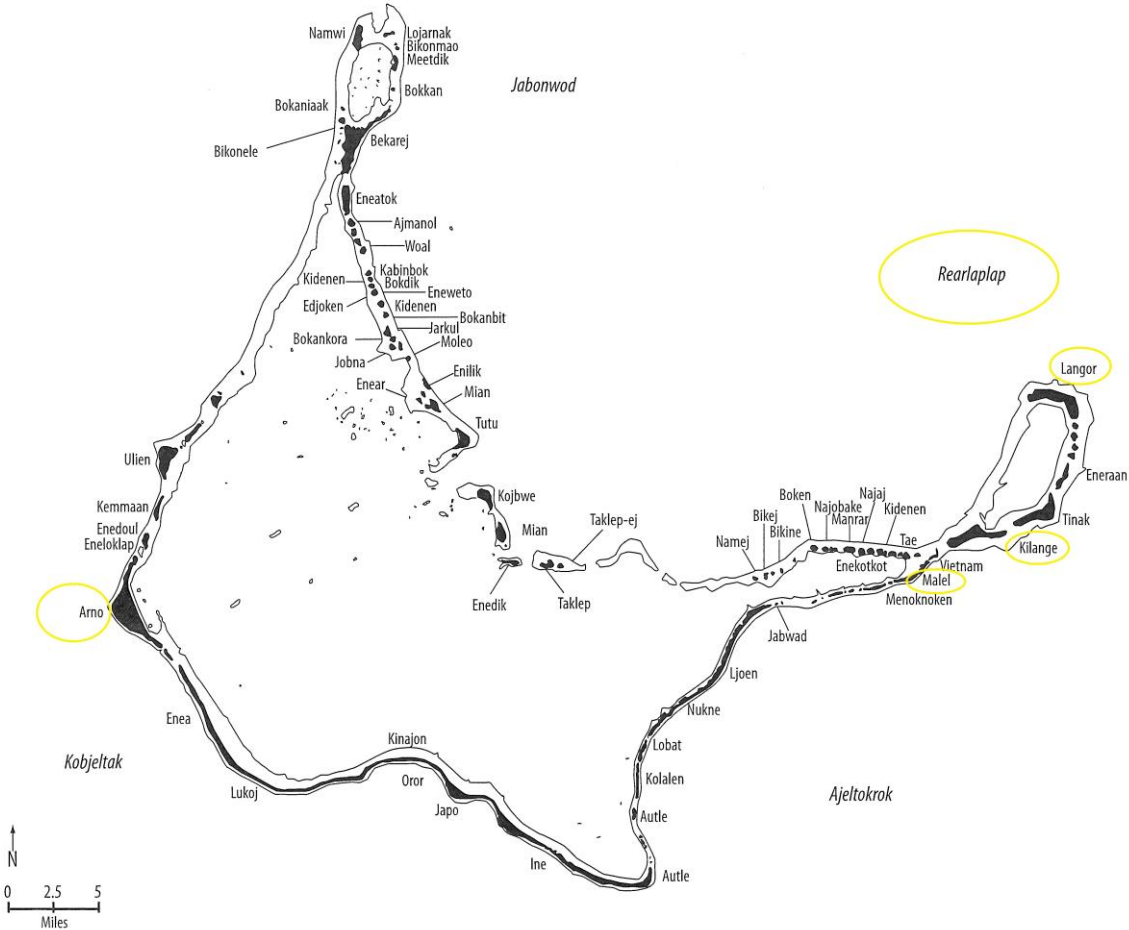
# Map of RMI



**Map 1.** North facing Map of RMI<sup>3</sup>, with points of interest outlined. The geographical distance between Majuro and Arno is only around 10 miles, but traveling to (and from) the eastern section of Arno is time-consuming, and transportation is slow to organize; which means that the non-geographical distance between the two atolls goes beyond the 10 miles of ocean that separate them.

<sup>3</sup> Edited version of original map found in the Perry-Castañeda Library Map Collection (1989) "Republic of the Marshall Islands Maps" *University of Texas Austin*, accessed April 28, 2016, [https://www.lib.utexas.edu/maps/marshall\\_islands.html](https://www.lib.utexas.edu/maps/marshall_islands.html).

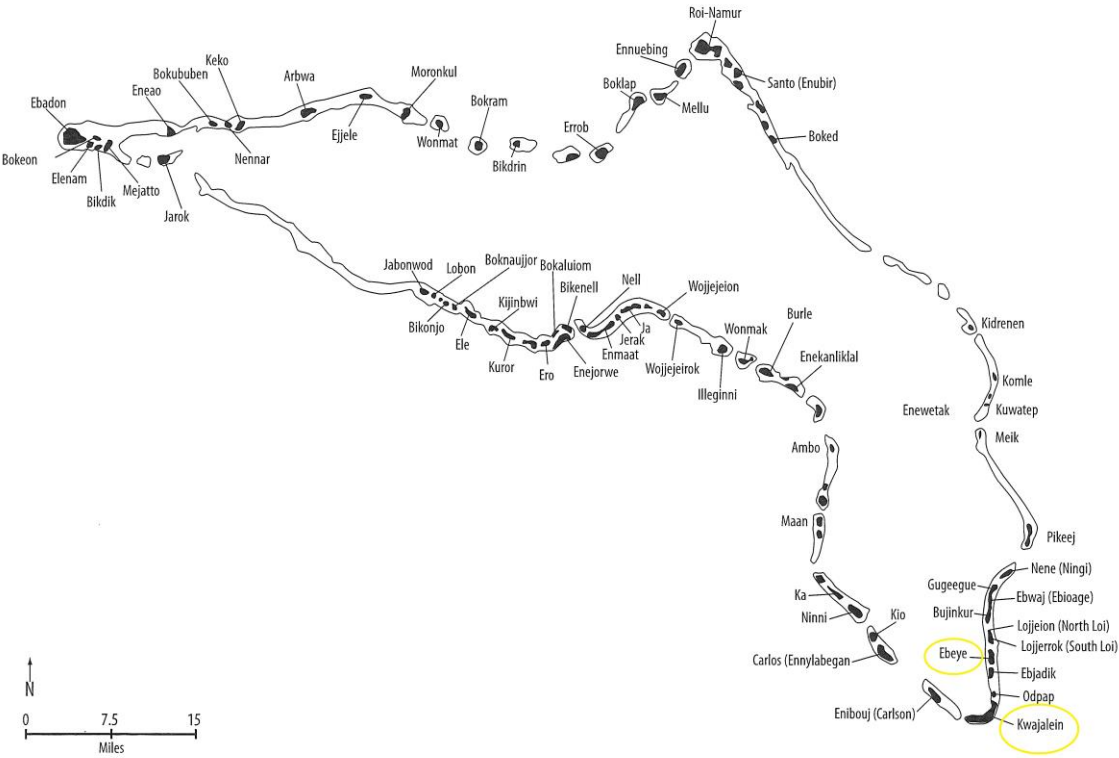
# Map of Arno



**Map 2.** Arno Atoll<sup>4</sup>, with points of interest outlined. Rearlaplap makes up the easternmost lagoon of the atoll.

<sup>4</sup> Edited version of original map found in Marshall Islands (2012: 345) *2011 Census of Population and Housing, Final Report*. Republic of the Marshall Islands.

# Map of Kwajalein



**Map 3.** Kwajalein Atoll<sup>5</sup>, with points of interest outlined.

<sup>5</sup> Edited version of original map found in Marshall Islands (2012: 411) *2011 Census of Population and Housing, Final Report*. Republic of the Marshall Islands.





# Introduction

The Republic of the Marshall Islands (RMI) figures prominently in the global media coverage on climate change; as one of several small island states that struggle against the rising oceans. The Pacific Ocean has become a metaphorical frontline in a physical struggle against the onset of climate change. Alongside voices from countries like Kiribati (represented by the eloquent former President Tong), Tokelau, and Tuvalu, the Marshall Islands figure as one of several Pacific atoll nations whose future lies in the balance. A fifth atoll nation, the Maldives, should also be mentioned in this context; for while it is not located in the Pacific Ocean, its struggles are the same as the other three, and the four do at times advocate from a shared political base<sup>7</sup>. RMI is, like the other low lying atoll nations, already suffering the consequences of rising seas; and it seems things will only get worse.

## Summary of Chapters

Chapter 1: “Anthropological Theory, and Other Works of Significance” outlines the history of RMI and Micronesia within the academic discipline of anthropology. The chapter argues for a diachronic approach to the question of climate change, based in Micronesia’s particular brush with Ecological Anthropology. Some of RMI’s recent efforts in addressing the world are accounted for; giving active voice to what otherwise might have been seen as passive victims to the onset of climate change. The vocality of RMI, and other affected atoll nations such as Kiribati, Tokelau, Tuvalu, and the Maldives (the latter in the Indian Ocean), has put the plight of Pacific Islanders’ who struggle with extreme and rapid change on the map. In the anthropological debate on climate change however, the relevance of RMI has come from another source; namely Rudiak-Gould’s discursively centred *Climate Change and Tradition in a Small Island State: the Rising Tide* (2013). While the 2013 publication is accounted for, Chapter I also proposes a different approach to the anthropological study of climate change;

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<sup>7</sup> See for instance the Coalition of Low Lying Atoll Nations on Climate Change (CANCC).

by reinterpreting Donna J. Haraway's *Cyborg Manifesto* (1991) in a manner which allows us to understand the intertwined realities of environment and the social within a Marshallese (and possibly Pan-Pacific) understanding of climate change.

Chapter II: "Small State, Big Grievance" picks up on Chapter I by providing a diachronic framework that better helps us appreciate the realities of the Marshalls with regards to various rapid changes in climate, and also with regards to RMI's recent and current role vis-à-vis the larger world and geopolitics. Change imposed from afar, and as a result of policies of the larger world, is not so new for the Marshalls; and I argue that the perceived remoteness of RMI, by geopolitical actors, in most ways is naught but an illusion.

Chapter III: "Everyday Life, and the Incursion of Strife" approaches the Marshalls at the ground level, exploring how rural life depends upon various subsistence practices, and by briefly approaching some subsistence practices in the urban capital, Majuro; arguing that urban Majuro is severely affected by the flood and the following saltwater inundation, despite being situated within a larger monetary economy. I argue that where losing the first breadfruit of the season to saltwater inundation strongly affects certain families within Majuro, the effects of saltwater inundation, with the associated loss of breadfruit is potentially more severe for the affected rural atolls. This leads to an exploration of the topography of loss in Rearlaplap, and certain shifts in the material consumption of post-flood households in Rearlaplap are accounted for. Additionally the chapter documents my position in the field at the time of the 3 March flood.

Chapter IV: "Anthropogenic Subsistence under Siege", continues where Chapter III left off, and makes concrete the effects of flooding in rural Rearlaplap, Arno atoll; arguing that people, vegetation, and water are intrinsically interconnected. The realities of atoll life are somewhat similar to those of Geertzian "agricultural involution" (1963), and it follows that the impacts of post-flood inundation affects the island ecosystem in a myriad of interconnected ways. The loss of vegetation furthermore reaches beyond pure materiality, as all things invariably do, and the loss of the symbolically potent breadfruit speaks to associated threats on Marshallese identity.

Chapter V: "Reflections on the Future Present", expands upon the analytical trinity presented in Chapter IV, as well as certain insights from chapter III; approaching in some detail how life in Rearlaplap exists somewhere between local subsistence and a global

market of goods. Certain analytical implications will be drawn from the realization that the aforementioned situatedness is crucial to Rearlaplap's post-flood response. I furthermore argue that the material realities of life on an atoll within the context of rising tides, are suspiciously absent from more discursive analyses, and that if anything, discourse should be appreciated within the context of this material reality. Whereas the official rhetoric of the current RMI government insists on being swallowed up by the sea before moving abroad – in stark contrast to other Pacific leaders who are calling out for help to relocate – the current reality is one of outmigration to the US. I argue that this rhetoric, albeit heartfelt and sincere, is only viable due to the passports held by the Marshallese population; allowing for relocation to the USA. The thesis ends by once more appreciating the recent history of the Marshalls, and by approaching current events with regards to the diachronic framework; how the previously disastrous connection with the US now offers a possibility for a future, if the rising tides continue to make life unbearable.

## **A Brief Outline of the Conducted Fieldwork**

This thesis is first and foremost based on materials from fieldwork in the period 8 February to 18 July, 2014. The fieldwork was “multi-sited” (Gupta & Ferguson, 1997: 32-35; 37) and its primary focus was the post-flood situation of Rearlaplap, Arno Atoll. A sizeable amount of time was spent on Majuro Atoll, generating supplementary materials, with an additional week spent on the northern Likiep Atoll. While the original premise of the project concerned what it would mean to live with tangible climate-change-related effects, and extreme weather events, the specific post-flood focus did not come about until the 3 March, when the atolls Majuro, Arno, and Mili became flooded. The preliminary portion of fieldwork was spent in Majuro, in an attempt to grasp some of the realities of urban life, and establish connections with other atolls on which I could spend time as a part of the fieldwork process. This period lasted for 19 days followed by a five day intermission (27 February – 3 March) spent in Arno village, Arno Atoll, after which I returned to Majuro only to find that the atoll had been subjected to an unexpected flood event. I divided the remainder of my time between the atolls of Arno and Majuro, and had by the conclusion of fieldwork (18 July) spent an estimated total of just above ten weeks on Arno Atoll and eleven weeks on Majuro Atoll; in addition to the one week spent on Likiep. While my stay in Likiep is not explicitly

emphasized in this thesis, the opportunity to spend time on a rural atoll that remained unaffected by the 3 March flood gave me an improved idea of what life outside of the constraints of a post-flood setting could be like.

During the course of fieldwork I utilized participant observation, observation, unstructured and semi-structured interviews, in formal and informal settings. I also dedicated time to map drawing exercises with informants, and what I would call “walkabouts”; which entailed the purposeful navigation of surroundings with informants. This thesis is based on information generated from prolonged interaction with 30 – 40 interlocutors, from various walks of life and with various occupations and various places of residency. The majority of the group ranges from 20 – 60 years in age, and consists of both genders; with an equal dispersion in Majuro, and a dominantly male informant base in Arno where the genders are somewhat more divided in their interaction with each other (than in Majuro). People who only were encountered in strict interview settings are not accounted for in the informant-base estimate.

Ten people (of the larger informant group) have functioned as “gatekeepers” and “key informants”, with an additional two people functioning as field assistants due to their commitment to the research and their role as translators. It should be noted that most Marshallese people are quite fluent in English (or American English), and that this is reflected in the collected material. The population of Arno is, however, dominantly Marshallese speaking; which meant that I required assistance in order to understand certain aspects of spoken conversation while in Arno; particularly in formal interview situations. Certain parts of the information gathering process can therefore have been subject to mistranslations, or the selective translations of people who had their own agendas and understandings of the discussed subjects. I have therefore been careful in cross-referencing information, at the same time being attentive to the larger discursive context of our interactions. While the fact that I did not properly acquire Marshallese language competence stands out as a weakness – with regards to the veracity of the information gathering so crucial to fieldwork –, the information gathered through translation corresponds well with information generated through interaction with English-speaking informants and by way of observation.

In terms of “reflexivity” my position as a white man in my mid-twenties, from Norway, with a desire to learn about the social dimensions of climate change – or what it meant to live with climate change – made me quite conspicuous in most settings. I initially came to be known as a *ripãlle* (American) climate scientist, believed to have knowledge on how to prevent climate change. Eventually I managed to convince the majority of people around me that I did not know how to stop the rising ocean, and rather wanted to learn how they themselves were affected by rising seas and the acceleration of unfavorable weather conditions through processual change. I made it clear that I was a student, but only after having confronted a well-established discourse (or pattern of interaction) between (predominantly white) western climate scientists and Marshallese people, wherein surroundings predominantly were seen as physical things to be dealt with according to the natural sciences; while their social aspects were given less precedence. Eventually I even came to be accepted, by some, as a Norwegian. By the end of fieldwork things had gone so far that I (rather generously) was complimented as being *rimajel* (Marshallese).



# I: Anthropological Theory and other Works of Significance

This thesis examines how people living on an atoll in the tropical Pacific, specifically in the Marshall Islands, utilize land-based biodiversity (particularly plants) for medical, nutritional and other purposes. I argue that the people and their surroundings are entwined, and that this connection can be approached through a lens of ecological anthropology, focusing on locally perceived well-being; without limiting the idea of location to something homeostatic. Effects of environment are as such present as effects on the body; be it healthwise or in terms of utilities. The chief reason for focusing on an atoll is found in the effects of climate change on vulnerable atoll biodiversity. Atolls are located a few meters above sea level, and support very little biodiversity; the land based biodiversity does as such have to be utilized extremely well by the population. Larger tropical islands do in contrast support such a large number of usable plants and trees that the local population does not depend upon of the utilisation all species. Furthermore, in cases of rising seas, increased salinity, and increased erosion leading to key species going extinct, larger islands offer the possibility of replacing extinct species for species located further upland; atolls offer no such luxuries.

In other words; by their susceptibility to change, and the way these changes reach the inhabitants, atolls offer good insights into how climate change not only affects parts of the Oceanian landscape, but the people that live there as well. It is possible to see climate change projected onto both society and the human body, not to mention how society again acts upon, and perhaps even with, the landscape. If, as in so many other Pacific cosmologies (Hviding, 2003), there is no such thing as a nature:culture dichotomy in the Marshall Islands, there can be no divide between landscape and society.

## Addressing the World

It should come as no surprise that the Marshall Islands, or Micronesia for that matter, is not constituted by voiceless objects, but constitutes the homes of people whose public discourse provides voice to the message of climate change. While Micronesia largely became relevant to anthropology within the context of development as outlined later in this chapter, atoll nations such as the Marshall Islands, Kiribati, Tokelau, and the Maldives have made themselves, and their plight as potential climate refugees, known to the world via global media. One of the more distinct voices belongs to the current Ambassador-at-large for Climate Change for RMI, at the time Minister of Foreign Affairs of the Republic of the Marshall Islands, Tony deBrum (2014), and his voice speaks to the urgency of the current situation in RMI:

I've been a politician long enough to know that politics is the art of the possible, and that negotiation requires compromise. But on some things, like the future of my country, compromise is not an option. As I said to the big emitters meeting in Paris, the agreement we sign here next year must be nothing less than an agreement to save my country, and an agreement to save the world.

The Marshall Islands has figured quite prominently in global media concerns on climate change. In June 2015 CNN ran a report titled "You're Making this Island Disappear": with columnist John D. Sutter (2015) "reporting on a tiny number – 2 degrees – that may have a huge effect on the future". The article details the very real issues faced in Majuro, the Marshallese capital, with emphasis on the most recent flooding, in addition to capturing some of the spirit of everyday life on the coral atoll capital, as well as the ongoing emigration to Arkansas. Sutter's narrative covers more than just facts and figures, instead showcasing the people who are affected by the rising seas.

Another contribution came by way of The Guardian, 11 March, 2015. The publication is a recreation of "a set of historical images depicting the first impacts of climate change in these countries where no one lives more than a few meters above the sea"; with updated pictures taken by photographer Rémi Chauvin, from December 2014 (Chauvin & Hilaire, 2015). The visualization is powerful, making tangible some of the more visual impacts of climate change; detailing the complete washout of Ajeltake beach (Majuro) in 2003, and the



death of palm trees by constant saltwater inundation the very same year; the 2008 battering of Majuro homes by waves; and the 2011 storm and king-tide effects on Uliga in Majuro. The eroding away of cemeteries by the sea in 2008, has been documented in a similar fashion (see Photo 1), with corresponding photographs from nearby Kiribati.

Al-Jazeera America meanwhile published a report the 18 May 2015, with the headline “Disaster after disaster hits Marshall Islands as climate change kicks in”, as part one of a three-part series on the March 2013, March 2014, and April 2015 floods (Lewis, 2015a). The first two parts of the series (Lewis, 2015a; 2015b) confront the difficulties of evacuation for a country located roughly two meters above sea-level, with regards to rising seas, king tides, and the pounding waves.

Another contribution comes by way of Honolulu Civil Beat and its ongoing series dedicated to covering “the Micronesians”, and their journey from their home islands to the US (Blair, 2015). Among other factors the series of articles emphasizes the effects of climate change on the future outlooks of Micronesian people; quoting President Christopher Loek of the Marshall Islands, on how “life in the Marshall Islands may soon become like living in a war zone”; and Charles Paul, the Marshall Islands ambassador to Washington D.C., on his considerations that climate change is the “single greatest threat to [Marshallese] existence”. The author, Chad Blair, ends the article with the voice of Alson Kelen of Majuro based *Waan Aelōñ in Majel* (WAM); “I don’t think we can do anything out here except for going out and screaming to the world [...] but so far, no one’s listening...”.

Bloomberg Business tackles the devastating reality of Bikini atoll nuclear refugees having to relocate for the second time in around 70 years; this time as an effect of the rising ocean (Morales, 2015). Author Alex Morales is particularly concerned with the ongoing efforts in remaking US laws on the relocation fund, compensating Bikini Atoll Islanders for the nuclear tests conducted on their home atoll during the 1940s. Hakai Magazine meanwhile raises questions on the feasibility of landlocked Marshall Islanders’ retaining their culture (or identity) in landlocked states such as Oklahoma; one of the more common destinations for Marshallese emigrants settling in the US (Langlois, 2015). The author, Krista Langlois, airs the possibility that the entirety of RMI’s populations will have been forced to relocate to the US by 2100. Quoting Tony DeBrum, Minister for Foreign Affairs for the Republic of the Marshall Islands, Langlois asks whether “climate change [will] amount to

Click or drag to fade between images ...



**Photo 1.** Two facsimiles of Chauvin & Hilaire (2015) detailing the erosion of Demon Town Cemetery in Majuro, from 2008 (top) to 2014 (bottom). Notice the disappearing tombstones.

cultural genocide”. Langlois furthermore underlines the radical difference encountered between generations, as Marshallese growing up in Oklahoma may never have seen the ocean so central for all life in the Marshalls.

One of the more evoking statements on climate change in RMI and the Pacific did however come from Kathy Jetnil-Kijiner, on 23 September 2014, when she addressed the world as part of the opening of the United Nations Climate Summit (Jetnil-Kijiner, 2014). By presenting her poem, “Dear Matafele Peinam”, Jetnil-Kijiner communicated that the Marshalls, and the other climate-change affected countries of the Pacific, are lived places cherished by people who consider them their homes. Her performance was broadcasted to the world. Her powerful delivery – flanked by her husband with their child nestled in his arms – stunned and shocked the room. It is only appropriate to end this summary of RMI’s address to the world with Jetnil-Kijiner’s evocative “Dear Matafele Peinam” (Jetnil-Kijiner, 2014):

dear matafele peinam,

you are a seven month old sunrise of gummy smiles  
you are bald as an egg and bald as the buddha  
you are thighs that are thunder and shrieks that are lightning  
so excited for bananas, hugs and  
our morning walks past the lagoon

dear matafele peinam,

i want to tell you about that lagoon  
that lucid, sleepy lagoon lounging against the sunrise

men say that one day  
that lagoon will devour you

they say it will gnaw at the shoreline  
chew at the roots of your breadfruit trees  
gulp down rows of your seawalls  
and crunch your island’s shattered bones

they say you, your daughter  
and your granddaughter, too  
will wander rootless  
with only a passport to call home

[...]

still  
there are those  
who see us

hands reaching out  
fists raising up  
banners unfurling  
megaphones booming  
and we are  
canoes blocking coal ships  
we are  
the radiance of solar villages  
we are  
the rich clean soil of the farmer's past  
we are  
petitions blooming from teenage fingertips  
we are  
families biking, recycling, reusing,  
engineers dreaming, designing, building,  
artists painting, dancing, writing  
and we are spreading the word

and there are thousands out on the street  
marching with signs  
hand in hand  
chanting for change NOW

and they're marching for you, baby  
they're marching for us

because we deserve to do more than just  
survive  
we deserve  
to thrive

dear matafele peinam,

you are eyes heavy  
with drowsy weight  
so just close those eyes, baby  
and sleep in peace

because we won't let you down

you'll see

## **A Discursive Approach to Climate Change**

The prominence and relevance of RMI within climate change anthropology springs from a different source than RMI's media dependent relevance, and the most recent anthropological contribution to the issues of climate change in RMI comes by way of Rudiak-Gould's book *Climate Change and Tradition in a Small Island State: The Rising Tide* (2013). It would be difficult to relate to the anthropological discourse on climate change in the Marshalls without, at some level, accounting for the 2013 publication.

The book outlines a culturally specific model in which influences ranging from the advent of colonialism in the Marshalls and up until today has produced a cultural decline within which traditional values (or *manit* – tradition) increasingly have eroded away; by increasingly preferring the incorporation and utilization of money and technology in Marshallese daily life over traditional practices (related to *manit*) rooted in land. The appropriation of power by money and new technologies do in many ways mimic certain aspects of the myth of *Letao*, the Marshallese version of a trickster figure. By falling to the allure of technology, money, and modernity, so too have Marshall Islanders' brought the negative aspects of modern technologies and ways of living – most prevalently climate change – upon themselves; by virtue of having been seduced by what the author refers to as Modernity the Trickster. The Marshall Islanders' have accordingly adopted in-group blame, based in the idea that they themselves were responsible for having been lured away from *manit* and towards modernity. The past is consequently seen as preferable to the present,

rural islands are seen as preferable to urban islands, and traditional values (or *manit*) are sought out to be restored. As Marshallese people see themselves as responsible, so too do they value action over the apathy that some might associate with being victims of climate change; in-group blame does not only suggest fault, but also the possibility of righting wrongs (Rudiak-Gould, 2013: 15-39).

Information on climate change is primarily made available and made sense of through three channels: reception (scientists), observation (personal), and exegesis (interpretations of the bible). The three channels figure into how people explain climate change, and how credible they consider the threat of climate change to be; by a process the author dubs triangulation. The bible is cryptic, the scientists are untrustworthy (just like *Letao*), and observation provides information on the past and the present rather than the future. As a result people may subscribe to one or more of these channels of explanation, both as contradictory and complementary sources of information. In other words: making sense of climate change relies on previously available models of explanation; climate change is not transposed on Marshallese cosmology, so much as incorporated into it and understood on Marshall Islanders' terms (Rudiak-Gould, 2013: 40-87).

Climate change becomes incorporated into a general narrative of decline; geared towards the loss of *manit*. As anthropogenic climate change is increasingly understood as a failure of human aspiration, so too does *Letao* come back into play; as the allure of aspiration fooled Marshall Islanders' to choose to abandon their culture. Climate and culture does not constitute separate entities in the Marshallese conceptualization of land (through the concept of *Bwirej*<sup>8</sup>), and climate change and cultural change consequently becomes intertwined. Not only is climate change a cause of cultural decline, but a result of cultural decline; in turn meaning that the one comes to equate the other. As decline narratives become increasingly associated with climate change, so too does the narrative of climate-change-related decline increasingly replace nuclear fallout as the catch-all explanation for various hardships; and where the disappearance of the arrowroot previously was blamed on

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<sup>8</sup> The concept (*Bwirej*) is not mentioned explicitly in *Climate Change and Tradition in a Small Island State...*, but is nevertheless referred to as "cosmology" in the larger text. In "*Traditional Medicine of the Marshall Islands: The Women, The Plants, The Treatments*" *Bwirej* is referred to "as the all-encompassing Marshallese concept of land" in which "people and their knowledge and traditions are all part of the terrestrial, freshwater, and marine ecosystems [...] rather than constituting separate entities" (Taafaki, Fowler & Thaman, 2006: 42).

nuclear fallout, it is now increasingly blamed on climate change (Rudiak-Gould, 2013: 88-116).

In the absence of a separate nature concept Marshall Islanders' cannot adopt a strategy of blame that sees climate change as environmental; it is simply impossible to blame climate change on nature. Instead using a *Letao*-style conception of modernity, in-group blame becomes the only viable option. This creates a schism of sorts between traditional ways of living and untraditional – or modern – ways of life, and what falls into the two categories becomes renegotiated. Solar cells fall within the domain of tradition as they are not seen as environmentally harmful, whereas cars, motorboats, and other similar environmentally harmful technologies fall in under the banner of harmful modernity. Whereas the former is aspired towards, the latter is (at least in rhetoric) abandoned. While climate change cannot be solved by Marshall Islanders', the author says, it can be used to further ideas of *manit*, and ways of living that foster pride (Rudiak-Gould, 2013: 117-143).

Narrative refusals to relocate have their basis in a cultural struggle for survival, in which relocation is seen as a cultural genocide. As categories tradition and land are interconnected to the point where the one equates the other; and relocation entails leaving behind the shared sense of identity that comes with being Marshallese, and the associated *manit*. While the threat of climate change cannot be solved through the power of insistence – as in refusing to relocate if worst comes to worst –, it can be utilized to strengthen the very ideas that underpin what it means to be Marshallese; and (as a narrative) refusing to relocate may supply the willpower to tough it out for as long as possible. Eventually relocation might be the only viable option; and in that regard the author points out that refusing to relocate (narrative) in no way means that the majority of people would stay behind to drown. Rather, relocation is considered to be a given not worthy of much concern; the Marshallese people have access to the United States of America, and if all else fails they expect to be taken in by some other benevolent country. After all, no one could let them drown? In fact, the author goes so far as to suggest that the Marshallese population in all likelihood would be taken care of by funds from international charity, based in the Marshall Islands prominent figure in the world-wide press (Rudiak-Gould, 2013: 146-175). Based on the recent developments with regards to the refugee crisis in Europe, I fear that such optimism might be largely unfounded.

## Ecological Anthropology and Other Influences

By tracing the activities of researchers from the University of Hawai'i in the mid-1940s, and the following USCC economic study of 1946, it quickly becomes apparent that the concerns of anthropologists working in Micronesia have been influenced by the larger political and academic environment of the US in a large way. Historically speaking the current Micronesianist Anthropology emerged from a *modus operandum* intrinsically connected to the governmental and geopolitical needs of the US Navy and (later) the US Department of Interior. It is therefore necessary to approach the history of ecological anthropology in Micronesia, particularly since this thesis aims to attend to similar concerns to those raised by its preceding ecological anthropologists.

However prominent Pacific anthropology may have been prior to the Second World War, with figureheads such as Bronislaw Malinowski, Raymond Firth, and Margaret Mead conducting fieldwork in the Trobriands, Tikopia, and Samoa respectively, Micronesia remained virtually untouched by American anthropology. Save Laura Thompson, who on assignment from the US navy conducted fieldwork in 1930s Guam, no American anthropologist had set foot in Micronesia by the early 1940s (Kiste & Falgout, 1999: 12; 13). The region disappeared from the anthropological gaze just prior to the Second World War; due to the establishment of a "bamboo curtain" by its colonial masters, the Greater Japanese Empire (Kiste & Falgout, 1999: 17; Peattie, M. R., 1988: 79-80). This would change the Japanese attack on Pearl Harbor, 7 December, 1941; and with the new strategic interest in the region came a need for regional intelligence; and Yale University's Institute of Human Relations Cross-Cultural Research staff set to work on the following day (Kiste & Falgout, 1999: 11). This marked the starting point of American Anthropology's involvement with Micronesia, under the conspicuous agenda of US world politics. Anthropologists did not arrive in the region until around 1944, just as the war was coming to an end, and when they did arrive it was under the command of the US Naval government tasked with researching material circumstances. According to Alkire (1999), this first period of anthropological work in the region was heavily influenced by the culture-environment paradigm within American Anthropology, and was initially focused on culture areas; it was not until the end of the 1950s that the discipline adopted cultural ecology (Alkire, 1999: 82). Micronesia was at the time off limits for all non-US citizens, and US citizens accessed the region based on their



security clearance. These restrictions continued “through the 1950s, and [...] the early 1960s”, according to Kiste and Falgout (1999: 19), and American anthropology did as a result become *the* anthropology addressing Micronesia’s recent history.

During the mid-1940s the University of Hawai’i launched two reconnaissance expeditions, both under the authorization of the Commander in Chief of the Pacific Fleet and Pacific Ocean Area. In August 1946, an additional governmental agency, the US Commercial Company (USCC), followed suit by conducting a comprehensive economic study of Micronesia; sponsored by the US Navy. This deployment included a handful of trained anthropologists who served as “Specialist Field Researchers” for the USCC, chartered to map and evaluate material resources and economic possibilities in the territory (Kiste & Falgout, 1999: 23). The USCC economic study did in turn provide a baseline for a long line of navy-sponsored projects: In 1946 the National Research Council (NRC) establishes the Pacific Science Board (PSB); and the Coordinated Investigation of Micronesia (CIMA) is established in 1947, with PSB as its administering agency. The CIMA project commences in July 1947, and deploys as many as 41 CIMA researchers, thereof 29 anthropologists, who conduct research throughout Micronesia. These are all funded by the Office of Naval Research (ONR), with additional funding by CIMA’s participating institutions, and the Viking Fund (Kiste & Falgout, 1999: 23-26). Following requests by CIMA and the US Navy, ONR funds the 1949 – 1951 launch of the Scientific Investigation of Micronesia (SIM); a multidisciplinary endeavour employing anthropologists, botanists, foresters, geographers, geologists, marine ecologists, and vertebrae ecologists (Kiste & Falgout, 1999: 28). SIM can be seen as a continuation of the previously mentioned University of Hawai’i surveys; with the Coral Atoll Project, an ecological survey of Arno atoll in the Marshalls, figuring prominently among SIM’s *foci* (Kiste & Falgout, 1999: 28).

When American evolutionist anthropology entered Micronesia during the 1950s, it was by way of Mason’s (1957; 1959) adaptation of Stewardian evolutionist anthropology (1955), and not the work of White (1949; 1959). Micronesia was marked by rapid change, and White’s focus on energy flows with emphasis on balance and homeostasis was as such inappropriate for such non-homeostatic realities (Alkire, 1999: 84-5). District Anthropologists were hired in 1950, following the advertisement of Anthropological Field Consultant positions with Civil Administration Units in the Trust Territory of Pacific Islands (TTPI) by

Naval Operations (Kiste & Falgout, 1999: 37). The TTPI District Anthropologists were tasked with researching concerns relating to issues of resettlement, landownership, and the redistribution of land; and uncovered the conceptual bind between people, land and kin-groups, and noted how the dispersion of land tract varied between pie-sliced subdivision on high islands and strip parcels on atolls (Alkire, 1999: 86). The ownership of land was furthermore far more centralized on higher islands, than on atolls; where variations in kinship, marriage, and adoption patterns meant that owned land was scattered across several islets. Land tenure was furthermore organized to secure for the family access to all categories of land of importance for subsistence, and these tenure systems had a level of flexibility that would accommodate various population changes and fluctuations (Alkire, 1999: 86). Eventually anthropologists gained the insight that the ocean was less of an isolating feature than a great source of subsistence. The various marine technologies utilized by local people became increasingly focused upon, and anthropologists furthermore realized that marine subsistence practices were of greater importance on atolls and low islands than on high islands (Alkire, 1999: 87-8)

One 1950s program did however differentiate itself from the aforementioned genealogy; the Tri Institutional Pacific Program (TRIPP). TRIPP was directed by Spoehr, Murdock, and Mason (for the Bishop Museum, Yale University, and the University of Hawai'i respectively). TRIPP furthermore operated on funds from the Carnegie Foundation (Kiste & Falgout, 1999: 37), and was as such not subjected to naval government in the same way that the previously mentioned projects, programs, councils, investigations, and their attached anthropologists were (Kiste & Falgout, 1999: 37). In 1959 Mason compared the environments of seven Micronesian atolls; suggesting a correspondence between the natural (or environmental) economic abundance of atoll societies, and their levels of stratification. High production, and natural abundance, corresponded with the presence of strong systems of chieftainship; whereas a lack of abundance corresponded with a virtual absence of chieftainship (Alkire, 1999: 89). Another positive impact with regards to anthropology in Micronesia came with National Science Foundation funding of the 1962 – 1967 Displaced Communities in the Pacific Project (DCPP). Though DCPP dealt with the Pacific as a whole, the project contributed to the anthropology of Micronesia by approaching the displaced peoples of TTPI; amongst them the Marshallese communities of Bikini, and

Enewetak (Kiste & Falgout, 1999: 38), whose displacement came as a result of nuclear weapons tests.

Cultural ecology got another addition in 1964, this time by Sahlins insisting that cultures were not closed systems, and that the interchange between cultures and their environment had to become a focus. Environmental factors were regarded as external to culture, and could thus be pinned down to yield a “causal primacy” between factors such as “natural and social environments” (Ortner, 1984: 132-3). Marvin Harris and Roy A. Rappaport transformed Sahlins’ cultural ecology into a strain of their own in 1966 and 1967. Evolution was not the way to go, they claimed, and the discipline would be better served by adopting systems theory; instead explaining how certain social actions would maintain (and adapt) parts of – or the entirety of – cultures. The school of cultural ecology turned increasingly towards how cultures maintained certain relationships with nature, and not how nature constrained them (the cultures). In the words of Ortner: “Social and cultural forms [functioned] to maintain an existing relationship with the environment” (Ortner, 1984: 132-3). Rappaport did however not influence the anthropology of Micronesia, as Micronesianist scholars considered Micronesian societies to be less enclosed units, and as such were less applicable for energetics analysis. According to Alkire (1999: 97), no Micronesianist anthropologist has produced case studies similar to those of Rappaport (1967, 1971) and Clarke (1971).

When the 1970s came about, “*everything* that was part of the existing order was questioned and criticized” (Ortner, 1984: 138), and so too did cultural ecology come under critique from Marxist anthropologists. Cultural ecology was too vulgar in its materialism, according to Marxist anthropologists, and saw things as organizing people, rather than seeing the social or symbolic values of those objects as the primary organizing principles (Ortner, 1984: 139). Structural Marxism meanwhile unified the material (production) with social processes (or ideology); contrary to previous anthropological contributions that now were seen as too adherent to the material or the social process (Ortner, 1984: 140).

## A Bricoleur's Approach to Haraway

The ecological anthropology of Micronesia's past has become severely dated, or even outdated, and I therefore propose a different and experimental framework by which the social realities of post-flood RMI, and the ecological realities of its people, can be approached. Significant cultural events, such as a *keemem* (first birthday), involve the utilisation of plants and trees in various ways, as necklaces signifying importance, in the preparation of food, or as decorations. Pandanus or coconut leaf mats are typically woven in the days leading up to the *keemem*, and will later provide seating for women who prepare food for the ceremony. The food is prepared within a traditionally thatched pandanus or coconut leaf *mōn kuk* (cookhouse) which has been erected for the occasion, and the food is served in coconut leaf baskets. These baskets are often, but not always, woven in ways which signify the importance of the guests they are presented to; and inside the baskets one finds preserved breadfruit, fish, coconut rice balls, pork, pieces of chicken, and other foodstuffs that typically come from the family's *weto* (land tract). Pork has cultural value in the sense that it is a precious meat reserved for special occasions, and is typically accompanied by *bwiro* (preserved breadfruit), and any meal consisting of both pork and *bwiro* is considered to be a good meal that provides a sense of cultural pride. The specific usages of types of food, as well as the arrangement of plants, go beyond signifying social relationships; the usages constitute part of the social relationships. There is, in other words, little room for a western nature:culture dichotomy within the intimate relationships Marshallese people sustain through close engagement with their surroundings. We consequently require a different analytical model if we are to understand the plight of Marshall Islanders' who are struggling with climate change; and an experimental reinterpretation of Haraway's cyborg myth might provide the type of transgression of analytical boundaries that such an understanding requires.

"A Manifesto for Cyborgs" was according to Haraway "written to find political direction in the 1980s..." (1991: 3) and would later work its way into her book *Simians, Cyborgs, and Women: The Reinvention of Nature*, under the title "A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century". In her manifesto Haraway formulated her notion (or myth) of a cyborg, understood as a reality within which certain technologies and machines associated with the silicon chip become

extensions of the self. The interplay of 'man' and 'technology' characteristic of capitalism in turn formed the arrangement of the social world as it was during the Reagan years (Haraway, 1991: 149-181; Haraway & Goodeve, 2000: 39). According to Haraway the chip allowed for increasingly small machines to permeate the social body, which as a result proliferated minute 'inscriptions' that changed how people saw the world (Haraway, 1991: 153-154; 161; 164-165; 176-178). Previously sturdy conceptual boundaries – such as animal:human, organism(animal:human):machine, and physical:non-physical – became confused and transgressed, giving rise to “potent fusions, and dangerous possibilities” (Haraway, 1991: 154). As the silicon chip became engrained in the fabric of society, so too did the chip increasingly encompass and alter social relations; culminating in an 'ontological shift' by which the very ideas of production and reproduction of the self, identity and social worlds became transformed. The confusion of boundaries gave birth to the chimera that Haraway asserts as an ontology, and “[...] a condensed image of both imagination and material reality, the two joined centers structuring any possibility of historical transformation” (1991: 149-150).

The historical era described entailed changed family structures, the *oikos* was altered, and new discourses rooted in the new cyborg ontology helped rearrange social relations in ways which produced new conceptions of self and other, also resulting in new groups of oppositional identities (formed through reflexive strategies for constructing identities). The effects of cyborg realities presented themselves also in 'horrifyingly' destructive potentials such as cruise missiles and new warfare, made possible due to the technological advances of ever smaller machines; the minute size of which enabled the chip to encompass (and possibly even transcend) the western world (Haraway, 1991: 153).

Atolls, agroforests, and reefs do, as such, present a different sort of material reality; not by virtue of virtual invisibility, but nevertheless encompassing society in physical sense. Atolls and biotic veracities provide for the production and reproduction of bodies and people at the most microscopic level. By applying Haraway's key insight into the interplay of humans and technology as 'machine' to rely less on the silicon chip, and more on being the result of human invention, the atoll with its biotic composition plants becomes a machine in a different sense – and another kind of reality and understanding of life in RMI can be discerned. In order to properly appreciate the hazards intruding upon rural Marshallese,

such as the denizens of Rearlaplap, Arno, we must transgress the boundaries dividing atoll societies (or the body social) from their material body. This, I hold, needs to be done in a similar fashion to the way in which Haraway's cyborg collapsed the boundaries dividing people and machinery during the Reagan years. I posit – in the fashion of a bricoleur – that Marshallese atolls in many ways should be seen as machines; or at the very least as technological inventions owing their current form to human labour and invention (such as imported plants, patterns of planting certain things in certain spaces, and so forth). It follows from any such interpretation that the social body – and the atolls themselves – are objects of the same social relations, and that the one could not exist in its present form without the other (and vice versa). The social body owes its existence to the agroforest and reefs, whereas the agroforest owes its existence to the people. Haraway (1991: 178) explains: “It is not clear who makes and who is made in the relation between human and machine. It is not clear what is mind and what body in machines that resolve into coding practices”. The reef only exists as a resource due to the technological knowhow required for its exploitation. The atoll and the atoll society – or what narrowly could be termed nature and culture – melds to make up a cyborg that exists as a part of the Pacific Ocean.

A cyborgian dynamic relationship exists between the atoll and atoll society; the cyborgs, hybrids, mosaics, and chimeras may be different, but they are present all the same. Seeing how gardens, fishing, and other lifestyle adaptations in Rearlaplap either are or depend upon matters of technology, Haraway offers a useful analytical model for the appreciation of day-to-day life in RMI. Technology becomes an extension of local collective and personal bodies, and selves; as such the atoll represents an extension of society (the people) in terms of the technological adaptations (agroforestry to name one) of the atoll. This implies the existence of composite human beings not only made up by their bodies, but also their gardens, their agroforestry, the reef, as well as their fishing practices, and so on. Such an approach to what it means ‘being a body’ accounts for the experience of saltwater inundation on the human body, and enables us to pose questions on both identity and life adaptations with regards to living on an outer island versus living in the capital. The body-faced-with-climate-change shares another trait with Haraway's cyborg in that it “[requires] regeneration, not rebirth [...]” (1991: 181).

The technological adaptation of the atoll, and the following implications of a cyborg within which the atoll makes up the persons and the society living there (in as much as the people made the atoll), also carries with it a historical dimension wherein the given space – the atoll – has been a technological project across a longer continuum of time. In other words: Time does not transcend space, but space transcends time. Consequently this allows us to look at a flow of identity, in the form of traditional subsistence products – flowing from Arno into Majuro – as well as envisioning the flow as a movement between the past and the present; between ancestors and the currently living. This theoretical development can be justified as – for many families – the ancestors both lived and died on the outer islands; a status of relative opposition to the two atolls of Kwajalein and Majuro. The ancestors were buried on their atoll, their remains were placed in the coral rock, and they became a part of the islands and their lineage once more (like their ancestors before them). This is a deeply spiritual connection, firmly rooting lineage in specific atolls. For many families the outer islands have become a component of identity (or partial identity), power (certainly for senators who have to campaign for their seat at their specific atoll), as well as a shared Marshallese identity stretching backwards in time to the penultimate ancestors; just as the urbanites travel ‘backwards’ in space towards the outer islands. The movement of traditional foods from the outer islands (representing the past and the ancestors) into present day Majuro can be seen as a construction of identity wherein the Marshallese of the capital have constructed a ritual practice situated in an outer island mythos. As such the outer islands function as identity machines for the capital-body; the very core of RMI’s population. Identity and technological adaptation becomes a question of the self at a societal level, as well as a question concerning the past and the present.

## **Additional Climate Literature**

Approaching the issues of climate change necessitates a somewhat multidisciplinary approach; and at the very least a multidimensional one. Disciplines outside of anthropology have approached related issues, and the various studies of Randolph R. Thaman (1987, 1990, 1992, 2002), Thaman, Elevitch & Wilkinson (2000), and Thaman, Keppel et al. (2005) offer additional insights on the connection between people and environment in the Pacific. Not only is there clear proof on the anthropogenic nature of encountered biodiversity, and the

cultural significance of the biodiversity within the Pacific, but the importance of human interaction in terms of multi-purpose agroforestry is similarly stressed. By being part of their surroundings (rather than distinct from them) the people of the Pacific play a crucial role in the upkeep of the local biodiversity, and in the upkeep of their own basis for life. By planting certain species of trees, acting as windbreaks and protection from the sea, working against erosion, allowing other key species to grow and so forth, the anthropogenic element allows for the upkeep of ecosystems that may otherwise fall apart. However, as people change their habits and lifestyles in accordance with the market economy, their subsistence patterns change, and so too does the connection between the people and the land (Thaman, Elevitch & Wilkinson, 2000:7-8). Lifestyle diseases such as diabetes become increasingly common, and the biodiversity suffers as traditional anthropogenic practices wither away; the end result being increased erosion and salinity negatively affecting life on land. Rather than allowing the land to break down, Thaman, Elevitch & Wilkinson argue, the upkeep of multi-purpose agroforestry will allow for better nutrition and more protection coupled with a lesser degree of reliability on the market economy (2000).

Understanding the social effects of climate change also requires a diachronic approach; and in order to understand climate change as it unfolds in the Marshalls today one needs to appreciate the Marshalls' surprising and harrowing past. As such Chapter 2: "Small State, Big Grievance", attempts to clarify the process by which the Marshalls became reliably mapped, the following influx of missionaries and traders, the slow growth of calamity during early – and recent – colonialization that culminated in the Second World War (with associated bombing runs), and the surprising suffering brought on by – and endured during – the post-war years; in the form of nuclear bombs, displacement, and eventually emigration and looming exodus.



## II: Small State, Big Grievance

Life as it unfolds in The Republic of the Marshall Islands exists somewhere in-between the local and the global; a chain of islands consisting of around 53,000 ordinary lives (Marshall Islands, 2012: 13) and a future and past thoroughly affected by geopolitical interruptions; colonialism; the Second World War; military governing; nuclear explosions; and more recently rising seas and climate change. The last of the colonial powers, the United States of America, has had a destructive – as much as a creative – presence in the Marshalls. In that regard a few questions present themselves: In what way is RMI affected by the policies or geopolitics of the larger world, and how have these factors affected the Marshalls in the recent and distant past? How can a periphery, such as the Marshalls, be in the very centre of large and global events such as the geopolitics of colonial empires, war between superpowers, and the development or testing of one of the most terrifyingly destructive weapons known to man? How can the people of such a small chain of islands implement any will of their own *versus* the humongous and imperative strength of geopolitical actors such as the *Imperio español* (Spanish Empire), *Deutsches Reich* (German Empire), *Dai Nippon Teikoku* (Greater Japanese Empire), and the United States of America, if at all? And lastly, how can the events of the past be said to be reflections of the current crisis of climate change?

### Demography and other Facts

The 53,158 strong population spans 26 atolls/islands, at an average of 759 persons per square mile (PPSM), varying between 7,413 PPSM for the capital Majuro and <200 PPSM for atolls Bikini, Rongelap, Ailuk, Likiep, Maloelap, Mili and Wotho (Marshall Islands, 2012: 16),

with a bewildering 68,671 PPSM<sup>9</sup> for the highly urbanized Ebeye islet (of Kwajalein Atoll) (Marshall Islands, 2012: 413); the infamous ghetto of the Pacific. RMI attained independence on 21 October, 1968, (with UN/ESCAP membership 31 July 1991) and has a constitutionally mixed parliament and presidential system (with a bicameral parliament<sup>10</sup>). Marshallese (Malayo-Polynesian) and English are both considered official languages (Marshall Islands, 2014: 1). I should add that English proficiency varies sharply among its speakers. RMI's Exclusive Economic Zone consists of 2.1 million square kilometres of ocean, and dwarfs its 180 square kilometre land area (Marshall Islands, 2014: 1). It is not coincidental that RMI is a member of the Parties to the Nauru Agreement (PNA), a regional Pacific management organization for its 8 member states' Exclusive Economic Zones which "controls the world's largest sustainable tuna purse seine fishery" (PNA, 2016). According to the 2011 census around 74% (*circa* 39,330 people) of the population lived in urban areas (Marshall Islands, 2012: XIV in Marshall Islands 2014: 1), whereas the nation's labour force consisted of as little as 12,647 people (Marshall Islands, 2014: 1); less than 24% of the total population, or just above 32% of the urbanites; amounting to a GDP (PPP) *per capita* of \$ 2,700 (Marshall Islands, 2014: 1).

## Between Destinations

The Spanish expedition ship *Victoria*, under command of Alonso de Salazar, made landfall in the Marshalls in 1525 as the first recorded Europeans to do so. Sporadic encounters mark the years of 1525 to 1566, with no less than ten recorded encounters of the Marshalls by Spanish ships (Hezel, 1983: 13-30). The encounters were with a few exceptions uneventful, and even though the Marshalls became touched by geopolitics as Spain attempted to establish profitable trade routes through the Pacific to Indonesia, this was mostly in passing and by ships traversing the yet unmapped Pacific Ocean. The Marshalls "were still undiscovered as far as Europeans were concerned" (Hezel, 1983: 36), and were as such

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<sup>9</sup> The 68,671 PPSM calculation for Ebeye islet is an extrapolated figure; based on a total land area of 0.14 square miles and a reported local population of 9,614 people, Ebeye's PPSM does not reflect the total population of RMI.

<sup>10</sup> The bicameral parliament is made up of an elected lower house (Nitijela) and a council of chiefs (the Council of Iroij). Whereas the members of the Nitijela have legislative power and serve for four years, the Council of Iroij is an unelected advisory body that consist of tribal chiefs who advise the Presidential Cabinet and review legislation affecting customary issues.

neither the point of the gambit nor the ones to profit from it: they were simply there, in between destinations. Hezel (1983:32-35) summarizes the early encounters by way of a rhetorical question:

And what of those tiny Islands that so often happened to lie in the path of the early Spanish captains? [...] all found their way onto Spanish sea charts and were promptly forgotten. They had no spices or gold to attract the interest of the Spanish, and the souls that there may have been to convert to the true faith were few indeed. [...] These islands, with their treacherous shoals and reefs, came to be regarded as nothing more than navigational hazards that were best to be avoided.

Deemed to unimportant and dangerous, not to mention poorly mapped, the Marshalls were soon forgotten; and would for the most part remain secluded from the effects of the colonial empires of the day. The Marshalls were but a footnote in the annals of history, if even that.

## **The Map and the Mission**

It would remain so until the period between 1780 and 1810. As chronometers became increasingly reliable, so too increased the reliability of Pacific geography, and it was not long before the Marshalls were rediscovered and mapped by Captains Thomas Gilbert and William Marshall of the British Empire. On their way up the Marshalls in 1788 landfall was made in Mili, and sightings were made of Arno, Majuro, Aur, Maloelap, Wotje, and Ailuk. This eventually led to the establishment of the Outer Passage trade route to China, and as a consequence to an increasing number of encounters between vessels and the islands later to hold Captain Marshall's name (Hezel, 1983: 63-65). New sightings of the Marshalls soon followed; first by the *Royal Admiral* of the British Empire, who in 1792 discovered Namorik and Namu while following Gilbert's and Marshall's original passage through the Marshalls; Enewetak was encountered by British vessels *Walpole* in 1794 and *Hunter* in 1798, Ebon by the American *Ann and Hope* in 1799, British vessels *Rolla* and *Elizabeth* sight Jaluit ("and other islands") in 1803 and 1809 respectively; the vessel *Ocean* of the British Empire discovered Ujae and Kwajalein in 1804; and British vessel *Providence* found Ujelang in 1811.

The Marshalls eventually became reliably mapped and is now considered important enough to remain so (Hezel, 1983: 82-84).

Another important figure in the mapping of the Marshalls is the Russian explorer Otto von Kotzebue, on the brig *Rurick*, who spent close to three winter months in 1817 exploring the Ratak Chain of the at the time little known Marshall Islands (Kotzebue, 1821a: 1-157; Kotzebue, 1821b: 140-180); he returned in 1824 and 1825, this time on the ship *Predpriatie* (Kotzebue, 1830: 289-341). Kotzebue introduced goats, pigs, dogs, cats, and new food crops such as yams to alleviate periodically occurring famines (Kotzebue, 1828a: 71-72; 74-78; 118; Kotzebue, 1828b: 174-176). The goats and pigs, Kotzebue later found out, were kept and raised by the Marshallese as foodstuff, whereas the vegetable gardens he helped build thrived rather well (Kotzebue, 1830: 308; 331-332). These new introductions eventually spread by way of chieftom, implying that the travelling *Iroij* (chiefs/kings) would appropriate things of interest (such as the pigs) and take some of them along to their home islands, again distributing the livestock by way of this appropriation (Kotzebue, 1830: 306-308). Chiefs would indeed pick up harvests here and distribute them there by virtue of canoe travel; dispersing goods among their people and not just appropriating it for themselves. This was a two-way flow of goods in which an ideal chief would impoverish himself to provide for his people (Hezel, 2001: 124-125).

However commonplace the navigation of the Outer Passage became, the Marshall Islands still remained infrequently travelled at best, and these encounters were at times marked by violence; in the period 1824-1852 as many as 11 attacks were listed; either with loss of life or the loss of a ship at the hands of Marshallese people (Hezel, 1983: 197-200). The Marshallese did at the time have a ferocious reputation for hostility towards visitors (ABCFM, 1858: 89; 91; 184; ABCFM 1859: 145; 149-150). This was about to change with the arrival of missionaries.

## **The In-Between Becomes a Destination**

Where encounters between Marshallese and Europeans in 1525 to 1825 largely were irregular encounters by passing ships, the encounters of 1855 to 1878 were of a less incidental nature than the encounters of Alonso de Salazar and his compatriots. The

Marshalls, having already been mapped, soon became a point of interest for missionaries. The Rev. Dr. George Pierson landed on Ailinglaplap atoll in 1855 by way of a whaleship, and once there he encountered Kaibuke, the paramount chief of the southern Ralik Chain. It was not long before Pierson gained safe passage for fellow missionaries to live on Ailinglaplap, and passage for himself to Ebon; under guide of Kaibuke's sister (ABCFM, 1858: 89-92).

Ebon was significant as the home of paramount chief Kaibuke, serving as a converging spot for other *Irooj* (chiefs) (ABCFM, 1858: 91). For the missionaries this meant that they could make native missionaries out of visiting parties, who again spread the word wherever they returned to (ABCFM, 1859: 146). This is indeed what happened when Rev. Dr. Pierson returned to Ebon, alongside a Edward Doane, aboard the hermaphrodite brig and missionary vessel *Morning Star* in 1857 (ABCFM, 1858: 177; 179; 183-186).

In 1859, following missionary reports declaring Ebon to be safe<sup>11</sup>, a young industrious trader by the name of Adolph Capelle arrives in Ebon, via German owned trading schooner *Pfeil* (of firm Hoffschlaeger and Stapenhorst). This in turn marks the beginning of Micronesia's soon to be burgeoning copra industry (Hezel, 1983: 210-211). Prior to Capelle's arrival the coconut oil trade was at most a minor side business; carried out in small quantities by whalers passing by the islands; whalers too afraid to live ashore for any stretch of time. When Capelle sets up the first coconut oil factory in Ebon, in 1861, the coconut becomes increasingly established as a source for commerce, and so too did the Marshalls (Hezel, 1983: 206). "With the ships and trader, of course, came the usual scourges of prostitution and disease", writes Hezel, and the years 1859 and 1861 were marked by outbreaks of influenza (1983: 206).

With time the climate proved strenuous for the European missionaries, and this led to the recruitment of Christian Hawai'ian teachers for the mission. The Hawai'ians' proved better suited to the environment, and spread the mission from Ebon to the Ralik Chain atolls of Namorik and Jaluit during the 1860s, and to the Ratak Chain atolls of Mili and Majuro in 1869. Arno and Maloelap (Ratak Chain) soon followed (Hezel, 1983: 209). By 1872 most of the island churches were staffed by Marshallese people, serving as the backbone of their own mission (Hezel, 1983: 210). Christian practices were by 1870 so ingrained in everyday life, that the chiefly class came to respect (and on occasion fear) those who held church

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<sup>11</sup> See, for instance, ABCFM (1859: 147)

leadership, despite the fact that island church leaders mostly were Marshallese commoners (ABCFM, 1870: 150). In other words: the power of the church came to rival that of the *Irooj* (chief).

This is not to say that the establishment of Jehovah in the Marshalls was uneventful. As the blessed word spread on Ebon, so too did the reading capabilities of Ebon's subjects, and the subjects of Ebon's *Irooj*, surpass those of the chiefs (ABCFM, 1861: 55; 165-166; ABCFM 1862: 18). In addition, the missionaries were slowly evaporating local taboos, and creating new ones; tattooing, while still observed by Ebon people, was now carried out on Jaluit due to feelings of uneasiness in tattooing oneself "on an island under the special protection of Jehovah" (ABCFM Pi-A 7 Oct 1859 in Hezel, 1983: 205). This threatened the powers of the chiefs, and relations with the mission soured during the 1860s, as the chiefs mounted an increasing opposition towards the Marshallese Christian community (and not the missionaries directly)<sup>12</sup>. One of Kaibuke's nephews drowned his own wife and took a "fallen church woman" for his second wife as an expression of discontent. The situation came to an end around 1870, when the chiefly establishment realized the mission was far too engrained in the commoners for them (the commoners) to abandon Jehovah for the chiefs (Hezel, 1983: 208-209).

The commercial value of copra was at this point set by Asian markets, following new techniques that in 1840 allowed for the production of soap and candles (Hezel, 1983: 211). It was not until 1868, when Theodor Weber revolutionized the copra industry "by demonstrating that well-dried copra could be shipped to European ports without spoilage", that the traders were freed from the restraints of the Asian market. "Large trading vessels steered no longer for Canton, but for Hanover, London, and Marseilles" (Hezel, 1983: 212). With an increasing number of trading vessels came the need for better anchorage, and Jaluit became the new port of call by 1873, replacing Ebon as the Commercial hub of the Marshalls. Politically speaking Jaluit already served as the seat for the current paramount chief, Kabua; who assumed power after Kaibuke's death (Hezel, 1983: 215).

The growth of the copra industry also led to the establishment of coconut plantations, and the larger plantations were found on Fiji and Samoa. An increasing demand for labour motivated so-called blackbirders to whisk islanders away from their homes under

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<sup>12</sup> See for instance ABCFM (1862: 18-19; 240-241)

false pretence (Hezel, 1983: 237). In the Marshalls, which was not renowned for having good labourers, it was the women who suffered most:

Several labor ships touched at islands in the northern Marshalls at about this time to obtain women who might be sold as mistresses for plantation overseers. The women from the northern islands, reputed to be among the most attractive in the Pacific, brought a handsome price – they “fetch at the Fiji Islands twenty pounds a head, and are much more profitable to the slaver than the men” (L Moore 1872). (Hezel, 1983: 237)

Slaver excursions to the Marshalls were not abandoned until 1882 (Hezel, 1983: 240), and Marshallese women suffered displacement (and other horrors) as a by-product of the growth and expansion of Fijian and Samoan copra plantations. Their suffering lasted for some time.

## **German Annexation and Early Colonialism**

The German annexation of the Marshalls was spearheaded by an 1876 agreement between the German- and British- Empire; under which the German Empire was to maintain a sphere of influence over the Northern Pacific, the Bismarck Archipelago, and part of New Guinea; where the British Empire gained the rest of the South Pacific (Brown, 1976: 37). Another step towards annexation came on the 29 November 1878, in Jaluit, where Kabua signed a treaty with the commander of the German imperial naval cruiser *Ariadne*; a treaty in which chiefly privileges were to be recognized, only as subordinate to those of Imperial Germany; foreign parties in the Marshalls were to be considered subjects to the German law, and not the laws of the Marshalls (Hezel, 1983: 298-299; Brown, 1976: 43; 164). The *Ariadne* then leaves the Marshalls “to be governed, in effect, by [German] trading firms” (Hezel, 1983: 302). Franz Hensheim, of German registered company Hensheim & Co., is left as the German consul at Jaluit. The U.S., who wishes to safeguard the interests of their missionaries in the Marshalls, soon establishes a consular office of their own (also in Jaluit) and elects Adolph Capelle – formerly of Hanover, Germany, and current head of American registered Capelle & Co. (co-owned by Portuguese Anton DeBrum) – the American consul (Hezel, 1983: 302). Around 1884 Capelle & Co. becomes a subordinate of German registered company

Robertson & Hernseim, leaving Robertson & Hershheim alongside Deutsche Handels- und Plantagen-Gesellschaft (DHPG) the “virtual masters of the copra trade in the Marshalls...” (Hezel, 1983: 305), and leaving the American consul the employee of a German firm.

The Marshalls were annexed as an Imperial German Protectorate in October 1885, after the continued insistence of German trading firms towards Reichskanzler Otto von Bismarck to do so (Hezel, 1983: 305; Brown, 1976: 60; 164-167). The Reichskanzler persuaded recently established German firm the Jaluit Company, a joint-stock company controlled by Hershheim and DHPG, to accept the responsibility of ruling the Marshall Islands in 1887 (Brown, 1976: 165-167). The geopolitical interest in the Marshalls was purely of an economic nature (*versus* a military one), and the trading firms were thus uniquely equipped to maintain the colonial interests in the area. Whereas the *de jure* annexation (of the Marshalls) was by an Empire, the *de facto* annexation was by the trading firms. Hezel, however, summarizes the situation as follows: “[Though] German [...] administrators [...] enjoyed political authority over the islands, [...] the Protestant mission had the greatest impact on the daily lives of the people...” (1983: 314), and it was indeed the mission that unwittingly gained foothold for the commercial interests of the wider world, in turn making the Marshalls a destination of its own, and leading the Marshallese down a path of colonialism.

The official status of the Marshalls changed once more, in 1914 (at the beginning of the First World War), when the islands are seized by the Greater Japanese Empire. Japan's acquisition of the Marshalls (and indeed Micronesia) is later legitimized by the Treaty of Versailles (Oliver, 1958: 109). The following period of Japanese colonialism was marked by the development of a strong economy in the region, albeit one built on Japanese immigrants rather than the local population who the colonial empire found difficult to properly motivate (Hezel, 2001: 3). The greater influx of Japanese workers meant that the Japanese population in Micronesia exceeded the local population, even prior to the arrival of Japanese soldiers at the cusp of the Second World War (Hezel, 2001: 3).



## Bombs

The United States of America eventually gained custodianship over Micronesia as a war-prize Trusteeship under the newly formed United Nations (UN) (Hezel, 2001: 3). The purchase was made with the blood spilled by young American men<sup>13</sup> during the Pacific Ocean Theatre of 1941 to 1945; a military effort instigated by Japan and the Imperial Japanese Navy's attack on Pearl Harbor 7 December, 1941. As for the Marshallese, "Kwajalein [atoll] endured the most concentrated bombing of the Pacific war, [...] with 36,000 shells dropped on it" (Hanlon, 1998: 23), with Jaluit, Mili, and Wotje suffering the greatest war-caused destruction in the Marshalls beside Kwajalein (Hanlon, 1998: 26). For Micronesia, Fletcher Pratt writes that "never in the history of human conflict had so much been thrown by so many at so few" (Pratt, 1948: 144 in Richard, 1957a: 120). Douglas Oliver meanwhile states that: "...for many islanders, who had nothing to do with [the] inception [of the Second World War] and little with its outcome, the war catastrophically disturbed their lives and radically changed their concepts" (1958: 261). U.S. President Harry S. Truman awarded the United States Navy (USN) responsibility for the interim management of Micronesia in 1945 (Richard, 1957b: 70-73; 87), and announced plans for a Naval Trusteeship of Micronesia to the newly established United Nations (UN) in 1946 (Hanlon, 1998: 46), while simultaneously ushering in the dawn of nuclear weapons tests in the Marshalls; beginning with the *Able* test detonation – the first nuclear tests since the bombing of Hiroshima and Nagasaki – on Bikini atoll the very same year (Hanlon, 1998: 48). Change literally came at the speed of light, riding on the back of ionizing radiation, accompanied by blast winds approaching the speed of sound.

In contrast to the largely bureaucratic management of the other Micronesian islands, U.S. interests in the Marshalls were overwhelmingly strategic (Hanlon, 1998: 171). Owing to the geopolitical needs of the post-war world, the U.S., under lead of Secretary of War Henry Stinson, seeks "absolute power to rule and fortify the islands" (Hanlon, 1998: 43-44). As a military strategy this was an extension of America's westward defence legitimized in the role of aircraft, or air power, for warfare. Such an annexation was assuredly not imperialistic or colonial, according to former President Herbert Hoover, as the U.S. had no commercial interest in Micronesia (speech depicted in Richard, 1957c: 16-17). The UN approves U.S.

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<sup>13</sup> The suffering of indigenous islanders, while it should not be discounted, had little to do with how the larger world perceived America's custodianship over Micronesia to be legitimate.

plans for a Naval Trusteeship of Micronesia in 1947, and the Trust Territory of the Pacific Islands (TTPI) is summarily established (Richard, 1957b: 87; Richard, 1957c: 3), granting the U.S. “full powers of administration, legislation, and jurisdiction over the territory, subject to the provisions of this agreement, and [gave it the authority to] apply to the trust territory, subject to any modifications which the administering authority may consider desirable, such of the laws of the United States as it may deem appropriate to local conditions and requirements” (JAG in Richard, 1957c: 179). TTPI is transferred to the United States Department of Interior in 1951; when the Cold War climate entailed that USN no longer could afford to be tied up running a trusteeship (Hanlon, 1998: 83; Richard, 1957c: 1091-1107). In 1958, after routinely bombing the Marshalls with 68 nuclear weapons over 12 years, U.S. nuclear testing in the Marshalls comes to an end (Hanlon, 1998: 186). Few people, if any, have had to suffer through so many years of nuclear fallout and related displacement as the people of atolls Bikini and Enewetak, and the people of atolls Rongelap, Rongerik, and Utirik.

## **The Dawn of the Two Cities**

Both Ebeye and Majuro were built on the back of a relocation process that began in 1945, when camps of Marshallese workers were established on Kwajalein and Roi (for Kwajalein atoll), and on Majuro (for Majuro atoll). The camps were intended to supply a much needed workforce to be tasked with rebuilding the two atolls, following damages from the Second World War (Hanlon, 1998: 40-41; Richard, 1957b: 484-486). Both atolls were significant due to the sheltered anchorages offered by their lagoons. The growth of Ebeye and Majuro does as such reflect each other to an extent; the crucial differentiator being that Ebeye grew under the direct influence of USN and the U.S. Army, in turn netting a more critical (or abysmal) projection, whereas Majuro was less directly influenced by military geopolitics, and consequently ended up in a slightly less critical state than Ebeye.

The physical appearance of the islands changed with time, and whereas one motor-vehicle travelled Majuro’s thirty-mile road in 1960, 200 vehicles could be found in 1965 (Hezel, 1995: 321), while as many as 510 Marshallese owned vehicles in 1972 (United States Department of State, 1972: 296). “The increase in American funding meant more jobs and

higher wages”, in turn attracting a growing mass of people (Hanlon, 1998: 173). Where one third (*circa* 4,700 people) of the Marshalls population were living in the two cities in 1958, two thirds (*circa* 15,800 people) of the total population were urbanites by 1973; an extreme number of people relative to the small number of available jobs (Hezel, 2001: 140). Where large numbers of children previously were regarded as securing the future of the family, they became extra mouths to feed; in turn leading to a slight decline in the average size of the family (Hezel, 2001: 140-142). Similarly changed were the roles of men, as highlighted by Hezel in 2001 (: 52):

Men are [now] expected to do the heavy work [...], but no canoes are being made since motorboats or fiberglass whalers are ordered from abroad and house construction is often contracted out to building companies. Rope is bought, no longer made. Males continue to do fishing, in some cases as a pastime rather than a means of feeding the family, but much of the fish consumed today is purchased in tins. Work in the taro patches has ceased, at least in Majuro and Ebeye, and little other food is grown in these places. The male domestic work load, therefore, has been greatly reduced from what it was some years before.

The role of women, apparently, did not change as much. Hezel (2001: 52) goes on to juxtapose his own description with that of Alexander Spoehr in 1940s Majuro. I here quote Spoehr (1949: 144) in original:

The men's sphere of activity includes the heavy labor such as house-building and canoe-making. It includes all woodworking. Men spin the coconut husk line used in canoe-lashings and net bags [...], the latter being a product of men's manufacture. Men are the sailors. Men do the fishing and make fish traps and pounds. They collect the vegetable food and work in the taro patches. Aside from these manual tasks, men have also assumed the primary responsibility in the working of cultural institutions borrowed from without. The local village officials are all men; the pastor, medical aid, school principal, and storekeepers are also men.

Whereas fishing still takes place in Majuro, the rationale behind the activity has changed; people occasionally fish for subsistence purposes, but the activity itself has become

predominantly symbolic. Men still retain their role in hard labour, however – as the juxtaposition of Hezel and Spoehr makes abundantly clear – the hard labour itself was replaced by market goods and professional services. Family centred and subsistence related activities, and the associated organizations of kinship, gave way to increasingly impersonal transactions.

### **Land of the Free, Home of the Brave**

The agent of change took a different form on Ebeye, initially in the guise of the US Navy. With the implementation of Kwajalein as a military complex; “...[its] enormous lagoon and deep anchorages [attracting] the attention of the United States military, first as a naval base, then as a support facility for nuclear testing on Bikini and Enewetak [1946–1958], and later as a missile testing range [Pacific Missile Test Facility Kwajalein in 1959, Kwajalein Test Site in 1964, & Kwajalein Missile Range (KMR) in 1968]” (Hanlon, 1998: 189); the Marshallese population on Kwajalein atoll became increasingly confined to Ebeye islet, where around 1,200 Marshallese labourers and their families “were crammed into an area of less than twenty-seven acres”, averaging about 46 people per acre (Hanlon, 1998: 191).

The labour requirements of the base grew, and alongside it the population of Ebeye; a small ghetto by 1960 (Hanlon, 1998: 187); earning a negative report from the visiting UN Mission in 1961 (Hanlon, 1998: 108); being described as “the most congested, unhealthful and socially demoralized community in Micronesia” in 1966, with an estimated 4,500 people living on one tenth of a square mile (Mahoney, 1966 in Hanlon, 1998: 193); with a population exceeding 8000 people in 1978 (Hanlon, 1998: 196); and under severely deteriorated conditions in 1979 (Hanlon, 1998: 187), all despite U.S. attempts at diminishing the population. The poor living conditions, following relocation from other islands (within Kwajalein atoll), were met with opposition by Marshallese at varying intervals: In 1964 the landowners who felt resentment over the poor conditions under which USN initially sought legitimized use of Kwajalein atoll – via a \$ 300,000 lump sum and a legal contract for indefinite use (Hanlon, 1998: 192; Hezel, 1998: 325), and under threat of confiscation of land under eminent domain (Hanlon, 1998: 195) –, received a \$ 750,000 one-time offer for a 99 year lease agreement on Kwajalein atoll (Hanlon, 1998: 192; Hezel, 1998: 325). Resistance resurfaced in the form of sail-ins and temporary occupations in 1969, 1977, and 1978; with the 1978 occupation culminating in the U.S. agreeing to a one-year interim use agreement,

providing a total \$ 9,000,000.00, “of which \$ 5 million went directly to the affected landowners...” (Hanlon, 1998: 210).

The resistance carried over into 1980, when Kwajalein landowners formed the Kwajalein Atoll Corporation (KAC), with the express purpose of seeking proper compensation for and renegotiating the 1944–1979 lease agreements for Kwajalein atoll (Hanlon, 1998: 210). The Kwajalein landowners initiates Operation Homecoming in 1982 as a response to the newly signed Compact of Free Association, in which the U.S. was granted a “fifty-year lease on the use of the Kwajalein Missile range” (Hanlon, 1998: 211). Operation Homecoming lasts for four months, with around a thousand landowners moving back to – and settling in – their homes on Kwajalein, Roi-Namur, and the Mid Corridor group islands. Talks between KAC and the U.S. government ensued and a new thirty year lease was implemented; an additional \$10,000,000 capital investment fund was established for Ebeye; and the landowners were granted access to certain previously restricted islands, and Mid-corridor islands, for portions of the year (Hanlon, 1998: 211-212). It would seem that U.S. actions were less motivated by development than by national security and public image (Hanlon, 1998: 204).

### **An Offspring of Ideology**

The growth of Ebeye had less to do with the will of its people, or its landowners, than with the direct and indirect consequences of the development of Kwajalein Naval Base following 1944, and its following manifestations. Ideology came second to military consideration, if at all, and military consideration came second to none. This was not the case for Majuro, which in large part was affected by the ideology of American colonial management as it were in TTPI. Thomas Gladwin elaborates (Gladwin, 1954 in Hanlon, 1998: 5):

Americans have long been noted for their conviction that their political, social and economic philosophy is the best ever developed, not only for Americans but for everyone. This is nowhere so evident as in the administration of dependent peoples. It is sometimes extraordinarily difficult to persuade people that the institutions which have made the United States great may not fit Micronesian society at all.

The TTPI government sought to develop and rebuild post-war Micronesia by a developmental discourse rooted in the West; a discourse applied on Marshallese (among other peoples), by Western colonizers seeking to justify their own actions; a sense of Orientalism<sup>14</sup> (Hanlon, 1998: 10). The essence of this colonialism can then be assumed to lie “...less in political overrule than in seizing and transforming “others” by the very act of conceptualizing, inscribing, and interacting with them on terms not of their choosing: in making them into the pliant objects and silenced subjects of our scripts and scenarios; in assuming to “represent” them, the active verb itself conflating politics and poetics” (Comaroff & Comaroff, 1991: 15). The comment, in actuality an introspection (of sorts) directed at anthropologists, is just as easily applied to the TTPI.

Hoping to influence and alter through development the political structures in Micronesia the TTPI government carried out a series of experiments of state, with the first election for Palau, Yap, and the Marshalls taking place in 1947. “In the end [the Micronesians], in every island group except the Marshalls, [...] decided not to integrate traditional leaders into the modern political system” (Hezel, 2001: 129). This meant that the power of most chiefs in Micronesia weakened, relative to the common stock who gained power and money through politics and the influx of cash from outside sources, much to the delight of TTPI government (Hezel, 2001: 130). “Only in the Marshalls, where paramount chiefs regularly run for the national legislature, is there no separation of [a customary realm, and a realm of politics]” (Hezel, 2001: 132-133). The act of “development” does not transform the ideals of the colonized so much as change the mechanisms by which they may attain that which they seek (Sahlins, 1992: 13-14); “the impulse of local people in the Pacific, and elsewhere, is not to become like us [...], but to become more like themselves” (Hanlon, 1998: 12)<sup>15</sup>. Referencing Sahlins, and proving the point, Hanlon writes: “witness the disturbance and suffering caused by the nuclear testing in the Marshall Islands, and the more recent efforts of the Marshallese government to capitalize on them” (Hanlon, 1998: 13).

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<sup>14</sup> Orientalism is a concept describing the reductionist perspectives by which (an equally conceptual) western world conceptualizes “the east”. See Edward W. Said’s book *Orientalism* (1978) for more information.

<sup>15</sup> Hanlon’s reinterpretation of Sahlins is more open than the original phrasing; in which Sahlins primarily concerns himself with commercial interests, and reads “the first commercial impulse of the local people is not to become just like us, but more like themselves” (Sahlins, 1992: 13).

## Compact of Free Association

In the Marshalls the TTPI agreement carried on until 1986, despite a planned termination for 1981 (Hanlon, 1998: 103). The Compact of Free Association was implemented the very same year (Hanlon, 1998: 217), and by extent of its laws, bylaws, and subsidiary agreements, the U.S. remains in rather firm control of the Marshalls; possibly with a lesser degree of responsibility than during the Trust Territory period. This arrangement also offers a degree of autonomy to the Marshallese, be it by suspension of disbelief (illusion) or otherwise (Hanlon, 1998: 230-231).

“...The Compact of Free Association [...] recognizes their sovereignty, their right to complete control over all domestic and international matters, and their authority to conduct their own foreign affairs though in consultation with the United States. The United States, assuming responsibility for all defense and security matters, pledges in the compact to defend the freely associated states “as if they were a part of the United States”” (Hanlon, 1998: 222, referring to United States House of Representatives, 1985: 5<sup>16</sup>)

The financial terms of the compact granted the Marshalls around \$ 37 million annually, with an additional “first-year appropriation of \$ 150 million to cover United States liabilities incurred by its nuclear-testing program in the Marshalls. In addition, the people of the irradiated atolls of Bikini, Enewetak, Rongelap, and Utirik are guaranteed a total of \$ 183,750,000 million in payments, while another \$ 45.75 million has been set aside to handle any outstanding or additional claims filed before a government-appointed claims tribunal following the implementation of the compact. [...] Total compensation for American nuclear testing in the Marshalls as authorized in the compact and related agreements comes to about \$ 420 million” (Hanlon, 1998: 223-224)<sup>17</sup>. The terms of the compact also guaranteed a certain level of infrastructure – both within RMI, and between RMI and the U.S. – to be

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<sup>16</sup> Complete reference: United States House of Representatives (1985) *Approving the Compact of Free Association with the Marshall Islands and the Federated States of Micronesia and Approving Conditionally the Compact of Free Association with Palau: Report of the Committee on Foreign Affairs together with Supplemental Views (Including Cost Estimate of the Congressional Budget Office) on H. J. Res. 187*. 99<sup>th</sup> Cong., 1<sup>st</sup> sess., 99-198, Pt. 1, 1 July 1985. Washington, D. C.: U.S. Government Printing Office.

<sup>17</sup> Hanlon operates with estimates. See United States Congress (1986: 16-23) for original figures.

provided for by the U.S, and settles certain judicial matters pertaining to the relationship between the RMI and the U.S.. Hanlon (1998: 224)<sup>18</sup> summarizes:

The compact and its subsidiary agreements also commit the United States to provide at no cost to the [...] Marshalls [...] an extensive international telecommunications network, airline and airport safety services, a regulatory system for commercial air traffic, natural disaster relief, weather forecasting services, and use of the United States Postal Service's international facilities. Other subsidiary agreements address marine space jurisdiction, military use and operating rights agreements, and legal matters involving extradition, liability, prosecution, and immunity.

## Emigration and Life Overseas

*Circa* 300 Marshallese were living overseas *anno* 1980 (not including those attending college) (Hezel, 2001: 146), whereas *circa* 5,000<sup>19</sup> Marshallese could be found living in Hawai'i and the mainland U.S. by 2001 (Hess, Nero & Burton, 2001: 89). The implementation of the Compact led to notable levels of emigration, as pointed out by Hezel (2001: 145):

After the Compact of Free Association went into effect in the Federated States of Micronesia and the Marshalls in 1986, the first serious emigration from these groups began. [...] During the late 1980s, as the number of new jobs decreased to about four hundred a year, emigration from the Federated States and the Marshalls began in earnest. [...] Admission into the cash economy was becoming an imperative for the young.

Hezel furthermore reports that Costa Mesa, a blue-collar town in Orange County, California, grew from around 300 Marshallese in 1991 to a total of 800 Marshallese in 1999 – and was at the time considered the “official” Marshallese overseas community (Hezel, 2001: 150). Hezel (2001: 145) summarizes the rationale behind the emigration:

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<sup>18</sup> For additional information see United States Congress (1986: 19-23; 27-33).

<sup>19</sup> Hess, Nero & Burton (2001) estimates that «over two thousand [Marshallese live] in Hawai'i» and that «three-to-four thousand Marshallese now live on the U.S. mainland»



Marshallese, from the start, had moved east to Hawai'i in preference to Guam, and before long they were establishing small communities in California. The destinations became more numerous and more geographically diverse, as recruiters came to the islands to find cheap labor and immigrants shifted to wherever work could be found. [...] Hundreds of Marshallese are working in Arkansas on a gigantic poultry farm. The recruiters continue to target the islands even now as a source of cheap and reliable untrained labor for large businesses in the United States.

As an increasing number of Marshallese people moved abroad they established new ties with the larger world, and goods flowed freely (both ways) between RMI and the U.S., just like the people and “just as they would be if all were living on the same island” (Hezel, 2001: 153). The people of the Pacific have for thousands of years travelled the ocean, “importing” and “exporting” things of interest as they went along on their journeys. This is no different for Marshallese “diaspora” today. Islands – from an Oceanian point of view – are not separate entities, but rather interconnected. It is less a matter of “islands in a far sea [than] a sea of islands” (Hau'ofa, 1993: 152), and the interconnectivity extends well beyond Oceania and into other continents; by way of ever-expanding networks of kinship throughout which the people of Oceania “circulate themselves, their relatives, their material goods, and their stories” (Hau'ofa, 1993: 155). Oceania is in other words made manifest through mobility (Hau'ofa, 1993: 154-156; 158).

## **Perceived Remoteness**

The perceived remoteness of the Marshalls from the perspectives of larger geopolitical actors has rather strikingly had the effect of placing it at the centre of crucial events pertaining to the larger world. The 68 atomic bomb detonations between 1946 and 1958 are but one example of a larger phenomenon. Marshallese have as such suffered the will and might of the larger world, and the effects thereof, for a long period of time. Climate change should therefore be seen as a continuation of a long legacy in which suffering comes to the coast by the virtue of others. The Marshallese are playing the role of extras, or providing the backdrop and the stage, whereas the main cast drives the plot forward – and drives the oceans up. This makes it particularly difficult for the Marshallese to act upon their own

world, considering how it has been appropriated as a stage by and for others. In this regard it is possible to see in-group blame, as demonstrated by Rudiak-Gould (2013: 15-39; 117-143), as an opposition to 100 – 200 years of increasing powerlessness; as a preservative for cultural agency, and as a far better alternative than resigned apathy. The shared historical experience of what today constitutes the people of the Marshall Islands impacts how the Marshall Islanders of today perceive current events, and their ideas and conceptions of climate change.

### III: Everyday Life, and the Incursion of Post-Flood Constraints

It can be useful to explore both the subsistence and the material composition of the household in order to appreciate the realities of life in RMI, and particularly the comparative differences between rural Arno and the capital; this is done in order to more fully appreciate the realities faced by urban and rural denizens; and lastly in order to establish a sufficient backdrop for the in-depth examination of subsistence issues in post-flood Arno. According to the *2011 Census of Population and Housing, Final Report* as many as 27,797 people inhabit Majuro atoll, and the denizens of the urban capital are distributed across 4,092 households (Marshall Islands, 2012: 443). Located around ten nautical miles to the east, Arno atoll meanwhile houses 1,794 people dispersed among 261 households (Marshall Islands, 2012: 345). Comparatively speaking Arno is significantly more spacious than Majuro atoll, with Arno's islands making up a land area of 5.00 square miles with a density of 359 persons per square mile versus Majuro's 3.75 square miles with an average population density of 7,413 persons per square mile (Marshall Islands, 2012: 345; 443).

In terms of population density, urban areas like Ebeye (with 68,671 PPSM by extrapolation) and Majuro (with its 7,413 PPSM<sup>20</sup>) are strained by the sheer mass of buildings lining the preciously limited land (Marshall Islands, 2012: 411; 443). The growth and condensation of the Marshallese population into urban areas consumes such a large amount of space that rural subsistence patterns become displaced and discontinued due to a lack of acreage. People are no longer able to hold proper gardens or cultivate food of any sufficient volume. As urbanites are unable to produce sufficient food, they increasingly turn towards the monetary economy for victuals, medicine, and shelter. However, as little as

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<sup>20</sup> It should be noted that Majuro atoll is urbanized towards the east, whilst it remains rural towards the west. Majuro's PPSM accounts for the entire atoll (including the more rural farmlands towards the west), and does therefore not portray the PPSM of the urban east; which is significantly higher than the atoll average.

12,647 (or roughly 24%) of the Marshallese population are employed (Marshall Islands, 2012: 38). This means that large urban families at times are clustered around a single breadwinner; attempting to feed seven (or more) people, as well as provide for the education of the household's children (beyond primary school). Rural areas like Arno (measuring 359 PPSM) are on the other hand less populated (Marshall Islands, 2012: 345), and the population is in turn less constrained relative to urban areas; allowing for greater access to – or cultivation of – food crops, animal husbandry, and foraging. In other words, where subsistence patterns and population density interact in a synergistic and destructive manner in urban space, this is less the case for rural Arno.

That being said, I do not wish to falsely divide urban and rural space. While Majuro is made up of a highly concentrated urban space (in which almost no vegetation can be seen) occupying the easternmost part of the atoll, the atoll also consists of a rural farmland towards the westernmost part of the atoll. While the majority of Majuro's citizens are not engaged in farming (of any large scale), the rural west – a place where farming occurs – is as much a part of the atoll as the highly urbanized east. Furthermore, citizens travel between atolls and islands; either seasonally or at more irregular intervals. The lines between what I (rather clumsily) labelled urbanites and rural denizens are at best blurred. Arno's schoolteachers live rural lives, and participate in nonmonetary transactions – where goods are acquired through trading equivalence – throughout the schoolyear. These teachers simultaneously earn pay checks that they collect upon their return to Majuro. In-between semesters these teachers live in the capital, urban lives and participate in a monetary economy; sometimes functioning as breadwinners for entire households. The flow of people between urban and rural space is an everyday occurrence.

## **In Between: Pre- and Post- Flood Placements in the Field**

While transportation by boat is a common occurrence, it is never a sure thing, and boats come and go as they please and at erratic intervals. A (un)expected delay had found me on my way back from Arno to Majuro, and I therefore found myself boarding the boat a day late on 4 March, 2014. The boat docked in one of the westernmost villages of Arno atoll, namely Arno village. The 30 foot boat was open, with the exception of a tiny shelter in the form of a

wheelhouse. Inside the grey upon white carbon-fibre hull, occasionally splashed in light-blue paint, one could find stacks upon stacks of burlap-bags; all faded brown and filled to the brim with copra. The raw material was on its way to be processed and made into soaps and oils at the Tobolar Copra Processing Plant, Inc. in Majuro, and then sold. Despite being in a somewhat battered state – with cracks running parallel to the hull itself – the boat was one of the main means of transportation between the Ratak Chain atolls of Arno and Majuro. With two substantial outboard engines she was both quick and a relatively safe means of transportation. Drifting caused by technical failure was less likely to occur with two engines. I flung my backpack down amidst the red and yellow fuel containers on the deck, and lay down on top of the piled brown bags, leaving behind the lush greens of the tropical atoll; the green shades of coconut-leaves intermingling with the darker green of pandanus. The greyish brown of the coconut-tree trunks form a backdrop for the waxy-green leaves of the ocean-side plants; a feature protecting the more fragile interior forest against the frequent spray of the salty sea. As wisps of white foam tossed into the air and drifted on the wind onto yellow and white flowers of *Atat* (*Triumfetta procumbens*) and *Konat* (*Scaevola taccada*), I inhaled the sweet fragrance of my impromptu copra bed as the air met and mingled with the smells of the sea and the local vegetation. I knew the smell of copra would linger on my clothes.

The crossing between Arno and Majuro was relatively peaceful; I dulled my eyes and fell into a sleep of sorts, under a blanket of froth from the ocean; the boat cut through the ocean in a manner which threw water up into the air around me, only to fall down salt on my lips, wet and cold on my body. There was rain in the air, but this was nothing unusual. The wind appeared no stronger than any other day. I woke up as we came into Majuro lagoon, still floating upon the many hues of the blue Pacific Ocean. A sense of brooding lingered in the damp air; it was indistinct and yet heavy upon the mind. The captain docked the boat and the crew unloaded its cargo; copra now wet from the sea, people drenched from top to toe, yellow bananas, brown coconuts, green and yellow-orange pandanus fruit, and a small pig ripe for slaughter. All along the concrete pier family members greeted their relatives coming in from Arno, some collected cargo and others went on their way down a small opening crammed in between two houses made of plywood, bricks, corrugated iron and concrete; the boat owner's home.



**Photo 2.** Eroded foundations. The structural integrity of this house on the ocean-side of a Majuro settlement has been weakened, so that the structure has partially collapsed under its own weight.

Once on the dock I met with a friend of mine; a contact from the local USP campus. Not seeing her at first, still dull from my slumber, I called her up on my cell phone. The reply came from only six meters away: “I’m right here!” I picked up my backpack and walked up to her where she continued, “Have you heard? There’s a flood. Did you see anything in Arno?” I was still in the dark and replied “no” and “nothing unusual”, though admittedly I had not spent enough time there to know what something unusual would look like. She went on to tell me that an extreme king tide had flooded large parts of the atolls Majuro, Arno, and Mili during night-time. She spoke of how people had been shook awake by the pounding of the waves on the walls of their houses, and the following damages. In a poorer section of the Rita district around one thousand people had to seek refuge in nearby schools and churches as their homes had been completely destroyed or irreparably damaged during the first flood (see Photo 2). Notably these were people who lacked the necessary funds for resilience and mitigation measures, and as such were less resilient in the face of this unexpected, violent,

and very rapid change to their daily lives. It would seem that even on a relatively flat atoll, an allegedly egalitarian setting where everyone would be affected in the same way by a rising ocean (after all a meter is a meter), the poor suffer the most. Money affords not only better resilience in terms of building seawalls and solid foundations, but also in terms of the immediate mitigation efforts. This is of course nothing new. That being said the emergency response, and the following declaration of a state of emergency did benefit the people who now had to rebuild their lives, though to what degree I cannot say.

## **The Households of Majuro**

When I set out for Majuro I knew I was heading for a different way of life than that of Arno. In Majuro most people shelter inside walls of concrete, brick or stone, with the majority of the remaining citizens sheltering themselves within wooden walls (typically plywood) (Marshall Islands, 2012: 453). The great majority of households are kept dry from the rain, and sheltered from the sun, by galvanized tin or aluminium tin roofs. The structures are for the most part illuminated by electric lights that draw their power from the capital's power grid, which in turn is powered by Majuro's two power plants – utilizing diesel<sup>21</sup> generators to create electricity (Marshalls Energy Co., 2005) – and a 36.5 million gallon collection system collects water from the runway surface of Amata Kabua International Airport; the water is supplemented by seven wells in Laura village, filtered and cleaned, and transported through Majuro in distribution mains (Graham, 2007: 11; 28). Most households get their drinking water from the 36.5 million gallon reserve, as well as smaller personal or communal water catchments and rainwater collection systems; collecting rainwater from roofs by rain gutters and into tanks or drums. The majority of the households turn to gas in order to prepare their food, while some cook using electricity (Marshall Islands, 2012: 448). Only a minority of households use coconut fibres or shells for kitchen fires.

Food comes from a variety of subsistence related activities, both monetary and nonmonetary. Around one fourth of the households are supported by fishing, with the majority of these households fishing only for their subsistence needs (Marshall Islands, 2012: 455). Another fourth of the households engage in raising livestock (pigs and chickens), and

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<sup>21</sup> The diesel is shipped into RMI from abroad, by large oceangoing ships.

mostly outside of the monetary economy (Marshall Islands, 2012: 456). Close to two thirds of the households grow crops, predominantly for subsistence purposes (nonmonetary) (Marshall Islands, 2012: 454). The employment offered in the capital contributes to Majuro's subsistence practices, and in a large way. The minority lucky enough to be part of the workforce engage in everything from government work and politics (both at the micro-, meso-, and macrolevel), attend to hole-in-the-wall shops, and drive taxis. Others are employed in the local supermarkets, tool stores, by hotels and restaurants, or work as mechanics, and others still promise services to a fleet of industrial tuna purse seiners<sup>22</sup> that anchor in Majuro lagoon. That being said, with a working age of fifteen years and up, and with a total 17,681 Marshallese making up the potential workforce, there is a staggering rate of 10,593 unemployed (or about 62% of the working-age population<sup>23</sup>). Work in the Marshallese capital is scarce. The incomes acquired from monetary engagements are again used, in part, in the local supermarkets; for purchases of food and clothing for household members. Supermarkets have become a part of the subsistence habits that people rely on to put food on the table. A buying pattern that favours unhealthy and processed food imported from abroad has emerged, and this impacts Marshallese health negatively. Thaman elaborates (2006: 43):

...the abandonment of traditional food and beverage crops in favour of imported foods such as sugar, white rice and flour, biscuits, noodles, canned fish, soft drinks, alcohol, tea and coffee, has led to dangerous levels of food dependency and some of the highest, or most rapidly increasing, incidences in the world of vitamin and mineral deficiency and nutrition-related diseases. Diseases such as anaemia, night blindness, diabetes, cardiovascular disease, hypertension and stroke, gout and hyperuricemia, as well as some forms of cancer and dental disease, which were rarely encountered in the past, are now serious causes of morbidity and mortality in the Marshall Islands.

I did however know little about how a flood would affect the urban population. Prior to the event I had assumed that the few plants and trees that could be found in urban space were of diminished importance. My assumption was based on the role played by supermarkets,

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<sup>22</sup> The tuna purse seiners operate within RMI's EEZ in accordance to the requirements set by the PNA.

<sup>23</sup> Calculations based on the reported figures of the 2011 Census. For original figures see Marshall Islands, 2012: 444.



and the related adverse effects on health as described by Thaman above; my assumption was about to be challenged.

## **Amber Palm Fronds and Bare Breadfruit Trees**

Rubble could be seen lining the streets, and was otherwise scattered throughout the limited vegetation of the urban capital. As the ocean had pounded the atoll into temporary submission, 3 March, the currents collected garbage from around the island, and then threw it back up on shore where the waves struck at housing, land, and vegetation. The limited vegetation of grass, bananas (*Musa cultivars*), coconut trees (*Cocos nucifera*), breadfruit (*Artocarpus altilis*, *A. mariannensis*, and *A. altilis* x *A. mariannensis*), and other plants were still retaining their shades of green on 4 March, but another storm surge was on its way, and people were unsure as to what they should expect. A great deal of saltwater had already inundated the atoll, and the salt remained in the ground; poisoning both the vegetation and the freshwater lens that atoll life depends on. Banana plants had begun showing signs of succumbing to inundation, with leafs turning increasingly yellow and then a dry brown. Branches were drooping towards the ground, or had broken off entirely. Waves had carried some of the housing off its stilts, and other houses had become undermined by erosion; suffering structural collapses. Tombs had been eroded away by the waves, and in certain cemeteries the ancestors' remains were exposed. Poorly constructed housing had lost walls to the force of the waves, and garbage and rubble had flown into every thinkable crook and cranny. Cleaning efforts were underway, and improvised seawalls – made from garbage and coral sand – were erected using bulldozers. Green areas by the ocean side were torn up in a last ditch effort to stop the incoming waves. The second surge was not as strong as the first one, and even though the waves were digging away at the improvised seawalls they do not reach further inland. As the urban section of Majuro is severely lacking when it comes to windbreaks, the salt spray penetrated inland. By 5 March plants and trees considered to be salt resistant were beginning to show signs of inundation related damages; the hardy Indian mulberry (*Morinda citrifolia*) had dropped some additional fruits to the ground, and certain coconut palms had turned yellow and dropped the majority of their coconuts. Less resistant vegetation such as the banana plant had begun visibly rotting on its trunk, leafs beginning to

shriveled. The affected breadfruit trees had begun to turn brown and dry, and the grass had begun to lose its colour.

By 7 March the most exposed breadfruit trees had dropped most of their fruits and leaflets – resembling white skeletal hands that reached for the sky –, and the ground below them was covered in fallen leaflets. Most of the grass was grey, had shriveled away completely, and had begun to rot. An increasing number of coconut branches were dead, and even the pandanus (*Pandanus tectorius* or *P. odoratissimus*) showed signs of stress; with leaflets turning grey and dry. On 9 March most of the affected banana plants stood on grey trunks, and the majority of their branches were grey or a burnt orange and a pale yellow. Only the occasional leaflet had green in it, and while some fruit still clung to the crown of certain plants, most plants had begun tilting dangerously to one side or the other. When viewed from afar the banana gardens appeared as outcroppings of pure bright orange. Most of the debris and rubble that came with the flood had been cleared up, or collected in piles, and while material damages were being amended the vegetation turned increasingly poor in state. The branches of coconut trees and the leaflets of pandanus trees were dry and grey in increasing number, and most breadfruit trees were now naked.

The devastation of the breadfruit was initially made clear to me while photographing inundation effects with a Marshallese colleague on 7 March. When we first encountered the dying – or severely diminished – trees he commented upon how disastrous it was for their owners that the trees no longer held fruit. The breadfruit was just about to come into season, and would have provided a much welcomed food source if not for the recent saltwater inundation. Now the affected families had to find a different source of food to replace the expected seasonal yield. While food was available through supermarkets and various smaller shops, it was not given that the affected families could afford to purchase enough food to replace the expected yield of breadfruit; at the very least their economy would tighten significantly. Our walk carried on, and I began to ponder how the flood might have impacted more rural settings such as Arno, especially considering how even the urbanites of Majuro were visibly impacted by the diminished yield of subsistence-related food crops. After observing the severity of saltwater inundation on the urban population, I postulated a theory that the impact of the 3 – 5 March storm surge was likely to have even more severe effects for the rural denizens of Arno. I decided it was time to go somewhere a

bit more remote, to a place where the dependency between land and life was even greater than in Majuro – where market goods made up such a large part of everyday life.

## **A Topography of Loss**

With the help of the University of the South Pacific (USP), I manage to get an opportunity to go to the affected Rearlaplap section of Arno, and stay with a family there. I prepare the necessary supplies of rice and flour, keeping in mind that food will be scarce after the damaging flood, and set off by boat on 29 March. We arrive on the very same day, in Malel; where we have to dock around 20 meters from the beach so as not to get stranded by the tides. As soon as the boat pulls to a stop, most of the boys and men jump in the water; lugging cargo from the open boat through the water onto the beach. The azure waters gently lap onto the beach; washed out yellow in colour and consisting of finely grained coral sand. Around three meters further inland a line of coconut trees run parallel to the beach itself, spaced out at an interval of around two and a half meters. We glimpse a clearing beyond the trees, starting behind the tree line and stopping at a red-brown dirt road further in. A corrugated iron shack marks the far left whereas the opposite side is completely open until it hits a collection of coconut trees. Aside from a miniscule incline of around one meter from the beach up to the tree line the rest of the clearing appears flat and even declines a bit towards the road. No outcroppings, hills or slopes of any size can be seen from my vantage point just beyond the beach. In fact, only a miniscule amount of the landmass of the Republic of the Marshall Islands ever rises above two meter above sea level. The boat sets out for Majuro as soon as all of its cargo has found its way onto the beach. A small crowd has gathered just beyond the tree line. We are inside the easternmost part of the central lagoon at Malel, and are heading for the farthest settlement in Rearlaplap, namely Langor. Arno atoll is divided into three lagoons, and Langor is posited around the third and easternmost one. As the captain of the boat opted for a shorter and safer route inside the main lagoon we had to stop at Malel, as the main lagoon and the eastern one is separated by a high coral reef (exposed at low tide).

As luck would have it I manage to hitch a ride on one of three flatbed trucks, so we load the cargo (and some people) onto the flatbed and off we go into the forest. The truck

driver is kind enough to offer me a seat inside the driver's compartment and he promptly fills me in on information about the different villages and places as we run by them, as well as the situation with the current and past floods. As we cruise down the dirt-road it quickly becomes apparent how important bulldozers had been in the immediate crisis response, though by now they are relocated to another atoll for similar work. The dirt road is not only a distinct feature of the landscape, but a marked feature of everyday life. Going parallel to the beaches, and for the most part veering close to the lagoon, the road comes across as a dividing line between the lagoon-side settlements and the deeper ocean-side forest, an environmental or topographical marker of sorts. The road connects all the villages so that they can be accessed at all hours both by car and by foot, something I later learn offered greater mobility than only 20-30 years ago when people had to wait for the low tide to walk along the lagoon-side beach. Accessing the three trucks changed the way the locals access different parts of the atoll as well as how they move heavy cargo, goods, copra, and even how they get to church for Sunday service, not to mention that boats now dock in Malel even when they bring people to and from Langor. As the truck swivels around sharp bends and potholes, skips along the uneven road while the suspension and undercarriage screeches from the ever-present workload, the blazing sun increasingly disappears behind the tall coconut trees that make up the forest canopy.

Upon entering the denser forest I realize that the underbrush is chaotic: Piles of debris and deadfall, yellow coconut branches, fallen trunks and rotten coconuts, are spread out densely throughout the underbrush, caught horizontally between the trunks of coconut trees. It is as if one can see the direction of the flood as debris was flushed out with the current, getting caught between the trees, too wide to pass between the individual trunks. Most of the standing coconut trees show signs of inundation as the coconuts who have fallen from the crown to the ground remain very young (at around 1 – 1 ½ fists in size). The small number of coconuts still left hanging make the trees appear barren, and most of the branches are orange and dry, reminiscent of the deadfall. A few pandanus trees are rotting on their trunks. We come upon several sizeable piles of coarse *Waini* (brown coconuts) by the roadside, oftentimes near tall rectangular copra cooking stations; boxes or chimneys about 1m in height and made from corrugated iron topped with chicken wire. The chimneys are designed to dry copra out over hot air, and seal it with rising smoke; this inhibits the

growth of mould and decomposition, and decreases the likelihood of self-combustion while *en route* by boat to Majuro. The process ensures a better quality product than that dried by sunlight, which is the most common practice throughout the atolls of the Pacific. The technique used in Rearlaplap is somewhat of a necessity due to the humidity and presence of rain outside the dry season. Many of the chimneys appear to be in a functional state – with men working the pile of husks next to the station – whereas others have been knocked over, or have collapsed into heaps of wooden beams and scrap metal; having lost crucial materials to the floodwaters.

We come upon several villages on our way down the road, and some are more densely populated with houses of different sizes, whereas others are smaller and more sparsely populated (with one or two solitary houses). Most of the houses are made out of plywood walls (and windows), corrugated iron sheet roofs, and are set atop concrete foundations. Every once in a while we come across houses made from local materials, occasionally patched up with some black impregnated wood or a few sheets of corrugated iron or plywood. Some of these villages have conspicuously large concrete and cinderblock churches in their midst, and the churches are seemingly able to accommodate the population of several villages, and stand surrounded by small clearings; churches constitute focal points for everyday life; as most if not all villagers worship the Christian God in some way or another. The villages further up the road are in different states of disrepair. In one of the villages the fine-grained coral sand is interrupted by naked concrete foundations; rectangular slabs of grey with nothing left standing on them and no debris in sight, no corrugated iron, no plywood and no bricks. The driver merely points out that the village is the home of the local nurse and that it was destroyed by the floodwaters. During later stages of fieldwork it becomes apparent that the eerie absence of wreckage was caused by the floodwaters not only pounding a few of the structures to bits, but also flushing the remaining debris out into the lagoon, leaving behind naught but eerie absence. Rebuilding the vanished housing is impossible as all the building material has disappeared alongside the housing itself.

Two minutes further down the road we encounter another village that stands out: There are large structural damages to the lagoon-side housing, where two cinderblock and corrugated iron houses have been moved off their concrete foundations and one traditional



**Photo 3.** Naked breadfruit trees. The breadfruit tree in the foreground dwarfs all its surrounding structures, but stands bereft of both fruit and leaves as a result of the 3 March flood.

style cookhouse has partially collapsed. However, what really stands out is a large fenced in area on the right-hand side of the road, more akin to a garbage heap than a garden. Prior to the flood the pit served as a source of food, but now most of the banana plants have withered away completely, leaving only two-tree specimens behind; all dry, rotting and of a pale grey and yellow colour, tinged only with a few streaks of green. Where one would imagine there to be dense vegetation there is now an open space, the soil unprotected from the sun. Coconuts, broken off pieces of corrugated iron sheets, and other debris has been thrown into the pit. Around 10 meters further away stands a giant skeletal hand stretching towards the sky, a dead breadfruit tree dwarfing the surrounding structures (see Photo 3), in a fashion similar to those encountered in Majuro. The tree would normally be brimming with green leaves, and be weighed down by heavy oblong fruits, but this was no longer the case. Breadfruit trees figure prominently in most village courtyards, as the usually lush canopy provides pleasant spots to lounge away from the blistering sun, and the many-fingered leaves are used as fans on days when the air is stagnant.

Eventually the truck stops at one of the white courtyard clearings; a village of seven buildings of various shapes and sizes, and my to-be home in Arno. One of the buildings is a concrete church, set on a rectangular base. The walls are decorated with holes through which the air flows freely. A long cookhouse stands opposite to the church, and does seemingly consist of nothing but corrugated iron sheets, but with a framework construction of impregnated wooden beams, and local wood from various species. Next to the cookhouse a simple plywood building topped with corrugated iron roof sits on a heightened concrete foundation. A tall radio communications mast<sup>24</sup> stands erected against one of the sides of the building, and the mast consists of a metal beam attached to some longer plastic shafts akin to broom handles, held together by rope, fishing lines, and tape, and topped with a CB radio antenna. A wire runs from the plywood building and up the makeshift mast all the way to the antenna at the top; this is one of the few CB radios to remain functional during and after the flood, and the particular household does as such have an important role in the organization of trips (by boat) to and from Rearlaplap, as well as in a more general communication between Rearlaplap people and their relatives in Majuro.

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<sup>24</sup> According to US broadcast engineering terminology.

## Shifts in Material Consumption in a Post-Flood Setting

The household is a pertinent unit of analysis for understanding the predicaments of everyday life, and figures as a key social organization that enables people's survival in a harsh environment. Households provide focal-points for everyday chores, as family-members sleep together on the same land tract, eat together in the cookhouse (*mõn kuk*), and do various chores around the plot or on accompanying land tracts. Women and men usually work separate chores and in separate places, but both genders conduct work that again benefits their household. Men's and women's work is not mutually exclusive, but it is expected that women do certain chores; like prepare food, wash clothes and keep the household; while men collect food, tend gardens, repair houses as well as commit other acts of hard physical labour, as well as catch fish.

Most households consist of a husband and wife, their children, and (occasionally) their children's children as well as their children's wives or husbands. Landownership is principally legitimized through matrilineal ties, as land is considered to belong to the women of the family, but bilateral tendencies are observed. While patterns of residency in my experience tend towards the virilocal, both uxorilocality and virilocality remain valid practices. It is possible that this preference for virilocality corresponds with observed tendencies for patriarchal executions of power – over land and people – with borrowed legitimacy from their matrilineal ties. The male head of the family makes executive decisions by virtue of his ties to his mother, and at times against his mother's will. Bilateral practices of landownership can as such be seen as an effect of an increasing crystallization of patriarchal power within certain families, or feuds within the family. The picture is however muddled by the reality that matriarchs oftentimes exercise power from out of sight, by male proxy, implying that the acts of men follow the will of the traditional owners of the land, their mothers and sisters.

Houses usually have different functions: there is the *mõn kuk* and the *mõn kiki* – the former for preparing and eating food whereas the latter is for sleeping – and one also finds *mõn kakugi*, which translates to house of rest (literally: house rest). A dedicated cookhouse may however double as a house for sleep when the households receive guests. The houses that make up the household are usually clustered together on a plot of land, and most of these clusters are placed right next to Arno's dirt road; like pearls on a string. The land tracts



– called *weto* – are dominantly structured with housing on one side of the road (usually the ocean side) and with coconut forest on the other side of the road. The houses are placed more or less on top of the beach (by the lagoon) whereas the coconut forests are deeper and make up most of the *weto*. The *weto* cuts across the length of the atoll; all going from the lagoon side and over to the ocean side, and accessing both the lagoon and the ocean. While thatched houses provide more comfortable living arrangements with regards to heat regulation – allowing inhabitants to stay cool on warm and sunny days, yet not become too cold during night time – plywood buildings with galvanized tin roofs have become the norm. Plywood and tin housing requires less maintenance than housing thatched from pandanus or coconut leaf, and are therefore preferred despite becoming uncomfortably hot and stuffy under the mid-day sun.

A typical day begins at around 7am, with the sun barely peeking over the horizon. As I walk out the door, leaving the sleeping figures of the *mõn kiki* (house for sleep behind), I can hear sounds lingering on the cool and damp morning air. It is coming from the cookhouse just opposite me and it seems that C. and K., the mother and father of the family, are waking up. I turn to the left, and walk past the CB radio communications mast to the nearby water catchment. Crouching forward I turn the tap and quickly wash my hands and face so as to waste as little water as possible; conservation is important as freshwater is a limited resource (see Chapter VI), even during the wet season. Potable water is for the most part procured through rainwater collection and water catchments; with rainwater collecting on the roofs of households, and then pouring down rain gutters and into tanks or drums.

I close the tap, having washed the sleep from out of my eyes, and start looking at the landscape and the surrounding structures. Everything looks grey and blue in the morning light. The greens of the rainforest, the whites of the courtyard pebbles, and even the blue hues of the lagoon all flow into each other and become one under a grayscale palette. The door of the cookhouse opens and a sliver of dim white light slips out just as the father of the household steps forth into the shadows. The man, a heavysset figure of medium height, walks towards the water catchment, the rattle of pebbles accompanying him all the way, and turns the tap. He greets me “morning” and says that coffee will be ready as soon as the water is *Bwil* (hot). I accompany him back to the cookhouse where we kick off our flip-flops, and step inside the wood and corrugated iron building.

We are engulfed by the dim yet somehow harsh white light of a compact fluorescent lamp, and seat ourselves on two tired and partially broken plastic chairs. A metal sheet dining table sits between us, and it is filling up most of the room. The local reality is by and large made up of wares and objects that are produced outside of Rearlaplap, and that consequently will have to be brought in by way of oceangoing boats. The flow of goods by way of boats constitutes an economically demanding aspect of everyday life, and one that ties in to the American dollar; a resource one rarely comes by on the outer islands. As such the frequency of transportation (of both people and merchandise) is infrequent at best. Money procured through monetary transactions can be spent in the local family stores, where an assortment of goods such as flour and rice are bought and acquired through trading equivalence. In Rearlaplap this trade is divorced from monetary transaction in the sense that money only occasionally changes hands, and Rearlaplap may as such be considered a sphere of trading equivalence. That being said the value of copra and the value of goods are calculated in USD, and storeowners later resell the copra they acquire to the capital (Majuro); receiving hard cash in return. The storeowners then purchase goods in the capital via monetary transaction, and the new wares are transported by boat to their outer island shop; and into the sphere of trading equivalence.

Back in the cookhouse some smoke drifts by from behind a small partition in the rightmost portion of the cookhouse, leaving my eyes sore. The mother of the family peers out at us from behind the partition, says *iokwe in jibbõn* (good morning), and offers us *bwil* (hot water). An assortment of different knives are hanging on the wall. The blades vary in size and most of them have makeshift handles made from two separate pieces of wood tightly wrapped in fishing line. Just to the left a small portion of the wall, about the size of a small kitchen cabinet, extends out towards the lagoon. Two perforated shelves run across this space, and on them various pans and plates have been placed alongside some assorted goods; tea, tabasco, instant coffee, sugar, creamer and some flour. Some cutlery is placed on the lower shelf in a big cup right next to a round cake tin, and does for the most part consist of spoons. One more cup and some glass containers can be seen on the top shelf. Just beneath the hole-in-the-wall kitchen cabinet two tubs (one made from tin the other made from plastic) are standing right next to each other on top of a wooden plank running parallel to the wall. To the left of the cabinet a hard plastic buoy has been cut in two and mounted

on the wall, so that the lower half forms an open sink. A drainage pipe runs from underneath the buoy, beneath the lagoon-side wall, and then outside the *mōn kuk* (cookhouse). Ingenuity and adaptation marks daily life in Rearlaplap, and the rest of Oceania. Things are incorporated into local or regional ways of being in a way which allows for clever adaptations of technologies that originally were intended for other purposes entirely, in turn providing or reinforcing a mix between local and global production or consumption. As such the solutions to the disappearance or destruction of materials, by floodwaters, cannot exclusively come from the local level, but does rely on the global to provide at least parts of the solution. Improvisation can both be expansive and enveloping, as well as cannibalistic. Whereas the first form of improvisation may open up new possibilities, or life adaptations, the second form makes itself seen in scenarios of diminished resources, or where the adaptations have incorporated wares or materials that no longer can be replaced on the local level.

K. slowly picks up two cups from the top shelf and sets them both down atop the dining table, the table giving of a minute clang as the glazed ceramic of the cups hits the metal of the table. He then turns around to face the wall once more, picks up the coffee jar, a box of non-dairy creamer, and a bag of refined cane sugar, and puts them down on the table. He hands me a cup “for you” just as he slides the glass container of Japanese produced ‘UCC The Blend 114’ instant coffee towards me. The mother puts an elongated stainless steel kettle down onto the table, and returns to the smoke-filled smaller compartment. Once inside she seats herself on another white plastic chair and tends to the two fire pits to her right. The deep iron bowls are brimming with heat, orange tongues of flame licking at the corrugated iron grate and the cooking containers above. A small bead of sweat falls off her brow as she takes hold of the grate, with a coconut leaf, and moves it out from the flames. Turning around she comes face to face with another smaller compartment for firewood in which several coconut husks, shells, and dry branches are stored. She picks up half a dry coconut husk and proceeds to tear up the inside fibres, making the fibre of the husk less densely packed and thus more flammable. K.’s cooking illustrates one of the most common complaints after the flood which is the lack of cutlery. The flood washed away loose objects, including cutlery, and on one occasion a village representative filed complaints

concerning the difficulties faced by people attempting to prepare food, now that their kitchens no longer hold the necessary tools, to the governmental body in charge of Arno.

After throwing the husk into the fire pit K. adjusts the grate once more, so that it sits comfortably atop the centre of the flames. As the heat rises up and converges on a pot of rice the water starts to expand and overflow, trickling down the sides of the casserole, hissing as it evaporates against the insides of the hot metal bowl. Both flour and rice can be bought in 10 kilogram bags in the local store, and in terms of store-bought products these provide the main source for carbohydrates. Baked goods, produced using store-bought flour, shortening, baking soda, and sugar provides both carbohydrates and fat; with the latter in smaller quantities than the former. Depending on the household economy the mother makes pancakes, flour-based bread (*pilawā*), biscuits, spherical doughnuts, or even cinnamon buns, and additional protein and fat is made available from the store in the form of spam and canned tuna. Back in the cookhouse, cones of black smoke rise from the *kijeeek* (fire), and sting the eyes.

I pour three spoonful's of instant coffee into one of the ceramic cups before passing the glass container back to K. He fills the other cup with hot water from the elongated kettle, pulls a spoon out from inside the box of Western Family non-dairy creamer, pours some 114, adds three spoons of creamer, and finally four topped spoons of Mitr Phol pure refined cane sugar. After stirring the contents he lifts the cup to his lips, and takes a sip of what can only be described as a form of liquid caramel. The cup goes back to the table, the father smiles, and says *emman kope* (good coffee). In the cup the ingredients swirl together, a mix of Japan, America, and Thailand, hazelnut brown and creamy white, adding up to a local staple, and forming a part of the outer island reality. One of several examples of the importance of flow in the Pacific Ocean; and another example of the flow that Hau'ofa (1993) referred to in "*Our Sea of Islands*".

The mother of the household reappears from out of the smoke, carrying a plate of rice topped with a roasted fish; still in one piece and with the insides and scales removed. She puts the plate down in front of me, and I start to eat, as grace already has been said. I comment upon the delightful buttery flavour of the fish, truly mouth-watering, and the father replies that the neighbour caught the fish *turoñ* (spearfishing) last night. Fishing is of great importance in the post-flood landscape, and constitutes one of few remaining sources

for food that does not require participation in the local-store economy, with the notable exception of acquiring and replacing hooks, lines, and sinkers. Virtually all households rely on fishing in some way or another. In Arno life revolves around the ocean, and where food-crops serve as a source for carbohydrates and energy, fishing supplies the main source of protein.

Several different techniques are applied in order to catch fish, and fishing is at times carried out in groups and at times carried out alone. Lone men carrying throwing-nets (*okkadkad*) may stalk the length of the lagoon- or ocean-side beaches, while keenly observing the water for signs of fish (*ek*). At night time the men who dare to spearfish swim along the shore (ocean side); their venture aided only by underwater flashlights, navy-style diving goggles, and three-pronged spears (*jilupar*). These men *hunt* both fish (*ek*) and lobster (*wõr*); the latter only at certain cycles of the moon, when the lobsters congregate on the ocean-side flat-top reef. The freediving underwater hunters additionally ply their craft inside the lagoon, using outrigger canoes (*kõrkõr*) as diving platforms (see Photo 4); from which they can hunt in familiar underwater landscapes (reef structures), and for familiar types of fish. The *kõrkõr* is commonly employed in line-fishing (*urõk*), both inside the lagoon and (less commonly) over open waters. Children also aid in certain fishing activities, learning by mimesis or experimentation, such as catching sea-snails on the shallow flat-top lagoon-side reef. In terms of nocturnal fishing activities children sometimes stalk the ocean-side reef with machetes and flashlights; where the flashlights are used to temporarily confuse fish, and the machetes are used to knock fish unconscious. When fishing expeditions and other joint fishing ventures manage to produce a catch, it is to be divided among the participating fishermen. In certain situations such as when a boat owner lends his *kõrkõr* to a group of fishermen, a boat-owners share can be demanded as compensation for services rendered to the fishermen by the boat owner; and this is regardless of whether or not the boat owner participated in the fishing itself. Other exceptions occur when groups of men go fishing for the express purpose of gathering food for a communal event, such as for a funeral. Most fishing expeditions are however centred on providing for oneself and one's family, and usually culminate in the fishermen returning to their households with their share of the catch; or they may even end up dividing their share amongst kin beyond the household.



**Photo 4.** Fisherman about to dive into the lagoon. The outrigger (*Kōrkōr*) is used as a diving platform, and gives the underwater hunters sufficient room to catch their breath during longer dives.

Outside the *mõn kuk* (cookhouse) K.S. is grating the inside of half a coconut on the spiked metal end of a small wooden stool. After a while he throws the contents of the bowl onto the ground, and a rooster, a hen, and around 10 chickens start fighting over the feed. He continues by quickly husking and splitting a few coconuts in two, and throws them towards the lagoon side of the *mõn kuk* (cookhouse), where a few pigs have gathered. Feeding the birds and pigs is an important part of tending to the domestic animals, and this is commonly done early in the morning, and again in the evening. In addition to fishing and growing food crops, households typically raise livestock. Animal husbandry provides extra protein; in the form of chickens (*baa*) and pigs (*piik*). Pigs are usually consumed at special events like a first birthdays (*keemem*) – or on occasions of important visitors, and supplies a rich source for protein and fat. It does however require time and energy to raise a pig of sufficient size, both in terms of man-hours and in terms of providing/producing feed for the pig, making this a luxury meat. Chickens on the other hand require less to breed and feed, and are consumed at shorter intervals. That being said, chickens are much like pigs; reserved for special occasions. While many of the locally bred pigs and chickens were reported to have died in the flood, certain households had begun to recuperate some of their losses. This does, however, not relinquish these families from the obligations they have of supplying traditional foods/ingredients (pigs, chickens, breadfruit, coconut, and pandanus) for family occasions taking place in Majuro. A few people even went so far as to suggest that their family in Majuro did not understand, or even care, about the precarious situation of Rearlaplap following the flood, and that the majority of their requests can be seen as selfish due to the way the requests overreach what is feasible given the post-flood constraints; in turn meaning that Rearlaplap locals would have to provide for others what they had difficulty providing for themselves.

K.S. walks in the door, and stops by the tin tub beneath the kitchen cabinet. He picks up an artificial fibre sponge, and begins cleaning a plate left behind by N. The plate is dipped quickly into the plastic tub before he sets it atop the shelf to dry. The tin tub contains soap water whereas the plastic tub holds clean freshwater. After eating and drinking coffee between morning chores the two sons of the household head towards a *weto* (land tract) located about 800 meters away as the crow flies. They are on their way to collect *waini* (brown coconuts), a crucial component in the production of copra. I had previously been

made aware by a part time resident (prior to the 3 March flood) that “copra production and occasional fishing [is] the only thing that [keeps] people in Arno”, and the statement was since repeated by other informants. One such instance took place on 3 April when K.S., S.A., and I went into the ‘coconut-dominated agroforest and scrubland’ in Rearlaplap to gather *waini* (brown coconuts), for the express purposes of producing copra. K.S. had just walked off into the deeper forest when S.A. uttered the words “*Ejjelok waini* – no coconuts, *ejjelok mōñã* – no food, *ejjelok armej* – no people”. I implored him to elaborate, and he replied; “if we do not have any money we cannot buy food; rice and flour, in the shop. *Ejjelok waini* – no coconuts, *ejjelok mōñã* – no food.” As I prompted him on whether or not locally produced food was a viable option he replied, “without money we cannot buy flour and rice, and [without flour and rice] we cannot live here” (my brackets). K.S. returned from the deeper forest with a burlap bag filled with *waini* and confirmed S.A.’s statements. Following the flood the production of copra has become increasingly important as it offers access to (coveted) store-bought goods, which again constitutes one of the few available sources for food in the post-flood landscape. The disappearance or death of most food crops results in an increasing pressure being put on the small stores, which again leads to the stores running out of now crucial foodstuffs such as rice and flour, which ultimately leads to food shortages (or related difficulties) for some families in the gaps that appear, as stores require several weeks or more to restock.

When lunchtime comes around familiar smells fill the air, alongside smoke that stings the eyes, as C. returns to the fire pits for the second time today. At the fire pits C. is helped along by the youngest member of the family; who is home for the local school’s lunchbreak. Husks, shells, and dry branches of *Cocos nucifera* are once more brought forth from the small storage compartment right next to the iron bowls of the cookhouse, to keep the fires burning. It is not long before plates of food are added to the table, and it quickly becomes apparent why the air carries with it a familiar odour; the meal does essentially consist of the same ingredients as for breakfast, and some of the components have been reheated. One notable exception is found in the form of newly baked bread. The bread (*pilawã*) is placed onto the table on an oval plate; and is soon covered with a cake tin to ward off flies. While C. is busying herself and N. with tending to the flames and preparing lunch, more family members appear through the northeast doorway. A.W. appears in the doorway, and he is



subsequently invited in for lunch. It is not unusual for people to drop in like this around meals, and particularly around lunchtime. Lunch is according to K.S. the most flexible meal, either to be eaten as a guest wherever you happen to be at the time, or even skipped completely. After a short rest K.S., S.A., and N. filter outside. K. remains behind entertaining A.W. and P.L., whereas C. starts doing the clean-up work that comes with serving any meal. She moves the leftover food from the table and into a cooler for conservation, and continues by tending to the plates and cutlery now left in the soap filled tin tub beneath the kitchen cabinet. A.W. and P.L. eventually leaves, and C. and K. resign to a rest of their own, one lying down on the metal frame bed, and the other resting on the coconut leaf mats on the floor.

Prior to the flood, gardening practices used to provide everyday foodstuffs like bananas (*Pinana – Musa cultivars*), certain root-vegetables, and sometimes papaya (*Keinapu – Carica papaya*). Breadfruit (*Mã – Artocarpus altilis, A. mariannensis, A. altilis x A. Mariannensis*), coconuts (*Ni – Cocos nucifera*), and pandanus (*Böb – Pandanus tectorius or Pandanus odoratissimus*) can usually be found scattered around the household. With the overhanging absence of breadfruit, banana and other food plants most meals consist of fish and rice. A few exceptions present themselves on occasions of important community events, during which traditional foods are considered to be important. For *keemem* (first birthdays) some food was usually imported from Majuro, to arrive on the boat alongside family members traveling in for the occasion. That being said, the absence of most food plants is still experienced through the absence of certain traditional foods.

Eventually C. returns to the washing tub by the southwest wall of the church, whereas K. turns his attention elsewhere. Aside from ecclesiastical duties K., who is a minister, spends time preparing materials for the production of handicrafts (*amimõno*), planting Marshall Islands Green Dwarf (*Cocos nucifera*) around the land tract, and smaller things like cleaning some dishes every once in a while. The management and utilization of plants and trees is important, and handicrafts usually play a role in larger social gatherings where coconut leaf mats and the likes regularly make up parts of the setting. More often than not he is engaged in social matters, and the organizing of workgroups and social groups for purposes ranging from gathering coral pebbles for courtyard restorations to church gatherings or public gatherings. The social fabric of Rearlaplap is structured around the church and the family, and as such both church and family constitute important levels of

organization around which community work becomes organized. The mother of the household spends most of her time cleaning and cooking, and the time in-between washing laundry, soaking and drying Pandanus leafs for the production of handicrafts, or preparing large quantities of food alongside other women on the occasion of important visitors or an important community event. Examples of such events are church gatherings, first birthdays or a visit from the President or a Senator.

At other times C. will teach the children of the village the virtues of the bible and the church, one of C.'s duties as a minister's wife. She additionally spends time as a part of the church's women's group, and whereas K. might be more exclusively engaged in matters of the church, it is very clear that K. and C. function as a team. The church operates with men's and women's groups, in addition to the larger communal church gatherings and gatherings for youth, and as the former two groups operate in terms of gender it becomes apparent that the local church did not require a minister (K.), so much as it requires a ministerial family (K. and C.). Arno is organized around family, and one might go as far as to say that persons *are* in virtue of their family. It makes perfect sense then, that the ministerial post in practice is held by a family, rather than any person singular.

Dinner is served between five and eight PM, consists of the same ingredients as the days previous meals, some reheated and some freshly cooked, and marks the end of most of the day's chores (copra production, washing clothes and so on). Where some people take some time off to rest, chat, drink coffee and in other ways just relax, the night also offers good conditions for certain types of fishing. Some fishermen are gathering on a nearby *weto*, land tract, exchanging words, sipping coffee, and preparing for the nights efforts. The fishing gear is made ready, and the strategies for tonight's fishing excursion is laid down. While many types of fishing is carried out during day-time, the night offers the best opportunities for spearfishing and fishing lobster; and both activities provide meats that are contributing to the everyday diet in a large way, now more than ever, and constitutes the other half of the explanation as to why people remain on the outer islands, besides copra production and its connection to the local stores.

The immediate and less immediate effects of the 3 March flood have touched the people of RMI in a quite significant way. While the predominant focus of this thesis lies with Rearlaplap, the effects of flooding in Majuro are no less significant for those affected by it;

and while this thesis predominantly concerns itself with the dangers posed on rural subsistence practices by climate change related events, the difficulty of sustaining a large city such as Majuro within the constraints of an atoll environment – not to mention an environment that is subjected to increasingly impactful extreme weather events – is hardly a joking matter. The interplay between local subsistence practices and a flow of global market goods, where the latter relies upon a monetary economy, has created a double dependency in which both have to be accessible to maintain the aspired quality of life. Harvesting (geographically) local resources through subsistence practice relies, in part, on the utilization of tools that come from a global market; spearfishing is for instance carried out by using carbon fibre spears<sup>25</sup>. The possibilities offered by global market goods do on the other hand rely upon a monetary economy which the majority of people do not have sufficient access to. This means that the general population (in some partial degree) has to rely upon local subsistence practices, in order to avoid straining their limited monetary economy. While the balance between subsistence practices and the global market differs between Majuro and Reraplak – with the latter leaning towards local subsistence whereas the former leans towards the market – both locations exist somewhere between monetary and non-monetary economies; and this relationship has to be negotiated (or navigated) to prepare against extreme weather events, and to rebuild following the effects of extreme weather events on the local population.

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<sup>25</sup>See Chapter 4 for more information.



# IV: Anthropogenic Subsistence under Siege

This chapter approaches the “involution” of water, vegetation, and people as it presents itself in Rearlaplap; and the three key categories will need to be dismantled in the name of the reinterpreted cyborg model introduced in Chapter 1. The term “involution” stems from Geertz usage of “agricultural involution” (1963: 79-82), and should in the context of this thesis be understood as the internally-directed evolution of an agricultural field (also called progressive complication). This definition entails the maximization of the utility of a confined space such as an atoll, so that it supports a larger population of people than otherwise possible (*without* expanding outwards). While the “involution” of resources on a limited acreage of land in Rearlaplap offers certain benefits, and indeed provides a basis for life that would otherwise be absent, the same connections that make this “involution” fruitful makes for aggregated effects of loss in the event of an extreme storm surge. By dismantling the line that divides water and vegetation from people, we can appreciate the physicality of climate change related events as they project onto the human. As indicated by the breadfruit example, it follows that the loss of certain plants and trees will carry symbolic value, as they too are part of the larger social body; the cyborg. However, prior to approaching any of the above I will look at the spatial arrangement of atolls; and this is done to better appreciate the anthropogenic elements that are so crucial for the cyborgian dynamic outlined in Chapter 1.

## Engineered Environments, and the Harsh Conditions of Atolls

The terrestrial vascular flora of the Marshall Islands is composed of a very limited number of indigenous species, and dominated by exotic introduced species [...] Of an estimated present total of over 500 species [...] only about 80 (16%) are possibly indigenous somewhere in the Marshall Islands [...] Depending on their size, location and climate, most individual atolls will only have between 20 and 60 of these species. The only known endemic species of the Marshall Islands are two grasses *Lepturus gasparrincensis* and *Lepturopetium marshallensis*, both of which have no known Marshallese name (NBT 2000 [see my references]). Almost all the other indigenous species are ubiquitous, easily-dispersed coastal species, which are found in coastal areas on most other Pacific Islands. This is an indication of the lack of habitat diversity on atolls compared with larger high islands, and the harsh conditions and difficulty of long-term survival in the atoll environment. – Thaman (2006:43-44).

Life on the tropical atolls depend on people's ability to use the limited available plants in a myriad of ways. The advantages of anthropogenic forest systems are not only given in terms of increased biodiversity (versus not having such systems), but also in terms of protection against sea-spray and waves, against the erosion of the soil, functioning as wind-brakes, shade, and so on (Thaman, 2000: 3). The agroforest is not only a human creation, but a technological adaptation towards a harsh, and in many ways limiting climate, without which human life would not be possible. In order to grasp what the 3 March flood meant for the people of Rearlaplap, and how it impacted them, we have to understand the relationship between the people and the atoll.

If the people of Rearlaplap are seen through the optic of the cyborg, the agroforest is a metaphorical machine in Haraway's sense of the word. Approaching atolls, or atoll societies, diachronically means recognizing the historical buildup of the relationship between humans and the atolls – and what the atolls were prior to the establishment of this relation between atoll and atoll society. Atolls that have not become a part of long term human interaction stand close to barren, with such limited vegetation that they resemble less the

oasis in the stormy sea than a thin strip of desolation. Even after an unimaginable time of human modification of the atolls – around two thousand years of the Anthropocene<sup>26</sup> – the atolls of RMI remain mostly harsh and only somewhat lush. A continuous chain of generations – sometimes working together and other times at war with each other – have ensured an “involution” of plants, and ‘systems’ of plants and vegetation, that in turn have ensured a greater diversity and volume of vital resources than would otherwise be possible; without human design. The harsh conditions of atolls do however mean that the vital resources are so limited (even with the aforementioned boost in diversity and productivity) that the resources have to be utilized in resourceful ways – using close to every plant for many different purposes, and leaving no part unused – to ensure the survival of the associated atoll society. The diversity of vital resources is not a surplus *per se*, and does instead constitute a bare minimum that has to be utilized to the fullest for any large (or decently sized) social group or constellation to get by. The relationship between atoll society and the atolls does as such go both ways; with the anthropogenic elements creating a greater biodiversity on the atolls, in turn allowing for a greater population which again are best served by looking after the biodiversity and implementing their own modifications. The ‘engineering’ of the atolls by their people has not only allowed for greater biodiversity through the introduction of plants from throughout Oceania, and alterations to the topography of the islands (of the atolls) in ways which allowed the introduced plants to grow, but also allowed new generations (of people) to spring forth from the ground; (as the increased biodiversity provided them everything but their DNA) by providing the nutrition that in turn would allow them to grow (through food); not only as bodies, but as a social body. The specific constellations of plants also provides shelter for the social bodies, and serves as extensions of the social *en masse* (via actions) as much as the bodies can be conceived as continuations of the atolls.

There exists a deeply rooted conceptualization, or cosmology, within Marshallese culture in which people are considered to come from the land (the atoll) by virtue of their matrilineage. Ancestors are buried in the land, and this has cemented the relation (of belonging) between certain families and certain atolls. This relationship (or convergence) between people and their surroundings – or what we westerners rather conspicuously call

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<sup>26</sup> Meaning purposeful and monumental modification of environment, hallmarks of the Anthropocene epoch, rather than the epoch as such.

nature, and oftentimes conceptualize as separate from ourselves (or *the human*) – is called *Bwirej* and resembles the *Pauva* of the Marovo lagoon, or the Fijian *Vanua*. This is an *umwelt* of sorts, within which there is no nature:culture distinction or a distinction between the human and nature. In that regard the landscape or topography of RMI's atolls lives on somewhere between a machine (or several machines) and a machine relic. People are adopting new habits, and one has to wonder – as some of the people I talked to did – whether or not the people have increasingly abandoned practices that are associated with, and maintains, the biodiversity of their atolls in favour for adopting other ways of life.

When approaching the synergism of various 'technologies' or 'machines' within the atoll that provides the people with their basis for life, the relationship between various constellations of plants (as brought about by anthropogenic action) becomes important. While most people do not classify (or term) these constellations of plants and vegetation as ecosystems *per se*, everyone I encountered had knowledge on how certain plants only could be found in certain places; that only a few plants can survive by the ocean side or in brackish water, or during a drought; or what that survived where; these are the facts of everyday life. Thaman (2006: 44-45) is helpful in that he identifies eight of these constellations as "main natural terrestrial ecosystems or vegetation types" in a relatively clear cut way; in turn making it easier to discuss the relationship between the various constellations (of plants/vegetation). The eight ecosystems or vegetation types are according to Thaman (2006: 44-45) made up of 'inland forest', 'coastal shoreline or littoral vegetation', 'mangroves, coastal wetlands and swamps', 'coconut-dominated agroforest and scrubland', 'excavated taro pits', 'household and urban gardens', 'intensive vegetable gardens', and 'ruderal vegetation'.

In terms of the synergy between the eight systems in Rearlaplap the 'coastal shoreline or littoral vegetation' is the first one I will address. With vegetation heavily influenced by salt spray, storm surges, and saltwater incursion (Thaman, 2006: 45-46), the majority of the ecosystem's associated plants are salt tolerant. These salt resistant plants circle the entire ocean side in a dense belt of vegetation that only occasionally is disturbed by structures or clearings. In a sense the belt acts as a wall that protects other plants from the ocean. The 'coastal shoreline and littoral vegetation' acts as a protector for the other ecosystems, and for people, by acting as windbreaks that prevent salt spray and strong



winds from penetrating further 'inland'; where the frailer plants (with regards to salt tolerance) are found. It is somewhat telling that the large majority of Rearlaplap's villages are located around the (usually) calmer lagoon side, and not the ocean side.

Further inland, protected from salt spray by the 'coastal shoreline or littoral vegetation', one finds occasional stretches of 'inland forest'; with a dense canopy and a tangled undergrowth in which free-ranging domestic pigs tend to stay when they are not being fed, or being prepared for slaughter. The ocean-side vegetation does however not shelter the islands (of the atoll) from floods, and certainly not an extreme storm surge that strikes at the atoll from the lagoon, which in turn meant that many pigs drowned during the 3 March flood. The pigs are as much a part of the 'inland forest' as the vegetation, and the loss of this precious (and demanding to produce) meat was lamented by many of my informants.

The most dominating or widespread vegetation type in Rearlaplap is the 'coconut-dominated agroforest and scrubland' – something that corresponds well with Thaman's findings in Majuro (2006: 48) – which figures prominently in the copra related economy that one finds on so many inhabited Oceanian islands and atolls. Rearlaplap's vegetation is in this regard quite comparable to most inhabited Oceanian atolls. While coconut trees are rather hardy and salt resistant, protection from salt spray and waves allows other less hardy plants to grow as well, and this is the hallmark of multipurpose agroforestry; namely that certain plants and trees are effectively grown – both in terms of space and growth conditions – via the "involution" of space to provide for as many needs as possible. The overbearing prevalence of 'coconut-dominated agroforest...' is of course the result of farming practices with relation to the production of copra at a relatively large scale, at a time when copra was more profitable; such as during colonial times when there was a rapid growth and expansion of coconut plantations in the Marshalls (see Chapter 2).

By the lagoon-side villages one finds the 'household and urban gardens' ecosystem. While the 'urban' aspect is of little significance to us, the category includes household gardens, which are both significant and present (in some form or another) in Rearlaplap. These gardens consist of various food plants (or trees), species with medicinal utility, and plants or trees of ornamental value. The ecosystem does in short contain those plants that people use frequently enough, or find useful enough, to want close by. In Rearlaplap the

‘excavated taro pits’ ecosystem tends to fall within the domain of household gardens, and while Thaman describes this “unique and specialized ecosystem” (2006: 50) as one that has been largely abandoned in Majuro, this is not the case in Rearlaplap. The production of taro – in this case *Wõt* (*Alocasia macrorrhiza*) – has for the most part been abandoned, and the taro pits are instead used for the cultivation of bananas (*Musa* cultivars), and various root vegetables (potato variations). In other words, even though the production of taro variations has become less important in Rearlaplap, the production capabilities of the unique ‘excavated taro pits’ are still important for everyday life. However, like so many of the other ecosystems the ‘excavated taro pits’ are only beneficial in so far as they are located away from salt spray and inundation/storm surge areas.

In terms of synergy the ecosystems of Rearlaplap rely on “involution” by way of multipurpose agroforestry, and by way of the complementary placement of constellations of plants and vegetation (ecosystems); complementary being understood as the historical creation of a strategic topography within which the strengths of one system (for instance the ‘coastal shoreline or littoral vegetation’ ecosystem) offsets the weakness of another system (for instance the ‘excavated taro pits’ ecosystem, by providing shelter from salt spray) so that both systems attain beneficial conditions for growth. A key point is that these particular constellations (of plants and vegetation) are the results of anthropogenic interaction; the efforts of people to adapt the atoll to themselves as much as they adapted themselves to the atoll, in a relational way.

## **Vegetation and Life**

Throughout the period of fieldwork several conversations took place on the subject matter of plants, and the importance and use thereof. This information has among other things culminated in two tables. The larger and less specific table is omitted from this thesis, while Table 1 is included below. Table 1 contains 29 plants according to Marshallese taxonomy, sorted by presumed scientific names<sup>27</sup>, and lists information as to the utility of the plants, the plants’ general condition, and whether or not they have been deemed ‘most important’ according to informants. A state of stoic anxiety had spread amongst those who were

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<sup>27</sup> Derived from Taafaki, Fowler & Thaman (2006), and Vander Velde (2012), and *Plants and Environments of the Marshall Islands* (2015).

affected by the 3 March flood, and even those who were not directly affected had begun vocally reflecting upon the feasibility of a continued existence in RMI. It is therefore important to point out that the majority of the information contained within Table 1 was generated following the flood, and that the majority of the people I talked with had corresponding moods (of the aforementioned stoic anxiety). Both tables draw on material from several map drawings made in collaboration with-, or entirely by-, informants, as well as interview situations. The maps were made with the expressed intention of listing the most important *things* present on the informants land tract, however considered. The interview material broached the topic of *plants* in a more specific sense, and allowed informants to list plants without regard to prioritizing their importance.

I often brought "*Traditional Medicine of the Marshall Islands: The Women, The Plants, The Treatments*" (Taafaki, Fowler & Thaman, 2006) along for interview sessions, and leafed through its pages with the people I interviewed, in order to allow the book to serve as a talking point. The book features photographs of a great deal of (and possibly all of) the plants and vegetation of the Marshall Islands, complete with Marshallese and scientific names. Additionally the combination of pictures and Marshallese names did allow me a degree of certainty that we were indeed conversing about the same plant(s), and that I could spell their names. On a few occasions people would correct the book; if the person(s) for instance used a different name for a plant, or used a different taxonomy than that of the Ratak Chain dialect of the Marshallese language. I oftentimes asked people to draw maps of their immediate surroundings; emphasizing whatever they felt was important to them (be it housing, plants and the reef, or other things entirely), and I made a few maps myself. It always astounded me how people would present clear-cut representations of what mattered within the landscape; only emphasizing a few objects of importance; almost (but not quite) to the point of not seeing the forest for the trees; whereas I ended up with overly detailed and rather cluttered representations with no emphasis in particular to one plant or the other.

**Table 1.** The Importance, Vulnerability, and Utility of 29 Marshallese Plants According to Informants, and Sorted by Presumed Scientific Name with Original Marshallese Taxonomy Attached

Presumed Scientific Name	Marshallese Name	Deemed 'Most Important' by Informants	Vulnerability	Utility According to Informants
<i>Alocasia macrorrhiza</i>	Wōt		Most are dead as a result of flood	Food - unspecified
<i>Artocarpus altilis</i> , A. <i>mariannensis</i> , A. <i>altilis</i> x A. <i>Mariannensis</i>	Mā	Yes	Abundant, with major damage from flood	Construction - outrigger canoes, Food - unspecified, Medicinal use - unspecified
<i>Carica papaya</i>	Keinabbu (Ralik), Keinapu (Ratak)	Yes	Dead as a result of flood	Food, Handicrafts - bleaching strips of <i>Cocos nucifera</i> leaf
<i>Catharanthus roseus</i>	Raan ñan raan		Abundant prior to flood. None left	
<i>Citrus aurantifolia</i>	Laim	Yes	Dead following flood	Food - adds taste to food and drink, Food - chemically cooks raw fish
<i>Cocos nucifera</i>	Ni	Yes	Severely affected following flood, all Kilange ADB nurseries destroyed following flood	Cash – production of copra, Construction – roof made from leaves, Construction – wood, Construction – unspecified, Environment – protection against wind, Food – drinking, Food – unspecified, Handicrafts – mats from leaves, Handicrafts – unspecified, Medicine – unspecified
<i>Cordia subcordata</i>	Kōno			Medicine - to treat fish poisoning
<i>Crinum asiaticum</i>	Kiōb (Ralik), Kieb (Ratak)			Medicine - to treat pain/swelling
<i>Guettarda speciosa</i>	Utilomar			Medicine - unspecified
<i>Hedyotis biflora</i>	Kinoj (Ralik) Kinwōj (Ratak)		Disappearing. Not much left	Medicine - unspecified
<i>Hernandia nymphaeifolia</i>	Piñpiñ			Medicine - unspecified
<i>Laportea ruderalis</i>	Neen kōtkōt		Abundant prior 1989. Few left	
<i>Morinda citrifolia</i>	Nin (Ralik), Nen (Ratak)			Medicine - unspecified
<i>Musa cultivars</i>	Keeprañ, Pinana	Yes	Dead following flood	Food – unspecified, Medicine – drink to treat bad stomach, Medicine – to treat swelling, Medicine – unspecified
<i>Ocimum basilicum</i> , O. <i>tenuiflorum</i>	Katriiñ		Abundant in 1989. Presumed extinct by 2007	
<i>Pandanus tectorius</i> ( <i>P. odoratissimus</i> )	Bōb	Yes	Severely affected - no longer produces fruit	Construction – houses, Food – unspecified, Handicrafts – amimano, Handicrafts – Jaki, Handicrafts – mats from leaves, Medicine – unspecified
<i>Phyllanthus amarus</i>	Jiljino Awa			Medicine - to treat diabetes
<i>Phymatosorus</i>	Kino			Medicine - unspecified

<i>grossus</i>				
<i>Plumeria botura, P. rubra</i>	<i>Meria</i>			<i>Medicine - unspecified</i>
<i>Polyscias scutellaria</i>	<i>Wutcup</i>			<i>Medicine - unspecified</i>
<i>Premna serratifolia</i>	<i>Kaar</i>	Yes		<i>Medicine - drink to treat general injury, Medicine - to treat stress, Medicine - unspecified</i>
<i>Scaevola taccada</i>	<i>Könnat (Ralik), Konat (Ratak)</i>			<i>Environment - protection against wind, Medicine - unspecified</i>
<i>Suriana maritima</i>	<i>Kalañe (Ralik), Kõlañe (Ratak)</i>		<i>Previously abundant. Now rare</i>	
<i>Terminalia catappa</i>	<i>Kotõl (Ralik), Kotel (Ratak)</i>		<i>Not many left</i>	
<i>Thuarea involuta</i>	<i>Ujoj en kijenbao (Ralik), Ujoj in kakkumkum (Ratak)</i>		<i>Disappearing</i>	<i>Medicine - unspecified</i>
<i>Tournefortia argentea</i>	<i>Kiden (Ratak), Kidren (Ralik)</i>			<i>Environment - protection against wind, Medicine - unspecified</i>
<i>Triumfetta procumbens</i>	<i>Atat</i>			<i>Medicine - unspecified</i>
<i>Vigna marina</i>	<i>Markinenjojo</i>			<i>Medicine - unspecified</i>
<i>Cucurbita pepo</i>	<i>Pumkin</i>	Yes	<i>Dead as a result of flood</i>	<i>Food - unspecified</i>

In order to gauge the impact of the 3 March flood on the social body we have to approach the plants that people depend upon, and I will do so by approaching Table 1. The 29 plants listed above will serve my purposes as a cross section (of sorts), demonstrating some of the (multiple) ways in which Rearlaplap's plants constitute or make up parts of the body at the societal level, and how the social body (or the cyborg) is impacted by the effects of the flood on certain plants. In short, I am looking at how the effects of the flood are projected onto the body at the level of the community or group, or the other way around; how the plants that make up part of the cyborg body are impacted by the flood, and what happens when the 'plant' component (technology/machine) of the cyborg becomes so severely strained.

Nine of the 29 listed plants are dead or severely impacted following the flood, with an additional six plants presumed to be extinct or otherwise conspicuously absent; allegedly as a result of changing weather (the temperature of seasons, as well as the level of rainfall), floods, or erosion. The affected plants are with few exceptions used for a myriad of different purposes ranging from food and medicine, to the construction of houses and canoes, and for protecting both land and biodiversity against the wind and salt spray. Seven out of the eight plants that the people I talk to consider to be 'most important' are severely affected by the flood, or are diminished or presumed to be extinct for other reasons; for instance due to warmer seasons, as is the case with the disappearance of *Makmök*<sup>28</sup>, the Polynesian Arrowroot (*Tacca leontopetaloides*). The majority of people that look at the provided pictures note how one or more of the plants that they cherished during their childhood (for instance used to resemble/mimic the claws of a witch during playful interaction), or otherwise recalled from the past, now have all but disappeared. Most people I approach have no qualms about informing me that this or that plant has died during or following the flood, and they are more than willing to show me the destruction; or at times the eerie absence of vegetation that emphasized that what once had been is no more.

Seven of the eight plants deemed 'most important' matter in part because they provide food, with one notable exception (*Kaar*, or *Premna serratiflora*) that is considered important solely for medicine; whereas four of the eight plants are cherished for medicinal

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<sup>28</sup> The Polynesian Arrowroot is not present in Table 1. The plant is generally considered to no longer grow in Rearlaplap. According to local sentiment this is due to increasingly warm (year round) weather, during the recent years, or decade, and up until today. Repeated attempts to replant the arrowroot in Arno have failed, according to my informants.

purposes in addition to their utility in the Marshallese kitchen. The *Mã* (*Artocarpus altilis*, *A. mariannensis*, *A. altilis* x *A. Mariannensis*) – or breadfruit – falls under this category, and with major damaged following the flood. All of the species of breadfruit in season are dead (having dropped all leafs and fruits to the ground) as a direct consequence of the flood, whereas the trees not in season survive well enough, but will not produce for another six months. Three of the eight are good for construction, one for environmental control, three for the production of handicrafts, and one as a cash crop. In other words: while no great diversity of plants and vegetation can survive on an atoll, the people who live there have – for generations – made sure to cultivate a rich “involution” of this limited biodiversity. The plants are utilized in a myriad of interconnected ways, and virtually all of the plants hold within them the potential to be used in more than one field of utility (medicine, food, construction and crafting, environmental control). That seven of these eight plants are dead, are severely diminished, or are presumed to be extinct, presents no small disaster for the people of Rearlaplap. These plants provide people with a type of utility that they (the people) cannot live without. The plants provide nutrition and medicine at such a fundamental level for human existence, that they (the plants) can be said to embody life itself; and this is certainly the case when appraised through our previously established cyborg optic. The existence and state of the local plants and vegetation constitutes a matter of life and death for Rearlaplap’s population, and makes up a fundamental part of what it means living on an Oceanian atoll; and consequently what living with climate change means for the society of people who spend such great parts of their lives on these thin strips of dry land.

## **Erosion and medicine**

Erosion is according to most informants a serious problem, and fallen coconut trees are often encountered when walking the ocean-side beach. The possible loss of utility in the form of plants used for food, medicine, and construction, is considered problematic by most villagers. In the late afternoon of 16 April, J. begins vocally reminiscing about his younger days. J. is a Rearlaplap local who spent some time abroad during large parts of the 1990s and 2000s, and he claims noticing a vast difference between the state of the islands prior to his

leave, and their state upon and after his return. We are sitting on the ocean side, peering at the beach and the ocean itself, relaxing as the cool ocean-side breeze takes away some of the days heat. J. directs my attention towards a spot on the coral beach below us. As he points he tells me that he used to have a hammock, right there on the coral beach; a beach that used to be a tree-line.

We are seated on a ledge just beyond the coastal erosion zone, and there is a sheer drop of two to three meters down to the beach itself. Beyond the 45 degree drop the beach is flat, and extends for a few meters into a flat coral reef-ledge. The ledge sits above the low-watermark. At two to three meters up we are at the virtual apex of the atoll. The drop down from the forest to the beach clearly indicates how large masses of coral -pebbles, -sand, and topsoil have been carried away by waves. The section of beach J. is pointing towards lies roughly ten meters away from where we are sitting (in the tree line). J. comments on how much farther out the beach used to extend, and the following transcript details the conversation that followed.

J.: "Well it is really surprising [to] me, because I see a lot of difference compared to the days I was a young kid. I'm talking about more than twenty years ago, when I was a little boy. And I see a lot of difference after I came back, as far as the waves eating up the islands. [...] There is a lot of damage [...]. Back in 1991 there was a typhoon named Zelda, as far as I remember, and you know there were no waves at that time affecting [Rearlaplap]. All there was were strong winds and heavy rains, and all that, but it didn't affect [us with] any waves [...]."

Me: "Nothing like the flooding that happened a month ago?"

J.: "It's nothing compared to the flood that happened a month ago. The flood that we had a month ago was really bad, you know. It really surprised me because we never have these kinds of floods [here]. That's what really surprises me, because [previously] it was only winds. And I'm thinking of the differences, the changes, as far as climate change [goes]."



Me: "Earlier you said something about, twenty years from now, looking at the beach. Do you mind going over that again?" [REFERENCING JUST PRIOR TO THE RECORDING]

J.: "[...] I'm happy to tell [you] about it. [It is] what scared me [...]. Twenty years [have] passed, and it [has] already happened. I see a lot of difference. I'm scared of, [and am] thinking of what will happen, [within] the next fifteen or twenty years from now. [The flood] scared me [...] because [...] I haven't seen any waves affecting, or damaging, our place [like in this flood]; as far as local foods and houses [go]. [The flood was] damaging [to] the roads, as you saw [...], and that's the big issues that people have to think of [...]. That's really what I got in my mind and that's what scares me [...]. I'm thinking, what will happen? What about twenty years from now? What will happen? Because I know it is happening already, as far as the flood [goes] that happened last month. [During the last twenty years] we never had no floods or no waves affecting [...] the islands [like this]. [There] is heating up [of] the land [...], but that was like slowly, little by little. But I see the difference on this one. I start thinking and [I/they] start talking about it. "

Me: "Considering the difference you see now, how do you think it is going to affect the Marshallese way of life, here on the island, as time goes by and the waves become more frequent; as the recent climate report suggested?" [REFERENCING THE THEN RECENT RADIO BROADCAST BY PRESIDENT LOEAK ON THE PRELIMINARY IPCC REPORT]

J.: "[...] That will be a big issue for us Marshallese people. Because, once it keeps coming, like the waves, [...] our plants and foods, the local [plants] where we get our foods from, they are going to start to fade [...] away. The waves last month damaged a lot of breadfruits, [and] [...] the plants we get our medicines from [...]. And those are the main concerns I got in my mind. I am trying to picture it after twenty years from now. [...] There will be no choice, you know, because if it's like an ongoing thing [...] we don't have [any] options in order to keep the waves away from damaging our environment, and our living things, and the foods that we get out – mainly the foods and

medicines. Those are the main concerns [...]. It is [...] a big issue for us Marshallese people.”

Me: “It’s like the hammock that you used to have, out on the beach, that’s no longer here?”

J.: “[...] Like I said, when I was a young boy, [...] a little boy, I grew up here. I used to have a hammock by the beach. When I came back [...] from the states, because I [had been] away from Arno for a long [time], [...] almost twenty years, [when I came] back. And I came [and had a look around], [...] and I was like, what is this place? Where [was] the hammock? And [the place] in view of it? You know I love the sound of the waves and all that, but the thing that surprises me is the [how the] hammock [disappeared]. That was only ten plus years ago. That is one thing that people have to think of, and start thinking of, and can really focus on. If things continue [like this], [...] what will we do, or what can we do, if this is still happening [...]? Or what if [these] waves [come] again, sometime in the near months or so? That is a big big big issue, and that’s what I’m [THERE IS A PAUSE] I’m scared of that.”

Me: “And that’s what you were talking about with the people we just went to see?” [REFERENCING A RECENT HOUSE-TO-HOUSE WALK]

J.: “[...] When I started [talking to] them about [...] the local medicines, [and] what will happen when the plants are gone, they [said]: ‘we don’t know’. [...] And what about the local foods? [...] You can tell that the breadfruits are all dying now. How long [before] they come back for us to get food from [them]? Some of them [replied]: [...] ‘we’re thinking [it] is probably [around] five years from now, and that’s a long time’. And during [that] timeframe, what are you going to eat without the breadfruit, the bananas, the papayas, [and/or] the pumpkins? You saw one of the houses that I showed you, my uncle’s house, [where] everything was washed away by the waves. And now they can do nothing, they don’t have nothing. Nothing left. Completely [destroyed].”

Me: “There’s a lot of that too”

J.: "Yeah, but they don't really know a lot about the climate change. They're not really understanding how it works, and what's the cost and effect of it [...]. Now they started realizing that it's true, because once the plants go away and, let's say, something happens to a close relative, or something, what can we do? Just watch them dying? Because we cannot do nothing, because [there is] no more plants to get their medicines from. [...] You said something about the houses that we built. And [...] that too, [is] part of the culture, right? [...] The traditional houses that we build [...] We've got limited materials [...], and we got them from plants too, as far as the lumber, the woods, and the coconut leaves that we use to weave the roofing [go]. You've seen a lot of coconut trees falling [down], [their] leaves are falling, and they are all falling now. [It] is from the waves. They started realizing that. And then [...] where are we gonna live, without the roofs? Out in the open area? What about the rain, when the rain comes? There's no place to cook, and that's bad [...]."

The importance of plants and trees against the onset of erosion, and for medicine, were similarly expressed by D., a middle-aged man originally from Kiribati, prior to the flood. As a practitioner of traditional Kiribati medicine, a craft he picked up while traveling around in Kiribati, D. knew the plants and trees well. The medicinal plants of the Marshall Islands and those of Kiribati were, he said, largely the same. The treatments in the medicinal traditions similarly correspond to a large degree. First the conversation broached, in general terms, the presence and importance of plants and trees whose roots bind the atolls together, slowing down erosion. This was expressed without much differentiation between specific species of plants and trees, outside the fact that these plants and trees were saltwater resistant. As far as the sentiment went the roots of the plants/trees worked like tethers, functioning by physically grasping the soil and the coral rock, thus denying the ground to break apart and flush into the sea. This sentiment is to the best of my knowledge shared among all my informants, and seems to conceptually encompass plants and trees as a whole, and as what holds the literal foundation for life on the atolls in place. The efficacy of medicinal plants also became a theme as D. elaborated that a particular plant, *Jiljino Awa* (*Phyllanthus amarus*), could be prepared in such a manner that it would cure uterine and prostate cancer. The plant could furthermore be consumed daily against the effects of diabetes, though this was

done alongside western diabetes medicine. D. was a diabetic, and found the consumption of the plant most useful, and so did many of his fellow villagers who he extended his services to, according to himself.

It is important to note that D.'s expressions on the importance of plants took place prior to the 3 March flood, and that the concerns expressed by J. on 16 April with regards to long-term survivability therefore were less present. Keeping that in mind one sees that the general concerns expressed by J., and the information supplied by D., and other informants, corresponds well in that plants generally are taken to bind the Atoll together, and furthermore presents an important measure with regards to medicinal difficulties and associated treatments. In J's case one even finds an increased awareness (following the 3 March flood) with regards to the possible future impacts of climate change on life in the Marshall Islands. The flood event acts as a lens through which current events (and even certain events from the past) are (re)interpreted, and through which the future becomes even more unstable or uncertain.

## **Water and Life**

While the availability of water as a resource figures as important throughout the world, the limited availability of water on the atolls and small islands of Oceania is both exceptional and critical. Despite there being no shortage of water in the great Pacific Ocean, freshwater of potable quality can be scarce. On the atolls one finds a precarious interplay between freshwater lenses (essentially semi-stratified layers of fresh and salt water, separated by convergence zones) and the surrounding sea; wherein tidal fluctuations impact the vertical placement of the freshwater lens, and where storm-surge overwash (such as the 3 March flood) causes an excessive increase in the salinity levels of the freshwater lenses, pushes a freshwater lens downwards (underneath the salty water of the storm-surge), or temporarily mixes the different aquifers (floating layers of water with a variance of salinity levels) so that the convergence zones between the levels increase drastically<sup>29</sup>. All Oceanian atolls (and smaller islands) that rely on freshwater lenses share a common denominator; that

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<sup>29</sup> For more information on the specifics of the impact storm-surge overwash on atoll freshwater lenses, see Terry & Falkland (2009). For information on freshwater lens dynamics on small Pacific Islands, see White & Falkland (2009).

freshwater lenses constitute an incredibly precarious premise for life on an island (or chains of islands) in the middle of the Pacific Ocean.

Water can take many forms and will have different characteristics with regards to its quality (level of salinity and pollution), and this is no different for Rearlaplap. In addition to the freshwater lenses – which ideally are of a potable quality, but occasionally will be brackish (such as during post-flood conditions, and during drought) – potable water is made available via water catchments, or (less commonly) through purchases at the local village store. Rainwater (*aebōj*, *dānnin aebōj*, or *dānnin wōt*) provides an obvious source of freshwater (*māmet*<sup>30</sup>) for plants, and provides colder weather during rainfall. Brackish water (*kōlaebar*) can be found by certain coastal depressions – or on smaller islands that are partially submerged during high tide – as part of the ‘mangroves, coastal wetlands and swamps’ ecosystem, whereas seawater (*lojet*, or *dānnin lojet*<sup>31</sup>) surrounds all of the islands, and props up the freshwater lenses (aquifer). All of the different types of water serve different purposes in Rearlaplap, and the dynamic between the different types of water and their sources became altered as a result of the 3 March flood.

The availability of plants – with the associated medicinal, nutritional, and material benefits – all rely upon the availability of freshwater in one form or another. Whereas rainfall supplies coconut palms (and other forms of vegetation) with much needed H<sub>2</sub>O as soon as it hits the ground (prior to entering the freshwater lens that lies within the atoll), by being absorbed by root systems on its way down through the ground, the freshwater lens provides the vegetation with a (relatively) steady source of freshwater both prior, during and after rainfall. The vegetation that people rely on would not be able to survive without the freshwater lenses, especially during periods of drought (*id est* outside of the rainy season), and Rearlaplap’s people would (logically) go thirsty and would eventually be forced to move. Water supplies life for the social body in both direct and indirect ways; and where the anthropogenic people (of Rearlaplap) are provided life by the virtue of their plants, this would not be possible in the absence of the right kind of water. The topographic reorganization and introduction of plants and vegetation – as previously referred to – is

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<sup>30</sup> *Māmet* does also translate to “sweet”.

<sup>31</sup> *Dānnin* refers to “fluid”, whereas *lojet* translates to “ocean” or “sea”.

important almost exclusively in so far as it is a rearrangement of the relationship between certain types of plants and certain types of water.

### **At the End of the Rainy Season**

As the rainy season approaches its end, and rainstorms become less and less frequent, a group of relatives are gathering on one of their *weto* (land tracts) to dig a new well. Rationing freshwater is becoming increasingly important, as the volume of water contained within the largest water catchment on the land tract is dropping to dangerous levels. The father of the associated household taps the side of the catchment with his knuckles, in order to determine the water level inside the plastic tank, and the tank sounds out in a hollow echo. The father taps the tank once more, this time further down at around 2/7 of the containers height, and a dull sound indicates that there is still some water inside the tank. When the father taps the tank for the third time, just above the 2/7 mark, another echo indicates that the remaining 5/7 are empty, meaning that the drinkable freshwater reserve is at a precarious low.

While another catchment can be found next to the largest building on the land tract, it is made from concrete; which means that the water it contains is polluted by microorganisms that favour the dark, the dampness, and the texture inside the tank. The polluted water it contains is not drinkable, and is rather used for personal hygiene such as for showering, washing clothes, and cooling off on warm days. The plastic water catchment<sup>32</sup>, that currently contains 2/7 of its capacity in drinkable freshwater, now has to be used for specific purposes that only can be provided by potable water; such as providing drinking water, water for cooking certain foods, and providing for specific hygienic needs such as washing one's face or brushing one's teeth (uses for which polluted water would not be appropriate); in contrast to the rainy season, when water is used more freely. I am told that wells used to provide potable water prior to the 3 March flood, but this is no longer the case. Whatever wells were standing at the time of the flood were filled with ocean water and became poisoned, and all newly dug wells provide brackish water as a result of saltwater inundation. In the absence of frequent rain the freshwater lens – on which all the wells rely –

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<sup>32</sup> The container, or catchment, consists of a type of plastic known as virgin polyethylene. The virgin prefix implies that the sheets of polyethylene (plastic) have been made using new pellets, which produce fewer impurities in the structure of the plastic than recycled pellets. This ensures a certain quality of water inside the container.

is expected to shrink as the remaining plants and vegetation absorb its water in-between rainfall. During the coming weeks the family uses the new well, and the polluted catchment to maximum effect, and the unpolluted tank slowly refills to about ½ of its full capacity as a result of frugal consumption and infrequent rainfall; a feature that marks the dry season of the southern Marshall Islands. The few types of water that still can be found in abundance are used in a manner that mitigates the now severely diminished freshwater.

This shift is not only made visible with regards to the direct management of water reserves, but also when it comes to the indirect management of water related resources such as food crops (and other plants) and fish. In the absence of frequent rainfall, and given the poor quality of the freshwater lens, only a few food crops remain alive. With the disappearance of freshwater reliant food crops, the majority of Rearlaplap's affected population now has to rely on store-bought goods such as rice, flour, and canned meats to cover their daily intake of food. For the fishermen of Rearlaplap this means that the ocean and lagoon becomes even more important, as it now provides the only steady source of food “on-island”. Just like the majority of water-related needs have been shifted towards polluted and brackish water – in turn conserving freshwater for where it is most precious – so too does the absence of freshwater (to provide for food crops) result in a shift towards saltwater and the sea as a primary provider of food. Besides a few broken corals – another result of the 3 March waves – and some bleaching, the reefs are in good condition; and this provides for good fishing opportunities. In fact, fishing provides one last example of the “involution” of various types of plants, water, and people within the cyborg hybrid, as previously discussed in Chapter 1 and the current chapter.

### ***Lojet* as Hunting Ground**

The moon fills up large portions of the sky, bathing Rearlaplap and its ocean (*lojet*) in a pale light. We are moving in a group of five people, and are brandishing spears of yellow and black carbon-fibre shafts, topped with three metal prongs, and at the bottom a thick black rubber band loop. In our spare hands we carry small, 15 centimetre long, flare green diving flashlights. The battery casing and the light bulb (diode) are held together by a set of hinges with a tight rubber seal between the separate components. We all have bands fastened to the flashlights and tightened around our wrists so that the lights always stay close at hand. We also carry diving mask of the navy variety; that is one large open window with dark

plastic surrounding it (to better fit the face of the user) and black rubber-bands strapped between two metal loops, so that the masks can be properly tightened around the face. Black plastic snorkels hang off one side of the masks. One man carries a pair of black navy flippers. At the front of the procession the leader of the expedition turns his flashlight on so that we can see where we are going. He carries a light brown burlap bag over one shoulder.

On our final pause en route to the ocean side we regroup around the familiar outline of a pandanus tree. As we pause my informants break off a few of the tree's hanging roots, approximately one root per head. One group member extends his hand in my direction presenting an around 10 centimetre long and 2 centimetre wide sand coloured root with a green tinge. I decline his offer; I had previously observed informants applying similar roots against the insides and outsides of their masks prior to diving, and as such I had already produced a root of my own. Soon we are upon smooth coral rocks as the forest gives way to the ocean and the waves as they break upon the reef. A few *Konat* (*Scaevola taccada*) marks the border between the forest and the beach, between salt protectors and other plants and trees. Soon the smooth white rocks, now a skeletal grey in the feint moonlight that reflects off the mighty Pacific Ocean – booming and full of white noise – gives way to sharp corals. We ready ourselves for the coming efforts in fishing and turn on our flashlights one by one, walk shin deep into the ocean, and start cleaning our diving-masks in the water. We smash the *Bōb* against the glass of the diving masks. As the roots turn into mush a blank, thick and oily substance is produced. The roots are then used as painting brushes of sorts, distributing the clear fluid on all the glass as well as the other surfaces of the masks.

After cleaning the masks once more in the water we walk towards the edge of the reef-ledge, against the pounding waves. Several hours are spent in the water – spearing fish along the flat-top reef, from 11pm to around 2am – and our masks do not fog up once. As the group comes together with the plant (local), their fishing gear (translocal/commercial market), and the warm Pacific Ocean they become freediving underwater hunters who provide food for the lager associated social body (family/group/extended); so that it (the society) does not have to go hungry. At the end of the night we divide the fish, share some coffee, and head home to sleep. Even cyborgs need sleep.



## **“Involution” and Aggregated Effects**

The particulars of the “involution” between people, types of water, and vegetation on an atoll entails an aggregation of loss (or rapid change) in the face of climate-change-related events such as the 3 March flood. Life depends upon a series of practices in which the social organization exists as a hybrid between social relation, vegetation and certain uses of water by the extent of which the plants and the water becomes social relations enabling the continued existence of people on the atoll. This hybrid allows for a harsh existence in what would otherwise have been an impossibly constrained basis for any decently sized social group. However, surpassing these constraints requires efficient “involution” of the constrained or limited space and resources at disposal in Rearlaplap. It follows that any environmental (or other) impact that targets or affects one of the “involutions” components bleeds over into other aspects of what can best be described as a maximizing long term adaptation of land and sea. As the availability of various types of water became impacted by the 3 March flood, so too did the limited available vegetation become severely diminished, and so too did the long term strategies for dry season related water management become affected. The related shortages should be seen as a direct impact on the population and their wellbeing by the associated crisis of food shortage, water shortage, shortage of medicine and materials, and so on. At the core of things these impacts strike at the social body and the biological body, as projections of climate change; something that entails that climate change is not something that happens to the land or the sea, but rather something that affects the relation between people, land and sea – an obvious point, and on that has to be reaffirmed again and again.

## **The Symbolic Aspect**

The loss of breadfruit is lamented in part because of the importance of breadfruit related foodstuffs in the Marshallese kitchen. However, even those lucky few families that somehow manage to produce some sort of surplus of food in the post-flood landscape – by shifting resource usage to favour what is available – lament the absence of what for many is the number one food; a title the breadfruit shares with hard-to-produce pork. The sadness expressed by all informants when discussing the dead breadfruit trees is not “simply” a matter of food shortage or surplus, but rather a symbolic matter in which the breadfruit

figures as important because of an established link to most Marshallese social gatherings (such as the *keemem*); which without breadfruit is missing an important emotional component, in addition to the absence experienced with regards to nutrition. The breadfruit, then, becomes a symbol for aspects of Marshallese life that are considered important, and that now are under threat by the intensification of weather; the part of Marshallese culture that literally stands rooted in the ground of the atolls, and that at the present state (post-flood) appears to struggle to endure; the part of Marshallese culture that people risk leaving behind if they decide to move abroad. In as sense, the breadfruit is the canary's canary in the coalmine; where RMI (and other Pacific nations that struggle with sea level rise) figures as the canary in the coalmine from a global perspective, the breadfruit figures as the canary's canary and the indicator's indication. That being said, the breadfruit is only one representative of a larger category of "traditional" subsistence related foods whose practices are less present in the present than in the past; and that relate to local food security.

One Arno Senator supplies the following comment during an emergency relief excursion to Arno (specifically Malel and Rearlaplap) on 31 March: "...we have no food security here. When the flood hits, that is it. [...] Back in the day people used to have bananas and pandanus. They would prepare it in earth ovens, and then dry it, on coconut leaves out in the sun, and finally roll it together [...] This food was kept in case of emergencies, and for long journeys in outrigger canoes. It is superman-food." The senator is here referring to *mokwan* – dried pandanus, also referred to as *jãñkun* in the Ralik Chain dialect, a dish usually served alongside coconut meat; tasting something akin to liquorice.

According to Lone Heine deBrum, author of *Mokwan ak Jãñkun: Dried Pandanus Paste* (2004), *mokwan* is primarily produced on the Northern Ratak Chains atolls of Ailuk, Likiep, and Mejit, as well as the Ralik Chain atolls of Ujae, Lae, and Wotho – under the designation *jãñkun* (2004: 41). In the northern Ratak Chain atolls *mokwan* is produced to conserve food for drought and famine scenarios, whereas the Ralik Chain *jãñkun* primarily is produced for long sea voyages in outrigger canoes. On the utility of *jãñkun* for sailors deBrum continues: "Sailors have found it particularly useful because it does not have to be cooked, unlike *Bwiro* (preserved breadfruit), which cannot be eaten without further preparation. They can just slice off pieces as they need them. They have even used the

packages as pillows” (2004: 42). The preservation process consists of cooking the prism-like sections of pandanus fruit in an *um* – earth oven until the prisms are considered ready. The prism-like sections are unearthed, and “are spread on coconut fronds to cool” (2004: 43). A special tool, *wekan* or *peka*, is then used to extract the juice or paste. After a cooking process the paste is “spread evenly on top of banana leaves [out] in the sun [to dry]” (2004: 44). The paste is then cut, rolled, tightly wrapped in pandanus leaves, and closely tied with *ekkwat* – sennit (2004: 44).

The senator refers to *mokwan* as superman-food, and deBrum elaborates via a Dr. Lois Engelberg, who in March 2003 conducted a preliminary study on the nutritional value of certain pandanus varieties. A *mokwan* package was tested for Beta Carotene values (per 100 grams) alongside the other samples, and the *mokwan* scored a high 724.1 value; much higher than other preparations of pandanus, and better than all raw varieties of pandanus (scoring <232 per 100 grams) with the exception of Lanlin pandanus (901.8 per 100 grams) (deBrum, 2004: 45-46). Beta Carotene is important, being “...the most important of pro-vitamin A carotenoids”, which *in absentia* “...causes night blindness and other health problems, which are common in the Marshall Islands” (deBrum, 2004: 45). The senator is, in other words, not only commenting upon the value of locally grown food for people’s health, but also upon how increased consumption of market goods turn people away from the (time-consuming) production and preparation of traditional foods, and the associated food crops, in ways damaging to independent local resilience; something he seems to recall as more present in the past.

The loss of symbolically potent trees and plants such as the breadfruit speaks to associated threats on Marshallese identity; namely the uprooting of traditional practices or other practices relating to identity, the (unwilling) abandonment of practices that are deeply cherished as part of what it means being Marshallese, and the potential threats faced by a nation whose future might lie beneath the level of the ocean and whose people might have to live an uprooted existence abroad. Mobility has always figured as important within the context of Oceania, and this is no different for the Marshalls, but the prospects of mobility without the possibility for return should be taken seriously. In so far as their identity is rooted in a place of belonging (geographical setting), a home to which one may ideally return, the people of Oceania now risk an uprooting of the likes which have not been seen

since the nuclear test relocations of the past, and at a much grander scale; uprooting identities beyond a point of no return.

# V: Reflections on the Future Present

Rearlaplap exists somewhere between local practices of subsistence and goods from the global market, and this placement is confronted and navigated as part of the post-flood rebuilding process. Where the household provides an analytically useful focus for the organization of daily life, the houses of the household provide excellent examples of the physicality of Rearlaplap's position vis-à-vis both market and more rooted practices of subsistence. In so far as the process of rebuilding involves re-establishing this position, household reconstruction will offer some clues as to the constraints and possibilities of this particular situatedness; and offers an exposition on the social wants of a larger community. This physicality is crucial if we are to understand what it means being confronted by the negative possibilities of a rising ocean, and I hold that the absence of this physicality in discursively focused approaches to climate change is less than ideal. I will therefore approach Rudiak-Gould's 2013 book once more, which again will lead me into RMI's official rhetoric in approaching climate change (refusing to leave), as well as the sombre prospect of outmigration. Before doing so I will approach the physicality of Rearlaplap's situatedness in more detail.

## **Ad Hoc Solutions within the Restraints of Material Consumption**

P.'s family *weto* (land tract) stretches from the lagoon side in the southwest and to the ocean side in the northeast. Around one seventh of the land tract consists of a greyish white coral pebble courtyard by the lagoon, around which three houses are scattered. The remaining six sevenths of the land consist of coconut forest to the northeast, ending in salt protectors, the ocean-side beach, and the ocean-side reef. The courtyard and the forest are only divided by the narrow dirt-road, which cuts through the land tract in a southeast to

northwest direction. On the northeast side of the road there are trees and ocean, on the southwest side one finds the houses and the lagoon.

A tiny *mõn kiki* (house for sleep) sits adjacent to the dirt-road. The house has been painted a light blue and yellow now faded by the elements, is square, and consists of plywood sheet walls, plywood shutters, and a plywood door, as well as gable style roofing with a corrugated iron roof. The frame of the house sits on a partial concrete foundation, with one sixth of the floor being pebbles. A latch has been screwed onto the door, and doorframe of the house. The ridge beam extends beyond the shorter northwest wall, creating a small sheltered spot, and an improvised lamp post; a piece of electric wire twines around the ridge beam and connects to a light bulb hanging against the outer wall. The walls of the house are sagging, and most of the plywood sheets are partially loose, both as a result of the flood. Right next to the house one finds the ruins of the accompanying toilet and shower shed, standing there all askew, most of the structure having gone its merry way on the rising tide. The ceramic toilet has been shifted off its foundation, and the septic tank has been rendered unusable. The second house, the family *mõn kiki* (house for sleep), sits just next to the lagoon. Made to accommodate an entire family, the house is about six times larger than the first one. Both houses are similar in their construction, both consisting of the same materials, and the same worn blue and yellow paint, with the exception that the larger house stands on a pure concrete foundation. The house has sustained severe water damage during the 3 – 5 March flood, and most of the low level plywood sheet walls have begun to rot, a result of becoming waterlogged. A few structural beams, as well as large portions of the wall framing, similarly suffer from being waterlogged. House number three, the family *mõn kuk* (cookhouse), is located at the perimeter of the *weto* (land tract), northwest of the large *mõn kiki* (house for sleep). As a result of the flood the house has collapsed in on itself. The roof has fallen down upon the collapsed structure, seemingly a result of increasing structural weakness under the pressure of the waves, essentially becoming a pile of rubble covered with corrugated iron sheets. Some material has been flushed away, and most of the remaining material has been rendered useless by rot. A few pots and pans can be seen through the openings in the collapsed roof, the last indicator that this used to be a cookhouse.



**Photo 5.** Diminished American-style house. This Rearlaplap house has diminished by the length of the exposed concrete foundation (right-hand side), following the removal of waterlogged parts.

A great majority of the materials used to construct the three houses fall within the category of global market goods; things that cannot be bought or otherwise acquired in Rearlaplap, and that can be bought in Majuro, but is not made in RMI. This entails that the materials required to rebuild the houses – plywood, impregnated beams, and paint, as well as corrugated iron sheets – will have to be taken from other houses, and piles of rubble, and that the houses will have to be reduced in size. With the removal of ruined materials the houses will be rebuilt with the few materials that still remain, and as they become cannibalized (or self-cannibalized) for parts they diminish in size (see Photo 5). In a sense, the houses are eroding away.

Repairs have not been a priority until now, but this is about to change. P.'s family is scheduled to arrive from Majuro in around two weeks' time, and P. has expressed a wish for the family *mōn kiki* (house for sleep) to be in order by their arrival. The repairs are carried out by members of the family and the extended family. A couple young boys are busying themselves by removing nails from the shutters, collecting the nails in plastic bottles, dismantling the plywood from the two-by-four beams, and the beams from each other. I help P. remove a few nails from various materials, and assist him in the construction of a top wall plate, to be made from the still dry portions of two otherwise waterlogged two-by-

fours'. The waterlogged portions are cut away, leaving behind two 'half-beams' of inferior length. A smaller section of two-by-four is fastened parallel to the other two two-by-fours', in such a fashion that the twelve inch section overlaps the 'weld' between the two two-by-fours'; functioning as a brace of sorts. The brace is fastened to the longer two-by-fours' by a few nails, culminating in one long top wall plate rather than two shorter 'half-beams'.

The first step in restoring the house is the dismantling process. The second part, rebuilding, requires crafty repurposing and remodelling of the remaining materials; the parts or sections not damaged by the water. The *mõn kiki* (house for sleep) will have to be reconstructed with whatever materials P. have at hand, after the beams and plywood sheets have been reduced by cutting away waterlogged sections. Due to the material constraints that come with favouring an architectural style that depends upon foreign materials, this type of conservation, repurposing, and the reduction of damages by cutting away waterlogged pieces of two-by-fours and plywood becomes important. While other traditional house constructions are available, their construction is considered to be too time consuming, and the maintenance too demanding when compared to "American style houses"; which is what my informants call the plywood-and-corrugated-iron housing that is so commonly seen around Rearlaplap's lagoon. Most nails are collected in plastic bottles or in piles on the concrete floor, with the exception of nails too bent out of shape, or too corroded, to be reused. Most wooden material is reused in new adapted lengths and shapes, with the exception of thoroughly rotten materials. The men are crafty carpenters, and the renovation process carries with it a sense of adaptation in the face of increasing constraints. The work is for the most part *ad hoc*; adaptations are made underway and by eye, with the notable exception of K.S. who is using a measuring tape. While some men are refurbishing materials with handheld saws, others are doing carpentry. S.A. dismantles the roof, passing nails and corrugated iron sheets down to one of the workers on the ground. S.A.'s counterpart inspects the sheets for holes and other signs of wear and tear, proceeding by plugging the holes with fabric and tar. By the next morning all the good nails have been used, and the remaining nails require straightening and correcting. While additional nails are scavenged from P.'s family *mõn kuk* (cookhouse), the limited supply of plywood and impregnated beams is growing smaller. The house will have to be rebuilt with less material than prior to the flood, so P. and A.W. have decided to move the northwest wall inwards,



reducing the length of the structure. The northwest top wall plate is torn down, along with the northwest post, and is to be replaced by the 'weld' P. and I made yesterday. The renovation carries on for the better part of the two weeks. Where the inside of the house used to be divided into three compartments it is now limited to one big and one small compartment; lacking sufficient materials due to the material constraints, P. has to make do with a smaller section of plywood sheet wall inside the house.

The *mõn kiki* (house for sleep) is for the most part ready to receive P.'s family, but the plastic water catchment requires further attention. The sorry state of their gardens cannot be helped, but at a minimum the family requires access to shelter and clean drinking water. The catchment is already on its side, and a few young boys are helping P. clean out the inside of the tank; P. meanwhile works on installing a rain gutter alongside the northeast edge of the house's roof. As rainwater gathers on the northeast section of roof it travels down into the gutter, which again inclines ever so slightly southeast towards the tank, where all the rainwater collects. As soon as the tank has been sufficiently cleaned out it is restored to the upright position; a lid seals the tank, only allowing water to stream in through the rain gutter. It is not long before P. gets hold of a plastic bucket, fills it with clean water from some relative's catchment, and pours its contents into the northwesternmost end of the rain gutter. He traces the flow of the water for any potential leaks, or accumulation of still water inside the rain gutter, and makes a few quick adjustments to the overlaps in the pieces of rain gutter that make up the collection system. He pours water into the elevated end of the rain gutter once more, and when the water flows true he smiles; the home is finally ready for his wife and child.

Households and house structures provide centres for the everyday or immediate work organization – family members who live on the same *weto* (land tract) – by providing a place where people can gather for meals, sleep, and a focal point around which work becomes centred; meaning that most work culminates in the acquisition and temporary accumulation of resources for the particular household. Consequently, most aspects of everyday social life is organized around households where family members and friends drop by for food, or coffee and *bwebwenato* (talk) at will. Larger social events such as funerals or a *keemem* (first birthday) usually takes place around the household of the core family, despite catering to a larger group. The state of the household is in other words an important

matter both for practical reasons (providing shelter, food, and medicine) as well as for the social organization of everyday life.

The sorry state of households following the 3 March flood, the erosion of materials that came with it, and the shrinking of houses following the “self-cannibalistic” process of reconstruction, does not only point toward certain constraints on local resilience, but stands as a physical indication of how social priorities impact life in unexpected ways. “American-style” homes can be seen as signs of possible shifts within the larger organization of extended family or large family groups, from a larger collective workforce towards a smaller core-family centred social organization. Certain senior residents point out how family members in “the olden days” would gather for larger projects such as house construction and repairs, in exchange for food and bonds of long-term reciprocity, and how these practices in large part have disappeared today. These elders will at times describe the current generation as selfish and, consequently, as increasingly oriented towards the core family rather than the extended family that is scattered throughout Rearlaplap. In this regard it appears as if the American style houses reflect a social climate in which large-scale work organizations have become more demanding to organize, possibly due to the associated social obligations being perceived as burdensome. American style houses are, with the exception of floods, cost-efficient to maintain; as they require a smaller workforce at a lesser frequency relative to the efforts required in the time-consuming construction and maintenance of the traditional thatched houses, as coconut and pandanus thatch decomposes under long-term exposure to the humid climate. While traditional style materials are available on-island, in contrast to Americans style materials, the traditional house construction requires extended family to gather at a more frequent basis relative to American style houses. The American style houses, then, may signify that the preferred social organization of family members takes place at a smaller scale today than in the past as referred to by elders. This would explain how the majority of the people prefer American style houses to locally made houses (to the point that virtually no traditional houses can be found in Rearlaplap); and this despite the material constraints on resilience that come with relying on materials that are not available at the local level.

The social organization is both affected by, and affects the flood response, but other external impacts are just as important when it comes to the wellbeing of the Rearlaplap

cyborg; and choices do not always have to be geared around healthy living, as other values are given preference over the continued “stability” of the social organization of Rearlaplap. Change is as ever-present in Rearlaplap as anywhere else in the Oceania, or the rest of the world. Climate change does as such present another vector of change, only that the change is incredibly rapid, violent, and non-reversible.

## **Re-evaluating Theoretical Foundations: Two Approaches to Climate Change in RMI**

In addition to figuring prominently in the global media, as a frontrunner for climate change affected countries in the Pacific, RMI also figures in the anthropological discourse on climate change. This is, as previously mentioned, by way of Rudiak-Gould’s book *Climate Change and Tradition in a Small Island State: The Rising Tide* (2013). Rudiak-Gould’s publication figures as the most recent significant anthropological contribution on the subject of climate change in the Marshall Islands, with significant ties to climate change in Oceania at large; and it is therefore imperative to draw some lines for comparison between the 2013 publication and this thesis (as outlined in the Prologue and Chapter 1). The two anthropological contributions are based on fieldwork conducted at different times, with different foci, and within different contexts (time and place), with both having strong ties to the metacontext of climate change in the Pacific. The texts can as such be seen as somewhat complimentary to each other. While both texts argue that climate change – in particularly in the Marshalls – should be seen as a profoundly social phenomenon, the theoretical approaches to local understandings of surroundings, weather, and climate within the western scientific discourse stand at odds with one another.

Firstly, *Climate Change and Tradition in a Small Island State...* does not concern itself with the ecological dimension of climate change in any major way (Rudiak-Gould, 2013: 14); and while the absence of such a focus makes some sense given the books narrative focus, the absence of ecology in relation to discourses on (or related to) climate change stands to provide no more than half an answer. I find it somewhat surprising that Rudiak-Gould justifies the absence of an ecological focus on the basis that environment is a western

conception that does not fit well with the concept of *Bwirej*<sup>33</sup> (Rudiak-Gould, 2013: 14). I hold that the author is right in postulating that we should not see climate change as environmental *full stop*, but I also hold that the only way to do justice to Marshallese cosmology *within western science* is to fold the somewhat disconnected concept of environment into the social; rather than omitting environment from the social. Even a study into the expectation of disaster should account for the material dimension thereof, lest risk portraying a voice without a head. Ironically, the theoretical framework behind *Climate Change and Tradition in a Small Island State...* manages to split Marshallese cosmology, and the concept of *Bwirej*, into two by arguing that the cosmology should remain intact.

The methodological setup behind the book does as such omit the many ways physical dimensions, while not envisioned as a separate environment (such as in western cosmology), constitutes a large part of Marshallese everyday life; and a part that the associated narratives could not have existed without. By exclusively approaching the discursive dimension of climate change as conceptualized by Marshallese people prior to the fact, based in the idea that the physical dimension itself cannot be approached (by the book) without being contrary to the Marshallese conception, Rudiak-Gould has put himself in a position where he cannot discuss what his informants are *talking about*, but rather *what they are saying*. This does not devalue the narratives presented by the people of RMI, so much as it devalues the book's grasp on the on-the-ground day-to-day realities of the people behind the discourse, as well as how the discourse is situated. In that regard, the author's informants are not living in a dimension of physical reality (as far as the book's analysis is concerned), but rather a sense of disconnectedness that offers little clue as to the physical wellbeing of the people or their society.

In this this thesis I have, in contrast, approached the issues of climate change as they are projected onto human society and the human body, and I has done so by experimentally reinterpreting Haraway's cyborg myth. Based in the assumption that local Marshall Islanders, and indeed most Oceanian people, do not envision the physical (or the

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<sup>33</sup> The concept (*Bwirej*) is not mentioned explicitly in *Climate Change and Tradition in a Small Island State...*, but is nevertheless referred to as "cosmology" in the larger text. In "*Traditional Medicine of the Marshall Islands: The Women, The Plants, The Treatments*" *Bwirej* is referred to "as the all-encompassing Marshallese concept of land" in which "people and their knowledge and traditions are all part of the terrestrial, freshwater, and marine ecosystems [...] rather than constituting separate entities" (Taafaki, Fowler & Thaman, 2006: 42).

environment) as separate from themselves – in turn meaning that the social and the physical, or nature and culture, in no way is separate from each other – the bricoleurs approach to Haraway was constructed (or *reconstructed*) to fold the social realities and the material realities into one whole. This was done in a fashion somewhat similar to the Pan-Pacific concepts of all-embracing land<sup>34</sup>, such as the Fijian *Vanua*, the *Puava* of the Marovo Lagoon, and the Marshallese *Bwirej*. According to Edvard Hviding, while “non-Western views of nature may seem exotic and strange to the Western observer, they are not therefore by definition incompatible with western science” (Hviding, 2003: 250). This thesis has proposed to approach the realities of climate change by allowing for the material or environmental dimension to be a part of the social reality of the affected people, in order to help us better understand what climate-change-affected Oceanian people struggle with on a daily basis. In an attempt to circumvent the western divide between environment and the social, this thesis chooses to pay tribute to the same Marshallese cosmology that Rudiak-Gould refers to; not by distancing the analysis (or the ethnographic prose) from the physical dimensions of an environment, but rather by attempting to weave the western academic divisions that do little justice to the Marshall Islands (and other similar Oceanian constellations) into a coherent whole; a cyborg. This cyborg melds the western boundaries that-should-not-be into an analytical framework that strives to represent the lived reality of climate change as it presents itself in RMI and Oceania at large. Such an approach dispels the illusion that climate change is a physical thing that happens *around people*, rather than *to people* and the social world. The reinterpreted cyborg makes room for the social realities of environment.

In terms of methodology, Rudiak-Gould’s book has been written based on insights gained throughout four extended stays in RMI, in 2003 – 2004, 2007, 2009, and 2012 (Rudiak-Gould, 2013: 13). The research has as such found place prior to the catastrophe – “notwithstanding some moderate impacts and frightening omens” – and does instead focus on the expectation of climate-change-related disaster (Rudiak-Gould, 2013: 14). Whereas the fieldwork behind the book took place outside of any major climatic events, the fieldwork behind this thesis took place during and following a climate related extreme weather event which physical impacts majorly affected my informants; as demonstrated in chapters three

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<sup>34</sup> For more information on the Pan-Pacific concepts of nature (or all-embracing categories of land), with emphasis on the Fijian *Vanua*, the Marovo Lagoon *Puava*, as well as the Hawai’ian *Ahupua’a* and the Yapese *Tabinaw*, see Hviding (2003).

through five of this thesis. Our foci were also of a completely different nature, one of on-the-ground versus a predominantly narrative one. It follows that where the information presented in the *Climate Change and Tradition in a Small Island State...* paints a picture of people handling risk and perceptions of future danger in a way that benefits the society, this was only partially true for my informants.

Rudiak-Gould was, in a sense, unfortunate to study climate change before the fact. The impacts were not as profound as they are today, and the awareness of Oceanian people (and other people) with regards to climate change was not as acute as it is today. When the author summarizes the general lines of his trajectory theory of risk perception based on present and future risk (and threats) in the context of other possible trajectory theories, he does so with little regard to the actual presence of danger in the now (Rudiak-Gould, 2013: 181). However, the risk is no longer just a risk, but instead an ongoing process of destruction. According to the 2013 book, the threat presents an ideological hazard that has to be neutralized by the affected social group, which starts off a process in which the idea of the threat becomes encompassed by the ideological narratives of the affected society (Rudiak-Gould, 2013: 178). The affected group comes to both love and loath the idea of the threat; as it both stands to threaten the ideological values that are held dear as much as it stands to strengthen those same values by way of raising peoples' awareness of them (Rudiak-Gould, 2013: 178). This contrasts with two findings that informed this thesis. For one the majority of people encountered claimed in their narratives that climate change as a reality had just recently dawned on them, with the increasing effects of bad weather, inundations and so forth. The veracity of climate change was based in the physical occurrences that had marked, and did mark peoples' everyday lives. The idea of a threat, then, was not based in assumptions of risk to-be, but rather in confirmations of the presence of danger; risk taken to its unfortunate conclusion.

While climate change certainly has become a part of the narratives of many Marshallese people, this thesis finds that the narrative first and foremost has been activated not as an ideological threat but as a physical threat that carries ideological concerns with it. The idea of the threat was not loved, as it was loathed. The latter is however not a critique of Rudiak-Gould, as Mary Douglas' idea of risk does not concern dangers (while acknowledging them to be real), but rather how dangers become politicized (Douglas, 1992:

29-30). The critical point with regards to Rudiak-Gould has to do with the difference between risk, and an event that is happening or otherwise has occurred; as physicality beyond the threshold of risk. The prospect of future threats in the form of repeated events, such as the 3 March flood, was in no way cherished for its rejuvenating possibilities with regards to holding back cultural decline, but lamented for the brutal impasse it brought down upon the rhythm of daily life. The argument that “Marshall Islanders have transformed climate change from an abhorrent *danger* to an appealing *risk*” (Rudiak-Gould, 2013: 180) does not resonate well with the general perception of climate change *as the disaster unfolds*. There is nothing appealing about the risk faced with regards to the longevity of the Marshall Islands; that is, outside of certain sectors or groups, and within certain narratives. While it is well known that destruction can bring opportunities of creation and recreation (as rebuilding in itself can be a creative process) my informants show no signs of being allured by the promise of creativity in association with destruction. While it may be argued – as the book does – that the associated trajectory narrative strengthens peoples perceptiveness with regards to traditional ways of life, the primary concern is not a conceptual or narrative one, but one of lived reality; possible relocation, the loss of food, the loss of homes, and the loss of certainty.

At the very end of *Climate Change and Tradition in a Small Island State...* the author predicts that “climate change will become the new radiation, the catch-all-explanation for negative change”, that “diabetes will come to be blamed on climate change”, the number of people who see climate change as causal for “nearly everything, will increase”, and that Marshallese peoples “trust of scientists will swell”, not to mention that “biblical exegesis [...] will be needed more than ever by any remaining disbelievers” (Rudiak-Gould, 2013: 183-184). While none of my informants have vocalized any connection between climate change and diabetes – however much unhealthy imported food replaces healthy traditional food, or how much traditional food is threatened by climate change – the belief in the credibility of climate change in affected areas is soaring. Climate change has not replaced radiation within the cultural narrative of the Marshall Islands, but the two narratives have become intertwined in a manner where the one parallels the other (and vice versa). Even clergymen (pastors, reverends, and the like) express some uncertainty with regards to the future, as the will of God is uncertain at best. The Marshall Islands are, in the context of possible

relocation, viewed as a traditional space that stands to be lost; something that corresponds well with Rudiak-Gould's conclusion (Rudiak-Gould, 2013: 185). It seems that where the outer islands provide a rooted traditional identity for those living in the Marshall Islands, so too does the Marshall Islands provide a rooted identity for the people living abroad; and this will in all likelihood apply in the possibility of a Marshall Islands "ex situ"<sup>35</sup>.

## The Great Move Abroad

A great number of Marshallese people have already left their islands for the United States of America, and more are on their way. Many among the well-off portion of the population (still residing in RMI) – certain politicians, public voices, and policy makers – even have estates abroad. Certain well-off people express, quite clearly, that they will pack their bags and leave, if the frequency and scope of extreme weather events increase further. Meanwhile, the majority of my informants – people who have little wealth in terms of dollars – find it difficult to envision a move abroad. Besides, how would they live in the absence of the fruits and fish they rely upon for their daily food? That being said, the refusal to move come hell or high water – a refusal that accompanies RMI in the global media – diverges from the narratives encountered in Rearlaplap. Whereas the former is an expression of cultural value as narrated by the public voice of RMI, the latter is a voice of down to earth practicality as told in post-flood Rearlaplap.

In a way, the public voice of the Marshall Islands can afford to speak out against relocation because its citizens hold American passports as a result of the 1986 Compact of Free Association; something also touched upon by *Climate Change and Tradition in a Small Island State...* The migration abroad has already begun, and while most people do not relish the idea of abandoning the land that is so central for the practice of *manit*, many people express that an uncertain future might rob them of their choice. The calamity is not so much found in a singular event, such as the 3 March flood, but in the frequency of these events.

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<sup>35</sup> The "nation ex situ" deals with the continued state legitimacy in the conceivable scenario of a nation swallowed up by the sea; a precarious situation with regards to *jus cogens* norms, and ultimately the LOSC (the Law of the Sea Convention) as well as the rules of EEZs (Exclusive Economic Zones). Burkett (2013) suggests that by recognizing such a nationless state, a "nation ex situ", the displaced population will retain some legitimacy and may hope to retain their EEZs. This latter point requires some alterations with regards to LOSC as territorial waters and EEZs traditionally are measured from the low-tide mark of habitable land (not what LOSC classifies as uninhabitable rock).



Like a marathon runner that is not allowed to rest in-between races, it is the *frequency* of repeating extreme weather events that strains RMI. While one event causes stress that can be overcome with time, the current situation seems to offer little or no time to recover; the harshness that accompanies extreme weather events becomes ever more present in everyday life. The threshold for pain has been reached, and the majority of people I spoke to expressed concerns that the future would become unliveable. The ocean has always been a potentially dangerous presence, and the recent flooding has made people all the more aware. The public voice can only refuse to migrate in-so-far as the government believes that the American Passports provide a way out if worst comes to worst. RMI is in this respect different from most other low-lying Pacific Countries (take for instance Kiribati as represented by President Tong) that are struggling with rising seas and extreme weather; whereas other Pacific countries have to devote their public voice to procuring a place to relocate to, RMI can afford being tenaciously stubborn in its refusals to move – as the move already is taken care of.

New issues arise with regards to how the Marshallese population *ex situ* will be able to organize their country-in-absence-of-a-country, or how they will be treated by the US or other host countries. Calls to drown rather than relocate enforce a sense of Marshallese identity, and this is the sense of identity that Marshallese people will have to maintain if they are to retain their culture in the unfortunate event of a nationwide exodus. In this regard, I hold that Rudiak-Gould is correct in assuming that the narrative refusal to migrate serves a purpose for Marshallese identity making, and the maintenance thereof. Relocating would, arguably, threaten Marshallese values by depriving the population *ex situ* of the physical and geographical roots of their cultural heritage. Indeed, while many Marshall Islanders live abroad today, an increasingly large portion of them know little about the oceans and the islands their ancestors used to call home. Those who do remember, and those who occasionally visit RMI, can however maintain this sense of identity by reaffirming their legitimate belonging-in-the-land where it springs forth from their ancestors' tombs. While one could claim that the atolls and islands of RMI are mere geographical features, this would do little justice to their importance for identity-making, and it is justifiable to worry for the impending loss of identity that would accompany RMI's disappearance beneath the sea. Many of my informants do however distance themselves from the political cries of no

relocation, and express an increasing hopelessness in the post-flood situation, and the fact that their political leaders seemingly have forgotten about the people outside of the two major cities (Majuro and Ebeye). One informant gives voice to this, saying “what about me? What about the outer Islanders, the people not living in Majuro? What will we do?”. He asserts that the decision of relocation does not belong to the politicians alone, and that he would prefer not to remain behind if worst came to worst. At times the political play, and the perceptions and realities of the people, stand at odds with each other.

The curious relationship between the Marshall Islands and the United States of America takes a new turn in the face of rising oceans and more extreme weather. Whereas the US originally stood in relation to the Marshall Islands as a bringer of war, bombs, and a nuclear odyssey unlike anything encountered before (or since), the US also played its part in the Compact of Free Association process and the so-called Marshallese independence (or rather neo-colonialism). It is all the more striking that where the first major destruction brought down upon entire islands and atolls came by way of the paternalistic tendencies of the United States abroad, it is now the US that provides the safe bosom in which the Marshall Islanders of the future may have to seek refuge. The irony does not end there, as this is a future that the pollutions of the US have played no small part in conceiving. The US that disintegrated so many islands may finally provide solid footing for a Marshallese population *ex situ*.

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