2 Worlding Works – Climate Change Communities

Oceania is a region of transformation, and both international politics as well as actors in the region not only live *with* but also "live climate change" (Crook and Rudiak-Gould 2018, 1). This includes a wide range of actors being connected on different levels: from politicians, activists such as Pacific climate warriors, citizens of every island state, in urban areas and in villages. All have something to say and act upon, "shedding light on the 'foreshadowed problems' of climate change" (Goodman 2018, 342). In 2018, in a video message Ralph Regenvanu, then Vanuatu's Climate Change Minister, addressed both the members of the Climate Vulnerable Forum and the global players of industrialised countries, accusing them of still betting everything on fossil fuels. He described Vanuatu as having a contrasting approach, being a player in this global network with unrestricted dedication to climate politics, showing an exemplary approach to the climate crisis: despite being among the countries most affected by global warming, despite contributing little to global emissions, people in Vanuatu make exemplary efforts to combat climate change (Woonton 2018). What this also shows is involvement locally in global climate politics, which also contrasts the representation of global discourses of local vulnerability. Climate change practice, however, is very often framed by approaches of politics to vulnerable communities to render them more resilient to anticipated or current ecological and economic challenges. In this chapter, I deploy this tension of, on the one hand, acknowledging people on the ground as being affected by changes and, on the other hand, those same people still being able to reflect on such changes in a productive way. Village communities, like those of Dixon Reef and Siviri in Vanuatu, are included in this policy of forward-looking practices, but the role they play is viewed differently in literature and in political practices. This includes forwarding narratives of people on the ground perceiving changes, realising adaptation measures or indicating changes of weather patterns. In the following, I will explore how social science climate change research in Oceania

and beyond give relevant framings for climate change practices in Vanuatu. I further reflect on the role of villagers and suggest how we can approach the actions of local people as a kind of climate change worlding, simultaneously learning more about the impact climate change on the ground.

Although scholars have argued against attributions such as 'the victim slot' and framings of vulnerability, which keep island nations small and their actions insignificant (Farbotko 2010; Lazrus 2012; Orlove et al. 2014) and further distract from the real culprits of the effects of climate change (Hughes 2013), these attributions are still prominent in climate change discourses about Vanuatu, as well as across the whole Pacific region (and surely beyond). Accordingly, scholars working in the region ask to acknowledge people in Oceania to tell their own 'Oceanic philosophies' and bring them "to the frontline of social scientific theorization" (Crook and Rudiak-Gould 2018, 2). This can be done by looking at the "knowledge practices" (ibid., 4) of Pacific Islanders, how they deal with discourses and practices in order to open up possibilities of understanding (cultural) encounters with new forces. However, the sole designation of dealing with climate in terms of the natural that strikes back and people having to cope, is criticised as reductive. With this, "Pacific people are framed as the 'subject' of disaster responses, especially in the context of climate change. Representations of local Pacific communities in the wake of disasters reveal a particular polemics attached to depictions of agency." (Ballard, McDonnell and Calandra 2020, 10)

Literature in social science about climate change in Oceania moves within this field of tension between the seriousness and urgency connected with climate change on the one side and the self-assertion of the people on the other. So-called Small Island Developing States being challenged by the effects of anthropogenic climate change, especially rising sea levels, higher intensity of storms, salinisation of the soils, coral bleaching and fish dying, and Pacific Islanders' ways of dealing with this, are central topics (Barnett and Campbell 2010). Mike Hulme states that, "Small islands frequently are given merely symbolic value as icons of vulnerability to climate change." (Hulme 2010, 561) Furthermore, their critical voices are not yet being taken equally seriously in international political discussions (Klöck and Fink 2019). However, on recognising islanders as important actors in global discourses and practices, many suggest that we learn along with the strategies of people in island states and their daily interactions with national and international actors in climate change encounters (Crook and Rudiak-Gould 2018; Farbotko 2010; Lazrus 2012, 2016; McNamara and Farbotko 2017).

This approach does not mean that there are no differences or difficulties arising between the island states. The year 2021 marked a break when several Micronesian countries left the Pacific Islands Forum, due to internal differences and feelings of underrepresentation, including within matters of climate change (Carreon and Doherty 2021). Not every country in Oceania faces the same problems and politicians of low-lying atolls are concerned about land loss whereas Vanuatu's islands are mostly high volcanic islands and accordingly this issue is not a priority. Thus, island nations are not completely unified in terms of addressing issues due to climate change. This diversity must also be addressed (Lata and Nunn 2012, 170–71). At the same time, climate framings in the individual countries and how people talk about related issues can change over time and under different governments (Hermann and Kempf 2019). Other examples show that inhabitants of such countries can be less concerned than expected because islanders know how to deal with changing patterns and thus are rather irritated by climate politics (Bønnelykke Robertson 2018). It is also important to note that Vanuatu has similar challenges to other countries, especially when it comes to developing common strategies around climate change. I will concern myself with activities in the context of adaptation projects and focus on what happens and what is created in this intensive cooperation between NGOs and village communities and how it came about that Dixon Reef became a climate change site. This chapter describes global and local dynamics in their entanglements. Actors in Vanuatu are connected to people on other islands not least through the wider struggles of the Pacific Islands region. They live in a time when the concepts of climate change adaptation, mitigation and resilience influence their practices and discourses.

2.1 The Narrative of the Vulnerable Islands

For some years, the world risk report, published by an alliance of international development agencies, has put Vanuatu at the top of the list of the most vulnerable countries in terms of disaster risk and consequences of climate change (Mucke, Kirch and Walter 2019). Political measures in the country are designed to help people develop resilience to environmental hazards in situ. In the many conversations during my fieldwork, the topic of migration as a strategy to escape from the impacts of climate change was neither made prominent nor categorically excluded. Governmental and non-governmental organisations in Vanuatu, however, maintain their focus on climate change

adaptation and other protective measures.[1] This goes in line with a wider approach to the adverse effects of global warming:

> At present, the impact of climate change on society is primarily framed in terms of adaptation, vulnerability and resilience. They are translated into political measures and adaptation projects, which are implemented at the local, national, regional and transnational level. (Klepp and Chavez-Rodriguez 2018, 8)

The authors also refer to the article by Michael T. Bravo (2009), which goes on to say that such frames are needed for the creation of a global climate crisis narrative, being responded to by certain action; even though this could include alternative responses for diverse context (Bravo 2009, 259).[2] Following this narrative, international media and policy documents as well as some scholars draw a picture of islands in Oceania as being located at the frontline of climate emergencies and at the same time having to face the fact that their futures are threatened by severe problems – or even that such lives are 'doomed' (McNamara and Farbotko 2017). Scholars working in the Pacific often work against this metaphor of the 'small vulnerable islands'. Focusing on people's 'vulnerability' of the catastrophic consequences for the environment of Pacific Islanders has been criticised repeatedly "as to paint whole countries or people as the passive victims of 'natural' forces, thus occluding the geo-political origins of the climate change crisis" (McDonnell 2020, 58).

Carol Farbotko labels this discourse as being influenced by the Western 'gaze' on the Pacific Islands. She explains that this 'wishful sinking' (Farbotko 2010), represents waiting for islands to disappear in order to have proof of climate change, and is merely a reflection of what Europeans think of islanders living far away and secluded from global interactions. They become the 'canary in the coal-mine' to explain that this projection only serves the global community, serving as a warning sign if the islands are really sinking down (which they are not, being flooded rather than sinking) (ibid., 53–54). "The disappearing islands thus embody not a located tragedy of importance in itself but a mere sign of the destiny of the planet as a whole." (ibid., 54) This criticism has not only

1 In contrast to perspectives of other Pacific Islanders, for example those of Kiribati (Hermann and Kempf 2019), the Marshall Islands and Tuvalu (Constable 2017) or Chuuck (Hofmann 2016), all of which are Micronesian countries.

2 These terms are accepted in this discourse without considering their (political) origins and the contexts in which they are renegotiated (Goldman, Turner and Daly 2018, 4).

been levelled at the Eurocentric treatment of Pacific Islanders, it also applies to interaction with other indigenous people who do not participate in global negotiations but who are those who will deal with irreversible changes and therefore provide early evidence of the effects of climate change. Communities around the world become at the same time poster children and victims in the arena of political discussions on climate change (Crate 2008; Roncoli, Crane and Orlove 2009). Bravo writes in the same vein that Arctic environments and lives of Arctic people are depicted as "an early warning system of environmental change" (2009, 257). Critical voices stress that local communities in many places are only considered as the experts within their localities and thus can only react to weather changes or environmental changes. This international discourse relies on a vulnerability narrative of global North-South imbalances and are considered as victims who need to be helped, mainly by deploying the development strategy known as adaptation (de Wit, Pascht and Haug 2018, 10; Arnall, Kothari and Kelman 2014).

The topic of Pacific Islanders' vulnerability has been targeted for dissolution by taking into account alliances across the Pacific. By referring to Epeli Hau'ofa's perspective on Oceania and his idea of a connected and empowered region as a 'sea of islands', Heather Lazrus emphasises the strength of those connections also in times of wider transformative forces (Hau'ofa 1994; Lazrus 2012). This renewed kind of 'world enlargement' (Hau'ofa 1994), draws a counter-image to the smallness of Pacific Islands: "Regional alliances and networks of island communities allow them to harness this argumentative resource by having a significant presence in international climate arenas." (Lazrus 2012, 292) One example of this is the Alliance of Small Island States (AOSIS) representing the Small Island Developing States at UN assemblies. Moreover, many scholars working on climate change topics in Oceania have considered the active engagement of their research partners with political discourses (Kempf and Hermann 2014) as well as actions connected to the so-called 'materialisation' of climate change such as storms, droughts and rising sea levels (Rubow 2013). The activist group of the Pacific Climate Warriors expect others to recognise that they are not victims of the circumstances. To the 'resisting the doomed fate' narrative (McNamara and Farbotko 2017), they have responded with the slogan to keep on 'fighting not drowning' (Fair 2018). While I was working with them in Port Vila, the Vanuatu Climate Warriors repeatedly emphasised their motivation to deal with anticipated problems of climate change for the whole country and taking up their responsibility in their new roles as young urban climate 'experts' (Hetzel 2016; Hetzel and

Pascht 2017). In terms of Vanuatu's rural communities, Olivia Warrick stresses that such communities also take an active part in discussing climate change, arguing that the use of the concept of vulnerability itself should be questioned because people do not see their activities as a reaction to biophysical hazards (Warrick 2011). Therein lies the critique of political measures for climate hazards and consequently new emerging strategies and discourses of people on the ground have to be considered. For the events connected with Cyclone Pam, Siobhan McDonnell writes in her analysis about approaches to community activities that organisations should see local agency and resilience not "to return to the status quo" but that they should recognise transformative action on the ground (McDonnell 2020, 57). Further underlining this processual approach, Amiria Salmond writes about Pacific Islanders showing the ability of 're-building ships at sea' – i.e. taking something they have known for a long time and reworking it – considering what they want from the past and combining it what they aspire to for the future (Salmond 2017).

International discourses on climate change involve Pacific Islanders on different levels and make them part of a wider engagement with its information and approaches (Fache, Dumas and Ramon N'Yeurt 2019; Hermann 2018; Hetzel and Pascht 2019; Kempf 2019; Moesinger 2019; Newell 2018; Pascht 2019; Rubow 2013, 2018; Rudiak-Gould 2011, 2012). Governmental, non-governmental and both urban and rural communities are also shedding light on how people act in the context of political topics of mitigation or adaptation (Barnett and Campbell 2010; Filho 2013, Klöck and Fink 2019).[3] In Vanuatu, political and development actors concentrate on the three concepts of adaptation, vulnerability and resilience as triangulated to make future lives for ni-Vanuatu possible.

3 Studies on mitigation concentrate on carbon projects such as REDD+ and climate communication (Babon et al. 2014; Pascoe 2021; von Seggern 2021). Adaptation studies include topics of food security (Campbell 2015), coastal protection (Gesing 2019; Mimura and Nunn 1998; Piggott-McKellar et al. 2015), rainwater catchment due to soil salinisation, infrastructure and weather warning systems and conservation of reefs by planting corals (Kumar 2020). There is also considerable literature on migration, where the concept of 'climate refugees' plays an important role, and where the question is raised whether or not migration should be seen as adaptation (Boege 2016; Hermann and Kempf 2019; Hofmann 2016; Moesinger 2019; Nakayama, Drinkall and Sasaki 2019). For ni-Vanuatu, migration and leaving their islands behind is out of the question (Perumal 2018) and thus designating migration as an adaptive strategy places further stress on the lives of community members (Craven 2015).

McDonnell further writes that, especially when it comes to disasters considered to be a direct effect of climate change, resilience comes into play for measures of governmental and non-governmental organisations: "resilience is deployed as a strategy to overcome the vulnerability of communities in the wake of 'natural' disasters" (McDonnell 2020, 56). However, this does not problematise "disaster responses which see the 'community' as a space to be acted upon by outsiders" (ibid.). Resilience is mainly met and improved upon by adaptation measures, especially for the agricultural sector. Therefore, publications about climate change concentrate on key actors in the context of adaptation in those political measures (Clarke et al. 2019; Walshe et al. 2017; Warrick 2011).

Studies of adaptation focus on how these projects work and how community members perceive them (Clissold and McNamara 2020; Granderson 2018; Orlove 2009; Walshe et al. 2017; Warrick 2021). Some question the conception of such projects due to their use of Western termini, approaches and goals (Warrick 2011). By doing this, they make us aware of the different impacts which 'adaptation' as an operative term can have on local communities (Orlove 2009) and ask for more informed interactions in climate change adaptation involving people in communities as the developers of these methods (Walshe et al. 2017). Adaptation as a concept has recently been critically analysed by Klepp and Chavez-Rodriguez who draw attention to political aspects of adaptation methods and the concept of adaptation itself (Klepp and Chavez-Rodriguez 2018, 3). In their case study of Kiribati, they describe socio-economic changes due to climate change adaptation discourses and politics (ibid., 2). Explaining that scientific discussion has de-politicised climate change adaptation, they call for the refocusing of social science onto power dynamics and the consequences for local people (ibid., 11–13). Adaptation as a linear term that takes the environment and humans as reactive and thus the possibility of "the adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities" (IPCC 2007, 27) becomes problematic. Nevertheless, in Vanuatu, adaptation projects also create spaces in which participants encounter the topics around climate change. Until now, the focus of studies has been the effectiveness of these projects which is often measured by how important explanations are perceived and changes in the environment are observed (Clarke et al. 2019; Walshe et al. 2017). However, all of these studies are mainly interested in what lives look like when adaptation measures are implemented. This leaves the way open to see what happens in these projects in a more holistic way, when looking at examples of how villagers come into contact with this climate information in

connection to their daily work and how they get involved in the projects. These initial moments of being involved in adaptation projects also shows what motivates villagers and what makes them aware of the subsequent practices.

2.2 Becoming a Climate Change Community

Figure 2: The village of Dixon Reef

D. Hetzel

When I first came to Vanuatu, villagers in the Dixon Reef area had been involved in the adaptation programme for cultivation for several years: climate change was a topic everyone could talk about, drawing on the several workshops, village meetings, conversations with relatives in town or for the younger people, from what they had heard in school. Villagers pointed to changes along the coast and the effects of the dry spell, explaining what they had learned in terms of soil preparation or planting methods. Inside Dixon Reef, another smaller compound of Lerambis was founded by some people who became part of the Presbyterian church and split off from Catholic Dixoners. Although divided by congregations, they were all attending the climate change workshops together. Furthermore, relatives from the neighbouring village of Blacksand were also happy to join in the discussions on this topic. This led to ongoing work with the programme's project manager with all of these people over a longer period.

The village of Dixon Reef with its 450 inhabitants[4] is located in the west of the island of Malekula, in the northwest of Vanuatu. The area directly faces the open sea. When I spent my days in the village, we often sat on the beach looking over the ocean in the direction where we expected Australia to be. The houses of the village community of Dixon Reef stretch along the beach directly exposed to the west winds and sheltered from rain by the precipitation slope from the east, which had already caused rain in the higher centre of the island. Villagers used to tell me that "Dixon is a dry and sandy place." Especially along the beach where the several houses were built, people kept emphasising, there was hardly a hummus layer to grow anything. From the village shores, it takes two hours to reach the next town by boat, which operates a few times a week, because there is no road connection. The principal chief of the village was a well-connected man and a fieldworker for the Vanuatu Cultural Centre, who had built his Nakamal[5] right on the beach where passenger and transport boats dock, and who was always ready to receive people and news. Around 2010, he responded to a call from various NGOs, who asked communities to take part in their programmes. He heard about a workshop series for agriculture and thought it would be helpful and, above all, interestingly novel for the families in his village, and thus placed his community on the list. Dixon Reef was accepted onto the Climate Change and Food Security Programme 'kaikai blong laef' (Food for Life) from 2012 onwards under the leadership of an international NGO, which held workshops and consultation visits to the village several times a year. Dixon Reef was included in the programme because of the constant dry environmental conditions and additional elements which fit other criteria such as economic factors: cash crops are mainly coconuts for making copra, where people separate coconut flesh from the fruit by hand and then dry it on blast furnaces, and cacao, both sold in situ to passing ships. Some also began to plant kava (piper methysticum) a few years ago, a pepper plant of which the roots are used to produce the well-known beverage also called kava.[6] All these sources of income were not only subject to crop fluctuations, but also to extreme price fluctuations and people lived mostly off what they grew in their

4 This number is subject to seasonal fluctuation and around Christmas time and the subsequent holiday season it increases significantly for months.

5 Nakamal (Bislama) today denotes the meeting place for drinking kava, but is also the ceremonial dance and meeting place.

6 Kava is used as a ceremonial drink in some parts of Vanuatu and is now sold all over Vanuatu in so-called 'kava bars' or nakamal.

numerous garden parcels. The programme implementers were quick to note that residents' gardens were located up to two hours' walk away from the village, and therefore access was not possible at times such as storms. Areas for cultivation were distributed over kilometres, along the coast, inland, up the mountainsides and beyond, meaning that there was a wide area in which people moved for hours during their gardening day.

Malekula[7] in the western part of Vanuatu is an island of Malampa Province in north-central Vanuatu. It is the first island of the northwesterly branch of the archipelago (Layard 1942, 3). Malekula is the second largest island of Vanuatu, at 167° E and 165°S, 88 km long and 48 km at its widest (Larcom and Beierle 2002). The origin of the name Malekula is disputed, as no reference to this name is found in any of the current languages. 'Mal' refers to 'people', but also sometimes corresponds to place (Goodenough and Ivens 1933; Layard 1942, 8). Pedro Fernandez de Quiros, a Portuguese explorer, claimed to have first written about the island of Malekula in the 17th century, and it was then only visited again in 1774 by Captain Cook (Goodenough and Ivens 1933, 209). The island became an Anglo-French Condominium of the New Hebrides in 1906 (Larcom and Beierle 2002), and then in 1980 part of the new nation of Vanuatu. Large parts of Malekula are francophone, first through the French mission, and then through the influence of the French part of the condominium. Although it has no active volcanos, as exist in other parts of the archipelago, Malekula is a volcanic island, with large rivers, densely forested in the inner parts and fertile inland (Barrau 1958, 35; Cheesman 1933). With the exception of the northern part of the island, in the rest of Malekula, the higher mountains stretch from north to south, dividing the island in half, and are responsible for people mostly travelling by boat when they wish to travel from one of the communities in the east to one in the west. At the time of my fieldwork, the regional government was trying to build a road through the mountains to connect those two sides of Malekula, most importantly the regional economic centre of Lakatoro (Rousseau 2012), connecting the people living at the coast with the inner island. William Goodenough, in his research in the 1920s, described people in Malekula as being divided into two groups "the salt-water men and the bushmen", with the latter having had lesser contact with missionary endeavours

7 There are different spellings: Malekula on the one hand and Malakula on the other, which is probably due to the different pronunciations depending on the region. I will follow the first spelling used by Layard and others.

(Goodenough and Ivens 1933, 210). Dixon Reef, on the contrary, is a newly composed village,[8] founded in the 1950s, when the French Catholic missionaries asked several kin groups, the nasaras, to join together. Through this, people from the inner part of the island were brought down to the shores. It is a type of settlement which is found in many places across Vanuatu, in which Christian missionaries brought people together and founded new village communities, first administered by the missionaries and in the condominium, then integrated into the democratic structures of the new republic. With the conversion to Christianity, people were motivated to move down to 'school' and thus attend church. All of the Dixoners' bubu (ancestors) and some elder people who still remembered the time before the missionaries lived up in the mountains and were thus what were referred to as 'men of the bush' (men of the bush) (Bonnemaison 1974). A consequence of their relocation to the coast is that today only a few inhabitants of Dixon Reef are 'traditional landowners' of the land in that area. The others have to ask the traditional landowners' permission if they want to use land for horticulture or building houses. Although now living close to the coast, subsistence agricultural techniques from living inland were brought with them. Villagers still spend little time fishing, while horticulture remains their main activity for food supply. This is supplemented by small-scale livestock farming, of chickens, a few pigs per family and very few cattle. People in Dixon Reef area refer to themselves as gardeners and they value their work in the garden over other daily activities. When working in their own garden on week-days, my interlocutors referred to being very self-sufficient and having fulfilling days. On Sunday and holidays, gardening paused and people undertook some on-shore fishing or looked for crabs. As the women explained to me from the very beginning, no one would ever conduct gardening on a church day as they regard everything connected to the gardens as work.

Dixon Reef is made up of several patrilineal clan groups. Marriage is predominantly virilocal, which means that women in Dixon Reef often grew up on different islands in Vanuatu. This part of Malekula, the population in the southern region, call themselves Smol Nambas. The name refers to a type of penis sheath worn by the southerners and marks the difference from the Big Nambas in the north-west of the island (Farran 2010, 15; Regenvanu 2005, 43). With the foundation of the village community, people first named it Tavendrua (in the indigenous language Novol/Nasarian, for a bird and a turtle laying their

8 The composition of the village of Dixon Reef corresponds to the one called by Bratrud "a typical Melanesian 'composite society'" (Bratrud 2011, 3).

egg in the same nest), which is also found on some maps. In everyday conversation, however, the name of the present reef took over, naming the village after a man called Dixon. Due to their history and connections to several places on Malekula, many people have close kin relations to villagers of the next village called Blacksand, a few kilometres north along the coast. This also means that people in the area of Dixon Reef are multilingual, but Novol and Nasarian are the main autochthonous languages spoken (McCarter and Gavin 2011; Walworth et al. 2021). General communication, e.g. during village courts, often takes place in Bislama, as do all meetings and workshops with people from outside the community. Furthermore, everyone in this region is francophone and services in the Catholic Church are also held in French.

At the time of my research, every family cultivated crops in several gardens, hours' walk away from their houses. Since there was only one motorised vehicle in the whole community and most of the time no fuel to run it, let alone roads to use, people walked most of the time. Gardening is therefore a practice that involves walking and hence being on the move. Leaving the village, one would first cross underneath the high coconut trees, and nowadays the coconut and cacao plantations take up some space, with gardens being pushed further away from the houses. To enrich their planting, people used the technique of shifting cultivation, a horticultural technique without irrigation but rather seasonal shifting of purpose-built pits (Manner and Thaman 2013, 342). The slash and burn technique has undergone frequent critique by the Vanuatu Department for Agriculture who are attempting to deter people from burning organic material, because it causes further CO_2 emissions and is therefore harmful to the climate. Accordingly, Climate Change and Food Security programmes promoted preparation of the sandy soil next to kitchen houses with permaculture methods to make it more fertile – one of the more important methods to ensure vitamin-rich nutrition. The workshops also touched on explanations of cause and effect, greenhouse gases and global warming.

After Cyclone Pam had flooded garden areas and uprooted banana plants and was then followed by the dry spell, the development organisations were pleased that they had invested time in training adapted and alternative agricultural methods which could, in their eyes, equip villagers for those kinds of crisis. This was also the case in the village community of Dixon Reef. Here, 'home gardens' next to the villagers' houses were planted in the expectation that they would provide people with good support in times of crisis, as was the case from 2015 onwards. During this dry time, however, people began to act on their own terms, at the same time reflecting on their own garden practices (Chapter 4).

They decided to be part of climate change practices set up by organisations and followed up on those programmes in their own ways. They were trying to make sense of current changes and so finding explanations for causes and possible ways forward was part of this (Chapter 3). Nevertheless, villagers thought it was important to attend the workshops, and were still interested in discussing current changes. In one of the conversations with a young woman who divides her time between Blacksand and Dixon Reef and tried to be part of the workshops from the beginning, she took a critical view of the programme, which sets strong guidelines for gardening practices: in her view local people should be more involved in developing strategies. Nevertheless, she thought it was important to discuss climatic changes.

2.3 The Intersections of Local and Global

An anthropology of climate change "has embraced contrasting and potentially conflicted understandings of the human condition and the human dimensions of climate change" (Baer and Singer 2018, 43). It has also brought about some insights into how to approach those dimensions and "research today focuses on the consequential engagement of local worlds with global processes and structures" (ibid., 9). One main aim here should be to dissolve the existing juxtaposition of 'global' and 'local' in the sense of a conceptualisation that is used in political forums and refers to global processes that have an impact on these localities.

Until the 1990s, the natural sciences were mainly concerned with climate projections for the future, monitoring and modelling transforming environments and finding solutions. By the beginning of the 2000s, it became increasingly clear that anthropogenic climate change must also include the human (social and cultural) perspective (Crate 2011). Climate change was first conceptualised by representatives of natural science, drawing on local examples of environmental change, but it was further discussed on the international political level and marked the beginning of far-reaching practices: environmental shifts were labelled with ideas of global climate change, discussion reaching from international forum to single countries. However, there is uncertainty surrounding the issue of why we 'disagree about climate change' as a whole (Hulme 2009) and the question is raised as to whether or not this top-down approach will bring us an understanding and bears the critique of hierarchies of defining the concept of climate change. This interaction regarding climate

measures and agendas takes place within a 'science-policy bubble' and with a certain radiance, of course, but not with a superimposition on the local processes. Exchange outside the bubble is orchestrated with conceptual framings in the form of guidelines, negotiations, agreements and policies (Barnett and Campbell 2010, 561; Hastrup 2016), setting the tone for further action.

Concerning these dynamics, Susan Crate describes anthropological research and outlines two dominant approaches: first, local research and second, research on global negotiations and discourses. While the second deals mainly with human rights and security concerns, e.g. 'climate justice' (Crate 2011, 182–83), the first is more concerned with the local effects of environmental changes due to global climate change – impacts on local weather forecasts, adaptation processes and resilience, as well as disasters and resource management are major fields of research (ibid., 179–81). Here, the four 'axioms' outlined by Roncoli, Crane and Orlove, which show how people deal with climate change, can be found again: perception, knowledge, assessment and responses (Roncoli, Crane and Orlove 2009, 88). Ideas related to this, such as 'adaptation', have been understood in recent literature as a 'travelling idea' (Czarniawska and Sevón 2005) and thus as a production of different actors operating at different scales (Weisser et al. 2014). Weisser et al. are concerned with how translation processes work across different localities (after Callon 1986, 201). The authors refer to translation as a way to "not act according to the script of a single global idea, but that they [local communities] appropriate or modify parts of that script and also invent new ones" (Weisser et al. 2014, 112). De Wit, Pascht and Haug explain that with the 'idea of climate change', we refer to a set of various concepts, models and representations that comprises of scientific information about climate change, […] undergoes continuous translation by an array of translators such as scientists, journalists, governments (2018, 3).

This idea then is "the fruit of continuous interfaces and coproduction between highly interdependent and multiple constituencies" (ibid., 6). To take this further, people not only translate ideas in their own perception by including incoming information, but also through encountering those ideas and concepts in different contexts and over time. In a sense, this creates a new definition of climate change – not as something that is included in people's current explanations, but as a continuing process of creating climate change definitions. As O'Reilly et al. call it, "particularly as the problems and solutions of climate change are both borne, in large part, in marginalized bodies, communities, environments, and regions" (O'Reilly et al. 2020, 16). These climate change

encounters, in diverse contexts where people come together in their creative potential, are what create climate change.

Rudiak-Gould added another aspect by emphasising the importance of what he calls 'reception studies', an attempt to understand how people around the world receive and shape discourses through local conditions, practices and discourses. With relation to the Pacific region, he stresses that Pacific Islanders as participants in discourses about climate change are aware of information that is distributed through different media (Rudiak-Gould 2011, 2012). He distinguishes this from equally important observation studies, which he defines as: dealing with "frontline and indigenous communities [who] become aware of global warming through first-hand observation of local impacts", which ignores "scientific discourse of global anthropogenic climate change" (ibid. 2011, 9). He concludes that narratives of an uncertain future are influenced by what people have heard or read in the media. However, what people discuss is also influenced by what is observed on the ground or, put another way, people search for signs of what they have heard and thus are more attentive to new information about it (Marino and Schweitzer 2016; Moesinger 2019; Rudiak-Gould 2013). In order to think with perception and observation as equally important and mutually interacting, it makes sense to address observation and reception together, and ask what climate change becomes for people in Vanuatu.

Observations as well as discourses are local as well as global. Local, as Kirsten Hastrup also notes, are all 'observations' because they take place on the ground (Hastrup 2016). There is a difference whether an individual is retrieving information from experiments conducted by scientific experts or those of ordinary people of the type I encountered in the village. "All kinds of knowledge are equally located and equally based in observation and analysis." (ibid., 41) And they are global, because they are embedded in an exchange that revolves around the topic of climate change:

> If the concept of climate change is based on assembled knowledge from a variety of sources, each individual, group, culture, and society assembles it both from the immediate surroundings and from other people, television features, Internet communication, and scientific reports. (Hastrup 2016, 43)

In the context of climate change projects, similar processes take place. Both observation of the different actors involved and scientific information of natural science are included, as well as further explanations of localised expertise.

In order to move even beyond a reception studies approach, I consider climate change as a process in those encounters and interactions, influenced by both observation and reception. This also means that "climate change is nothing if not global, even if backed by located observations and weather-events" (Hastrup 2016, 41). Global communication is greater than ever, which allows localities to move closer together, and which makes global flows a topic of discussion (Appadurai 1996).

Projections for future transformation due to global warming bring localities closer together – what happens in the Arctic is relevant for every other part of the globe – and brings a new level of awareness of connectedness. Hastrup indicates that the pressing questions of the time we live in are at once caused and can be answered by 'planetary connections', giving inspiration for local realities and speaking of matters that concern the global community. This includes the notion that local knowledge is important to explore because it speaks not only for local problems, since local topics everywhere also speak for universal 'truths' (Hastrup 2018). Geographer Mike Hulme argues in a similar way that climate change asks us to adopt a "cosmopolitan perspective" (Hulme 2010, 562). By referring to Beck's 'cosmopolitism' (Beck 2008), he concludes that: "Although borders persist, they are weakened and people, capital, brands and ideas flow more freely than before. It is a world of fluid heterogeneity, where scale becomes transient and Cartesian space easily subverted." (Hulme 2010, 563), as a spectrum of parts that, when put together, create a cosmopolitan picture. He also emphasises the construction of a climate change discourse and criticises global players for regarding processes in different localities merely as different materialisations of climate change, instead of recognising local populations as active participants in discussions about the concept itself (ibid.). In the Pacific region, places are connected beyond the scope of regionalism (Fair 2020).

These intersections can only be understood in terms of their mutual influence (Hastrup 2018). Hastrup also refers to Anna Tsing's work (2005) on global friction as forms of global discourses – of interactions of different actors in global discussions about conservation, in which the results of these interactions are open-ended. Here difference, according to Tsing, is crucial: "Difference can disrupt, causing everyday malfunctions as well as unexpected cataclysms." (Tsing 2005, 6) She further elaborates that "[b]oth global knowledge and knowledge that travels around the globe are improved by dialogue across difference" (ibid., 81), making researchers aware that neither is the global necessarily homogenous, nor is the local necessarily heterogeneous. "By letting the

global appear homogeneous; we open the door to its predictability and evolutionary status as the latest stage in macronarratives." (ibid., 58) What happens in this process, during the dialogue between local and global, by reception and observation? I want to substantiate this through an ontological approach that recognises "ontological pluralism that can suggest the possibility of different futures" (O'Reilly et al. 2020, 17). I now turn to the more general theoretical approaches, considering them to be equally important worlding practices.

2.4 Worlding Climate Change

While a natural scientific lens claims for universality, with an answer from social science to scrutinise the interpretation, translation or perception of this concept made through the encounters, I want to redirect this process to the productive moments and refrain from an unidirectional process of learning about climate change. Work by Martin Holbraad and Morten Axel Pedersen helps here because in their 'ontological'[9] research approach, they focus on people's 'ontological assumptions' in order to find new ways to understand the use of and creation of concepts (Holbraad and Pedersen 2017, 15). This includes an openness for "conceptual redefinition" (Holbraad 2009, 80). I take inspiration from this approach by asking "ontological questions to solve epistemological problems" (Holbraad and Pedersen 2017, 5) and transfer them into the area of climate change studies. Accordingly, I consider climate change as an evolving conceptualisation of what happens referring to materialities, practice and knowledge to consider what happens when different people interact with adaptation programmes through ontological assumptions. This goes beyond the interpretation of a predefined phenomenon named climate change

9 Holbraad and Pedersen trace the genealogy of the ontological turn mainly to the publications of Roy Wagner, Marilyn Strathern and Eduardo Viveiros de Castro (Holbraad and Pedersen 2017, 26). There are many authors who have contributed to what we today call in anthropology the ontological turn and quite different approaches can be distinguished (Holbraad and Pedersen 2017; Salmond 2014). This book is mainly influenced by aspects of the representatives of the so-called recursive approach and by the political ontology approach developed by Mario Blaser, Marisol de la Cadena and others. However, I am not concerned with presenting different ontologies, but agree with Holbraad, Pedersen and Viveiros de Castro when they write about their view on working ontologically: "The anthropology of ontology is anthropology as ontology; not the comparison of ontologies, but comparison as ontology." (ibid., n. pag.).

in different localities (Holbraad 2009, 82) and against a search for its materiality in the 'real world' where climate change is only represented differently (Henare, Holbraad and Wastell 2006, 10). As this process might have conflicting or surprising elements, it also means that you have to endure a certain ontological pluralism (Goldman, Turner and Daly 2018). This means that people have different ontological assumptions regarding climate change, referring both to their observations and their discourses. In their view, research in social science should take those enacted climate change worlds seriously, bringing in more than illustrative aspects but also insights for expanding how we operate with climate change as a concept (ibid.). Other scholars have tried to capture what local people refer to when talking about climate change or accompanying practices (Burman 2017; Hastrup 2011; Rosengren 2018) in their "radically different understanding of climate change" (Burman 2017, 923), in scientific and everyday contexts.

Dan Rosengren shows, in his research with the Amazon indigenous Matsigenka people and migrants from the Andean highlands in Peru, that climate change discourse depends on categories such as weather and climate, which are themselves underlying ontological differences. Rosengren elaborates that local people find different causes for a full riverbed, for example, ascribing responsibly to a range of factors not limited to the amount of recent rain (Rosengren 2018, 610–12). While the *colonos* migrants regard climate change as responsible for constant rain, the Matsigenka do not follow this causal chain, but "according to Matsigenka people, it rains more frequently because there is much water in the rivers (*kimoárini*) and another when there is little or no water in them (*shiriagárini*)" (ibid., 612). Rosengren argues that it is necessary "to take ontological differences seriously and acknowledge that in given situations, opposed and competing discourses can exist in parallel" (ibid., 610). However, concentrating on differences is only one part of the work. As Amiria Salmond puts it, this becomes "ontological innovations in action" (Salmond 2017, 221). This elaboration is not bound to certain groups, in the sense of being attributed, but always arises through interaction between groups. It is not my aim to consider individual perceptions of what climate change is, but rather to consider it as a co-production (Hastrup 2011) and approach this as "worlding practices" (de la Cadena and Blaser 2018, 6). Therein everything connected to climate change becomes 'worlding practices'[10]. I borrow this expression of

10 I use 'world' or 'worlds' following Henare, Holbraad and Wastell (2006), who turn away from an epistemological representation, in the sense of world view. Rather, they con-

'worlding practices' from Marisol de la Cadena and Mario Blaser (2018) who advocate a so-called 'political ontology' approach. For them, ontological differences might lie at the core of political encounters[11] (Blaser 2009; 2013; 2014). Their approaches explicitly address the encounters of different ontological assumptions and consider the resulting processes of these encounters. An example of such a result is "'misunderstandings' that occur in settings where attempts are made at integrating Indigenous and modern scientific knowledge" (Blaser 2009, 11). Blaser concludes that "these misunderstandings happen not because there are different perspectives on the world but rather because the interlocutors are unaware that different worlds are being enacted (and assumed) by each of them" (ibid., 11). While the focus of this example is on misunderstandings, I will take those as part of creative processes of encounters and making worlds – 'worlding practices'. Thinking outside the 'one-world world' theory, where everything is tailored according to one world view (Law 2015) the focus is on "heterogeneous worlding practices that come together around dissimilar interests in common" (de la Cadena and Blaser 2018, 6). These worldings are neither spatially nor temporally fixed but are "constantly coming about through negotiations, enmeshments, crossings, and interruptions" (ibid., 6). In the context of adaptation programmes the 'worlding practices' now become climate change worlding practices in this work. Climate change is worked out by people I have worked with and by myself. 'Worlding practices' are creative moments, which have the same potential as what Tsing calls 'friction'. These ontological misunderstandings (Blaser 2009), which I also refer to as 'ontological friction' (see Chapter 4), can become 'productive misunderstandings' (Tsing 2005). This may also be regarded as an "experiment" for "rethinking climate change" (Salmond 2017, 221).

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sider the conceptualisation of worlds that are not place-bound but lie in the 'things' with which people interact (ibid., 12–15).

11 Political ontology explicitly deals with the interaction of different ontologies (Blaser 2013) and is thus useful for this research in which climate change sites are characterised by the interactions of different actors. This also moves in the direction of what Holbraad, Pedersen and Viveiros de Castro call 'politics of ontology' (2014), following "the idea of an ontological self-determination of peoples" without "supporting ethnic essentialism" (ibid., n. pag.).

2.5 Conclusion

Asking ontological questions[12] gives us insights into statements and practices that seem contradictory at first glance. When working in the garden and talking about both observed and narrated changes, people considered social changes to also be part of this phenomenon (Chapter 3). A focus on how to make sense of current shifts in the lives of villagers enrolled in adaptation programmes bring them in a context of both global and local ideas. It has to be considered in what people do and say in their daily lives and what they express to be part of what we call 'global climatic change'. In this chapter, I have shown that the call for an actor-based stance from the anthropological climate change literature about the Pacific region goes beyond people as representatives of current changes. This includes diverse voices and practices, which give insights apart from the simplified and misleading 'sinking island' narrative.

Ni-Vanuatu in Dixon Reef look back at a history of being involved in political and cultural changes. As other village communities in Vanuatu, they have been involved in forming new kinds of living and working together. Now the villagers have become part of these processes of the Anthropocene through enrolling into adaptation programmes – and did this because they were interested in being included in the new spaces. This also indicates that they were actively starting to shape these climate encounters themselves. However, while seeing how people acted and their explanations for such actions, I do not want to extent the literature's request for actor-centredness solely through another example of climate change adaptation in Vanuatu. Rather, this book becomes a contribution to the search for connection practices of the local and the global, using an approach that seeks worlding practices. In this way, it moves beyond translation processes, from the international level to single localities, and considers the interactions which in themselves might create something new, not as a version of the idea arising, but as something that contributes to it.

This offers an interpretation of ways in which people produce their climate change worlds and how they act within them. Furthermore, it also intends to initiate further reflection through interpretations of why people act the way they do in the context of diverging ontological assumptions, and tries

12 In order not to reify different 'ontologies' (Henare, Holbraad and Wastell 2006; Holbraad 2009), I use the adjective or adverb 'ontological' to stress the processual character of climate change worlding.

to offer inspiration in terms of rethinking and 're-constructing' (Holbraad and Peterson 2017) climate change (O'Reilly et al. 2020). I further encourage reconsideration of a topic scholars and politicians have now discussed for decades, viewed through the theoretical lenses above and using as a case study a long-standing anthropological topic for Melanesia, namely gardening. Mekem garen, as ni-Vanuatu practice, presents these collaborations of different actors, in a changing Vanuatu in the 21st century, in which it does not present the ideas of climate change, but processes of worlding climate change. In this, as Amiria Salmond has put it, Pacific Islanders are trying to create something new by reworking the known. This also means that mekem garen provides new approaches to gardening that result precisely from these encounters in climate change projects.