

Adaptation to Climate Change in Vanuatu?

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Abstract

In Vanuatu, state agencies and NGOs have developed adaptation strategies for the rural population. The underlying assumption is that adverse impacts of climatic changes on the environment can be counteracted by changing human behavior—for example cultivation practices and thus the management of the environment. This contribution traces the encounters in the context of adaptation projects: encounters across ontological differences between assumptions connected with adaptation found in such projects and assumptions about Climate Change and environment of inhabitants of two villages on the islands of Efate and Malekula in Vanuatu. It argues that the focus on alterity and these encounters enables research to shift attention to innovative and possibly unexpected processes and outcomes and to shed light on the creative agency of the villagers shaping their livelihoods and creating their world.

Keywords: climate change; adaptation; environment; Vanuatu; ontological alterity

Introduction

By implementing Climate Change adaptation projects, the government of Vanuatu, together with international development organizations, intends to mitigate the adverse impacts of the global Climate Crisis. These projects have become important hubs for people to encounter different knowledge systems and assumptions about the world. Government policy, and project implementation emphasize increased care for nature and the environment, distinguishing them sharply from culture and sociality. In contrast, however, relationality and holism are central characteristics of life in Vanuatu. This article considers the processes connected with these encounters in two villages on the islands of Efate and Malekula.

Vanuatu is classified as a Small Island Developing State (SIDS) and is regarded accordingly as highly vulnerable to Climate Change (Kelman & West 2009, 3). Projections state that hurricanes, floods, earthquakes, landslides, tsunamis (FAO 2008, 32), and a higher number of extreme weather events caused by Climate Change will lead to additional stress for agriculture (39). Accordingly, it is expected that inhabitants of rural areas, in particular, will need to find solutions for problems cultivating their crops. This expectation is seen as a problem for national food security, as most ni-Vanuatu¹ work in the agricultural sector, and more than 80% live in rural areas and practice horticulture (Fallon 1994, 37).

Based on these projections, a considerable number of Climate Change adaptation projects have been, and are being, carried out in Vanuatu's agriculture sector. Such

initiatives aim to improve and support family farming in rural areas for subsistence and the market by introducing new cultivation methods and techniques. These adaptation projects assume that cultivation methods can be adapted to recent and future impacts of Climate Change, and thus the supply of food to ni-Vanuatu can be secured. This article is based on a research project carried out between 2016 and 2020 with my colleague Desirée Hetzel in the two villages of Siviri on Efate and Dixon Reef on Malekula in Vanuatu. We learned that most participants of adaptation projects focusing on cultivation did not follow the demonstrated methods and techniques linearly. During such projects, participants would often only partially implement new aspects of cultivation; they would vary its implementation or follow instructions only temporarily. In one village, most inhabitants chose to supplement or even replace cultivation with additional activities to secure their livelihoods during aggravating cultivation conditions.

As a result, our research raised the following question: How did participants in Vanuatu act after taking part in Climate Change adaptation workshops? Our research showed that they continued to use well-established cultivation practices and patterns during the drought, which took place shortly after a number of workshops. Several villagers implemented, at various points in time, some of the methods and techniques they were taught in the workshops, albeit partly in modified forms, so that the expected linear application of the demonstrated knowledge was not experienced. This nonlinearity led us to the next question: Did knowledge transmission during the Climate Change adaptation workshops fail? One of the results from an early stage of our research had already suggested this was not the case. Despite not necessarily using the demonstrated techniques how they were intended, our interlocutors could explain and demonstrate the methods and techniques very well.

In this article, I discuss specific ideas and practices expressed and enacted by ni-Vanuatu living in two villages during my research. I argue that they created these ideas and practices in the process of encounters with differing ideas and practices connected to environment² and Climate Change during Climate Change adaptation workshops and in other contexts. Such differing ideas can also be found in Vanuatu's adaptation policy and are an important basis for adaptation projects. I look at *what* the villagers did in connection with these encounters—and not so much *why* they did what they did (Holbraad & Pedersen 2017, 16).³ To do so, I first review some of the documents published by the government of Vanuatu, with a focus on the National Adaptation Programme of Action (NAPA), and discern the concept of 'environment' used therein. Second, after sketching out important aspects of Climate Change adaptation projects, I present certain ideas and concepts of the inhabitants of the two villages of Siviri and Dixon Reef regarding the environment as I have worked them out in my field research during interviews, discussions, and observations with people.

I argue that it is not sufficient to consider knowledge transmission and the encounter of different knowledge systems when considering processes of change and the persistence of everyday practices in connection with Climate Change adaptation projects. Instead, research needs additionally to focus on how people create their way of being in the world in connection with these encounters between differing

ideas and practices. I aim to illuminate the alterity of these concepts compared to the ideas of environment and Climate Change used in Vanuatu's policy and often also in externally-developed Climate Change adaptation projects.

Theoretical Contexts/Frameworks

By referring to "encounter" (across difference), I follow Anna Tsing (2005) as well as Lieba Faier and Lisa Rofel (Faier & Rofel 2014). Both emphasise the creative potential of such encounters, defined by the latter as "engagements across difference: a chance meeting, a sensory exchange, an extended confrontation, a passionate tryst" (Faier and Rofel 2014, 364). In their understanding, new "meanings, identities, objects, and subjectivities emerge" (Faier & Rofel 2014, 364) in such encounters.

I argue that such encounters allow for important insights to view them as encounters across ontological difference (Blaser 2009, 2013, 2014; Blaser & de la Cadena 2018). The necessity to consider ontological difference when looking at engagements between disparate knowledge communities has been shown, for example, by Helen Verran (2002, 2013). Whereas she emphasises the tensions between members of two knowledge systems characterised by ontological difference and suggests ways to overcome these tensions, I turn to processes of creating new concepts and practices by community members. This creation implies ontological innovation, exemplary for the Pacific region explained by Amiria Salmond as "creative and novel ways in which Pacific peoples are rebuilding their ships at sea – combining old understandings with more recently arrived influences and ideas, including those of science – in their efforts to generate or keep open distinctive existential possibilities" (Salmond 2017, 221).

In connection with ontological innovations, people in Vanuatu use Bislama⁴ words derived from English but with different meanings. I elaborate on two central concepts expressed in Bislama in the context of Climate Change adaptation: 'envaeromen' and 'klaemet jenj.' In discussing the alterity of these concepts compared to the ideas of environment and Climate Change used in Vanuatu governmental policy and Climate Change adaptation projects, which are characterized by a dichotomizing of nature/environment and culture/sociality, I argue that it is important to make the differences between the English and the Bislama concepts visible and not to take the latter as a translation of the former (see Østmo and Law 2018).

That a distinction between nature and culture, as is still used in many (European) academic studies, is not made by most inhabitants of Oceania (Jolly 2018, 26–27) has been emphasized by scholars investigating society and culture in the region since the 1980s (see Strathern 1980, 177). Marilyn Strathern additionally stressed the importance of relationality for the life worlds of people in Melanesia (Strathern 1988). Thus importance is not only relevant to relations between people but also to those between people and spirits, animals and plants, deities and materialized ancestors, which are "enacted through processes of exchange and reciprocity that are constitutive of personhood, sociality, and environments" (Emde, Dürr & Schorch 2020, 7; see also Hviding 1996; Munn 1986; Strathern 1988; Hau'ofa 1994; Henare 2007). Recently, the anthropologist Carlos Mondragón also emphasized that, for Torres Islanders in

Vanuatu, “knowledge is relational, empirical and contingent, not absolute; as such, it is not linked to an overarching, objective view of the ‘natural’ world as a socially neutral medium” (Mondragón 2018, 36).

For the Small Island Developing States (SIDS) of the Pacific region identified as vulnerable to Climate Change, the concept of Climate Change adaptation has become central to policymaking over the last decade. International and national political actors regard adaptation as an important measure to counter the adverse effects of global climatic changes. In more recent social science publications, it has been emphasized that specific ideas about the environment characterize adaptations measures. They are often criticized as unclear, shaped by natural sciences, and lacking historical, social, political, and cultural depth. Although in project descriptions they are mainly characterized as “community-based,” adaptation projects realized by actors of the international aid community are repeatedly characterized on the ground as driven by Western technocratic perspectives and criticized for not taking local contexts and power relations into account (Klepp and Chavez-Rodriguez 2018). Silja Klepp and Libertad Chavez-Rodriguez state:

Even if new conceptual approaches to vulnerability analysis are committed to combine social and biophysical vulnerability in an effort to overcome the separation between natural/biophysical sciences and social science analysis (see for example Peluso and Watts 2001), this ‘great divide’ (Bassett and Fogelman 2013, p. 44) in the conceptualisation of vulnerability was taken up again after the re-introduction of ‘adaptation’ to climate change after the Rio Summit in 1992 (Pelling 2011). It still persists today and leads to different understandings of legitimate adaptation strategies. (4)

As I have stated in the introduction, in the article at hand, I will focus on one of the numerous aspects raised by recent social science literature about adaptation, namely on (ontological) differences regarding assumptions about Climate Change, environment, and adaptation between the various actors involved in Climate Change adaptation measures. My ethnographic examples also provide a critique of the view that Climate Change is a “natural” or “environmental” process and that the solutions can be found in “adaptation” or “mitigation” (Jolly 2018, 28) as conceptualised in international and national policies. It is important to consider that “the environments of Oceania are anything but simply ‘natural’. Instead, they are the ongoing result of productive, affective, and spiritual human engagements. Such humanized landscapes give rise to forms of flexibility that are not always evident because they transcend narrow understandings of what constitutes indigenous adaptive capacities” (Mondragón 2018, 25).

Research Locations and Methods

Vanuatu is an independent island state in Oceania. Its 83 islands stretch over 12,190 km² (Mückler 2009, 162). Most of Vanuatu’s islands are high, rising up to hundreds of meters above sea level in their centers (Brookfield & Hart, 1971). The ethnography of this article is based on two research sites on two of the larger volcanic islands, Malekula and Efate.

The village of Dixon Reef is located in the western part of Malekula, in the north of the Vanuatu archipelago. The inland part of the island is densely forested with fertile soil, and the dwelling houses of villages are typically located close to shore. The population of Malekula mainly depends on horticulture for food supply. Cash income, as in many other places in Vanuatu, is derived from selling copra, timber, cocoa, and kava (Rousseau & Taylor 2012, 174; McCarter & Gavin 2014). In Dixon Reef, as in many rural communities of Vanuatu, a lack of infrastructure makes it difficult for villagers to participate in cash income activities such as selling fresh produce in the market on the other side of the island. Since founding the Catholic mission of the community of Dixon Reef (or “Tavendrua” in the local language, Novol) in around 1950, the village has—in 2019—grown to be home to approximately 200 inhabitants living in thirty-three households. Due to sandy and infertile soil along the coast, gardens are located inland, sometimes several hours’ walking distance from the dwelling houses. The main food is root crops and bananas from the gardens, with wild pigs, fish, cattle, and local chickens as supplements. Every villager practices horticulture but additionally buys rice, which has become an important staple, and tinned food on visits to the main city or from local stores.

The village of Siviri is located in the northern part of Efate, the main island of Vanuatu, and is close to the island’s main ring road. Its location makes transporting goods and people to the capital Port Vila and distant gardens very easy. The two villages of Dixon Reef and Siviri have a comparable number of inhabitants. In Siviri, horticulture and wage labour in Port Vila and other locations around the island play important roles in the livelihoods of inhabitants. Most villagers additionally fish in the lagoon or glean on the reef regularly to supplement their food supply. Some sell crops and firewood in the main market in Port Vila. The people of Siviri are much more town-oriented than residents of Dixon Reef. Many members of Siviri’s younger generation commute to Port Vila or other locations on the island every weekday, working with their families in the gardens at weekends. They are often employed in education, service, or construction work. Although almost every family has one or more gardens, a considerable part of the family’s food supply is bought in markets or shops in Port Vila or around the island.

My research results derive from a long-term team-based research project consisting of fifteen months of anthropological fieldwork between 2016 and 2019 in Siviri and Dixon Reef villages and an additional three months in Siviri in 2020. The research methods included formal and informal interviews with a wide range of actors, such as male and female villagers of different ages and professions, NGO staff members, members of the agriculture department of the government of Vanuatu, and others, in combination with participant observation, practical participation and structured observation, regarding social, economic and political aspects of community life. All interviews were conducted in Bislama. Additionally, we conducted 92 household surveys and used other methods such as drawing moving maps and free listing. As we stayed in Vanuatu for more than one year, we experienced the praxis of a full annual cycle of gardening and other activities in the villages. When we arrived at the end of 2016, the topic of an El Niño event⁵ after a severe cyclone, which caused an extended

dry period in 2015, was very present in the discourses and praxis of the people.

Siviri and Dixon Reef were chosen as research sites mainly because adaptation to Climate Change projects (in combination with food security) had been implemented in both communities for some years. We positioned ourselves as independent researchers from a European University vis-à-vis the community and the organisations running the adaptation workshops and training. To present the different assumptions and practices encountered in Climate Change adaptation measures and the results of such encounters, I draw on this research project and re-consider our insights through the lens of people's relations and interactions with their environments.

Environment in Vanuatu's Policies

For more than a decade, Climate Change has been one of the major topics of political discourse in Vanuatu. Vanuatu was one of the first states in Oceania to submit its National Adaptation Programme of Action (NAPA) in 2007 (NACCC 2007). This document has prioritized agriculture and food security, sustainable tourism development, community-based marine resource management, and sustainable forestry management (Bijay, Filho & Schulte 2013; NACCC 2007).

The NAPA states:

For the Ni-Vanuatu, their livelihood and social structure are inextricably linked to the natural environment and its resource base. Any perturbations to this availability of natural resources will have a direct bearing on the poverty levels and the very survival of the people. Changes to the traditional social system, coupled with any decrease in food security and water availability, could lead to deterioration of social systems and law and order. (NACCC 2007, 16-17)

Therein "natural environment," including "resources," is linked to the (social) life of the people on the one hand, while, on the other hand, it is at the same time clearly distinguished as a different realm. Additionally, an almost causal relationship is implied in the statement: perturbations will have direct effects on the livelihood and even survival of the people. A similar relation, regarding the economic realm, is implied in the following statements: "The effects of Climate Change on agriculture production, human health and well being [sic] will have the consequences of decreasing national income while increasing key social and infrastructure costs. This negative economic impact will affect all levels: individual, household, community, private and government sector." (NACCC 2007, 18).

The solution to these problems, then, is seen in adaptation to climatic changes: adaptation to "subtle changes in climate, resource stocks and environmental conditions [...] is deemed crucial and critical to the well being [sic] of the communities especially as the environment is their source and means for livelihood through subsistence farming, fishing and other agricultural practices" (21-22). One of the conclusions of the NAPA is that there "is a need to change agricultural practices, crop varieties and diversify to crops that are resilient to climate change conditions" (23).

Finally, several adaptation strategies are suggested but not elaborated on in

detail. The first ranked, for example, reads as follows: “Agriculture & food security (preservation/processing/marketing, modern & traditional practices, bartering)” (28, 31). At the end of the NAPA, there are descriptions of a few examples of concrete projects⁶ for implementing these adaptation strategies.⁷

Climate Change Adaptation Projects for Cultivation of Food Crops in Vanuatu

In line with the policy documents, many projects for Climate Change adaptation have been, and are being, carried out, which target challenges for cultivating of food crops in Vanuatu. The government and, in particular, international state development organizations, and NGOs have designed measures for food security and Climate Change adaptation—largely developed for use in rural communities.⁸ In most cases, these organizations cooperate with Vanuatu state institutions such as the agriculture or forestry ministries. Measures are implemented by ni-Vanuatu and by citizens of other countries as staff members or cooperation partners of those organizations. A number of these measures aim to improve and support family farming for subsistence and the market. These measures are typically implemented in the form of projects consisting of several workshops over several years. In these workshops, project managers and field officers from NGOs expound upon various aspects and communicate theoretical information and practical instructions about principles of cultivation in general and specific practices. They often include talks and dialogues and collaborative work in demonstration plots.

Climate Change Adaptation Projects

The projects I deal with in this article relate to agriculture/cultivation and food security and concern, as formulated in the NAPA, ‘modern and traditional’ practices. One of those is the NARI-EU-ARD Project.⁹ The project document formulates a general goal: “Generation and adaptation of improved agricultural technologies to mitigate climate change-imposed risks to food production within vulnerable smallholder farming communities in Western Pacific countries” (Generation of a Agricultural Technologies 2016, 5). A specific objective is mentioned: “To improve the food production capacity of smallholder farming communities [...] in areas where precipitation deficits and/or excesses and soil salinity problems are becoming significant threats to agricultural production and productivity” (6).

The other project I refer to in this article is “Kaikai fo Laef,” which also relates to the foci explicated in the NAPA. A progress report on this project states the focus of the project as being the capacity building “of community members in [...] sustainable agriculture techniques [and] food production strategies using specific localized designs to maximize food production for participating families on land available to them (permaculture).” (ADRA 2015, 1) It is emphasized that community members will “become more aware of the issues of climate change, how it impacts them and their food security status and most importantly how to mitigate for it.” (1) The outcomes are described as follows: “(a) Increased access and availability of locally produced

foods for small scale farmers [...]. (b) Small scale farmers, particularly women, have access to knowledge on improved integrated intensive, organic gardening methods. (c) Households [...] are more resilient to the impacts of climate change on food security” (1). As these excerpts show, environmental changes are seen as external threats to life and especially to the livelihoods of the people participating in both projects.

As an example of concepts and ideas used by staff of the implementing organization for the food security and adaptation project in Dixon Reef, I will draw on a workshop held in February 2019. The ni-Vanuatu staff member of the implementing organization conducted the workshop in Bislama. As a main objective, she stated that a few practices regarding cultivation had to be changed because of weather changes experienced in Vanuatu. She explained that she would teach the participants several principles taken from a cultivation practice known as “permaculture farming,” which includes, as she formulated it, copying environment or nature. Adopting these principles, she stressed, would banish problems, whatever climate prevailed. She also stated that it was important to control the garden—otherwise, it would not grow.

An important principle of permaculture farming elaborated in detail by this staff member is to improve soil fertility: producing and using compost, mulching, spreading manure, utilizing grey water, and growing legume plants. This principle is especially important for one of the foci of the project in Dixon Reef: the installation of backyard gardens close to the dwelling houses. During the workshop, a demonstration plot was set up where a number of the new methods and techniques were used – for example, using natural fertilizer or building a cyclone-proof climbing support for yam plants.

As in the policies and the descriptions from project documents discussed above, the explanations of the staff member during the workshop were often based on specific ideas and principles regarding the world, which I did not experience during my research with the inhabitants of the villages. Most important here is the dichotomization between nature/environment and culture/sociality. Environment is conceptualized as opposed to human activities and should be copied by humans to cultivate successfully, independent of climate and situation. At the same time, humans should control the environment with their cultural practices. This understanding differs from the notions of the ni-Vanuatu villagers, which are oriented along the lines of holism and relationality, as I will show below. It is also important that the staff member advocated investing time and energy into improving and thus changing the potential of the ground for cultivation using fertilizer and irrigation. This method differs from an established practice held by villagers of seeking specific proper locations where food crops grow well without effort and soil improvement.

After the Workshops: New Livelihood Practices?

Villagers in both locations were generally interested in the projects, and many attended workshops. According to our interlocutors, they appreciated being taught about new methods for cultivation—for example, how to produce and implement fertilizers like compost or manure, mulching, or using of legume plants. Some villagers tried new methods, for example, planting gliricidia trees (*gliricidia sepium*) and using compost,

mulching, and greywater to establish backyard gardens close to dwelling houses. However, after showing initial enthusiasm, most participants did not continue—if they even started—to implement these new methods and techniques. Villagers largely abandoned novel practices even after the drought period in 2015. By then, they had already attended several workshops focusing on drought as a severe risk to the area.

What did people do then to secure their livelihoods in both villages – especially after the enduring drought caused by the El Niño event in the aftermath of cyclone Pam in 2015? Before this date, projects focusing on food security and adaptation to Climate Change had already been implemented in both villages for several years. Additionally, in Siviri, several workshops addressed the same topic. According to staff members, these projects and workshops were, among others, intended to meet situations, like the extreme drought that came in 2015.

Although the projects and workshops mainly concentrated on cultivating food plants to secure people’s livelihoods, it is important for this paper to widen the perspective to livelihood practices in general. In Siviri, community members cultivated food crops to a lesser extent than previously, instead extending their combination of different livelihood opportunities – a trend they had already reported for the past decade. For cultivation, they employed established practices, innovative possibilities derived from diverse sources, and practices of maintaining food security presented during workshops and training sessions. For example, several villagers planted *gliricidia* trees, a practice promoted in workshops because they fix nitrogen in the soil and thus fertilize it. Most of these trees, however, were destroyed by Cyclone Pam in 2015 and were not replanted.

Engaging in different activities in different places, Siviri villagers told me, is important for ni-Vanuatu. In addition to cultivating food crops for their consumption, villagers found employment in the capital Port Vila or elsewhere on the island of Efate. Furthermore, they practiced a great variety of self-employed and wage labour. In one family, for example, the husband works in Port Vila and goes fishing and hunting several times a week at night while the wife is a teacher. They run a small store and cultivate food in different locations. There are numerous examples of these kinds of strategies being employed by villagers to diversify their livelihoods.

In contrast to Siviri, access to a market for people in Dixon Reef is difficult because of a lack of infrastructure. Accordingly, although they also turned to an extent towards other activities, their livelihood practices during and after the 2015 drought were more focused on cultivation. They largely continued to employ established cultivation practices but also added new methods learned during workshops, which they integrated into the existing bundle. One of the persisting practices in Dixon Reef is that gardens are located in different locations, which provide suitable conditions for growing food. Walking to these locations is an important part of the life of people in Dixon Reef (Hetzl 2021). Villagers extended their network of locations and established new gardens in areas with humid soil, for example, along the river, directly in the dry river bed, or in a swamp, depending on the required conditions for each group of plants. During wet periods, they moved their gardens further up into the hills or shifted to locations further inland or closer to neighboring villages to find better

conditions for the plants.

Villagers additionally experimented with new methods and integrated new techniques learned during the workshops into their existing practices. For example, as well as the planting of gliricidia trees, they also used mulching to protect the soil from drying out. Directly after the workshops, we found small house gardens in many households, a food security strategy intensely promoted by one of the NGOs. However, later in that same fieldwork period, and in 2017, we could record only a small number of such gardens. Dixoners mentioned various reasons for the change: some explained that chickens, mostly not fenced in Dixon Reef, destroyed the harvest. They explained that a lot of work or money would be required to install a proper fence to keep the chickens out of the gardens. Others stated that the water supply in the village was not constant, so it was not possible to irrigate the gardens sufficiently. Explanations were not consistent, varying across interviews, and often Dixoners could not give an explanation for their behavior. In addition to the cultivation of food crops, we observed that some people supplemented their livelihoods through other activities, mainly fishing for consumption or sale. Interlocutors also explained that buying rice and other food was an important supplement for their daily diet. To obtain the money necessary for its purchase, people spent a considerable amount of time in the coconut plantations harvesting coconuts, removing the flesh from the shell, and drying it so as to obtain copra, which was then sold to regularly visiting copra buyers. Another activity for earning cash is the production of cocoa, which is even more labor-intensive.

With very few exceptions, inhabitants of Dixon Reef did not plant kava themselves but imported it mainly from the Southwest Bay region of Malekula. However, during the time we spent in the village, a group of people set out for a place further inland, where they stayed for some days and planted large amounts of kava. They did so, we were told because the price of kava had risen considerably during the previous couple of years (Hetzel & Pascht 2019, 209–10). Thus, these Dixoners draw on the practice of diversification and travel long distances to find the appropriate place for planting specific plants, in this case, kava plants. They decided on this approach instead of investing time and energy in the new methods and techniques shown during workshops.

In summary, in both villages, a number of people employed some of the new ideas and practices presented and demonstrated in the Climate Change adaptation projects temporarily. Others did not implement them but were able to describe them in detail. Participants of the projects thus knew about these ideas and practices, but they decided not to apply them in a linear way. Either they did not implement them at all, or they tried them out but abandoned them after a while. Remarkably, after abandoning most of the methods and techniques of the workshops, some Dixon villagers, after one or two years, drew again on some and re-established, for example, new backyard gardens using mulching and planting gliricidia trees (Hetzel 2021, 105–6).

Consequently, to consider the success of “knowledge transmission” as the only factor for discussing the non-linear implementation of knowledge of new ideas and practices is not adequate. I argue that different assumptions of the actors about the world, about environment and social life have to be included. In the next section,

I discuss important differences by investigating ideas underlying the concept of “*envaeromen*” as understood by my interlocutors.

Environment vs. *envaeromen*: Interactions

“Environment” and “*envaeromen*” are concepts that are quite frequently used in discourses connected with Climate Change and adaptation projects in Vanuatu. One ni-Vanuatu staff member of the agriculture department of the Vanuatu government, who was also part of a Climate Change adaptation project, explained to me that he tries to teach the people who practice cultivation not to damage the environment (“*spoilem envaeromen*”). One of the practices he identified as “*spoilem envaeromen*” was burning trees and other plants to clear a piece of land for cultivation, which is practiced in most parts of Vanuatu, a method often termed ‘shifting cultivation.’ The staff member stressed that it is very difficult to convince people not to practise this form of cultivation. Similarly, the progress report of the project in Dixon Reef mentions difficulties in encouraging workshop participants to change their practices (ADRA 2015, 6).

Below, I will discuss several concrete examples of explanations from my interlocutors in the two villages of Siviri and Dixon Reef regarding their environments, showing that they do not contrast ‘environment’ and ‘sociality/culture’¹⁰ but instead foreground relationality. People in both locations know and use the Bislama term “*envaeromen*.” Their explanations show that this is not a one-to-one translation of the word “environment” but is, instead, a new concept that people have created in interaction with actors and information from various contexts, especially in the context of Climate Change workshops and projects. Talking about *envaeromen* with one of my interlocutors, he explained, for example, that “a tree is part of many things ... it is also part of us human beings.” This quote shows important aspects of human relations and interactions with plants, animals, and other items termed as ‘environment’ from definitions based on Western science. Furthermore, interlocutors explained that every plant and every animal has its task or work in relation to others—for example, to provide food (food plants), to clean the reef (blue fish), or to ensure safety at night (dogs). “Trees provide shade, fresh air, and fruits to us,” explained an interlocutor. Humans, in turn, must have respect and care for their “*envaeromen*,” for example, by replanting trees after a piece of land has been cleared for cultivation. Reciprocity is thus very important, and it is morally wrong to “*spoilem envaeromen*”—to damage or destroy, especially the forest, by felling large numbers of trees.

In this network of relations and reciprocity, humans also have their tasks or work. Interlocutors told me that the work of people living in rural areas is to cultivate food plants, including clearing pieces of land and felling trees. In contrast to the staff member cited above, they explained that this is not “*spoilem envaeromen*,” because it is part of the life of human beings (living in rural areas). It is also perfectly reasonable to fell trees to build a house, but it is not acceptable to fell many trees to make money, an interlocutor in Siviri explained to me.

Furthermore, not only does everything have its task, but everything also has its

proper place/location (“ples”): there is a suitable location for everything, including planting food crops. People in Dixon Reef stressed that it is important to choose the right location for food plants depending on soil and weather conditions. Cultivation “is thus also a matter of choosing which soil is the best at a particular moment” (Hetzel 2021, 121). Reciprocity becomes explicitly visible in the process of the cultivation of yam, Vanuatu’s most valued root crop. Yam, which is often compared to the human being by ni-Vanuatu, does not like quite a number of behaviours of humans, and thus there are bans (“tabu”) regarding what to do and when not to enter the yam garden. Our interlocutors found that everything in the world is related and interacts: every entity gives, respects, helps, and takes.

That there is a proper “ples” for everything has important consequences. In both research locations, people plant different species and varieties in the same garden while maintaining gardens in different locations. They know about the soil conditions in these places, especially about the (potential) humidity of the soil. Thus it is always a challenge to find a suitable place to plant in accordance with the weather conditions which will prevail in the forthcoming plant cycle. Dixon villagers explained that even the need to burn for clearing a place for a garden depends on the location of the garden: Whereas in places where they have their gardens currently, it is necessary, the contrary is the case more inland, where it is “kolkol” (cool).

The way to improve cultivation is accordingly to plant at the right location with good soil suited to the cultivation of food plants: “When you plant yam in a place not suited, the yam will die,” explained an interlocutor from Dixon Reef. This statement does not contradict the attempt to grow new plant materials that people have exchanged with relatives or friends or which they received from the Department of Agriculture or NGOs, a method that has been called “continuity through change and novelty” (Sardos et al. 2016; see also Hetzel 2021, 127–28). That ni-Vanuatu act in such ways can also be observed in other areas of life: when managing their coastal marine life, people also included new ideas, creating their own “Siviri Marine Conservation Area,” with which they succeeded in maintaining their “Siviri marine management assemblage” (Pascht 2022). Changes are, thus, quite common in Vanuatu’s cultivation practice, and because a continuous exchange between people and “environment” takes place, villagers can change their way of acting in these exchange processes while simultaneously creating continuity.

Another important practice identified by the research project for people in both villages is diversification, which is connected to the principles already sketched out, namely relationality and the significance of the proper location for planting. In Vanuatu and many places elsewhere in Oceania, diversification regarding cultivation is widespread. Pacific Islanders are planting a great variety of different species and varieties of food crops (Barrau 1958, 61–63; Clarke 1994, 21). Interlocutors told and showed me that this is also the case in both villages—although they stressed that the variety had been much greater during the time of their ancestors. The research led me to conclude that Dixon Reef and especially Siviri villagers additionally transfer this practice to other realms of livelihood practices: they continuously expand their possibilities to secure their livelihood and thus diversify these possibilities. In doing

this, they extend their relational network of people, places, activities, etc. They do not specialise in cultivating one kind of crop at one place, doing one job; instead, they diversify their (livelihood) activities and the places of activities (Hetzl & Pascht 2019, 212).

Klaemet Jenj vs. Climate Change

Not only do ideas about the “*envaeromen*” of the inhabitants of Siviri and Dixon Reef differ from ideas about environment disseminated by the media and other actors, but ideas about “*klaemet jenj*” also differ from those about Climate Change (Pascht 2019). People in both villages have heard the term “climate change” or “*klaemet jenj*” from various sources—mainly from the radio, in Siviri the daily newspaper or the so-called “climate change” awareness programs and workshops that have been organised in many parts of Vanuatu. The two concepts are closely related: while the phrases “*envaeromen*” and “*spoilem envaeromen*” are also used in the context of conservation, they often play a role in discourses and projects about “*klaemet jenj*.” For example, some interlocutors explained that people from Vanuatu are also responsible for “*klaemet jenj*” through “*spoilem envaeromen*” (Hetzl 2021, 87; Pascht 2019, 241). Desirée Hetzel states that the villagers of Dixon Reef use “*envaeromen*” in discourses about “*klaemet jenj*” “to describe on the one hand, the materialisation of Climate Change and on the other, the human impact to cause it” (Hetzl 2021, 88).

Similar to the idea of “*envaeromen*,” the idea of “*klaemet jenj*” does not exclude sociality. It is seen as an encompassing phenomenon that includes not only changes in sea levels, weather patterns, and times of trees bearing fruits but, as one woman of Siviri in her forties explained, “*klaemet jenj*” means that “everything is no longer in its place.” This concept includes changes in community life – for example the youth are drinking kava and alcohol and people do not engage in community work as they did before. Several interlocutors explained that people are generally lazier now than they had been in the past. The increased use of technology such as mobile phones and Facebook was also mentioned in connection with “*klaemet jenj*” (Pascht 2019). This connection means that “*klaemet jenj*” is not confined to ‘environmental’ changes but also relates to changes in ‘sociality’ and that my interlocutors do not see environment and sociality as dichotomous spheres but as one whole, connected through manifold relations.

I argue that it is not villagers’ misunderstanding of the concept of Climate Change that made them regard “*klaemet jenj*” as an encompassing phenomenon concerning weather, other environmental changes, and social changes but ‘*klaemet jenj*’ itself is a new (local) concept, which people create by engaging with (new) information and practices. Climate Change projects therefore are, for Siviri and Dixon Reef, one of the contexts in which the processes of creating new concepts take place. I argue furthermore that their engagement was across ontological difference: in contrast to concepts of “environment” and “Climate Change” presented, for example, in the documents of NGOs and the government, the villagers’ worlds are characterised by relations rather than by dichotomies—namely by “*envaeromen*” and “*klaemet*

jenj.” In this “klaemet jenj world,” there is no “climate change,” which results in “environmental changes,” which again impacts cultivation and thus human culture, but multiple relations connect these spheres. Accordingly, living in this world it does not make sense for villagers to focus on changing cultivation practices, but they (also) draw on other established principles like diversification of livelihood practices and choosing better places for cultivation.

Conclusion

Two questions were raised in the introduction: First, how did participants act following the Climate Change adaptation workshops, and second, did knowledge transmission during the workshops fail because participants’ practices were diverse and multidirectional? These questions could be answered by including the alterity of actors’ assumptions about the world. Alterity can be shown by comparing the concepts environment and *envaeromen*. The explanations of my interlocutors about “*envaeromen*,” cultivation, and “*klaemet jenj*” suggest that for inhabitants of the two villages, the social and the environmental are not opposed to each other: villagers are living in a relational fabric/network and are thinking of and performing reciprocity between humans, plants, soil, etc., so that “*klaemet jenj*” also is part of this network.¹¹ Research showed two central principles of villagers: diversification (regarding cultivation, but also livelihood practices in general) and the significance of places (e.g., that there is a proper location for cultivating specific plants). In this relational network, the main concern is to realize as many possibilities as possible and to find the proper places for these. I conclude that an important intention of ni-Vanuatu of Siviri and Dixon Reef is, in the first place, to maintain this relational fabric of reciprocity—what then “automatically” secures the well-being and survival of humans (as well as animals and plants). This means, for example, villagers change their lives *together with* “*klaemet jenj*,” not *because of* climate change.

These ideas are fundamentally different from the assumption found in policy, adaptation project documents, and the deliberations of workshop leaders, that climatic changes cause environmental changes, which in turn cause problems for human life and that the change of some specific cultivation practices is the best way to adapt to these environmental changes. In these contexts, environment stands in a dichotomous position to the cultural and social. I argue that people in both villages engage with these concepts used in adaptation projects creating new concepts, practices, and thus new worlds. I interpret the conceptualising and acting of people as ontological innovation: they do not adopt new concepts and practices in a linear way but rather create a new world by creating and transforming concepts and practices. Thereby, concepts and practices are integrated, transformed, or rejected.

One example I have shown is that when encountering the concepts of Climate Change and environment, they define them anew—as “*klaemet jenj*” and “*envaeromen*.” The same is true for cultivation methods and techniques: People may try out new practices, but they also draw on other existing or established principles and practices, which enable them to create new relations, stabilize yield or income by

diversification, or by finding the proper place to cultivate so that the yield is sufficient for their needs—principles, and practices which are very important in their world. These established practices are also possibilities for acting. To live in a “klaemet jenj world” means to deal with new challenges in various ways, drawing on “old” and “new” possibilities:¹² diversifying cultivation, looking for good places to cultivate, spending more time on copra production, mulching, establishing backyard gardens for certain periods (but not necessarily continuously).

While acting and interacting with (external) assumptions and concepts and continuously creating new discourses and practices within their social, cultural, and physical environments, the villagers’ narratives and actions become quite different from those of the government and NGOs. People in Siviri and Dixon Reef do not actively contest governmental and NGO agendas. However, what they explain and how they act often do not meet the expectations of members of these organisations. The “encounters across difference” (Tsing 2005) between staff of development organisations or the government and villagers are encounters that may result in misunderstandings because not only different cultural perspectives but also different worlds or ontologies are involved—differences which people who communicate and interact are not aware of (see Blaser 2009, 11).

In Siviri and Dixon Reef, alterity regarding the world—the importance of relationality, diversification, and “ples” on the one side, and a dichotomy of nature/environment and sociality/culture on the other, was not addressed by interlocutors. The staff members, however, were irritated and did not understand why people did not use the presented methods and techniques in the way they had been taught. At the same time, the villagers did not explain conclusively why they did not use these methods. However, despite misunderstandings and irritations, the Climate Change adaptation projects in the two villages did not lead to major conflicts, but, as I have shown, led instead to several constructive processes of creating new worlds and thus new approaches for cultivating food crops and securing livelihoods in the future.

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Notes

- 1 Ni-Vanuatu is the term inhabitants of Vanuatu use to refer to themselves and is also officially used by the government.
- 2 The term ‘environment’ is used in this article in different contexts with different meanings. I use it in a very broad sense in order to avoid specific ontological distinctions between, for example, human and nature—so my discussions may include artifacts, discourses, practices or social relations. However, in the context of adaptation policy and measures, the meaning is more narrow, as I will show below.
- 3 It is not my intention to criticize the projects.
- 4 Bislama is a pidgin language and the lingua franca in Vanuatu. The citations of research partners in this article were translated into English by the author.
- 5 El Niño is the name of a meteorological phenomenon. It denotes one of the phases of the El Niño–Southern Oscillation (ENSO) and means less rain for Vanuatu than usual.
- 6 As none of these concrete strategies are relevant to the adaptation projects in the two villages where I conducted research, I do not expand on them here.
- 7 Another example of a policy document that includes statements that establish a dichotomy between the environment (as pristine and natural) on the one hand and humans who use this environment for their needs on the other is Vanuatu’s “2030 National Sustainable Development Plan 2016 to 2030 – the People’s Plan” (Pascht 2022).
- 8 These projects have been initiated and financed almost exclusively by foreign organizations.
- 9 ‘Generation and adaptation of improved agricultural technologies to mitigate climate change-imposed risks to food production within vulnerable small farming communities in western Pacific Countries’ (Generation of a Agricultural Technologies 2016).
- 10 See also the article of Carlos Mondragón (2018) on seasonal environmental practices and climate fluctuations in Vanuatu.
- 11 For the two villages, what Mondragón states for Torres Islanders is applicable: “climatic fluctuations [...] are associated with broader chains of relations between humans and other entities, as well as with a diverse set of ideas regarding the shape and nature of the world” (Mondragón 2018, 37).
- 12 In the following listing, I deal with topics connected with cultivation only. As I have shown above, ‘klaemet jenj’ is an encompassing phenomenon.

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