

Pacific Dynamics:

Volume 3 Number 1 August 2019

Journal of Interdisciplinary Research

<http://pacificdynamics.nz>**“Forests for life”**

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or forests for carbon markets?

ISSN: 2463-641X

The case of Choiseul Province, Solomon Islands**Kristen Lyons***

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Abstract

Climate change is widely recognised as one of the biggest threats to livelihoods, security and wellbeing in the Pacific. Carbon markets represent one of a number of global responses, with projects expanding across the Pacific in recent years. This paper focuses upon carbon offset activities in Solomon Islands, including sustainable forestry for carbon trading initiatives. As signatory to the Paris Agreement, Solomon Islands has expanded its activities to support preparedness for entry into global carbon markets, demonstrated via national-level carbonisation of forestry governance. In the context of a resource constrained state, non government organisations (NGOs) occupy a central role in Solomon Islands carbon forestry governance. This paper documents some of the national and international policy settings and policies driving expansion of carbon markets. It takes the case study of Choiseul Province to examine gender sensitive livelihood initiatives introduced by one local NGO, the Natural Resources Development Foundation (NRDF), as part of preparedness for entry into carbon market initiatives, referred to as REDD type projects. Findings demonstrate positive outcomes associated with livelihood projects – including for women – accrue regardless of participation in carbon markets. The paper argues that climate change mitigation strategies that take a gender sensitive approach, alongside centring local assets, visions and possibilities, as well as the maintenance of communally owned and managed forest resources, are well placed to deliver positive on-ground impacts in Choiseul Province. These findings provide insights for future policy and planning in the Pacific in an era of climate constraint.

Keywords: climate mitigation, carbon markets, forestry governance, gender, livelihoods, Solomon Islands, sustainable forestry.

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Introduction

There are diverse global responses to the exigent challenge of a changing climate. For those especially vulnerable to climate catastrophe (Alston, 2014; Lyons, 2019), including Pacific and other small island nations, the need for urgent action to address the worst impacts of climate change is unambiguous. In Solomon Islands, an archipelago comprising over 900 small islands, climate change presents acute challenges – many of which are already being realised – including sea level and temperature rise that threaten settlements, subsistence agriculture and fishing, as well as exacerbating already vulnerable forest, marine and other unique and biodiverse ecosystems (Albert et al., 2016). A growing body of literature points to the gendered experiences of climate change, including the intersection of gender with other social differences, including indigeneity and class, in shaping experiences of climate change (Alston and Vize, 2010; Enarson, 2009; Sultana, 2014). Reflecting this, the United Nations Framework Convention on Climate Change (UNFCCC) has mandated gender equity as a principle for all climate adaptation programs (McLeod et al., 2018).

Pacific Island leaders – including as captured in the Boe Declaration – have described the challenge of climate change as the “single greatest threat to the livelihoods, security and wellbeing of the peoples of the Pacific” (Leannem, 2018). Reflecting this, the Small Islands Development States Group (SIDS) and the Alliance of Small Island States (ASIS) – both of which Solomon Islands is member – has called for strong global action, including via the United Nations Conference of Parties (COP). During the COP24 in Poland, in 2018, the ASIS also demanded that global responses to climate change recognise fundamental loss and damages, and compensate communities affected by the unavoidable consequences of global warming. Pacific Nations have also established a Call for Action, emerging from the *Talanoa* Dialogue – grounded in principles of democratic participation, science, social justice, ethical leadership and cooperation – to ensure climate change responses support “sustainable development and the preservation of life on earth as we know it” (Banos Ruiz, 2018; Presidents of the COP 23 and COP 24, 2018).

The outcomes of COP24, however, did not commit to these principles. Instead, world leaders failed to reach consensus on a roadmap to meet Paris 2015 targets for reductions in greenhouse gas emissions. Meanwhile, some of the world’s largest oil and gas producers – the US, Saudi Arabia, Russia and Kuwait – refused to ‘welcome’ the IPCC 1.5% Report, which identified a 45% reduction in emissions by 2030, and net zero emissions by 2050, as a requirement to keep global warming below 1.5%. Instead, the significance of this report was neutralised; it was simply ‘noted’, outraging scientists, climate campaigners and others (McGrath, 2018).

In this highly vexed space of global climate politics, adaptation and mitigation have become central policy tools. This paper takes as its focus market based carbon offset – or mitigation – activities. This includes activities that aim to reduce anthropogenic greenhouse gas emissions via carbon sinks, reforestation and afforestation, thereby assisting signatory countries to meet emissions targets. While there is an array of mitigation activities, including some that are highly contested and futuristic (including switching to so-called ‘alternative’ energy sources such as the euphemistically named ‘clean coal’, as well as nuclear power and geo-engineering), our focus is upon ‘sustainable forestry’ for carbon trading. This represents an arena of rapid expansion; with market-based carbon trading initiatives now relatively well established in Africa and Asia (see for example Lyons, 2018), and driving the carbonisation of forestry governance, including in Solomon Islands. The Pacific represents a site of recent expansion (Hanafi, 2018). Carbon trading is one of a suite of market based initiatives that claim to offset industrial pollution in one part of the world by sequestering it elsewhere, often in territories that are home to the economically poor (Lohmann, 2011; Lyons, 2018). Despite broad state based support for carbon trading initiatives – signified by the expansion of public and private sector carbon governance mechanisms – COP24 failed to reach globally agreed rules to regulate carbon

trading. Concerns related to double counting carbon offsets, alongside a lack of transparency across the carbon trade industry, cast further doubts over the credibility of the sector.

Solomon Islands, the focus of this paper, is signatory to the Paris Agreement, and has initiated activities as the basis for gaining entry into carbon markets, including via the UN Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (REDD+). While Solomon Islands contributes very little to global greenhouse gas pollution, the Ministry of Environment has described the country as having a “moral imperative to take action against climate change seriously” (pers. comm. Feb, 2017). Carbon trading initiatives are one of a number of strategies enacted within the context of Solomon Islands in response to the global challenge of climate change.

Reflecting this, in recent years Solomon Islands has expanded governance activities, including development projects and policy initiatives, to support preparedness for entry into global carbon markets. This includes conservation projects, certified sustainable forest management initiatives, as well as development of a national REDD+ Roadmap. These initiatives are driven by collaborations between government and non-government actors, community leaders and villagers. Through a case study of the Choiseul Province – to date the only province with a commercial carbon market project – this paper documents some of the gender sensitive livelihood initiatives deployed by one local NGO, the Natural Resources Development Foundation (NRDF), as part of preparedness for entry into carbon markets. Our findings demonstrate the positive outcomes realised at the local level, especially for women, arise as a result of, but not dependent upon, their connectivity with global climate initiatives. We document the introduction of a number of livelihood activities, including organic gardening, a women’s savings club and bee keeping. Each of these has occurred under the pretext of preparedness for entry into global carbon markets. Yet these activities are connected – but not reliant upon – participation in carbon trade. We argue the positive outcomes of these livelihood initiatives have been made possible due to the care and context-aware nature of the NGO staff responsible for implementation of the carbon project. This stands in contrast to other exploitative forms of climate mitigation in the global south; including where forced land acquisitions, displacement of people and human rights abuses abound (see for example Bond, 2015).

To argue this case, we begin with a review of relevant contemporary literature on global carbon markets, including impacts and issues for smallholder and developing countries. We also identify the exigent gendered aspects of environmental governance and climate change impacts. We then introduce our selected case study, Choiseul Province in Solomon Islands. Choiseul Province represents a case of national and regional significance; here, the first township in the Pacific – Taro, the Provincial capital, and home to around 1000 people – is planning to relocate in response to rising sea levels (Rowling, n.d). We then present our findings; starting with an outline of some of the policies driving expansion of carbon markets in Solomon Islands, and the broader national-level carbonisation of forestry governance. We document local livelihood activities introduced by the NRDF – in alliance with other NGOs and local leaders – as part of preparedness for entry into global carbon markets. We demonstrate some of the positive outcomes associated with these projects, including for women; outcomes that accrue regardless of the carbon market imaginary, which remains just that for most villagers in Choiseul. We conclude by arguing that climate change mitigation that takes a gender sensitive approach, alongside centring local assets, visions and possibilities, as well as the maintenance of communal forest resources, are well placed to deliver positive on-ground impacts in Choiseul Province. These findings provide insights for future forestry governance in the Pacific in the context of climate constraint.

Carbon markets: Global responses to climate change and their local impacts

Carbon markets are widely regarded as one of a number of ecosystem services that may assist to address the global challenge of climate change. Reflecting this, carbon markets have become a key focus of governments, industry and donors, and supported via the now ratified United Nations Framework Convention on Climate

Change (UNFCCC) 2015 Paris Agreement (Corson et al., 2013; Mbatu, 2016). Carbon market and/or trading initiatives are diverse, and may include conservation and forestry initiatives, such as Reducing Emissions from Deforestation and Forest Degradation (REDD+), as well as the related Afforestation/Reforestation Clean Development Mechanism (CDM) and Voluntary Carbon Market initiatives, which we refer collectively in this paper as REDD type projects.

Advocates of REDD type projects frequently conflate these “environmentally financialised markets” with the delivery of appropriate economic and environmental outcomes (McMichael, 2010; Fairhead et al., 2012; Rakatama, 2017), including for the growing number of smallholders, peasant farmers and Indigenous peoples who are increasingly integrated in global carbon economies (Lohmann, 2011). Grieg-Gran et al. (2005) and Jindal et al. (2008), for example, describe positive livelihood benefits associated with participation in payment for ecosystem services’ initiatives, as well as providing the conditions for improved land tenure security. Asquith et al. (2002) also report long term positive financial and other impacts for communities. A growing body of literature also identifies the success of carbon markets as more likely when tied to local livelihood activities that are meaningful at the local level (see for example Nel et al., 2018). This assertion echoes much conservation and development literature that has, for the last several decades, highlighted the need to include local actors in planning and implementation of integrated conservation and development projects. REDD+ literature similarly emphasises the importance of including local actors in projects to ensure positive outcomes; including highlighting the need to implement safeguards for local livelihoods, customary land tenure, benefit sharing, and community participation.

At the same time, a burgeoning literature also documents the expansion of carbon offset initiatives as introducing new challenges and problems for local communities. Lyons and Westoby (2014), for example, describe industrial plantation forestry for carbon offset as driving new forms of carbon colonialism, as local and Indigenous communities are evicted from land, and denied access to forest products and cultural resources. Carbon offset projects have been described as enabling the extension of – often violent – colonial expulsions from land, driving what David Harvey (1996) names capital accumulation through dispossession to ‘open up’ land for carbon extractivist development. These ‘land grabs’ rupture local communities’ social, cultural and ecological connections to land, extending economic inequalities and with negative quality of life outcomes for affected communities (Nel, 2015; Lyons, 2018). Further research also points to exclusion of the poor, Indigenous peoples and women from carbon projects, including on the basis of their insecure property rights and limited financial resources (see for example Iftikhar et al., 2007). On this basis, research demonstrates carbon markets may reinforce existing power structures, inequities, and vulnerabilities (see Nel et al., 2018).

There is also a growing body of literature that demonstrates carbon market extractivism as driving commodification via private property rights – over land, air, biological and other natural resources (Okereke and Dooley, 2010). This literature demonstrates the ways that carbon offset initiatives are associated with the marketization of nature, including the reconfiguration of forests, forestry and conservation governance, with outcomes that “promote a simplification of complex on-the-ground realities (to) reformat the world’s forests into political spaces that are amenable to existing climate mitigation schemes” (Gupta et al., 2012). In so doing, these understandings and values of forests normalize western scientific knowledge, while at the same time marginalizing local knowledges and needs. But what are the outcomes in our selected case?

The Choiseul case study

The two lead authors conducted research in Choiseul in February 2017 as part of a larger project investigating the livelihood and environmental potential for smallholder forestry initiatives in Solomon Islands¹. We were particularly interested in visiting the first region in Solomon Islands to undertake preparation for REDD+ accreditation. Choiseul has been selected as a REDD+ pilot on the basis of its stable and long term provincial government, the high level of tribal cooperation across the island, manifest in the Lauru Land Conference of Tribal Community – a province wide cooperative council of tribal elders (Boseto, 1995) – and the fact it is the province in the Solomon Islands that has been least affected by the activities of foreign logging companies.

Field work included visits to Sassamungga and Boeboe communities, comprising multiple forms of data collection with Indigenous peoples from the Sirebe and Vuri tribal groups. These communities are not part of the REDD+ program, which is still under development and with no commercial operations at the time of our research. Instead, they are aligned with Nakau's *Forests for Life* program based in the Pacific (what we refer as a REDD type project), with the aim of “helping indigenous landowners sell carbon offsets and conservation credits instead of timber as a way to deliver community economic development” (Nakau, 2017). Nakau describe this program in Choiseul as protecting rich biodiversity hotspots, including 4027 hectares of lowland rainforest, and 2407 hectares of lowland coastal rainforest. In addition, with certification from Plan Vivo Standard, and based upon “improved forest management”, the project claims to generate 40,980 carbon offsets annually, starting in 2017 (Nakau, 2017).

In Choiseul, the Nakau project is managed by the Natural Resources Development Foundation (NRDF), an NGO that works to implement sustainable resource management opportunities to communities in Solomon Islands (NRDF, 2019). The NRDF has as its focus the preservation of forests in Solomon Islands through forest sustainability initiatives, forest management, and via the generation of alternative sources of income to help tribal groups resist the financial incentives offered by logging companies. The organisation is funded by USAID and the Dutch Millennium Foundation, amongst others, and is staffed by both foreign and indigenous workers. In the case of the carbon credit and livelihood initiative in Choiseul, the program, at the time of fieldwork, was managed by a very experienced and respected indigenous Solomon Islander who also assisted our fieldwork.

While several authors have discussed REDD type projects in the broader Pacific Region (Wardell-Johnson et al. 2011; Barr and Sayer 2012; Katovai et al. 2015), very little research has focused on the development and implementation of REDD type projects in the context of Solomon Islands. Amongst this nascent literature, Bosma et al. (2017) has examined the Natural Resource Development Foundation's (NDRF) *Forest for Life* programme as a means of ‘pro-forest income diversification’, including by focusing on the programme's beekeeping and Women's Saving Clubs. Bosma et al. (2017) discuss the benefits of such livelihood diversification activities, and cite the need for sustainable forest management in processes of livelihood diversification – including a gendered analysis of sustainable livelihood practices – particularly in response to the numerous decades of unsustainable logging in Solomon Islands. The findings presented in this paper are in many ways commensurate with Bosma et al. (2017), providing an example of collaboration between NGOs and local actors in the delivery of equitable forms of ‘pro-forest income diversification’, alongside climate change adaption and mitigation.

¹ Kristen Lyons and Peter Walters were part of an interdisciplinary project entitled ‘Enhancing Economic Opportunities Offered by Community and Smallholder Forestry in the Solomon Islands’ funded by the Australian Centre for International Agricultural Research (ACIAR) led by Dr Tim Blumfield (Griffith University). This project brought together the disciplines of agro-forestry, soil science, economics and the social sciences, with Kristen Lyons and Peter Walters comprising the Social Science Research Team. Annabel Shewring was appointed as Research Assistant on this project.

NRDF has been working with communities in Choiseul since 2003. They detail three aims as underpinning their activities. The first is to prepare tribal forest holdings for scientific assessment as a prerequisite for compliance with Forest Stewardship Council (FSC) certification and carbon credit programs. The most important activity here includes formal measurement of tribal boundaries – to render boundaries ‘knowable’ – a prerequisite for FSC applications required to qualify for carbon market assessment.

Second, NRDF aims to provide communities, particularly women, with alternative sources of income via bee keeping, kava cultivation, guest houses and the establishment of women’s savings clubs, providing the basis for financial autonomy and alternative sources of income should carbon incomes not eventuate.

NRDF’s third aim is to educate communities about the long term harms and damages of allowing logging companies onto their land. This aim is closely tied with the second aim of providing communities with alternative sources of income to make them more resilient against the overtures of loggers, and as an insurance policy against the failure of carbon markets to produce a future income for them.

We collected data over two weeks, using formal and informal interviews and discussions with a range of tribal elders and leaders, women and women’s groups, and other members of the community across a number of villages and tribal groups (including from Sirebe, Guerre and Vuri tribal lands), and who were engaged in activities related to NRDF projects. We also visited a number of government agencies in the capital, Honiara, in order to understand Solomon Islands Government commitment to, and preparation for, REDD+. We also visited one international NGO engaged in environment and development related work (including related to climate adaptation and mitigation) in our case study focus area, the Choiseul Province.

While field research was conducted over a relatively short time frame, we were assisted by a senior staff member from NRDF and a senior consultant who was responsible for the local forest audit and boundary marking – both of whom we travelled with in Choiseul Province during the fieldwork, thereby ensuring access to community members. This, in combination with close to a decade of social research in Solomon Islands on a related research topic, provided the context to ensure the generation of useful insights.

We now consider some of the drivers and impacts associated with the introduction of REDD type projects in Solomon Islands, and the carbonisation of forest governance, before turning to the selected case study of Choiseul Province.

REDD+ and the carbonisation of Solomon Islands forest governance

As a party to the United Nations Framework Convention on Climate Change (UNFCCC) and signatory to the Paris Agreement, Solomon Islands’ National Government has a stated commitment to climate change adaptation and mitigation, with forestry identified as an important sector to achieve its national goals in this space. Solomon Islands joined the UN REDD Programme in 2010, and participated in development of the Pacific Island Regional Policy Framework for REDD+ in 2012; endorsed by the Pacific Island Ministers for Agriculture and Forestry. In the same year, Solomon Islands developed its own national REDD type program – supported via a \$550,000 grant from the UN REDD Programme Fund – and since then has formally adopted REDD type policies and programs as part of a national climate change adaptation and mitigation policy agenda, including as part of the National Climate Change Policy (2012 – 2017) (Corrin, 2012).

Solomon Islands government, and in collaboration with multiple stakeholders, produced a National REDD+ Roadmap, which was ratified by Cabinet in 2015. At the regional level, Solomon Islands also produced a Regional Policy Framework for REDD+ (2012). On-going support for REDD type projects is demonstrated via Solomon Islands National Sustainable Development Board, launched in 2017 to support green business development, including via forestry based carbon market initiatives (Narayan, 2017). At the time of our fieldwork, the National Forestry Act was also being reviewed for the possibility of including REDD+ frameworks to ensure compliance for REDD type project implementation.

This shift towards support for REDD+ signals the most recent development in Solomon Islands' environmental – particularly forest – governance policies. Solomon Islands' forests have historically been worth more economically felled than left standing, circumstances that have driven large scale and unsustainable commercial logging (Walters and Lyons, 2016; Wairiu, 2007). The global reconceptualisation of forests as repositories of carbon – or what is sometimes referred as the 'carbonisation' of forest governance (Gupta et al., 2012) – is driving shifts in forestry management and governance.

This new forestry governance model relies upon rendering explicit the measurement, and subsequent commodification, of nature as resource. Carbon offset projects, in particular, rely upon complex calculative practices to measure and price the volume of carbon dioxide and other greenhouse gases (GHG) sequestered – or absorbed – from the atmosphere into wood, leaves, soil and other organic matter (Bumpus, 2011; Nel and Hill, 2013), as well measuring species diversity and other factors. Central to these calculative practices is measuring, reporting, and verifying changes in carbon stocks and forest cover (Gupta et al., 2012); practices that have become integral to global climate governance (Lövbrand et al., 2009). Despite being couched in the seemingly apolitical language of science and technology, these are highly political and discursive processes (see for example Gupta et al., 2012; Lövbrand et al., 2009; Bumpus, 2011) intended to deploy “political and economic rationality” to natural systems (Lövbrand et al., 2009).

The calculative practices upon which carbon forestry governance relies are far removed from the lived realities, or traditional practises of resource management and local knowledges of local communities in Choiseul Province. Our field visits, for example, revealed little knowledge of the established forestry carbon market initiative as part of the NRDF's “*Forests for Life*” project. Similarly, there was little knowledge that Choiseul Province was leading developments in forestry and conservation related carbon market initiatives. There was also little understanding of how carbon trading initiatives actually worked. Reflecting this limited awareness, participants in one focus group described “hearing rumours that carbon markets are coming”, with one villager fearful he would be required to “inject his trees” to gain entry into the market. A representative from The Nature Conservancy (TNC) explained some of the difficulties in undertaking effective community education on carbon trading were based, at least in part, upon its reliance on a series of intangibles; “Other things [like] introducing water tanks ... are easy. But mitigation is something you can't see”.

Rather, carbon markets work by rendering visible a form of nature that ‘only capital can see’ – in the form of measurable carbon sequestration rates – rather than tangible outcomes communities themselves can comprehend (see also Edstedt and Carton, 2018). This opaque context upon which carbon markets rely exacerbates local villagers' concerns related to credibility and trust. As one community member described; “we don't trust anyone, we don't trust government, or a company, we only trust ourselves”. In Solomon Islands, where mistrust of ‘outsiders’ related to forests is especially pronounced – including on the basis of decades of illegal logging by foreign companies – the emerging carbon trade sector, relying as it does upon the expertise of outside auditors, may also face challenges in uptake.

NRDF: Building the foundations for entry into carbon market initiatives

Villagers in Solomon Islands are at the frontline of global demands for climate change mitigation, and these demands are effected through existing and emerging national and subnational institutions and other governance structures that are often remote (Descheneau and Peterson, 2011; Nel, 2015). In our case study of the Choiseul Province, actors include national and provincial government departments, local and international NGOs, community-based organisations, faith based organisations, landowners, chiefs, international policy groups and certifiers. Despite the clearly mandated national government support for REDD type projects – and backed by the UN Framework – our field visit found little government representation on the ground, with NGOs and other local level organisations driving expansion of, and support for, carbon market initiatives. While significant activities related to establishing the basis for entry into carbon markets has proceeded in Choiseul Province, it has been driven primarily by NGOs with a range of interests and concerns, including advocacy for sustainable land use and conservation, as well as support for viable livelihood activities, as detailed further below.

In explaining the absence of local level government activities related to establishing REDD type projects, one Ministry representative cited constrained resources and staffing. There were very few government officials working on the REDD project, and those who were engaged were in very early stages of planning. Similarly, the UN was unable to provide adequate resources to implement carbon market projects, with a representative from The Nature Conservancy describing the UN Climate Change fund as a “cheque book without any money”. In contrast, the NRDF’s strong ties with local communities and relevant organisations, its agility to respond to national and international issues, alongside its comparatively well-resourced position via international fund raising activities, strategically positioned it to advance Solomon Islands in work related to carbon markets.

Reflecting this, the NRDF occupies a vital role in establishing carbon market initiatives in Choiseul Province. NRDF staff have, for example, undertaken practical tasks related to carbon market and conservation projects, such as collation of metrics and planning arrangements (a prerequisite for FSC and other certification) as well as developing forest management and land use plans. NRDF describe having established a memorandum of understanding with each of the partners with whom they work – including The Nature Conservancy, the Lauru Land Conference of Tribal Community and village level organisations – to ensure effective working relations with local partners. One NRDF staff member also explained their organisational philosophy and activities: “we have a heart for the people ... (our role is) to convert the technical stuff into requirements for entry into market”.

In this way, the NRDF can be seen as arbiter of global forestry governance and its deployment at the local level. NRDF representatives spoke with authority regarding the technicalities of mapping and boundary identification processes, and their role in rendering such boundaries knowable. In contrast, local villagers were unable to do so. While some community members knew in the abstract that their tribal understandings of boundaries needed to be converted into a scientific language acceptable to those who would buy carbon credits in the future, they did not have details of how this would occur. More broadly, none of the tribal members with whom we spoke was confident of the intricacies of measurement, or processes that might deliver them income through global carbon markets. It was the NRDF that were able to assure communities this process would provide them with further safeguards over their land and its resources. On this basis, a local leader described their villages’ standing with NRDF: “we are like family now ... we have long term trust”. During our time in the field, this was a view we frequently heard was held by others. How did NRDF establish this trusted status across the villages we visited, and how contingent is this for the viability of future carbon markets in Choiseul Province?

Carbon markets, conservation and local livelihood projects

Although the formal activities related to certification for carbon markets were undertaken by the NRDF, these were primarily done so as part of a broader strategy to protect forests from logging, to maintain communal ownership and control of forests and forest resources, and to provide tribal members with alternative sources of income to mitigate against threats to their forests in the future. NRDF was careful to manage expectations of villagers about the reality of income from carbon trade; regularly reminding them that this income was uncertain, and in any case, a very long term proposition. The carbon market was only one strategy for income generation; just as important to the project was the creation of alternative sources of income and conservation education for communities as a means of averting short term exploitation of their forests. Some of the conservation and development interventions also specifically targeted women. The NRDF's gendered approach stands counter to other conservation practices that often exclude women, including in Solomon Islands (see for example Scheyvens and Lagisa, 1998). It is to these livelihood projects this paper now turns.

Much of our time in the field was spent speaking with leaders, NRDF representatives and villagers about the livelihood initiatives introduced into the community by the NRDF in parallel with the accreditation process for entry into the carbon market. As part of their *"Forests for Life"* project, NRDF had, over the past five years, introduced village based bee-keeping for domestic and commercial use; a plantation for kava root, to tap into growing demand for kava in the Pacific; a women's saving club; an educational facility to teach visiting tribal groups about these initiatives, and in Sassamungga, a 'bed and breakfast' accommodation service to support the training facility (and visiting researchers and officials). As one local leader proudly explained: "our livelihood projects have a direct impact on peoples lives, compare that to millions of dollars of government money where we don't see anything".

Each of these initiatives were operational and functioning as intended when we visited. Although these livelihood enterprises could possibly have been established in the absence of the carbon project, NRDF had tied them very closely to the sustainable protection of forests, and importantly, to the provision of new and independent income streams for women.

For example, when bee keepers described their operation to us, they told us that one of the reasons their bees were productive was that their collectively owners forests, which adjoined the village, were still intact, and had the necessary biodiversity to support their bees and produce good quality and quantities of honey. They also described seeing the benefits of the conservation project; they could see rivers run clean, they had bush materials available for use, and wild animals were living in these habitats. Some farmers also described their diverse organic gardening plots as providing them with "insurance against a climate disaster". The production of household honey, which was a task shared by women and men, also provided income from a steady demand in the market at Taro. In the case of women's savings clubs, women – for the first time – were able to 'quarantine' money according to modest savings goals that were used for purposes such as children's education and seed money for small enterprises. Money was kept communally in a strongbox controlled by a committee who were also empowered to make small loans or allocate funds for members in hardship or emergency. This was the first opportunity that women had been given to manage money independently of their husbands, and many women had also involved their daughters in the club to socialise them into this new gender role. The skill with which this initiative had been introduced into the community was reflected in the agreement by men that this had been positive for the community.

Previous research has documented social norms and hierarchical structures as frequently positioning women outside decision-making processes in Solomon Islands (Scheyvens, 2003; Seniloli et al., 2002; Dyer, 2018). Women's engagement, therefore, sits in tension with gendered social norms in Solomon Islands, leaving women continually negotiating global articulations of gender equality alongside traditional and local ideals

(Dyer, 2017a). Such negotiations are made more difficult on the basis of the peripheral status of gender mainstreaming² in global climate projects (McLeod et al., 2018). Similarly, women – especially Pacific Island women – remain notably absent in climate change research.

In contrast to the shortfalls of these dominant approaches, the women’s savings club introduced by NRDF have established the basis for a form of “permitted empowerment” (Dyer, 2017b). And while the greater involvement of women in governance and economic life of their communities has been a direct result of a project to prepare their communities for carbon trading, it has been introduced so as to reduce expectations or dependence on an uncertain future income from carbon. The carbon market initiative could be thought of as a ‘trojan horse’ for the introduction of these livelihood activities and a greater focus on the long term preservation of communally owned and managed forest resources. Much of what has been done in these communities has had the spectre of the short term temptation to allow logging in their forests as an explicit backdrop.

Discussion and conclusion

For Pacific nations, there is an urgent need for action to manage the impacts of climate change. Solomon Islands, the focus of this paper, is responding to this challenge; it is signatory to the Paris Agreement, and has initiated an array of climate adaptation and mitigation activities, including development projects and policy initiatives. Of specific relevance to our paper, it has engaged in an array of activities to support preparedness for entry into global carbon markets, including via support for REDD type projects. Given the centrality of sustainable forestry for these initiatives, Solomon Islands has initiated what we describe as the carbonisation of forest governance.

Our case study of the Choiseul Province is of significance in the context of carbon forestry governance, given it is where the first in-country projects for entry into carbon markets are located. It is also here that human population relocation is already underway on the basis of rising sea levels.

In the context of Solomon Islands’ constrained state capacities and resources, NGOs have come to play a central role in carbon forestry governance. This paper has described, in particular, the vital role of NRDF in this work, including via its implementation of an array of gender sensitive livelihood initiatives. Of significance, our findings related to NRDF demonstrate their “*Forests for Life*” initiatives in the Choiseul Province may also – in the future – provide the basis of forests for carbon markets. However, NRDF’s effectiveness – demonstrated in the wide scale uptake of their projects and village level support – lies in its prioritisation of livelihood activities that deliver positive outcomes in the short term, rather than the long term goal of entry into carbon markets (thereby complementing findings of Bosma et al., 2017). Quite simply, NRDF staff and the villagers they work with understand entry into carbon markets may never be realised. They also understand the benefits associated with introduced livelihood projects can continue to be realised *independently* of whether income will be realised from the carbon market initiative. Also of importance, while the livelihood projects introduced by NRDF are generating incomes that accrue at the individual and household levels, they are ensuring the on-going maintenance of communally owned, and shared, sustainable forest resources. This stands counter to previous research which has documented the privatisation and individualisation of forest ownership – and the rupturing of traditional and customary land tenure arrangements – driving accumulation by dispossession alongside the commodification of carbon and other ecosystem services (see for example Iftikhar, 2007; Gupta et al., 2012). It is these shared beneficial outcomes

² McLeod et al. (2018) report less than 0.1 percent of global grants as part of financial mechanisms under the UNFCCC (including the Green Climate Fund) and the Global Environment Facility support projects that address both climate change and women’s rights.

that may assist to understand the wide scale support for livelihood projects introduced by NRDF. Our findings also add to the work of Bosma et al. (2017), by identifying the complementarity between NRDF's local livelihood diversification practices and compliance with global carbon market requirements, thereby smoothing the path of preparedness for entry into global carbon markets.

Importantly, while global carbon trading may provide a mitigating mechanism for polluters who are not prepared to make the structural changes required to reduce their emissions – regardless of the urgent global responsibility to do so, and despite responsibilities related to loss and damages for low lying Pacific Nations – the financialization of carbon and its international abstractions are largely lost on the indigenous custodians of forests in places like Solomon Islands. These complexities are compounded by the administrative uncertainties created by cross-national cooperative agreements, under-resourced governments and the United Nations. Opaque carbon forestry governance, and alongside low levels of trust towards industry and government, fuel this complexity. Our research participants remain sceptical of securing an income from selling their carbon rights, and our research indicated that if the carbon credit project was reliant solely on the promise of an uncertain future income, then participants would have soon lost interest and perhaps been more open to the temptations of the short term gains on offer from logging companies.

By backgrounding – but not ignoring – the technicalities of carbon markets and carbon income, the NRDF was able to transform their *“Forests for Life”* project into one where the discursive and material focus became the conservation of a valuable resource and the economic benefits that could come from that conservation. The sustainability of the carbon project and the sustained interest and engagement of villagers was the result of the introduction of alternative income streams linked to forest conservation, the education of villagers about the value of preserving this resource, and the active involvement of tribal women at every stage. In so doing, our findings demonstrate not only the importance of including local actors in conservation efforts (eg. Rakatama, 2017; Nel et al., 2018), but also the vital role in centralising local – including gendered – knowledges, assets and aspirations, as part of conservation efforts. These findings contribute to understandings of the significance of gender related to climate projects (including Alston, 2014; McLeod et al., 2018). In this context, the activities of NRDF in the Choiseul Province provides important insights into pathways for permitted women's empowerment alongside climate change projects (see for example Dyer 2017b). Women's savings clubs, as well as local socio-economic initiatives including bee keeping and organic gardening, are each examples of the gender – and more broadly, culturally sensitive – approach deployed by NRDF. The level of engagement of women in the carbon markets project in our case study was made possible through the authenticity and energy of the indigenous leaders of the NRDF project, and the obvious readiness of women and their wider community to engage in decision making and environmental stewardship. This role transformation was not trivial; NRDF was working with a sophisticated understanding of the methods of inclusive grassroots participatory development, and had the time and resources to implement it.

To conclude, in the hindered space of global climate negotiations – including the frequent exclusion of the interests of women and others most vulnerable in a changing climate – the case of Choiseul Province demonstrates the tangible benefits that arise via prioritising local assets and knowledges. Similarly, this case demonstrates the benefits of grounding initiatives associated with carbon markets in principles of cooperation, collective ownership and management of forest and forest resources, respect and maintenance of customary land law, trust, alongside women's empowerment and sustainability. Importantly, the case study presented in this paper also points to the vital role of centring forests for life, not simply forests for markets. These findings provide insights for future policy and planning in the Pacific in an era of climate constraint.

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