

Market-based Conservation in Melanesia: Contrasting Expectations of Landowners and Conservationists

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Abstract

Conservationists have long been interested in the biodiverse country of Papua New Guinea but have had limited success on the ground. Direct payments for conservation appeal to Western conservationists because they compete with the material benefits from resource extraction enterprises. Direct payments are also attractive to Melanesian villagers because they appear to be the beginning of socially appropriate reciprocal relationships with conservationists. Market-based conservation assumes exchange takes place between independent, self-interested actors, but Melanesian villagers assume that exchange takes place between morally obligated, interdependent actors. Such cultural differences led to contradictory expectations and friction between conservationists and villagers in Wanang Conservation, the particular ethnographic focus of this article. However, direct payments have simultaneously satisfied some expectations of both parties. Direct payments may be useful in conservation but for different reasons than expected. They succeed as part of a wider socially acceptable reciprocal relationship, but direct payments alone will likely fail.

Keywords: culture, payments for ecosystem services (PES), exchange relationship, market exchange, reciprocity, cargo cult, cost-benefit analysis, neoliberal conservation, direct payments for conservation, Papua New Guinea

INTRODUCTION

Papua New Guinea (PNG), part of the Pacific region known as Melanesia, has been a target of international biodiversity conservation efforts because it is part of the third largest remaining contiguous tropical rainforest with an estimated 5% of global terrestrial biodiversity (Melick et al. 2012). During the 1980s and 1990s, Western conservationists establishing protected areas in PNG and elsewhere became

increasingly aware of local demands for economic development (Lele et al. 2010). This led to integrated conservation and development approaches that aimed to create enterprises for subsistence communities that were dependent on conservation outcomes, such as ecotourism, non-timber forest products, and biological research.

However, many integrated conservation and development projects were based on unrealistic assumptions and struggled to be effective (Wells 2003). In PNG, conservation efforts were largely ineffectual and short lived, due in part to the limited investment, the lack of government owned land for protected areas, and the inability of integrated conservation and development projects to meet landowner expectations (Van Helden 2005). Many Western conservationists reasoned that benefits from integrated conservation and development were simply inadequate, while PNG landowners thought the conservation and development schemes were not socially appropriate (Orsak 1998; West 2006).

Access this article online	
Quick Response Code:	Website: www.conservationandsociety.org
	DOI: 10.4103/0972-4923.170409

The use of payments for conservation has been called for by the international conservation community and local Melanesian landowners, but motivations for direct payments vary. Conservationists speculate that direct payments for conservation may provide economic benefits sufficient to contend with competing land use activities (Van Helden 1998a; Novotny 2010), while Melanesian landowners perceive material benefits as an indication that conservationists are willing to participate in what they view as culturally appropriate exchange relationships (West 2006; Benson 2012).

This paper aims to explore whether, or the extent to which, direct payments for conservation can meet these dual expectations through an investigation and comparison of Western conservationists' and Melanesian landowners' expectations, justifications, and experiences. I argue that Melanesian villagers expect direct payments to be part of long-term reciprocities based on a model of kinship, while Western conservationists expect a relationship based on market exchange in which only a temporary, anonymous relationship takes place. The resulting relationship created within the friction of these differing ideologies contains aspects of both reciprocity and market exchange, and is judged differently by Western and Melanesian actors.

To understand the complex nature of direct payments for conservation, there is a need to consider both global and local perspectives. Local systems can be redefined in terms of global ideas, processes, and networks of relations (Jorgensen 2005). Yet local viewpoints, such as the relationship between people and conservation, may not be anticipated, requiring Western conservationists to embrace local world view and moral universes to be able to work constructively in their environment (Wells 2003; Jacka 2010). In the merging of global neoliberalisation and local ontology of exchange relations, new relationships and ideas emerge (Tsing 2005). The following sections provide background on the global and Melanesian systems in question, which will be followed by an examination of their merging in Wanang Conservation.

Neoliberal conservation

According to Harvey (2005), neoliberalism 'proposes that human well-being can best be advanced by liberating individual entrepreneurial freedom, and skills within an institutional framework characterised by strong private property rights, free markets, and free trade. The process of neoliberalisation includes deregulation, privatization, and withdrawal of the state. Neoliberalisation of conservation may take many forms, but in general it de-emphasises the responsibility of environmental protection by governments and reframes conservation in terms of market mechanisms (Igoe and Brockington 2007). Proponents argue that such market-based conservation will increase the funding available for conservation efforts, make conservation more democratic and participatory, protect indigenous property rights, increase environmentally friendly business practices, and promote environmental consciousness among Western consumers,

while making conservation more effective and efficient (Ferraro and Kiss 2002; Igoe and Brockington 2007).

On a large scale, neoliberalism involves restructuring of policy and institutions, but on a personal level these practices more closely resemble market-based reasoning, exercising private property rights, and contract negotiation. Market-based, neoliberal projects are designed on the economic assumption that landowners will make rational, self-interested, profit seeking decisions. Novotny (2010) argues that PNG landowners prefer loggers to conservationists because conservationists have failed to use market-based approaches, such as direct payments, to compete with loggers. Although market-based arrangements are seen as effective and efficient, in practice, there may be social problems that are overlooked, as the use of economic discourse simplifies the complexity of issues in conservation projects with multiple stakeholders and interests (Igoe and Brockington 2007).

Despite its simplifying techniques, Western economics has begun to recognise that social consideration can play an important part in transactions, even market exchange. Economists have found that actors care about fairness and equality, even at the expense of their own profit (Rabin 1993; Fehr and Schmidt 1999), yet social factors are typically excluded from economic analysis (Kahnemann et al. 1986). In the Melanesian context, where equality is fundamental, fairness and equality are likely much more influential and conspicuous, and thus, difficult to ignore.

Melanesian material expectations

Subsistent rural Melanesians in and around the rainforests of PNG, without access to basic government services, express strong desire for development and expect conservationists to provide it. Landowners seeking to increase their material wealth engage either resource extractive companies or conservation groups and regard both as means for material improvement (Van Helden 1998b). Landowners involved in the April-Salomei Reduced Emissions from Deforestation and Degradation project in East Sepik were not satisfied with the community level benefits they received, and felt they needed individual benefits as well (Legget and Lovell 2012). Benson (2012) found villagers involved in Madang conservation projects were dissatisfied that conservation had not provided material benefits or long-term relationships. The Crater Mountain integrated conservation and development project in the highlands was designed by conservationists to assist villagers in establishing enterprises. However, the wealth, education, technology, medicine, and knowledge desired by villagers were far beyond what conservationists were prepared to provide (West 2006).

These expectations led conservationists to question if they could 'compete on one-to-one basis against what the loggers are offering' (Saulei 1998). One conservation organisation, Bismark-Ramu Group, altered their strategy and sought to prevent the development of material expectations during project discussions by reducing their appearance of material

wealth, such as helicopter transportation and expatriate staff (Van Helden 2001). The organisation made a concerted effort to communicate that the project would not provide villagers with material benefits, but would rather help them organise, and become educated about environmental issues. However, material development was the main preoccupation of villagers, leading one conservationist to frankly suggest, 'another possibility is to just pay people for conservation' (Van Helden 1998a).

Exchange relationships

Landowner expectations may be more complicated than conservationists have assumed. What may simply be perceived as economic interest or greed from a market-based perspective is actually a legitimate part of reciprocal relationships from the Melanesian perspective. In Melanesian societies, a great moral concern is to maintain social relationships through reciprocal material exchange, and the value of the objects exchanged lies in the relationships that they create (Gregory 1982). Anthropologists have theorised exchange, from reciprocal gift exchange to market commodity exchange, using various terms, and emphasizing different attributes (Sahlins 1972, Graeber 2001). Gregory (1982) identifies three distinctions between gift and commodity exchange: 1) alienability of gifts from the giver, 2) substitutability between commodities, and 3) the independence of actors in commodity exchange. Exchange theories present idealised typologies of exchange, but in practice, exchange can be and is messy, and may overlap anywhere between analytical categories. I use the terms 'reciprocal exchange' and 'market exchange' in order to highlight the distinction between the implicit, moral obligation, and inextricable link between parties in the former, in contrast to the nature of explicit obligation between autonomous actors in market exchange.

The distinction between reciprocal exchange and market exchange is exemplified in the Melanesian gift economy in contrast to the market economy (Malinowski 1961). The distinction concerns the meaning of transactions, where market economies focus on the value of the things exchanged, gift economies value the social relationships created and maintained through exchange (Gregory 1982). Market exchange is based on the idea of independent individual actors acting in their own self interest. Melanesian actors, on the other hand, are never independent, discrete individuals, but are part of a kin network, in which, they act out moral obligations to the living and the dead (Sahlins 1972, Strathern 1988). Melanesian exchange relationships are expected to be long term with ongoing material exchange creating and maintaining social equality between parties. In this dynamic of nurturing and dependence, giving and generosity are regarded as ethically superior to receiving (Meeker et al. 1986).

For Melanesians, all things are produced through relationships, such as children raised collectively, food produced by divisions of labour in gardens, and landscapes

shaped through relationships with ancestors (Strathern 1988). At Crater Mountain, villagers thought access to modernity, and the future they desired would be produced through entering a relationship with conservationists (West 2006). However, conservationists saw the project as a barter relationship that was satisfied by teaching villagers to sell their labour and commodities. Conflicts and compensation demands, which commonly surround resource extraction projects in PNG, are often assumed by Westerners to be a result of economic greed. They are actually caused by the alteration of identities and relationships that accompany changes in material wealth (Banks 2005). West (2012) illustrates that to Melanesian coffee producers the value of participating in market transactions was not the money itself, but the relationships created with the income or through the transaction. Finney (1973) also found that Melanesians leased their land to settlers, not just for income but also in hopes of accessing additional exchange relationships and the 'secret knowledge' held by whites of how to access material goods.

The last century produced numerous accounts of unexpected and confusing Melanesian reactions to Western cargo wealth and Western political, economic, and religious systems (Worsley 1957). Melanesian religious systems are flexible and embrace the idea of social transformation, enabling the accommodation of Western material wealth and practices, in ways that often surprise Westerners (Tonkinson 2004). In some cases, villagers practised elaborate rituals imitating Western religious or economic activities in hopes of gaining access to material goods from their ancestors, who were believed to have returned in the form of white men or to be in contact with white men possessing material wealth (Lawrence 1964). These practices became known as 'cargo cults'. 'Cargo cults' were about more than material wealth, rather people interpreted current events using their own history, myths, and rituals (Jacka 2002). Westerners saw 'cargo cults' as primitive explanations of unfamiliar religious, economic, or political systems (Burridge 1960). In Melanesian societies, religion, politics, and economy are all closely interwoven, as the exchange of material wealth among the living and the dead, is a means of forming relationships, gaining influence, and increasing prestige (Jebens 2004). In the colonial situation, which exposed extreme inequalities in material wealth and power, villagers sought to elicit wealth from colonialists with the help of ancestor spirits to correct social tension. Although 'cargo cult' practices have largely diminished, past 'cargo cult' beliefs and events continue to influence the present (Halvaksz 2008).

METHODOLOGY

Western conservationists hope that direct payments will meet material expectations of villagers. Similarly, Melanesian landowners believe that direct payments will foster socially appropriate conservation. But how do direct payments for conservation actually achieve these dual goals? I examined this question through the study of Wanang Conservation in

Madang Province, PNG. It is the first instance in PNG where landowners have been directly paid for conserving their land. I spent ten months from 2010 to 2012 conducting participant observation research with villagers and conservationists in and around Binatang Research Center (BRC), Madang town, Wanang village, and the Wanang forest. My interactions with villagers were conducted in Melanesian Pidgin or *Tok Pisin*, the trade language. I conducted surveys and semi-structured interviews but mainly I spent time with villagers and conservationists during their daily activities, casually observing and discussing topics that arose. I used discourse analysis of interviews, documents, and field notes to elucidate how direct payments are perceived by conservationists and villagers. I explored the expectations that conservationists and villagers have of the material benefits conferred to villagers for participating in conservation, and how such differing expectations are formed. A financial cost benefit analysis of conservation and industrial logging for villagers was performed to clarify the market-based reasoning of the project. The dialogue around the project reveals that Western interests using market logic are contested by Melanesian motives of reciprocal exchange. Although I speak of the Wanang villagers and conservationists as groups, it is important to remember that the beliefs and expectations of these groups are not homogeneous. In the following sections I will describe: 1) the development and organisation of the conservation project, 2) the differing material expectations in the project, 3) the cultural basis of differing expectation and the friction between them, and 4) the combination of differing systems of exchange. I conclude that direct payments can meet some expectations of both groups, but payments must be part of a wider, socially appropriate relationship to be accepted by villagers.

ARGUMENT

Wanang conservation: a brief history

In 2010, roughly 250 residents of Wanang village were living in the lowland rainforest in the middle Ramu River basin in Madang province, PNG (Figures 1 and 2). The village is 80 km west of the nearest town, Madang. The area remained outside the reach of government services, such as education, medical care, and transportation, until the recent arrival of loggers and conservationists. Residents practice subsistence slash-and-burn gardening, growing banana, taro, yam, and other crops, while hunting and gathering to obtain protein from the forest. Men and women subscribe to a gender-based division of labour to provide for their families. Men clear forest for gardens, build houses, and hunt, while women plant and harvest gardens, prepare food, and gather from the forest. The land is held under customary landownership by kin groups that pass down customary land from one generation to the next. Each lineage consists of 10-30 people, who trace common descent via men to a male ancestor. Land use rights are based on ancestry, social relations, and past use. Such rights are dynamic and are often based on recall of ancestor stories. The population

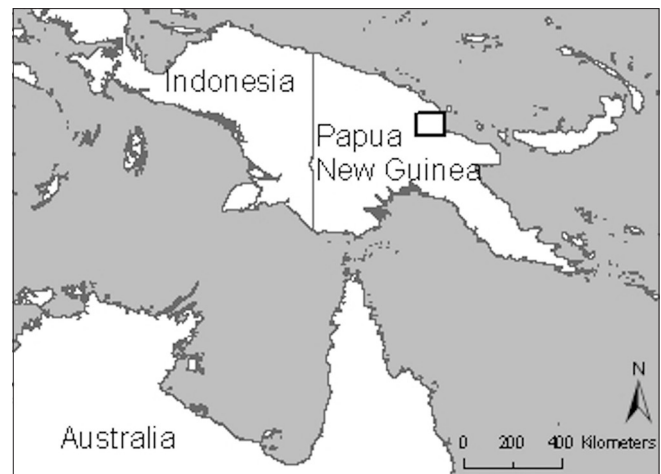


Figure 1
Map of Papua New Guinea indicating the area of study in Madang province

density was very low with 5.2 people per sq. km in 2000 (NRI 2010), leaving large swathes of land under the control of these villagers. Traditional decision-making is based on group consensus with villagers assembling to voice opinions in lengthy discussions. There is limited formal leadership but rather *big men*, who achieve influence and respect through exchange relationships, leading community decisions and group exchanges. The Wanang vernacular is called Maghu. Most villagers also speak *Tok Pisin*, and children use it as their dominant language. Although the vernacular is exclusively oral, there is a minority of literate villagers who have learned to read and write *Tok Pisin* and/or English.

In 1999, the Middle Ramu, including Wanang village, was proposed as a 158,000 ha logging concession by the PNG Forestry Authority, which permits industrial logging company activities, contingent upon landowner approval (PNGFA 2007). While logging interests were pursuing landowners consent, Bismark Ramu Group, an environmental and community empowerment group, was educating landowners on the impacts of logging. Cash bonuses and promises of community development, such as roads and schools, led landowners surrounding Wanang to sign logging agreements, but in 2000 eleven Wanang lineages declined to consent to logging and worked with Bismark Ramu Group to create a deed among themselves that prohibited logging on their customary land (Van Helden 2001). Wanang villagers still desired development that Bismark Ramu Group would not provide. Filip Damen, a village *big man*, sought out international biologists, then based in Madang, and invited them to work in Wanang. From 2001 to 2008, biologists associated with the Binatang Research Center (BRC) and their parabiologist assistants, repeatedly visited Wanang to conduct short-term research projects. The relationship between villagers and biologists strengthened with time, and Damen became an important intermediary between the two groups. As an ecographer, knowledgeable of both local and global systems, he was deferred to by both villagers and biologists (Halvaksz and Young-Leslie 2008).

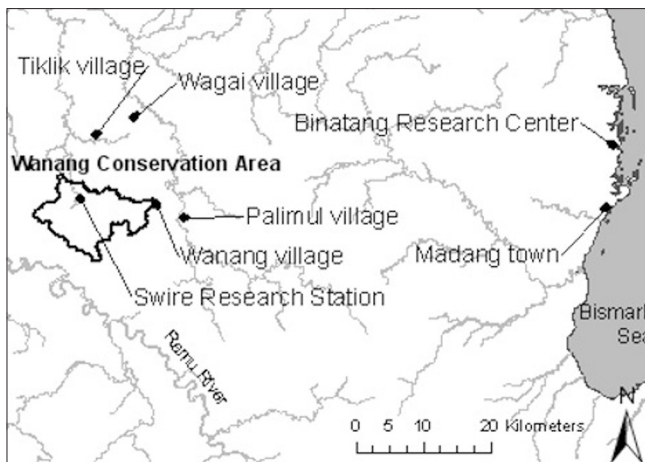


Figure 2

Map of the study area in Madang province, indicating Wanang Conservation in black outline, and the location of Swire Research Station, nearby villages, and New Guinea Binatang Research Center in Nagada Harbor

With time, the projects grew in size and in employment benefits. In 2008, foreign biologists and villagers planned a 50-ha long-term research plot, a permanent, fully equipped field research station, and a 10,000 ha conservation area surrounding the plot, that would sustain research and associated benefits in the area. The biologists garnered support for the project from government research grants, non-governmental organisations, such as World Wide Fund for Nature (WWF) and Seacology, donor organisations, such as The Christensen Fund, and corporate donors, such as John Swire & Sons (Pty) Ltd. Through combined support, villagers were provided with annual royalty payments, increased employment, the first elementary school in the area, transportation, and medical assistance.

Although the scientists worked to exclude industrial logging from Wanang and elsewhere, they did not consider themselves to be 'conservationists.' They imagined 'conservationists' to be idealistic foreigners aiming to facilitate a harmonious coexistence of people with forest. The conservationist's ideal solution, that is, to leave nature untouched, usually, also means conserving the people's poor standard of living' (Novotny 2010). The scientists involved in Wanang viewed themselves as more practical than traditional 'conservationists' in their willingness to use a market-based approach. Although these scientists differ from traditional 'conservationists', I will refer to them as conservationists hereafter, as their efforts to limit logging align with the actions of forest conservation regardless of motivation and method. The conservationists worked with parabiologists, the PNG nationals who had been trained in technical aspects of research. The latter conducted and led much of the field work in Wanang.

Contrasting expectations from the Wanang conservation project

Western conservationist perspective

Conservationists expected the relationship with villagers to be one of rational market exchange where each side acts

independently in self interest. They use economic reasoning to explain the project to outsiders, and to judge the adequacy of the benefits to villagers. In such cost-benefit analysis, two options are compared, and the option providing greater overall benefit is the superior choice. According to Novotny (2010),

forest conservation looks deceptively inexpensive since, if conservation is successful, not much happens to the protected forest. In fact, the true cost of conservation is equal to the potential profits that could be generated by alternative uses of the forest: conservation's opportunity cost. These profits may rise from near zero in remote communities to very high for communities located near a logging frontier.

Conservationists thus assumed that villagers' expectations of material benefits would be determined by a comparison of logging and conservation. Conservationists reasoned that over the long term, the benefits of conservation exceed those of logging and, therefore, is the preferable choice. Although conservationists did not perform a formal cost-benefit analysis, they made ad hoc comparisons with logging to determine the level of benefit necessary to compete with logging. The material benefits from conservation in Wanang, and logging in the adjacent Wagai and Tiklik communities, consist of direct payments, in-kind payments, and employment opportunities. I will compare these benefits using cost-benefit analysis to clarify the conservationists' approach (Table 1). The following paragraphs quantify direct payments, in-kind payments, and employment opportunities for the period 2008-2011, and extrapolate to a 40 year period based on PNG forestry policy for sustainable harvest practices on a 40 year cutting cycle (Keenan et al. 2011). Although benefits accrue at different scales (i.e., individual, lineage, and community), they will be summed at the lineage level using a typical lineage size of 24 (eight adults). Ranges of values are given to express uncertainty. All values are given in US dollars calculated using annual conversion rates.

Direct payments were received for either conservation or logging. Between 2009 and 2012, each lineage in Wanang Conservation received yearly royalties averaging USD 725. In addition, Filip Damen received a USD 10,000 prize from Seacology for his leadership in conservation, which was distributed among landowners contributing an additional USD 28 per lineage per year. By comparison, logging companies are mandated to compensate landowners at a rate of USD 10.90 per cubic meter of timber. Projected logging payments based on estimated average lineage territory size (1505 ha), and estimated cu. m of timber per ha (30.38 cu. m, Keenan et al. 2008) project one-time logging payments of USD 497,861 per lineage (USD 12,446 per year). However, 13 landowning lineages in adjacent logging areas received between USD 345-125,585 in one time logging royalty payment in 2009. Each group received on average USD 31,471 (USD 786 per year).

Villagers also received in-kind payments for conservation or logging. From 2008 to 2012, Wanang received funding from various donor organisations to support community needs,

Table 1**Benefits of conservation versus logging in the Middle Ramu Basin**

USD per lineage per year	Conservation	Logging
Direct payments	USD 725-753	USD 786-12,446
In-kind payments	USD 422	USD 0 (23,945)
Employment	USD 5,580-13,589	USD 3,947-8,553
Total	USD 6,727-14,764	USD 4,733-20,999 (44,944)

Note: Benefits derived from the Wanang Conservation project as compared to benefits in the adjacent logging villages of Tiklik and Wagai. Benefits are calculated per lineage (around 24 individuals, eight adults) in USD per year. Ranges express uncertainty and parenthesis indicate a moot benefit.

such as a permanent school building, conservation board uniforms, and medical assistance. The in-kind payments total USD 152,068 (USD 422 per lineage per year). Agreements with logging companies frequently stipulate community development projects, such as schools and health facilities, which rarely materialize (Forest Trends 2006). In Wagai and Tiklik, the development infrastructure has consisted of a road connection to the east. Road construction costs are estimated at USD 907,408 per km (DOW 2010). A road from the previous forestry management area to Wanang covers nine and a half km and would cost USD 8.6 million, or USD 23,945 per lineage per year to build. However, the Government of Papua New Guinea recently aimed to improve transportation infrastructure and started work on a road through Wanang, effectively removing the road as an opportunity cost.

Villagers also received benefits from conservation or logging employment, which vary with research and logging activities. Scientists working in Wanang have employed 48% of adult villagers (41/85, 4.8 per lineage) as research assistants for USD 56-136 per fortnight (annual salary USD 1456-3536), providing USD 5,580 to 13,589 per lineage per year. In addition, 97% (83/85) of adults, and 77% of all individuals (187/242) have been employed by scientist to carry cargo to remote research sites, but records on wages are incomplete. The logging company employed 15% of adults in logging villages (6/40, 1.2 per lineage) to work for USD 126-652 per fortnight (annual salary USD 3,290-16,961), providing USD 3,947 to 8,553 per lineage per year.

Although payments vary and are uncertain, the gains from conservation and logging are fairly comparable on both the low end (USD 4,733 to USD 6,727) and the high end (USD 14,764 to USD 20,999), at least after the road is excluded. From a market-based perspective, the conservation project may be close to meeting the material expectations of villagers, which would be determined by comparison with logging benefits. The cost-benefit analysis considers benefits that accrue over the long term, however, logging benefits accrue upfront, which is highly valued from the Melanesian landowner perspective. Melanesian expectations, as the following section will demonstrate, did not conform to market-based logic. Conservationists judged the transaction by the value of the benefits, whereas villagers judged the transaction by the relationship it created and maintained.

Wanang perspective

In contrast to the market-based perspective, Wanang expectations did not hinge on opportunity cost. When villagers discussed the benefits of conservation, they talked about 'change'. Villagers consistently mentioned many changes took place following conservation, such as women cook in pots, people eat meals on plates, and everyone has at least some money. One man catalogued the change as follows:

We now eat rice but before we didn't usually eat rice...before conservation, a man would rarely capture a young cassowary and sell it to buy soap, salt, kerosene but only rarely...before we didn't have batteries, we didn't have money to buy batteries, so we now have conservation and they help us...we have a good life and are happy. Many things have happened in conservation. We get royalty, we have a car and can go to town, we have...money, enough to pay for the ride and buy things and come back. We didn't have education and now the school has come here and we are happy that our children can go to school.

Despite acknowledging these changes, villagers complained that the benefits had been inadequate. They expected and hoped for nothing less than complete transformation of their lifestyle, which is what they understood as 'change.'

We have had this conservation now for 11 years. During this 11 years, yes, the royalties come to make the landowners happy. Yes, little things have come like employment to get money to buy soap, salt, kerosene, rice, tin fish, and what we want to eat. We can work to get it. An important idea is that we the landowners have not had change to our lives. We live like our grandfathers, our houses are in the style of our grandfathers.

Beyond improvements to their houses, villagers talked about living off money, having their own car, travelling to America, and not having to work hard any more. One woman recalled a period of high activity surrounding the conservation project, during which, a majority of adults worked full time building the research station far from the village. She expected this to be the beginning of a transformation in her lifestyle. She did not cultivate a garden during this year, and was disappointed the following year when she had to resort to eating unripe wild bananas. In a number of interviews, villagers listed the changes mentioned above, but then concluded that no 'change' had taken place. Although the 'change' was imagined, the details about how it would come about were not clear, except that it would be produced through the relationships created in conservation.

Basis of differing expectations

Different cultural understandings of the benefits that the conservation project might yield divided conservationists and villagers. The dual perspectives were best illustrated

during a dispute between them. During a project evaluation visit, villagers complained to a representative from a donor organisation that they had become 'slaves', as BRC was receiving all the benefits from the donor, and the village was not receiving any. Conservationists became upset that the villagers had jeopardized their funding, and invited a group of village leaders to come to the base station in Madang town to discuss this and other issues. During the meeting, one parabiologist tried to explain the conservationists' position: "Christensen (the donor) gave us (the conservationists) money and asked us where we wanted it to go... We got funding before we came to Wanang, and we can go elsewhere. But now we came to Wanang and it is our primary place to work".

To conservationists, the relationship with the villagers was one of business, which did not tie them to villagers permanently, and although Wanang was their priority at the moment, they had no obligations to the villagers. Another parabiologist explained that, 'Many research projects end, and now you say we can't leave you, but we can.' Conservationists did not see a reason to continue the relationship if either party was unhappy, as both were autonomous. Conservationists saw the value of building and maintaining a good working relationship for success of the project, but felt no obligation beyond the market exchange. By contrast, villagers contended, they were in more than a market relationship; they were inextricably linked. As one villager explained, they were kin. 'You cannot leave us. You are like our father. We work together and both get money. If you leave us, where will you go?' By invoking a kinship idiom for their relationship, the villager brought conservationists out of the business realm and moved them into the realm of ongoing, reciprocal moral obligations as understood by the Wanang. Following from Gregory's (1982) distinction between gift exchange and market economy, the conservationists maintained their independence while villagers asserted interdependence.

A few weeks following the meeting, the villagers presented a pig and garden foods to the conservationists as an act of reconciliation. The conservationists appreciated their gesture and accepted their apology, and the pig as compensation for the harm done and to right the perceived wrong. To the villagers, however, the issue was not their complaint, exactly, but the disharmony created in the relationship between them and the conservationists. Accordingly, their unstated expectation was that the conservationists would reciprocate a pig or chicken in return, as in a traditional rite of reconciliation to re-establish equality between the two disputing parties. To the villagers' disappointment, no gift was forthcoming.

Moral obligation in conservation

Different expectations can be interpreted in the contrast between market exchange and reciprocal exchange. Conservationists saw the complete transformation of material life in a society as an unreasonable and even irrational expectation of a market transaction. Conservationists used concepts of opportunity cost and cost-benefit analysis to judge expectations, and

through comparison with other use options, like logging, they determined an appropriate level of expectation. On the one hand, Melanesian villagers in part set expectations based on their hope that they would be inserted wholly into market exchange and exit the world of reciprocity. Yet, on the other hand, they also expected that transactions with the conservationists were like relationships with kin. This latter assumption followed from gift exchange relationships, which aim towards achieving material equality between exchange partners. When discussing their expectations, villagers often compared their wealth to that of conservationists, 'When [the conservationists] first came here, they had one car and then [they] got another new car and another new car. And [they] built a new building. We do not have a car. Why do they have three cars, when we have none?' Such objections are common in Melanesian exchange relationships, where there is an expectation that material exchange should balance out equally over time. Exchange partners have a moral obligation to be generous with wealth, and there is an unstated expectation that they will reciprocate. For example, when Wanang villagers were invited to an exchange with Musak, a village indebted to them through marriage, each Wanang villager contributed as much money and fabric purchased from town as they could. The gifts from Musak were slightly short of what the Wanang gave as Wanang had come into greater wealth, but the return gift was distributed so that everyone got back nearly as much as they had originally contributed. The exchange resulted in little to no material gain, but demonstrated the equality of the two groups, and their desire to maintain a relationship. Similarly, villagers expected conservationists to reciprocate their generosity by providing 'change'. One man explained the stigma he viewed as having resulted from his relationship with the conservationists,

I get workers for [conservationists] and direct everyone for them. I figure out a place for them to sleep and wash and get everything they need. Other people think I am like a slave because no big changes have happened. Yes, the school is good for the students but it is just for the students. The adults don't get anything for their work. Musak, Tiklik, Wel, and all the other communities see me like this, as a slave. They say, 'He doesn't have a car or metal roof. There has been no change. His life is still the same as before.'

The failure of conservationists to reciprocate this man's generosity was a source of shame for him. Villagers felt they had been generous towards the conservationists, and expected to be treated equally. The conservationists with their greater material wealth had the opportunity to be generous in return but seemed to refuse.

In Wanang, as in many other Melanesian societies, hospitality, host-guest relations, is an essential value. Wanang villagers generally go out of their way to provide for guests. Upon arrival of guests, women harvest vegetables from their gardens, men hunt for game, and guests may also be

given gifts of money, handicrafts, or store-bought goods. Furthermore, Wanang become exceedingly offended should they not be fed when visiting another village. Wanang treated the conservationists as guests. They prepared for arrivals by cleaning the common area and the conservationists' house, and gathering greens. However, conservationists were known to prefer store-bought foods. Wanang women and children welcomed them with handicrafts and performances. Such efforts, of course, had strings attached. They implicitly obliged conservationists to reciprocate. However, conservationists did not recognise their debt. Rather, they made efforts to minimize their imposition by building their own village house and bringing food with them.

In turn, when villagers had medical or business reasons to travel to town, where they had no kin or connections, they often stayed at the conservation base station. However, rules limited the time they were allowed to stay, and they had to call ahead. Fears of ballooning room and board expenses and limited space led conservationists to consider charging villagers for their stay. These perceived restrictions made villagers feel unwelcome and demeaned. A villager said that the conservationists:

...let you sleep [at the station], but they only let you stay one day, not many, because they have rules. But if they come [to Wanang] they can stay and everything is ready for them and we sit, eat, and [share] stories... We are like brothers.

The villagers recognise a difference in hospitality, a difference that reflects inequality in status, and conservationists' unwillingness to play by their rules. They were offended by conservationists' immoral behaviour, while conservationists were frustrated by villagers' expectations. One conservationist acknowledged the differing expectations, but believed Melanesian expectations to be 'impractical' for operating a conservation project.

To the Wanang, the conservation project also entailed moral obligations to their non-living ancestors, as exchange relationships also include the dead. Ancestors reside in a place full of wealth and abundance with plentiful rice and tinned fish, which they share with the living, if they so wish. Inequalities in colonial times led many Melanesian societies to attempt to re-establish order and equality using magico-religious rituals to access ancestors and their material wealth (Worsley 1957). Madang province has a long history of such cargo cults (Lawrence 1964). A mid-twentieth century cult led by Yali, of which Wanang was a part, was the most prominent of these. Villagers told me that Wanang built a house dedicated to Yali, where they practised rites that resembled Catholicism, intending to solicit gifts of cargo and money from ancestors. Such ritual practices have subsided, and there remains a sense of shame about the cargo beliefs of the past. However, the underlying conviction that ancestors can participate in material exchange with the living has also remained.

The conservation project itself was believed to have resulted from this kind of exchange. It was attributed to one landowner whose ancestor contacted him:

I had a dream before the project ever started that something big would happen. My ancestor told me I had to give [him] a white pig and money, so I buried [it]...he knew I did it and the ancestor made it happen. A strong ancestor can attract white men.

According to this view, the supernatural agency of the community recruited conservationists to Wanang. When issues surrounding the project arose, further efforts were made to satisfy the ancestors. For example, repeated snakebites were explained as punishment from a displeased ancestor, who appeared in a dream. Gifts were given to the ancestor, and snakebites ceased. To villagers, in other words, their relationship with conservationists also involves reciprocity with the ancestors. Their understanding of the conservation project was in stark contrast to the secular, market assumptions about individual autonomy, and this contrast produced conflicts.

Market practices in conservation

Western conservation projects rely on contracts to define relationships with host communities, while the hosts' agreements are guided by moral obligations they derive from kinship. In Wanang, conservationists regarded discrepancies between themselves and villagers as the result of miscommunication that could be corrected through clearer, more explicit agreements. Although communication in Wanang may have been problematic, more clearly communicated contracts were unlikely to resolve the issue of mismatched expectations. Wanang expectations were based in the taken-for-granted assumption that donors try to please their partners, whose future desires may be unknown. The 'change' desired by Wanang villagers was not incorporated into any contract they entered into with conservationists, but they believed the conservationists would provide it.

As a villager explained, his expectations were not based in a contract, but from rumor:

[Conservationists] told me to put restrictions on my land. Yes, I passed my own laws... and I brought... conservation here, but I don't know what will happen here from this conservation. I... heard stories that men who put restrictions [on] and conserved their land, [would]... live on money... [and] not want anything because... you... have a way to get money and you will get it everyday.

In addition to contracts, Western conservation assumes that autonomous actors follow economic principles. Conservationists became frustrated when villagers expected to make money in non-market ways. One conservationist concluded that the people of Wanang were just not entrepreneurial enough to respond to the market opportunities presented by conservationists, such as the increased demand for garden food. Conservationists also criticised villagers for being unwilling to perform hard labour and for not competing against other workers.

Employed villagers did not feel they had to compete, because the conservationists were morally obliged to provide them with income opportunities, such as wage labour and otherwise. Villagers saw wealthy people who did not appear to work for a living. One man explained why labour frustrated him: he suspected that most successful businessmen in town were helped by their ancestors. He said:

Some men aren't educated but they get money. They will talk to ancestors to get money. Most businessmen usually use cargo cults and sacrifices and ancestors to help them get money. But a few will use knowledge and education. The ancestor will die and carry a letter from the living to the dead, marking the day and time to meet them, so the ancestor can give them money. The dead man will come meet them and they will make a plan for business or something. We don't know how they do this, but it's true.

These businessmen, he went on, guard this knowledge, and leave the villagers having to suffer through hard labour. Some villagers suspected that conservationists, like other white men, possessed secret knowledge of how to access wealth, which they hoped would be revealed.

Dialogue between market exchange and reciprocal relationships

The relationship between Wanang villagers and conservationists has been sustained for over 10 years, despite disagreements. This could be due to the mutual satisfaction of reciprocity-based moral obligations and market principles, although the coexistence of market and reciprocal exchange was messy, to say the least. Villagers and conservationists were able to incorporate aspects of both systems into their practices, and yet they continued to understand the relationship in mainly their own terms. Wanang villagers viewed conservation as a reciprocal relationship that integrated social and economic aspects including market exchange. Conservationists spoke of the conservation project as a business relationship with economics as the central concern, while regarding social relationships as a separate, secondary concern, albeit important for a functional conservation project. The benefits of material exchange brought the varying perspectives together.

Wanang villagers regularly incorporated market exchange into their reciprocal exchange practices. They sold fish and betel nuts to each other and utilised markets. However, villagers explained that they preferred market exchange to be constrained by reciprocal relationships. One woman recalled how market relationships had entered into reciprocal relationships when she began selling fish to her father and brothers. Previously, she gave fish freely and they gave her things or otherwise helped her. Now they helped her with money. It was good to sell betel nut in the village, another man said, but only intermittently. 'One time you sell it, then the next time you must give it for free. Then sell it, then give it for free.' Villagers viewed the conservation project the same way,

selling labour and purchasing goods from conservationists, but also exchanging gifts.

Conversely, conservationists brought gifts of betel nut, contributed gifts to funeral feasts, and supported celebrations of project milestones. One conservationist was willing to contribute to villagers' education expenses and healthcare, but was unwilling to provide them with things that he considered indulgent. Another conservationist explained why he felt obliged to the villagers, 'I suppose it's Lutheran guilt that compels me to give something back to Wanang after all we've discovered there.' That is, he did not follow Wanang moral obligations but heeded his own convictions. While conservationists participated in social relationships with villagers, their norms and practices guided their behaviour. The conservationists followed the market convention that separated economic from social relationships.

The sale of headlamps illustrates this point. Villagers who worked as research assistants for visiting scientists were sometimes given headlamps or other goods as gifts when the job ended. The headlamps became popular and a conservationist was led to import the headlamps to sell at cost. He viewed doing so as fulfilling desires for a good that could not have otherwise been obtained in PNG. The conservationist, when reflecting on how these transactions fit into gift exchange, explained that the labour and risk associated with purchasing goods and transporting them through customs was his gift to villagers. He wanted to meet their expectations but in terms of market exchange. From their viewpoint, villagers repeatedly asked why the conservationist made them pay for the headlamps. Why wasn't he more generous? Several villagers wanted to hold the conservationist responsible for fixing or replacing faulty headlamps, expecting a long-term exchange relationship with him, but one not strictly defined in market terms. Nevertheless, villagers were pleased to have the headlamps and looked favourably at him for making them available. While the conservationist incorporated the morality of gift exchange into marketing headlamps, villagers incorporated market exchange into the morality of gift exchange.

Royalty payments also exemplify this divergent understanding of exchange. Royalty payments were annually distributed to landowners. Conservationists viewed these payments as a fee for service, as they were paying rent for using land. The payments were important, as they indicated that the conservationists were not taking advantage of the villagers, but were fairly compensating them (Novotny 2010). Conversely, villagers viewed royalty payments as a way to please an exchange partner. The donor organisation, as a man told me, "is happy, they want to make us happy and they give us the royalty." When I asked one man to explain how the royalty was meant 'to please the landowner,' he imagined the following scenario in dyadic terms:

I will be happy if you give me something, I will look after you and whatever you need for food and other things like meat, and you will give me something back, when you want to leave, you will be happy

that I had good conduct towards you. I looked after you, so now you will pay me back, make me happy, give me clothes or money or something like that, a headlamp, that is pleasing.

This man expressed his view in immediate, personal terms. That is, he adopted the idiom of reciprocal exchange to convey how he understood royalty payments. Royalty payments were not, in his perspective, a legal-economic compensation. They were part of a sequence of give and take through which moral sentiments are aroused, because obligations are fulfilled. Another man, by contrast, felt tension in the exchange relationship with the donor, as he felt incapable of reciprocating. 'They give [royalty] money and I am not able to give back food, it is hard for me to repay them, I don't know why they give this money to help Wanang.' He was troubled because he did not know the donors personally, and had no direct contact with them, so he could not fulfil his side of the relationship.

Villagers included conservationists in their social networks and called on them, just as they called on kin, when they needed to amass wealth. A few years prior to my fieldwork, a fight had broken out in Wanang. One man remained offended by a particular party and demanded compensation from him to resolve it. The latter man had become ill and it was thought that he would die if he did not satisfy the demands. His antagonist was reputedly a dangerous sorcerer. In this kind of circumstance, people call on kin to raise funds. The ill villager radioed the conservationists in town to ask for money. When presented with such requests, the conservationists tended to provide the money if an employee made the request, as they could be confident it would be repaid. However, large requests, or requests from non-employees, would be declined. The willingness of conservationists to accommodate such requests was highly valued by villagers, who wanted to regard conservationists as kin. At times, reciprocal relationships and market exchange came together to satisfy these requests and meet the expectations of both sides, but only when conservationists' market expectations were satisfied.

Some villagers imagined the conservationists to be ancestors. Beyond initiating the project by bringing conservationists to Wanang, ancestors were also suspected of coming back to the village disguised as conservationists. For example one man told me that:

People in Palimul [village] said [a conservationist] was my dead father, [who] came back to help me because he was short and fat like him. Then they said [another conservationist] was my dead brother. But I told them this wasn't true because they had come from somewhere else where they have families and they had only come to work.

In the debate this man recounted, he rejected the spectral identity of particular conservationists, but he did not discount the possibility that ancestors could return to the community. In other words, villagers desired relationships as potential access

points to ancestors, but such desires were not openly discussed. As one man said privately:

[People think] other ancestors will come and they will be mixed in with white men. You cannot tell who they are because their faces have changed but they know you. Like if you go with a white man to the water and he asks you about your family and how many children you have, then you know he is an ancestor because white men don't worry about those things, and they are trying to decide if you are their ancestor... If the project ends, the white men and the ancestors will not have a way to come here any more.

This man watched the conservationists, waiting for his ancestors to reveal themselves and provide him gifts. Wanang villagers interpreted relationships through their own cosmology. They judged the project focusing on what they valued and discounted inconsistencies to allow it to continue.

CONCLUSIONS

How do direct payments for conservation in PNG meet contrasting expectations of landowners and conservationists? As I have shown, expectations are complex and depend on cultural perspectives. Western conservationists, using direct payments to create simple market relationships that maintain their independence, will be frustrated by the expectations placed on them. Villagers receiving direct payments will welcome conservationists as the first step in creating and maintaining relationships with them. However, villagers' interest in creating a long-term relationship, and their expectations about the future will frustrate conservationists. This difference follows from Polanyi's (1944) contrast between what he called 'disembedded' economic relationships in capitalist societies and economic relationships that are 'embedded' within larger social and political traditions. The embeddedness of relationships in Melanesia means that direct payments alone cannot satisfy local expectations. The assumption that direct payments would be disembedded from wider relationships will frustrate the market-based expectations that reduce the definition of the goals to those of self-interested, cost-benefit rationality.

Melanesian villagers and Western conservationists are not playing by the same rules. Conservationists follow market principles in which autonomous actors enter into explicit agreements, while villagers understand exchange relations as an interdependent moral give and take. These systems of exchange may not be sustainable at their extremes. However, it is possible to maintain conservation projects, if both sides are committed to tolerating dual expectations. In the PNG coffee production industry, buyers partake in exchange relationships with villagers, while simultaneously participating in the industrial coffee market (West 2012). In Wanang, the friction between market and reciprocal exchange resulted in a new system that encompassed aspects of both. Gregory's

(1982) theoretical distinctions were muddled. The Wanang project makes a clear case for incorporating fairness and other social or cultural considerations in exchanges planned by conservationists.

The use of direct payments for conservation in Melanesia is promising despite the potential it creates for local level conflict. Long-term direct payments may be necessary for conservationists and Melanesian villagers to work together. The material exchange, fundamental to royalty payments, seems like an improvement over integrated conservation and development projects, which did not allow for direct material benefits and the relationships based on them (West 2006). Ironically, direct payments more closely resemble reciprocal exchange relationships than conservation and development projects. For Western conservationists to facilitate projects in PNG, they must maintain a working relationship with landowners, which will require the ongoing work of maintaining equal status through gift exchange. In addition, direct payments appeal to villagers who value long-term relationships. Direct payments, however, will inevitably create complications that will not follow market conventions, and cannot be anticipated in contracts. It is likely that conservationists will fail to fulfil the material expectations of Melanesian villagers, but doing so is not necessarily what is required in a working relationship, because being in debt is socially acceptable.

Culturally appropriate conservation approaches are necessary for success (Waylen et al. 2010), and culturally sensitive approach to conservation in Melanesia will require conservationists to negotiate and renegotiate exchange with villagers. However, maintaining support for direct payments raises challenges for the sustainability of conservation efforts. Donors, such as Swire, have not continued to provide direct payments and favour short term, high profile projects. Supporting conservation efforts that allow conservationists on the ground the flexibility and resources to maintain relationships with landowners will require a transformation within donor organisations. Yet conservationists playing by at least some of the same rules as villagers will achieve more than sustainable conservation, it will result in ethically sound conservation.

ACKNOWLEDGEMENTS

I am endlessly grateful to the Sogeram River communities for their cooperation, assistance, and friendship, especially, Maria and Katie Sebo, Filip Damen, Mugunas, Joyce and Clara Filip, Clara Yolli, Yolli Agigam, Jepi Rop, Rosa Samson, Samson Mareks, Albert and Samuel Mansa, Jori Umbang, Anna Jori, Doris Samuel, Samuel Jepi, Mak Mulau, Polina Nambi, Ukiem Kepe, and Samaras Ukiem. I would like to thank the New Guinea Binatang Research Center, especially Vojtech Novotny, Marcus Manumbor, Martin Mogia, Gibson Sosanika, Hans Nowatuo, Elvis Tamtiai, and Joanne Kavagu for logistical support and for patiently explaining Melanesian conservation. I am grateful to David Lipset and George Weiblen, who provided comments and editing that greatly improved the manuscript. This work was supported, in part, by the University of Minnesota's Interdisciplinary fellowship at the Institute on the Environment and

NSF award DEB-0816749. I would like to thank two anonymous reviewers for their thoughtful comments and suggestions.

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