

Radhika MURTI / Spike BOYDELL

Effectiveness, Efficiency, and Equity in Fiji's Community Forestry: Identifying Tools for Land Tenure Conflict Transformation

Community forestry has proven to be an effective advance towards achieving collaborative sustainable management of natural resources in various countries. However, like any management strategy, community forestry has its challenges and resultant conflicts. Conflicts occur within resource owning communities, between communities and external parties and among external parties.

Often conflicts are based on confusion over property rights related issues. Conflicts stemming from differing views on ownership, tenure and property rights within forest management in Fiji, have led to delayed implementation of critical environmental management plans, loss of economic benefits and disintegration within landowning (*mataqali*) units. To implement sustainable forest management, the issue of land tenure conflict has to be understood and addressed.

This paper investigates the effectiveness, efficiency, and equity of a pioneering community forestry project, The Drawa Block Sustainable Management Pilot Project (Pacific German Forestry Project – GTZ initiative), and identifies core tools to assist in conflict transformation. The IIED '4Rs' framework (rights, responsibilities, relationships and revenues) has been adopted as the principal transformation tool for pre-diagnosis and negotiation of conflicts. The Walker and Daniel's *Dual Concern Model*, Vodoz's *Power/Stake versus Relationship Model* and the Analytical Hierarchical Process (in the form of Expert Choice 2000 software) have been integrated into the '4Rs' framework to assist in transforming conflict between multiple stakeholders.

Keywords: *Drawa, Sustainable Forest Management, Fiji, 4R's, Land Tenure, Property Rights, AHP*

Authors:

Ms Radhika Murti¹

Young Professional Poverty
United Nations Development Programme
Tower Level 6
Reserve Bank Building
Pratt Street
Suva
Republic of Fiji Islands
Tel: (679) 331 2500
Fax: (679) 330 1718
Email: radhika.murti@undp.org

Dr Spike Boydell

Professor of the Built Environment
Faculty of Design, Architecture & Building
University of Technology Sydney
City Campus
PO Box 123 Broadway
NSW 2007
Australia
Tel: (61) 2 9514 8675
Fax: (61) 2 9514 8777
Email: spike.boydell@uts.edu.au

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Introduction

Concerns over tenure security are a core issue for rural community forestry and associated aspirations for sustainable community lifestyles around the globe. With over 100 million indigenous people living in and reliant on the world's forests, it is essential that they understand their property rights so that they can manage their resource assets sustainably. The control of, and misunderstanding over, property rights is a major source of conflict in the forestry sector. The paper investigates community forestry and sustainable forest management in Fiji, before introducing issues of land tenure conflict and conflict transformation. A Fiji case study of the Drawa project is then used to model the *Four R's Framework*, the *Dual Concern Model*, the *Power/Stake versus Relationships Model* and the *Analytical Hierarchical Process*.

Community Forestry

'*Community forestry*, the management of forests with or by local communities, is an important mechanism for addressing social equity while pursuing the sustainability of the forest resource' (ITTO, 2005). The Food and Agriculture Organisation of the United Nations defines community forestry as 'any situation which intimately involves local people in a forestry activity' (FAO, 2005a). This supports the view that community and public ownership improves social and environmental benefits, while private ownership focuses mostly on economic benefits.

Such a relationship between people and trees has always been part of rural life globally but it increasingly became the focus of forest management in late 1970s through rural development aims and concerns over energy supplies because of increased fossil fuel prices. The dependence of people in developing countries on wood as the main source of fuel is also a major cause of deforestation (FAO, 2005b). Since the late 1970s, community forestry has been integrated into forest management globally at a remarkable pace, both as a concept and at the policy level. Numerous such projects have been established over the last few decades in Asia, Africa, Latin America, and more recently the Pacific.

As with any management practice, rural community forestry also faces challenges, a prevalent one being stakeholder conflicts (FAO, 1996c, ITTO, 2005). 'Conflicts within the context of community forestry seem to be concerned especially with competition over forest resources (such as fuel wood, timber and construction materials, fodder and grazing lands, food and medicine, etc.) and decision-making rights (specifically over land and tree tenure) relating to these resources' (Chandrasekharan, 1996). In some instances, 'community forestry' has been a vehicle to resolve such conflicts whereas in other cases it has actually been the cause.

Sustainable Forest Management in Fiji

The Republic of Fiji Islands comprise some 330 islands, of which 110 are inhabited. The country has a population of approximately 905,000, the majority living close to the 18 urbanised centres. Although there is a large subsistence sector, Fiji is one of the most developed of the Pacific Island economies, endowed with forest, mineral and maritime resources.

47.56% of Fiji's total land area is under forest cover. The current annual rate of deforestation is 0.5-0.8% and reduction in forest cover has occurred largely due to

land clearing for agricultural purposes and, in recent years, plantation establishment. Plantations make up 6.14% of the forest cover, however the prospects of earning an income from pine and mahogany provides an incentive for more landowners to consider plantation establishment on their land. The total resources are summarised in Table 1.

Table 1: Fiji's Forest Resources

Forest type	Area (ha)	Share of forest estate (%)
Indigenous forests	187,700	10.25
State land	5,240	
Reserve land	940	
State lease	840	
Native land	167,340	
Freehold	13,340	
Forest plantations	112,490	6.14
State land	5,180	
Reserve	6,080	
Hardwood plantation lease	49,850	
Fiji Pine Ltd. Lease	43,680	
Private	7,700	
Protection forests	260,330	14.22
Protection forest	242,310	
Mangrove	18,020	
Indigenous logged forest	309,940	16.93
Total forest area	870,460	47.56
Total land area	1,830,000	100

Source: (Government of Fiji, 2003)

The concept of sustainable forest management (SFM) was first introduced in Fiji's forest sector through the Nakavu Natural Forest Management Pilot Project (NFMPP) in 1991 as a joint initiative between the then Fiji German Forestry Project (FGFP) and the Ministry of Fisheries and Forests (MFF). The primary objective of the NFMPP was to develop silvicultural guidelines for sustainable indigenous forest management; these included reduced impact logging and diameter limit tables for various commercial species. The project was terminated in 1994 when FGFP was wound up (de Vletter, 1995). The Pacific German Regional Forestry Project (GTZ) replaced FGFP in 1995, with an aim to extend its technical co-operation to other Pacific Island countries. The NFMPP research was taken over by MFF, which continues to monitor it. After identifying a project site and negotiating lease terms, GTZ initiated the second phase of the SFM project in Drawa, Vanua Levu in 1999 (SPC/GTZ, 2001).

In Fiji, the concept of sustainable forest management has largely been viewed as an environmental conservation and protection strategy. Economic growth and social equity had been given less priority, if any, until the initiation of community-based projects such as the Drawa SFM project, Kabara Island Conservation project (World Wildlife Fund, 2005) and the Sovi Basin Conservation project. This paper is concerned with sustainable forest management in the Drawa project on Vanua Levu, the second largest island (see Figure 1).

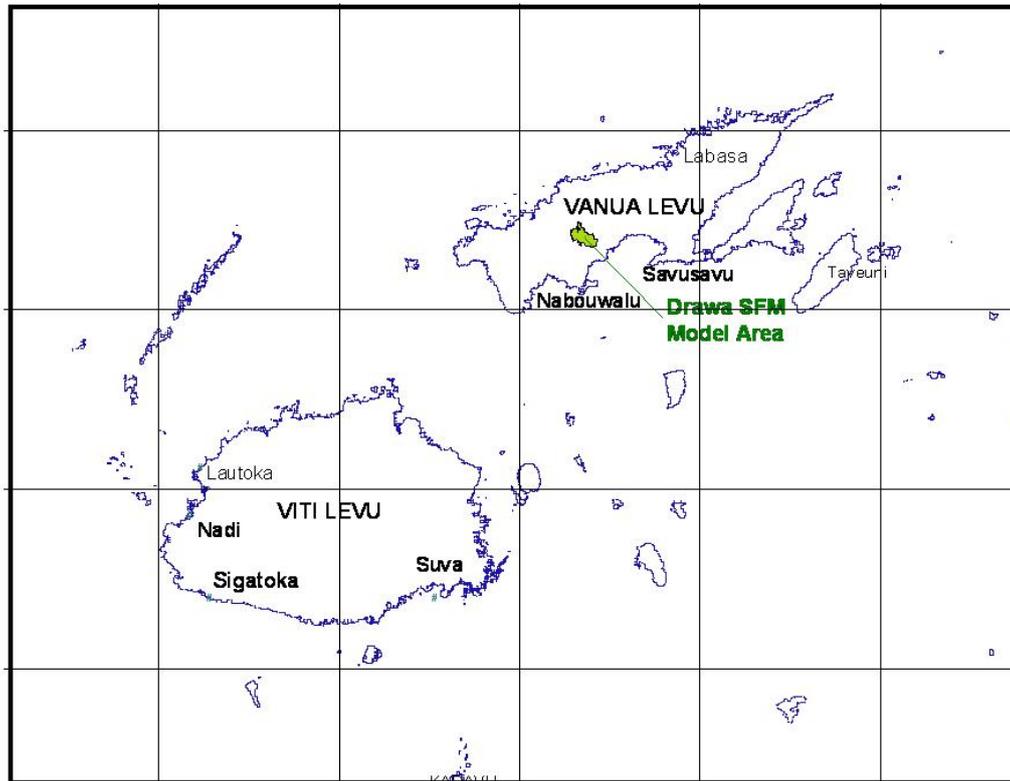


Figure 1: Location of the Drawa Model area in Vanua Levu, Fiji. Source GTZ (2005)

Land Tenure Conflicts

Ethnic differences between the indigenous Fijians and Indo-Fijians, racial policies established during Colonial administration and intra-ethnic divide in the indigenous Fijian community, together with development pains arising from modernity have all played their roles in the increasing social tensions in Fiji (Madraiwiwi, 2001). Land tenure and property rights related disputes have found their way into the mêlée of these socio-economic tensions in the past decade. The agriculture, tourism and forestry sectors have all experienced setbacks and losses due to these post-colonial growing pains and are still battling to find solutions. Many disputes have ended up in the courts as confusion over rights has seen attempts at negotiated agreements fail and there is potential for many more cases to follow suit (see for example *NLTB v Nagata*, 1993 and *Vosilagi v Mara*, 1992). Conflict over Fiji's mahogany plantations has caused considerable financial losses to the stakeholders, including the government, resulting in social division within the landowning communities and encouraged poor harvesting practices due to lack of cohesion among stakeholders.

Land tenure conflicts often stem from a misunderstanding of property rights, notably confusion between the enforceability of traditional (or customary) rights and statutory rights and obligations. Table 2 summarises 17 core property rights.

Table 2: Summary of property rights characteristics in community forestry

Right	Explanation
Direct use	Rights to plant, harvest, build, access and similar, maybe shared rights
Indirect economic gain	Such as rights to tribute or rental income
Control	Conditions of direct and indirect use, held by persons other than the user
Transfer	effective power to transmit rights-by will, sale, mortgage, gift, or other conveyance
Residual rights	Remaining rights at the end of a term (such as lease, death, eviction), includes reversionary rights
Rights of identification (symbolic rights)	Associated with psychological or social aspects with no direct economic or material function
Duration	Length of time property right is held, indicating profits and/or savings
Flexibility	Right should cater for modifications and alterations
Exclusivity	Inverse of the number of people with shared or similar rights, more relevant to water property
Quality of title	Level of security that is available as tenure shifts from the optimum of notional freehold
Divisibility	Property right can be shared over territories, according to season.
Access	Entry onto the land
Management	Be able to make decisions on how and by whom a thing shall be used
Exclusion	Disallowing others from entry and use of resources
Alienation	Transfer of an interest (right) in property to another, in perpetuity
Usufruct rights	Collection of fruits or produce
Chiefly Rights	Inherited by a headman in communal ownership (tribe, clan, village)

Source: Adapted from (Boydell, 2006), evolved from (Crocombe, 1975, Payne, 1997, Rigsby, 1998, Sheehan and Small, 2002, World Bank, 2003, Power, 2003, Farran and Paterson, 2004)

The core challenge in Melanesia, raised by (Power, 2003), is that the advance of western capital is dependent on the definition of alienable property rights of individuals. In contrast, the Pacific has yet to develop aspects of alienation and individuation of property rights to suit local custom, so the situation is not cut-and-dry. There is still much research work to be done, firstly examining the way land rights were created and evolved, then investigating the potential uses of the rights once they are converted into 'property'. Finally, consideration has to be given to how the rights can be subsequently managed in a 'local' (Fiji) way.

Conflict Transformation

In explaining the substance of conflict, Ramirez stated that the gradient starts with generic elements (the first three elements presented below) and moves towards conflict and context specific elements (Ramírez, 2002):

- Sources of grievances;

- Conditions that shape the emergence and character of conflict;
- Levels of conflict;
- Stakeholders: who is involved and how, what power they have, what gender they are;
- Rules and laws: a continuum ranging from formal laws to customary systems of rules;
- Institutional/organisational frameworks and relationships awareness, skills, communication, representation, leadership, legal aid, information; and
- Legacy (history) and livelihoods (location): local economy, food security, infrastructure, inter-group relations, gender, children and vulnerable groups, ethnic and group identity, religion, culture, political structure.

Barringer presents a model depicting the three intensities of conflicts and emphasizes the importance of analysing conditions that shift a grievance to a conflict (Barringer, 1972).

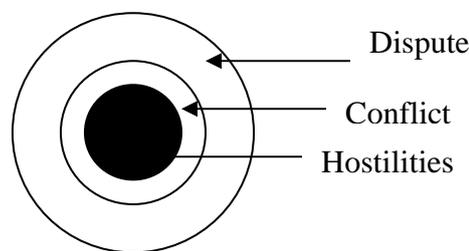


Figure 2: Barringer's (1972) Model of Levels of Conflict

An alternative analysis is the 'conflict tree' (UNES, 2002), where the roots of the tree represent the root causes of a conflict: underlying issues that may not be visible, just as roots of a tree (such as poor governance); the trunk being the structural causes convergence of all the roots and depiction of how one conflict can have multi-dimensions (a trigger factor- elections); and finally the branches, leaves and fruit of the tree: the manifestations or effects of a conflict (civil war).

Lederach explained that through conflict transformation society does not simply eliminate or control conflict but rather understands and works with its *dialectic* nature. This refers to the change (transformation) in conditions (events, people, and relationships) that created conflict, once the conflict has occurred. It shows that the cause-and-effect relationship goes both ways – from the people and the relationships to the conflict and back to the people and relationships (Lederach, 1995b). Therefore, *conflict transformation* can be regarded as a natural occurrence and can be used to steer conflicts into something positive. Conflict transformation is also a prescriptive concept. It suggests that left alone, conflict can have destructive consequences.

Learning from the impact of past and existing land tenure conflicts, given the potential such conflicts in Fiji, it is necessary to identify relevant conflict transformation methods. Such methods have the potential to assist in the successful implementation of current and future community-based sustainable forest management initiatives.

In addressing the issue of land tenure conflicts as an impediment towards sustainable development, organisations and institutions in Fiji have started concentrating on exploring conflict transformation options. The FAO/USP/RICS Foundation *South Pacific Land Tenure Conflict Symposium 2002*, stated as its very first declaration: 'We

aim for peaceful and constructive transformation of land tenure conflict' (Boydell *et al.*, 2002).

'The task of matching conflict situations with particular conflict management approaches is an art that is learnt through apprenticeship' (Ramírez, 2002). Anderson *et al.* (1996) suggested examining the various dimensions in addressing natural resource conflicts: the actors (stakeholders such as interest groups, government structures, private entities), resources (a range of categories of land, forests and trees defined according to use and ownership) and the *stakes* (such as economic, political, social-cultural, environmental). The actor dimension addresses levels of interaction, peoples' access to resources and decision-making tools and the various levels of organisation of groups. The *stakes* refer to what motivates a particular circumstance, such as money, power, values, and conservation, and suchlike.

When considering the resource dimension it is imperative to look at actors' rights, obligations, and responsibilities to the resource (Lyons *et al.*, 2006). An initial process is to verify the 17 rights outlined in Table 2 in respect of each actor (stakeholder). Doing so will also establish actor entitlements such as revenues and returns.

Stake assessment can assist in verifying actors' responsibilities, which will further assist in conflict analysis and negotiations. Assessing responsibilities will also clarify information (or at least perceptions) on rights and revenues.

'Conflicts occur when there is an imbalance in power' (FAO, 1996a). Assessing interactions in the actor dimension is crucial in establishing the quality of relationships among stakeholders. Inter-stakeholder relationship assessment can provide fundamental information on power balances and imbalances and stakeholders' attitudes towards each other. This will assist in negotiations for existing conflicts and early diagnosis of potential conflicts.

Research Methodology

A case study approach grounded on the Drawa Block Sustainable Forest Management Pilot Project (Drawa SFM project, see Figure 1) has been adopted to test a series of tools. A tool provides means and aids to analyse conflict. Rather than rigid processes, tools need to be adapted to specific situations (Engel and Korf, 2005). Tools can assist in providing mental maps for information collation, structure conflict analysis and assist in cross-checking information, especially when tools are used in combination. The case study analysis will provide an understanding of issues regarding property rights, stakeholder participation, and both existing and latent conflicts will provide valuable social information to assist in establishing community forestry projects in the future.

The Tools

Four different tools have been utilised to assist in the stakeholder analysis and data collection: the *Four R's Framework*, the *Dual Concern Model*, the *Power/Stake versus Relationships Model* and the *Analytical Hierarchical Process*.

The '4Rs' framework was developed by The International Institute for Environment and Development (IIED) as a tool to assess stakeholders' roles and power in order to improve stakeholder collaboration in community based forest management (Dubois, 1998). In 1995 it was implemented, with promising results, in six African countries as part of the project *Capacity Development for Sustainable Forestry in Africa* (AFRICAP) to assess capacity needs for collaborative forest management.

The framework aims to define stakeholders' roles in terms of their rights, responsibilities, revenues (returns) and relationships. Dubois (1998) explained that

this framework assists in addressing critical underlying issues of concern from stakeholders involved and also identified leverage points in achieving collaboration. Table 3 displays the basic structure of the '4Rs' framework.

Table 3: The '4Rs' Framework

→ '4Rs' ↓ Primary actors	Rights	Responsibilities	Revenues/ Returns	Relationships
Government (various levels)				
Private Sector (various)				
Communities (interest groups)				

Source: Adapted from Dubois (1998).

The '4Rs' framework was used by (Kusumanto, 2005) to emphasize the importance of stakeholder involvement in forest landscape restoration in Bogor, Indonesia. He noted that the framework identified imbalances in stakeholder roles and responsibilities, encouraged extensive communication from every stakeholder and assisted in negotiating a more balanced set of the '4Rs'.

Table 4: Objectives, data collection, and analysis methods for each 'R'

4Rs'	Objective	Method	Analysis
Rights	Verification of the 17 property rights summarised in Table 1	Semi-structured Interviews	Verification table
Responsibilities	Verification of responsibilities: economic, environmental, social	Semi-structured Interviews	Verification table, supported by AHP in EC2000
Revenues	Verifying direct/indirect and monetary/other revenues	Semi-structured Interviews	Verification table
Relationships	Establishing inter-stakeholder relationships	Semi-structured Interviews	Walker/Daniels and Vodoz models via AHP in EC2000

The framework is adopted to establish the '4Rs' for all stakeholders in the Drawa SFM case study. It is ideal for addressing resources (rights and revenues) 'actor' (relationships) and 'stake' (responsibilities and revenues). It assists in categorising the '4Rs' despite their interconnectivity, which is useful in negotiating a more balanced '4Rs' framework and conclusion.

This research aims to utilise more than one single conflict transformation model. Considering that inter-stakeholder relationships play a major role in conflicts, to

analyse relationships further, the Walker and Daniel's *Dual Concern Model* (see Figure 3), Vodoz's *Power/Stake versus Relationships Model* (see Figure 4) and the *Analytical Hierarchical Process* (Expert Choice 2000) have been integrated into the '4Rs' framework to allow further analysis.

Dual Concern Model.

Negotiation strategies are largely dependent upon how each stakeholder balances concerns for both themselves and other parties (Walker and Daniels, 1997). Each stakeholder's regard for their own concern in relation to others' concerns can be graphed along axes in order to establish their attitude towards the resolution of conflict (accommodating, collaborating, avoiding, and competing).

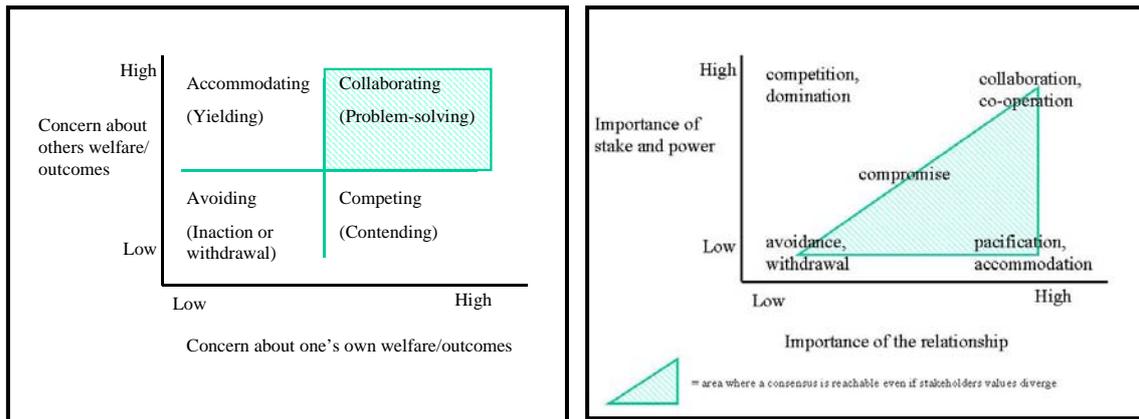


Figure 3: The Walker and Daniels (1997) *Dual Concern Model*

Figure 4: The Vodoz (1994) *Stake/Power versus Relationships Model*

Stake/Power versus Relationships Model

The Vodoz (1994) model analyses consensus-reaching through negotiation between stakeholders with disparate values in situations where stakes and interests are less important than positions. Such an approach emphasises the need to consider interests over positions in a collaborative negotiation context. Vodoz highlighted that collaboration is rarely achieved in situations where the importance of the relationship between stakeholders is less important than the stakes or power retention, or a combination of the two. The area within the triangle is the zone where a consensus is achievable even it the stakeholders values diverge.

Using software to assist in the analysis

Expert Choice 2000 (EC 2000) software uses *Analytical Hierarchical Process* (AHP) principles to provide a support tool for multi-objective decision-making. The AHP (Saaty, 1988) was selected as it decomposes complex problems into a 'multi-level hierarchic structure of objectives, criteria, sub criteria, and alternatives', where each level has an impact on the levels above and below. Once the hierarchy is established, weighting is assigned to each element within a level in the hierarchy according to the *contribution* it makes to the succeeding level, in comparison to *contributions* of all other elements of that level. This is referred to as *pairwise comparison*. Consistency of responses is evaluated for each comparison and less than 10% inconsistency is desired. Consistency refers to the uniformity of weightings; for example, if A is more important than B and B is more important than C then C cannot be more important than A (Saaty and Alexander, 1989). Based on

data collected in the field, the *Dual Concern Model* and *Power/Stake versus Relationship Model* are analysed using the AHP concept, within EC 2000 software.

The Case Study

The Drawa SFM project is the first natural forest management project as well as the first community-based SFM project in Fiji. The project will also benefit from this research because it is still in its implementation stage. An additional benefit in including this project as a case study is that there is a high level of appreciation for this research from the landowners. However, their willingness to participate and contribute accurate information should not be taken for granted in the racially fragmented country of Fiji with a much politicised land tenure conflict history.

The main management objective of the Drawa SFM project is to maintain and enhance the long-term health and productivity of the forest ecosystems within the model area. 'Its major long-term goals are:

- To maximise the economic benefits through the production of timber, and at the same time to minimise the environmental impact;
- To ensure maximum landowner participation;
- To balance the interests of the involved parties; and,
- To contribute towards sustainable rural development and poverty alleviation' (Muziol, 2005).

'The Drawa block was identified as an ideal location for the implementation phase of the sustainable indigenous forest management project because of the largely untouched forest stands and the ready consent from the main stakeholders' (Fung, 2005). The results from Nakavu Forest Management Pilot Project and a pre-harvest inventory of the Drawa block forests have been used to define a silvicultural regime for economically and ecologically sustainable harvesting of the forests (SPC/GTZ, 2001). Community education, gender training, landowner awareness visits to Nakavu and close collaboration with all stakeholders have also been key objectives of the project. A land-use plan has been developed to reduce loss of forest cover due to agricultural activities (Fung, 2005).

The Drawa block sustainable forest management (SFM) model area is located in the centre of Vanua Levu which is the second largest island of Fiji. It is approximately 6,345.5 hectares and is classed as native land. The main management objective of the Drawa project is to maintain and enhance the long-term health & productivity of the forest ecosystems within the model area.

The model area is owned by 11 *mataqali* units of the *vanua* Drawa and falls under Native Lands tenement. [The terms *mataqali* and *vanua* relate to the chiefly hierarchy in Fiji which was formalised in the Native Land Trust Act 1940. Critical to this research is the share of resource income that the different levels receive for distribution within the hierarchy. At the head is the *vanua*, which may have several *yavusa* below. Each *yavusa* comprises one or more *mataqali* units, each of which may comprise several *i tokatoka*.] The existing formal lease arrangements comprise Native reserves (7.75% of the model area, registered with The Native Lands Commission) and a mineral prospecting licence (granted to Burdekin Pacific Limited). For the past 35 years Fiji Forest Industries (FFI), a private timber processing company held the logging concession lease for the entire model area. During this period logs were extracted from *mataqali* Vulavuladamu's land only. In March 2003 the concession was surrendered by FFI upon request from NLTB and the landowners. Church reserves and *tabu* reserves (those with a ban or restriction on land use and/or use of resources from the land) together with traditional land access

arrangements through *yavusa* kinship make up informal lease arrangements (Fung, 2005).

Accessing land through *yavusa* kinship allows villagers of one *mataqali* to utilise other *mataqali* land of the same *yavusa*. Labetia settlement, Assemblies of God Church, *mataqali* Nakalounivuaka, Drawa villagers, Vatuvonu villagers, *mataqali* Vatucucu, *mataqali* Navunicau and *mataqali* Nakase are the current non-*mataqali* land users within the Drawa block. Of the 11 *mataqali* units that own the Drawa block, only four reside within the block (Mateboto, 2005).

Conflicts: There have been intra-*mataqali* rows among *i-tokatoka* units (household units), mainly over unclear land demarcation, land allocation and rights. Such disputes lead to lower productivity and slow down the progress of projects, according to Fung (2005).

Certain members of the *mataqali* Nakase are claiming ownership of land belonging to an extinct *mataqali*, *Tonikula*, on the grounds of enatic descending. The *yavusa* *Lutukina* disputes it, as customary practice dictates that all extinct *mataqali* land should revert to the *yavusa* the *mataqali* belonged to. The NLTB is holding onto the rights to the land in dispute until a resolution is found (Mateboto, 2005). The land has, therefore, been withdrawn from the Drawa model area.

An inter-*mataqali* dispute between the *mataqali* *Bakibaki* and its *yavusa* *Drawa* has created a lot of tension among the landowners. The *mataqali* *Bakibaki*'s only two members reside in Suva and were not consulted about the Drawa project being implemented on their land. The two women threatened to withdraw their land from the model and as a result, they are currently negotiating their roles and involvement in the project.

The *mataqali* *Vulavuladamu* refused to let their land be included in the model area at the start of the project. Most of the *mataqali* members supported the project except a few, including the *Turaga-ni-mataqali* (head of the *mataqali*). This is because they were not in favour of slower, long-term returns and preferred for FFI to continue logging their forests. After consultations with the *vanua* chiefs and elders and a better understanding of the Drawa project, they changed their decision and joined the project (Fung, 2005).

Table 5: Stakeholders of the Drawa Project

Stakeholder	acronym
The <i>vanua</i> <i>Drawa</i>	LOAD
<i>Drawa</i> Landowners' Forest Management Co-operative	DraFCo
SPC/GTZ Pacific German Regional Forestry Project	GTZ
Native Land Trust Board	NLTB
Forestry Department (Ministry of Fisheries and Forest-MFF)	FD
Department of Land Resources, Planning and Development	DLRPD
<i>Mataqali</i> <i>Bakibaki</i> <i>Mataqali</i> <i>Tonikula</i> <i>Mataqali</i> <i>Vulavuladamu</i>	

There have been disagreements regarding land boundaries of the *vanua* Drawa. The Native Land Commission's records do not correlate with boundary information according to traditional knowledge. The NLC is in the process of clarifying this. These conflicts have slowed down the implementation of the Drawa project.

This project is the first natural forest management project as well as the first community based SFM project in Fiji. An understanding of issues regarding property rights, stakeholder participation and existing and latent conflicts will provide valuable information in establishing future community forestry projects with regards to social concerns. The project will also benefit from this research as it is still in its implementation stage. Yet another reason for including this project as a case study is that there is a high level of appreciation for this research from the landowners. Their willingness to participate and contribute accurate information should not be taken for granted in a racially fragmented country like Fiji with a much politicised land tenure conflicts history.

Findings

All the stakeholders outlined in Table 5 were interviewed. For the Drawa project, Landowners Association of Drawa (LOAD) represented all landowning units; however the following landowning unit representatives were also interviewed separately as additional stakeholders: *mataqali* Tonikula, *mataqali* Bakibaki and *mataqali* Vulavuladamu. This is due to their involvement in the existing and past conflicts (and consequent diverging values). Table 6 summarises the methods and analyses carried out for each 'R'.

Table 6: Data Collection and Analysis Methods

4R's	Objective	Method	Analysis
Rights	Verification of the 17 property rights summarised in Table 2	Semi-structured interviews	Verification table
Responsibilities	Verification and prioritising of responsibilities: economic, environmental, social	Semi-structured interviews and computer simulation	Verification table, deriving priorities in EC 2000
Revenues	Verifying all forms of revenue	Semi-structured interviews	Verification table
Relationships	Prioritising importance of relationships with each stakeholder, prioritising the 4 conflict management strategies from the dual concern and stake/power versus relationships models	Semi-structured interviews and computer simulation	Computer simulation in EC2000, plotting the Dual Concern and Stake/Power versus Relationships models

Responsibilities

The verification of economic, environmental and social responsibilities for each stakeholder are integrated into Table 7. This table also details the weightings that each party placed on each category, and it was interesting to note that each stakeholder perceived the three responsibilities equally.

Table 7: Economic, Environmental and Social responsibilities of Drawa stakeholders

	Economic	Environmental	Social	°EC 2000 Rating
LOAD	Ensure efficient running of DraFCo through monitoring and conflict resolution	Monitor DraFCo's and village (s) agricultural activities to be environmentally sustainable	Initiate and monitor village development, oversee equitable sharing of logging returns and conflict resolution	Economic - 0.33 Environment - 0.33 Social - 0.33
<i>mataqali Tonikula (extinct)</i>	Earn money from land to buy commodities	Preserve the environment for future generations	Contribute towards the village development plans	Economic - 0.33 Environment - 0.33 Social - 0.33
<i>mataqali Bakibaki</i>	No Results			
<i>mataqali Vulavuladamu</i>	Earn income from forest resources to buy living necessities, send children to school	Save the forests for future generations	Footpaths, taps, flush toilets for the communities	Economic - 0.33 Environment - 0.33 Social - 0.33
DraFCo	Profit based logging	Adhere to SFM principles and silviculture prescriptions	Employment for landowners, skills training, capacity building	Economic - 0.33 Environment - 0.33 Social - 0.33
GTZ	Provide funding for the Drawa project	Advocate environmental sustainability, improve silviculture prescriptions	Capacity building of landowners for community based forest management	Economic - 0.33 Environment - 0.33 Social - 0.33
NLTB	Administrative requirements for leasing of Drawa model area	Adhere to the Environment Management Act	Advice to landowners on proper utilisation of Native Reserve land	Economic - 0.33 Environment - 0.33 Social - 0.33
FD	Collect royalties from logging	Monitor adherence to National Code of Logging Practice	Provide training in logging operations	Economic - 0.33 Environment - 0.33 Social - 0.33
DLRPD	Achieve successful training programme for future funding from the government	Advocate environmentally sustainable agricultural practices	Provide training in environmentally sustainable agricultural practices	Economic - 0.33 Environment - 0.33 Social - 0.33

Rights

The response of stakeholders to the rights they have over the Drawa project area are summarised in Table 8. A score of “0” indicates that the stakeholder is not entitled to that right and “1” indicates that it is. For the purposes of the fieldwork, the concept of withdrawal was excluded, as it was not understood by the stakeholders.

Table 8: Verification of property rights of Drawa stakeholders

	Direct use	Indirect economic gain	Control	Transferability	Residual rights	Rights of identification (symbolic rights)	Duration	Flexibility	Exclusivity	Quality of title	Divisibility	Access	Management	Exclusion	Alienation	Usufruct rights	Chieffy Rights
	Rights to plant, harvest, build, access and similar, maybe shared rights	Such as rights to tribute or rental income	Conditions of direct/indirect use, held by persons other than the user	Effective power to transmit rights-by will, sale, mortgage, gift, or other conveyance	Remaining rights at the end of a term (such as lease, death, eviction), includes reversionary rights	Associated with psychological or social aspects with no direct economic or material function	Length of time property right is held (years), indicating profits and/or savings	Right should cater for modifications and alterations	Inverse of the number of people with shared or similar rights	Level of security that is available as tenure shifts from the optimum of notional freehold	Property right can be shared over territories, according to season, etc.	Entry/ admission onto the land	Be able to make decisions on how and by whom a thing shall be used	Disallowing others from entry and use of resources	Transfer of an interest (right) in property to another, in perpetuity	Collection of fruit or produce after leasing land to another party	Inherited by a headman in communal ownership (tribe, clan, village)
LOAD	1	1	1*	0	1	1	1	1*	1	1	1 [≡]	1	1 [†]	1	0	1	1
<i>mataqali Tonikula</i> [‡] (extinct)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>mataqali Bakibaki</i>	No Results [‡]																
<i>mataqali Vulavuladamu</i>	1	1	1 [†]	0	1	1	1	1*	1	1	0 [‡]	1	1 [†]	1	0	1	1
DraFCo	1	1	1	0	0	1 [‡]	1	0	0	1	0	1	0	1	0	0	0
GTZ	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
NLTB	Referred to the Native Land Trust Act and the Property Law Act																
NLTB (legislations)	0	1	1	1	0	1	1	0	0	1	1	1	1 [†]	1	0	0	0
FD	0	1	1	0	0	1	1	0	0	0	1	1	1	1	0	0	0
DLRPD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

[‡] According to the Native Land Trust Act (NLTA) all native land is leased by NLTB. If NLTB considers a leasing arrangement to be in the best interest of landowners it has the authority to make a decision contrary to the landowner consultation outcomes.

* Leasing arrangements in Drawa model area have been that of agriculture, forest concession (logging licence has to be issued to harvest the concession area) and mineral extraction. These leasing conditions do not provide for flexibility.

[†] Land can be sub-divided into portions to be leased out, however NLTB has the final say in the apportioning and leasing. Traditionally land is divided for subsistence use for households (*i-tokatoka*) within a *mataqali*'s land.

[‡] *Mataqali Tonikula* is currently not recognised as a landowning unit by the Native Lands Commission.

[§] *Mataqali Bakibaki* repeatedly postponed interview times and eventually stopped responding. In August 2004 they agreed to have a meeting with NLTB and GTZ in Suva, however, they did not attend the meeting.

^{||} According to Fiji's National Code of Logging Practice DraFCo must preserve all symbolic sites during logging operations. Since DraFCo is the business arm of Drawa landowners, doing so further assists them in preserving their culture and heritage even if there is a potential for significant timber volumes to be lost.

Revenues

It was also important to understand the respective monetary and non-monetary returns for each of the stakeholders, as detailed in Table 9.

Table 9: Monetary and Non-monetary Returns for the Drawa Project Stakeholders

Stakeholder	Monetary	Other
LOAD	Nil	<ul style="list-style-type: none"> community development, capacity building
<i>mataqali Tonikula (extinct)</i>	<ul style="list-style-type: none"> sale of cash crops logging premiums logging profits 	<ul style="list-style-type: none"> traditional use of land-fishing, harvesting crops, medicinal plants, hunting, community development capacity building, public awareness of the project, villages
<i>mataqali Bakibaki</i>	No Results	
<i>mataqali Vulavuladamu*</i>	<ul style="list-style-type: none"> logging premiums logging profits 	<ul style="list-style-type: none"> traditional use of land-fishing, harvesting crops, medicinal plants, hunting community development capacity building
DraFCo	<ul style="list-style-type: none"> Logging profits 	<ul style="list-style-type: none"> skills training for employees (landowners) portable sawmill, other harvesting equipment
GTZ	Nil	<ul style="list-style-type: none"> successful SFM project, funding for future projects awareness, appreciation for GTZ initiatives, SFM compliance
NLTB	<ul style="list-style-type: none"> Lease rentals Logging premiums 	Nil
FD	<ul style="list-style-type: none"> Royalty payments 	<ul style="list-style-type: none"> adherence to international environmental treaties implementation of government policies
DLRPD	Nil	<ul style="list-style-type: none"> adherence to international environmental treaties implementation of government policies

[∞] NLTB rated environment and FAB rated social as the most important responsibilities, however they changed their responses to all three responsibilities being equal.

* *Mataqali Vulavuladamu* did not identify sale of cash crops as a monetary return.

Relationships

Inter-stakeholder relationships were analysed through pairwise comparison using Expert Choice software in the field. This process allowed all stakeholders to rank the relative importance of each of the other stakeholders. Importantly, the analysis identifies LOAD as the most significant stakeholder within the process, with significantly less emphasis being placed on the three *mataqali*. The hierarchy is ranked in Figure 5.

By combining and interpolating the responses of the stakeholders, the same approach is used to map the Vodoz stake/power versus relationships model (Figure 6), likewise the Walker and Daniels dual concern model (Figure 8).

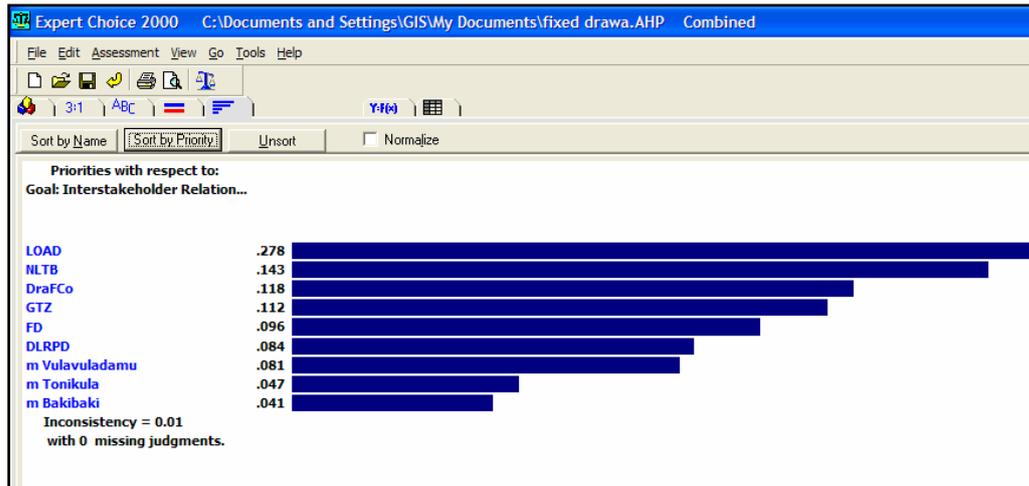
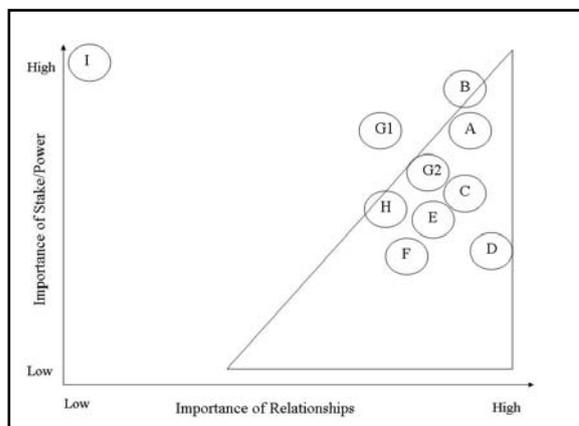


Figure 5: EC 2000 Model for Relationship Hierarchy

Figure 6: Vodoz Stake/Power versus Relationship Model for Drawa Project



A: LOAD is the central authority in decision making and running the project. It maintains a good relationship with all stakeholders, and all stakeholders identified the central importance of supporting LOAD to achieve success.

B: NLTB is very important as it has the final say in leasing arrangements of native land, so stakeholders find it crucial to maintain good relations with it. NLTB in return tries to maintain efficiently functional relations with all

stakeholders; however, high importance of stake/power (monetary returns and decision making powers to protect the interests of the landowners) also leads to difficult negotiations.

C: DraFCo maintains good relations with all stakeholders. Being a profit based entity it maintains a significant level of authority (under LOAD's supervision) to protect its interests and ensure landowners do not engage other private contractors.

D: GTZ is respected for establishing the initiative and providing technical support to make the project a success. It has had to establish good relations with all stakeholders to progress this far with the project. However, it is critically aware of the Drawa community's tendency to become entirely dependent on it and therefore, has exercised strict protocols wherever necessary to ensure this project is self sustaining.

E: FD provides all technical forestry advice and services to the landowners. It provides community awareness, harvesting operations and machinery operations training. Recently, it has also conducted portable sawmill operations training with DraFCo. FD monitors operator certification, SFM principles implementation and approves logging licences.

F: DLRPD has an advisory/support role. While it has provided the Drawa landowners with intensive training on sustainable farming practices, it has done so with the assistance of GTZ. Prior to GTZ's involvement DLRPD provided farming training, however due to limited funding and approval from landowners to use their land as

model areas, its training was very restricted. DLRPD maintains good relations with all stakeholders but has a very secondary role in the project now.

G: *Mataqali* Vulavuladamu is at the lower end of the hierarchy as most stakeholders deal with LOAD and not individual *mataqali* units (EC 2000 model). *Mataqali* Vulavuladamu did not want to join the project and exercised their powers to pull out of the project (G1). This is because their land was the only one that had been logged by the Fiji Forest Industries and the *mataqali* members preferred such quick returns over a long term sustainability regime. They were unwilling to compromise and had tense relations with the other landowners, however LOAD convinced them about the benefits of long term sustainable forest use and they later joined the project (G2).

H: *Mataqali* Tonikula is non-existent presently however its members have high regard for their relationship with others as well as their co-operation in the project. They have high importance of power at this stage as they battle to be recognised as a *mataqali*. Due to these factors they still fall within the region of compromise, however, in future if they resort to more dramatic strategies to get recognition, they may no longer be within the region of compromise.

I: *Mataqali* Bakibaki has avoided scheduled meetings and have never been to the Drawa villages. The two representatives are not known to most stakeholders. Therefore importance of maintaining good relations with them is very low. Their refusal to dialogue has also further portrayed a negative image of them. They are not willing to compromise their ownership and at the same time they do not intend to co-operate and support the project.

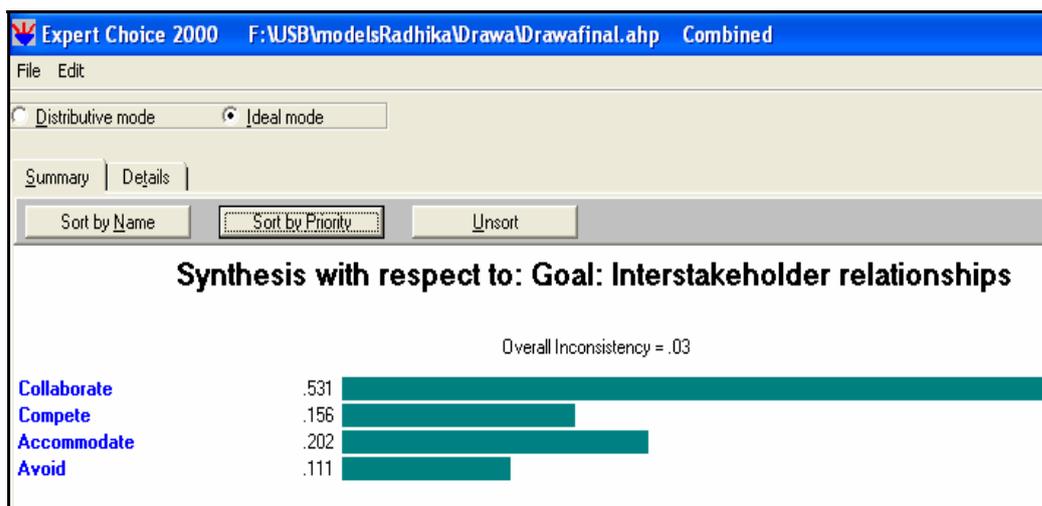
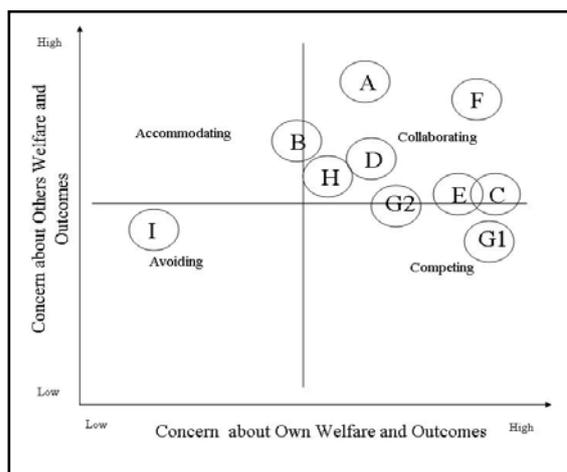


Figure 7: EC 2000 Combined Results for Stakeholder Attitude

Collaboration is the overall preferred option by stakeholders according to the *combined* responses above. *Mataqali* Bakibaki is the only stakeholder which does not prioritise collaboration and thus the impending conflict with the remaining stakeholders. Advisory bodies such as LOAD and FAB are very accommodating while profit based stakeholders such as NLTB and DraFCo are more inclined towards competition. The following graph was plotted using outcomes of *individual* responses to the 4 categories.

Figure 8: Walker and Daniel's Dual Concern Model



A: LOAD collaborates with very high concern for other's welfare and outcome as it is the monitor, advisor, mediator and dialogue facilitator

B: FD is collaborating and highly accommodating. It has provided timely training and also assists DraFCo in processes such as obtaining logging concessions.

C: DraFCo is very collaborative and strictly adheres to the SFM principles in its operations. It is monitored by LOAD. It has very high concern for its welfare

as it's a profit based entity, however it also collaborates with all the stakeholders.

D: GTZ now has a support role as it endeavours to make the project self-sustaining. It has very high regard for all the stakeholders' welfare but also ensures that GTZ is not relied upon at all times for all operations.

E: NLTB is collaborative but it has caused delays in the project due to its fee and land premium requirements.

F: DLRPD has a very supportive role and does not get any monetary returns from the project. It is collaborative with its training and advice on sustainable farming practices.

G1: *Mataqali* Vulavuladamu was very competitive at the start of the project and due to returns from their forest being harvested they did not want to engage in a project which would provide slower returns.

G2: Since thoroughly understanding the project and joining it *Mataqali* Vulavuladamu collaborates openly with all stakeholders.

H: *Mataqali* Tonikula members responded saying if they were recognised as a *mataqali* they would be highly collaborative in the project.

I: *Mataqali* Bakibaki avoids all scheduled meetings and did not provide the researcher with an interview after numerous arrangements. It does not want to be involved with the project; however it also will not give up its claims on the returns from the project.

Conclusions

The most relevant outcome of this work is the supportive level of engagement amongst the multiple stakeholders towards collaboratively striving for solutions rather than entering into protracted dispute and conflict. The application of the tools to the case study encouraged each stakeholder to critically consider their respective roles, rights, revenues and relationships from their own perspective, and from that of the other stakeholders involved. The process encouraged the stakeholders to revisit unresolved issues. For example, the *mataqali* Tonikula members were encouraged to seek recourse to the Native Land Commission.

Rights

Whilst there is a reasonable understanding of the respective rights of the various stakeholders, there remain several examples of custom and practice being at odds with statute. For example, whilst the customary landowners (where landowner in this context is more allied to the western notion of guardian) argue that they have control over their land, the State divests such authority to the Native Land Trust Board. Whilst there is an obligation on the NLTB to act in what it perceives as the best interests of the landowners, the concept of best interest remains a vague descriptor. Where consensus breaks down, the landowners believe they have the right to act militantly with extra-legal road blocks and protests.

Such circumstances highlight the void between customary law and contemporary statute. A typical example is the *vakavanua* (extra-legal) arrangement by which custom obligates access to (and perceived rights over) land through traditional ceremony. To ensure informal approval for provisional access rights, NGO's and government also use such traditional approaches. Informal leasing arrangements provide significant scope for future conflict as the parties to them are not afforded legal protection by the State.

Responsibilities

It was also interesting to note the level of consensus achieved over reconciling the three pillars of sustainability, when each stakeholder evenly weighted the relative importance of economics, environment and social issues. This indicates that the education and awareness activities of GTZ have been successful in accepting and encouraging the concept of sustainable forest management. It may also indicate a level of confusion in assessing individual stakeholder roles in Sustainable Forest Management. An alternative explanation is that all parties were merely responding by stating what they assumed the researcher would hope to hear.

Balancing out the three categories of responsibilities demands long term investment and resultant slower returns for the landowners. *Mataqali* Vulavuladamu tore away from the Drawa project in the past due to slower and lower returns, as they preferred for Fiji Forest Industries to continue logging their forests. Whilst similar conflicts could arise in the future, the high level of understanding and appreciation of the concept of sustainability will assist in discouraging such conflicts.

Revenues

Subsistence cropping was not recognised as a source of revenue. This may be due to the fact that the returns are not 'significant' amounts. The cash crops are sold at very low prices and adequate or affordable transportation services are not available to get crops to the local market. The profit margin is very low.

The Fijian system of money sharing has long been a subject of debate (Whiteman, 2005). In the Drawa project, recognising *mataqali* Tonikula to still be in existence would mean more people to share money with. This could explain why the people claiming to be from the extinct *mataqali* are not supported in their quest by other members. This situation has caused a lot of tension within *yavusa* Lutukina and future conflicts are evident, especially now that the case is on its way to be reviewed by the NLC. *Mataqali* Bakibaki has rights over a significant amount of land within the Drawa model area and only two remaining members. The members have avoided participation in all discussions and meetings. The two members are from an adopted daughter of the last chief and this provides potential grounds for the land to revert back to the *yavusa* Drawa. By avoiding deliberations the other members will continue receiving the land revenue as NLTB only makes payments directly to the registered members.

The members of *mataqali* Bakibaki have threatened to remove their land from the project. However, NLTB has the statutory authority to overrule this decision ensuring that harvesting/management will continue on the *Bakibaki* land. The area is scheduled to be harvested in late 2006 and this situation could easily shift to the next level of conflict intensity, i.e. hostility. Potential conflicts could arise from the fact that even though not all *vanua* own the same amount of land within the proposed Nature Reserve, they all will be equally entitled to the community development funds. The reason given for such an arrangement was that those *mataqali* units owning land within the reserve have resided on and cultivated land 'leased' from other *mataqali* units as the land within the reserve has difficult terrain (and consequently no access roads) and low productivity.

Relationships

Overall, inter-stakeholder relationships are positive for the project. Collaboration among them has seen the successful implementation of the initiatives. Constructive interaction and cooperation promotes accountability. Positive relations have also brought about a greater sense of ownership by all parties and therefore they are more efficient and enthusiastic in their roles. LOAD's role as the monitor for DraFCo's operations assists in improving sustainable forest management. LOAD can be regarded as a good example of finding a harmonious space for traditional leadership in new community driven projects and initiatives. Its members combine younger people who have life/work experiences away from the villages and it also has elders and traditional heads (*Turaga ni mataqali* and *Turaga ni yavusa*). This enables it to steer the Drawa Project with project-relevant knowledge and also be respected/recognised by all stakeholders, which assists in achieving collaboration.

Having avoided dialogue *mataqali* Bakibaki may have paved way for conflict in the future. The unresolved issue of *mataqali* Tonikula's extinction has created a lot of tension. The members await NLC's review and consequent decision to move towards a resolution.

Tensions brewing from NLTB's refusal to waiver the premium for DraFCo were evident during interviews with both NLTB and DraFCo. At the time of this research the logging licenses remained unprocessed and GTZ was mediating between the two parties. Drawa landowners have embraced support and assistance of a third party (GTZ) to negotiate and work with government organisations such as the Forestry Department with the NLTB. Relations with NLTB have been under strain, with all customary groups dissatisfied with their administration fees.

Tools

Expert Choice 2000 is simple for stakeholders to understand and make judgements with. Its inconsistency scores are effective in re-evaluating responses to reduce error. When working with rural based people with limited command of English, it becomes more challenging to utilise the software than when analysing other stakeholders. Therefore it is critical to translate and explain the models accurately.

The Analytical Hierarchy Process has a much wider application in conflict resolution but in this research it was integrated into the '4Rs' model. AHP was used with just a two level hierarchy, to prioritise elements of the second level and results of the analysis were used to plot the Stake/Power versus Relationship models as well as the Dual Concern Model. AHP urges individuals to 'measure' qualitative judgements. Through pairwise comparisons of all parties, the stakeholders were able to identify potential 'problems' in their relationships and also re-affirm (and appreciate) collaborative partnerships.

The Vodoz Stake/Power versus Relationship Model assisted in identifying stakeholders who would be more likely to compromise and/or collaborate in a project.

It is easy and simple to use and can also assist in identifying individuals who are just concerned about their positions. When combined with Expert Choice to rate stakeholder importance subjective error was minimised.

The Walker and Daniels Dual Concern Model is effective in very specific conflict situations and more so in 'active conflicts'. It becomes challenging to interview stakeholders using hypothetical conflicts as they feel uncertain of the context and therefore find it difficult to predict their behavioural choices. Due to shared commitments to the success of the projects, all stakeholders (except for *mataqali* Bakibaki) emphasise that they would collaborate to address everyone's interests and endeavour to find resolutions that everyone embraces. However, the model did not take into account factors such as dependence of one party on another, parties receiving or providing favours, and obligations to respond in a certain way due to a group identity. It also does not consider possible predisposed habits of individuals, instead assuming that parties make rational choice for a given conflict situation.

This paper highlights the benefits in analysing the effectiveness, efficiency and equity of resource policies surrounding sustainable forest management by using a range of investigative tools to deconstruct a complex multi-stakeholder case study. Whilst the investigation and commitment of the parties in the process has provided a new level of transparency, it is the longer term stakeholder engagement of their respective rights, responsibilities, revenue and relationships that will potentially minimise future conflict.

References

- Anderson, J., Gauthier, M., Thomas, G. & Wondolleck, J. (1996) Addressing Natural Resource Conflicts Through Community Forestry: Setting the Stage. FOOD AND AGRICULTURE ORGANISATION OF THE UNITED NATIONS.
- Barringer, R. E. (1972) *War: Patterns of Conflict*, Cambridge, Halliday Lithograph Company.
- Boydell, S. (2006) Myth, Embeddedness and Tradition: Property Rights Perceptions from the Pacific. IN SMAJGL, A. & LARSON, S. (Eds.) *Adapting Rules for Changing Resource Use*. Townsville, CSIRO.
- Boydell, S., Small, G., Holzknrecht, H. & Naidu, V. (2002) Declaration and Resolutions of the FAO/USP/RICS Foundation South Pacific Land Tenure Conflict Symposium, Suva, Fiji, 10 - 12 April 2002. Accessed: Web based PDF, Available at: <http://www.usp.ac.fj/landmgmt/PDF/SPLTCDECLARATIONRESOLUTIONS.PDF>.
- Chandrasekharan, D. (1996) Executive Summary. *Addressing Natural Resource Conflicts Through Community Forestry*, CHANDRASEKHARAN, D., e-conference, Food and Agricultural Organisation of the United Nations FAO.
- Crocombe, R. (1975) An Approach to the Analysis of Land Tenure Systems. IN LUNDSGAARDE, H. P. (Ed.) *Land Tenure in Oceania*. Honolulu, University of Hawaii Press.
- de Vletter, J. (1995) Natural Forest Management Pilot Project. Department of Forestry Fiji and Pacific German Regional Forestry Project (GTZ), Suva, 11.
- Dubois, O. (1998) Capacities to Manage Role Changes in Forestry: Introducing the '4Rs' Framework. *International Institute for Environment and Development Forest Participation Series*, 11, 22.

- Engel, A. & Korf, B. (2005) Negotiations and Mediation Techniques for Natural Resource Management. Food and Agriculture Organisation of the United Nations, Rome, 97, 109-12.
- FAO (1996a) Addressing Natural Resource Conflicts Through Community Forestry. COMMUNITY FORESTRY UNIT, e-conference, Food and Agricultural Organisation of the United Nations, 1, 1-180.
- FAO (1996b) *Our Land Our Future*, Rome, Food and Agricultural Organisation of the United Nations.
- FAO (1996c) Proceedings of Electronic Conference on "Addressing Natural Resource Conflicts through Community Forestry". CHANDRASEKHARAN, D., FAO Community Forestry Unit, Rome, FAO.
- FAO (2005a) Community Forestry. Food and Agricultural Organisation of the United Nations, Accessed: 04/08/05, Website, Available at: <http://www.fao.org/docrep/u5610e/u5610e03.htm>.
- FAO (2005b) State of the World's Forests Report. Food and Agricultural Organisation of the United Nations, Rome, <http://www.fao.org/docrep/007/y5574e/y5574e00.htm>.
- Farran, S. & Paterson, D. E. (2004) *South Pacific Property Law*, Sydney, Cavendish Publishing Limited.
- Fung, C. (2005) Profile of the Drawa Model Area. SPC/GTZ Pacific German Regional Forestry Project, Suva, Fiji.
- Government of Fiji (2003) National Assessment on Sustainable Development Report. Division for Sustainable Development of the United Nations Accessed: 16 March, at: <http://www.sidsnet.org/Mauritius2004/NAR.html>.
- ITTO (2005) Community Forestry. International Tropical Timber Organisation, Accessed: 08/08/05, Website, Available at: <http://www.itto.or.jp/live/PageDisplayHandler?pagelid=33>.
- Kusumanto, T. (2005) Forest landscape restoration requires a stakeholder approach. *ITTO Tropical Forest Update*, 15, 2, 9-11.
- Lederach, J. P. (1995a) Mediating Across Cultures - excerpted from 'Preparing for Peace: Conflict Transformation Across Cultures'. Syracuse University Press, Accessed: 02/05/05, Internet source, Available at: <http://ccrweb.ccr.uct.ac.za/two/1/p3.html>.
- Lyons, K., Cottrell, E. & Davies, K. (2006) The need to consider the administration of property rights and restrictions before creating them. IN SMAJGL, A. & LARSON, S. (Eds.) *Adapting Rules for Changing Resource Use*. Townsville, CSIRO.
- Madraiwiwi, J. (2001) Fiji 2001: Our Country at the Crossroads. 2001 Parkinson Memorial Lecture Series, University of the South Pacific, published by Wansolwara Online, Accessed: 16/08/01, at: <http://www.usp.ac.fj/journ/docs/news/wansolnews/wansol1508013.html>.
- Mateboto, J. (2005) Conflicts in Fiji's Forest Management. [personal communication with: MURTI, R., 27/03/05].
- Muziol, C. (2005) The Model Area for Community-based Natural Resources Management in Drawa, Vanua Levu. *Landcare in Fiji – Strengthening Partnerships for the Sustainable Management of Land Resources*, Workshop, Nadi, Fiji Islands.
- Payne, G. (1997) *Urban Land Tenure and Property Rights in Developing Countries: A Review*, London, Intermediate Technology Publications/Overseas Development Administration (ODA).
- Power, A. P. (2003) Creation of Melanesian Property Rights - Building Bridges between Custom and Commerce. PNGbuai.com, Accessed: 09/11/05, Website, Available at: <http://www.pngbuai.com/300socialsciences/management/land->

[development/creation-property-rights/part1-creation-melanesian-property-rights030802.html](http://www.fao.org/sd/2002/IN0301_en.htm).

- Ramírez, R. (2002) A conceptual map of land conflict management: Organising the parts of two puzzles. Sustainable Development Department (SD), Food and Agriculture Organization of the United Nations (FAO), Accessed: 23/03/2002, FAO website, Available at: http://www.fao.org/sd/2002/IN0301_en.htm.
- Rigsby, B. (1998) A Survey of Property Theory and Tenure Types. IN PETERSON, N. & RIGSBY, B. (Eds.) *Marine Tenure in Australia: Oceania Monograph 48*. Sydney, University of Sydney.
- Saaty, T. L. (1988) *Multi-criteria Decision Making: The Analytical Hierarchy Process*, Pittsburgh, PA, RWS Publications.
- Saaty, T. L. & Alexander, J. (1989) *Conflict Resolution - The Analytic Hierarchy Approach*, New York, Praeger Publishers.
- Sheehan, J. & Small, G. (2002) Towards a Definition of Property Rights. *Working Paper 01.02*. Sydney, UTS Property Research Unit.
- SPC/GTZ (2001) Preharvest Inventory Results of the Drawa Block, Vanua Levu - A Base for Sustainable Forest Management in Fiji SPC/GTZ Pacific German Regional Forestry Project, Suva, Fiji.
- UNES (2002) Developing Capacity for Conflict Analysis and Early Responses. United Nations Department of Economic and Social Affairs, Accessed: 18/10/05, at: <http://unpan1.un.org/intradoc/groups/public/documents/un/unpan011117.pdf>
- United Nations (2002) United Nations Millenium Development Goals (MDG). United Nations, Accessed: 24/06/03, Website, Available at: <http://www.un.org/millenniumgoals/>.
- Vodoz, L. (1994) La prise de décision par consensus: pourquoi, comment, à quelles conditions. *Environnement & Société*, 13, 57-66.
- Walker, G. B. & Daniels, S. E. (1997) Foundations of natural resource conflict: conflict theory and public policy. IN SOLBERG, B. & MIINA, S. (Eds.) *Conflict Management and Public Participation in Land Management*. Joensuu, Finland, European Forest Institute (EFI) Proceedings.
- Whiteman, A. (2005) A Review of The Forest Revenue System and Taxation of the Forestry Sector in Fiji. Food and Agriculture Organisation of the United Nations, Rome, 71-72.
- World Bank (2003) *Land Policies for Growth and Poverty Reduction*, Washington, Copublication of the World Bank and Oxford University Press.
- World Wildlife Fund (2005) Kabara Sustainable Forest Project. *Landcare in Fiji – Strengthening Partnerships for the Sustainable Management of Land Resources*, Workshop, Nadi, Fiji Islands.