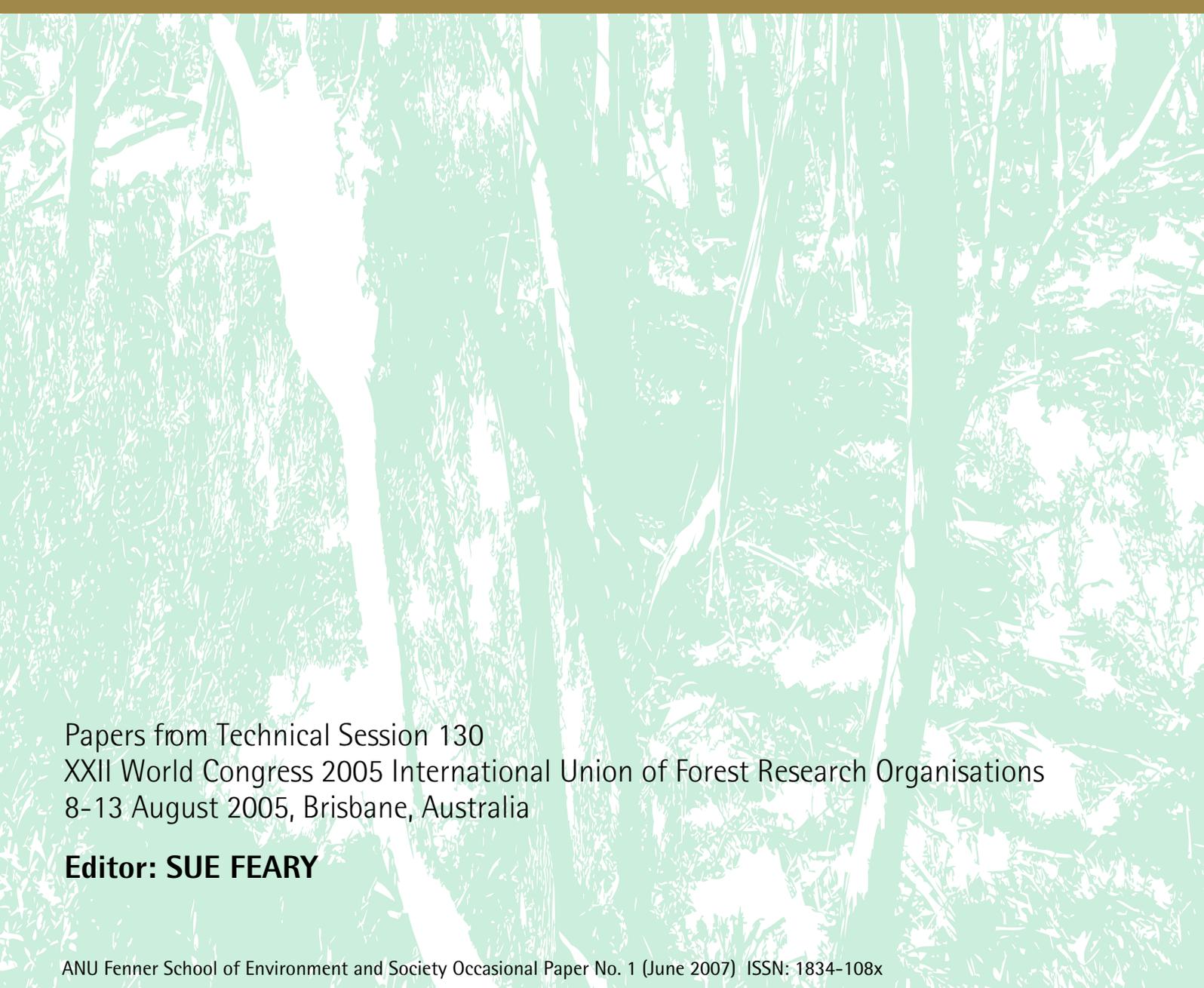


THE FENNER SCHOOL OF ENVIRONMENT & SOCIETY



FORESTRY FOR INDIGENOUS PEOPLES: Learning From Experiences With Forest Industries



Papers from Technical Session 130
XXII World Congress 2005 International Union of Forest Research Organisations
8-13 August 2005, Brisbane, Australia

Editor: SUE FEARY

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SUE FEARY (Editor)

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GLOSSARY AND LIST OF ACRONYMS AND ABBREVIATIONS APPEARING IN THE TEXT

ANU	The Australian National University
ATSIC	Aboriginal and Torres Strait Islander Commission
CAEPR	Centre for Aboriginal Economic Policy Research, ANU, Canberra.
CDEP	Commonwealth Development and Employment Programme
Comalco	Commonwealth Aluminium Corporation Pty Ltd was formed in 1956 to develop the bauxite deposits at Weipa on Cape York Peninsula, marking the beginning of Australia's integrated aluminium industry. In 1957 it entered into a partnership with the British Aluminium Company Ltd, and soon afterwards the company became known as Comalco. It is now part of the mining giant Rio Tinto Aluminium.
CYPLUS	Cape York Peninsula Land Use Study
CYP	Cape York Peninsula, Far North Queensland
DPI	Queensland Government Department of Primary Industries
DOGIT	Deed of Grant in Trust. A special form of community land title held over former Aboriginal reserves in Queensland, Australia. Each trust area becomes a local government area with its own council, the first one being established in 1986. It is less secure tenure than inalienable freehold title.
First Nations	Collective term used to refer to all indigenous peoples of the Americas, but used more narrowly in Wyatt's paper.
FNFP	First Nations Forestry Program (Canada)
GDP	Gross Domestic Product. The GDP of a country is defined as the market value of all final goods and services produced within a country in a given period of time.
INAC	Indian and Northern Affairs Canada (a government department)
Indigenous	'originating naturally in a region, not introduced' (Oxford Dictionary). The term is used to describe both the people and fauna and flora of a country. NZ uses it to describe its native forests whereas in Australia it is used much more commonly to describe Aboriginal Australians.
IPA	Indigenous Protected Area
IUFRO	International Union of Forest Research Organisations
JBNQA	James Bay and Northern Quebec Agreement
LTFT	Lake Taupo Forest Trust (NZ)
MAF	Ministry of Agriculture and Forestry (NZ)
NEFD	National Exotic Forest Description (NZ)
NIFS	National Indigenous Forestry Strategy (Australia)
NMC	National Management Committee (Canada)
NPA	Northern Peninsula Area - northern section of Cape York Peninsula.

NPWFL	Ngati Porou Whanui Forests Ltd (NZ)
NRCan	Natural Resources Canada (a government department)
NSW	New South Wales, Australia
NT	Northern Territory, Australia
NTL	Nanum Tawap Limited
NZ	New Zealand
PHEA	Pre-harvest Ecological Assessment (Canada)
PTMCS	Provincial and Territorial Management Committees (Canada)
RMA	Resource Management Act (1991) (NZ)
TEK/TK	Traditional Ecological Knowledge/Traditional Knowledge refers to the specific body of knowledge through which indigenous peoples come to understand the natural environment and their relationship with it.
TO	Traditional Owner - respectful term to acknowledge the traditional owners of an area of land in Aboriginal law.

INTRODUCTION

The International Union of Forest Research Organisations (IUFRO) is "the global network for forest science cooperation. It unites more than 15,000 scientists in almost 700 Member Organizations in over 110 countries" (www.iufro.org).

IUFRO convenes World Congresses every 5 years; the 12th was held in Brisbane, Australia, from 8-13 August 2005, addressing the theme: "Forests in the Balance: Linking Tradition and Technology". More information about the Congress is at www.iufro.org/events/congresses/2005/.

The Congress Organising Committee invited the ANU School of Resources, Environment & Society to organise a Congress Technical Session on "Forestry for Indigenous Peoples". This session offered a timely opportunity to situate the Australian experience in a global context. Until now, associations between Indigenous people and forestry in Australia have been explored principally through anthropology, archaeology, and natural resource management.

The potential of forests and forestry for addressing social and economic issues facing many Indigenous people is relevant to Indigenous peoples, policymakers and the forest industries - not only in Australia, but also in other settler societies such as Canada and New Zealand. The selection of papers from these countries, as well as from India and Australia, has been chosen to illustrate the variety of mechanisms for forestry based Indigenous economic development to generate profit while respecting customary social processes and Indigenous peoples' obligations to look after their land.

Sue Feary, an ANU PhD student, was instrumental in organising the session. I thank her for her work prior to, during, and after the Congress, which has culminated in the publication of this Occasional Paper.

Peter Kanowski
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FORESTS TO FORESTRY: AN OVERVIEW OF INDIGENOUS INVOLVEMENT IN FOREST MANAGEMENT IN AUSTRALIA

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Abstract

The Australian Government has released a National Indigenous Forestry Strategy aimed at encouraging greater Indigenous participation in the forest sector. Social and economic disadvantage is a defining feature of Australia's Indigenous people, who comprise around 2.4% of the population. Regardless of the industry in question, economic development for these marginalised people presents many challenges. The forest sector, being predominantly rural and involving management of land and natural resources may have something to offer insofar as forests and forest products were once part of the traditional estate of Indigenous Australians. Can reconnection with forests through suitable and appropriate engagement with the industry deliver cultural benefits and social justice as well as potentially provide economic opportunities through business and employment?

Introduction

The terms 'forestry' and 'Indigenous people' are rarely juxtaposed but in 2003 the Australian Government announced its intention to prepare a National Indigenous Forestry Strategy (NIFS). Aboriginal self-determination has been government policy since the late 1960s and the last decade has seen a proliferation of government programmes encouraging Indigenous organisations to establish viable businesses with a hoped for concomitant reduction in government welfare payments (Vanstone, 2004).

The National Indigenous Forestry Strategy conforms well to this rubric, with its overarching objective of alleviating economic and social disadvantage in Indigenous communities through greater participation in the forestry industry (Australian Government, 2005). The challenge for this and any strategy in the indigenous domain is whether forestry and forest industries can offer real opportunities for Indigenous people to enter into the mainstream market economy while at the same time enabling a continuation of customary beliefs and values.

This paper presents preliminary findings from PhD research into Indigenous people's perceptions of and aspirations for forestry and forest management in Australia. 'Indigenous forestry' has environmental, social, cultural and economic dimensions that intersect in diverse ways, depending on historical and geographical factors.

Economic development in Indigenous communities

In the last census in 2001 Australia's Indigenous people comprised 2.4% of the population. Analysis of social data show that as a group, Indigenous people do not fare well against most of the standard indicators of social and economic wellbeing (Australian Bureau of Statistics, 2002). Often living on the fringes of mainstream society, both figuratively and physically in what is sometimes called a fourth world¹ has meant that in many communities, several generations within the same family have never been employed in or exposed to a market

¹ 'Fourth world' is a term sometimes used to refer to indigenous peoples living (usually in remote areas) in a 'first' world or developed country, who are socially and economically marginalised as a result of historical legacies of dispossession and cultural denial and paternalistic government policies (Manuel, G. and Polsuns, M. 1974).

economy (Young, 1995). Money comes from welfare or through Commonwealth Development Employment Programmes (CDEP)² perpetuating cycles of poverty, low self esteem, low levels of education, unemployment and the concomitant issues of substance abuse, domestic violence and incarceration.

Fortunately, this rather gloomy picture can be counteracted by many success stories. Individuals have done brilliantly in sport, business, performing and visual arts and in academic achievements. The literature abounds with stories of community-based enterprises that have achieved social and economic benefits. Nevertheless, an historical legacy of government policies that successively almost wiped out, dispossessed and then assimilated Australia's first peoples has had profound impacts from which recovery has been a long journey.

The founding premise of NIFS is to broker partnerships between Indigenous communities and the forestry industry as a way of alleviating social and economic disadvantage (Australian Government, 2005). Over the last decade there have been numerous government strategies aimed at achieving similar goals: the Rural Industry Strategy (ATSIC & The Department of Primary Industries and Energy, 1997), A National Aquaculture Development Strategy for Indigenous Communities in Australia (Agriculture Fisheries and Forestry Australia, 2001), and the National Aboriginal and Torres Strait Islander Tourism Strategy (ATSIC & The Office of National Tourism, 1997) are some examples. They have met with varying degrees of success so a less than enthusiastic response from Indigenous people to NIFS should come as no surprise. For any strategy to work two factors are critical; an effective participatory approach in the developmental stages (O'Faircheallaigh, 1999, Walsh and Mitchell, 2002) and an appreciation of the factors that influence the capacity of both partners to engage in a meaningful and mutually beneficial way (Arthur, 1999).

The majority of Aboriginal communities aspire to economic independence as a way of overcoming poverty but they also want to maintain their cultural traditions, including looking after the land. Any business enterprises must factor in the enduring influences of customary law, kinship responsibilities and obligations to care for the environment and sacred places (Altman, 2001, Nash, 2003). Communities in different geographical locations are likely to respond differently to any national strategy. Remote communities in northern Australia have been less impacted by colonisation leaving a relatively complete package of stories, language, religion and customs, all of which contribute to maintaining links with the natural environment. For most Indigenous communities in remote areas, the cash economy is a relatively recent arrival and has brought with it rapid cultural change (Austin-Broos, 2005). The story is somewhat different in southern Australia where a violent colonial history took away so much from Indigenous people, leaving them with a fragmented connection with the past and the environment (Keen, 1994). In drawing comparisons between Indigenous involvement in natural resource management in northern and southern Australia, Altman postulates that a diminution of customary knowledge in the latter communities has resulted in different responses (Altman, 2003). This dichotomy is apparent in my own research, where Aboriginal people interviewed on the NSW south coast expressed a stronger commercial and employment focus than those from northern Australia.

Contemporary economies in the western world are driven by material values and market forces, with little heed paid to indigenous cultural traditions and worldviews (Crush, 1995). Any strategy will fail if it does not acknowledge the value systems of the 'other' and the adverse nature of the impact of history across the continent (Howitt, 2001). Fortunately, government strategies and policy makers are beginning to acknowledge that processes for alleviating poverty at the community level are more likely to succeed if they occur within a framework that respects and recognises the influences of cultural traditions and customary behaviours on business operations (Altman, 2001).

The question here is whether economic development in an Indigenous context should be compatible with that

2 The CDEP scheme arose in the mid 1970s to replace unemployment benefits paid to Aboriginal people in remote communities with few formal labour market employment opportunities. It has since expanded into approximately 300 communities with over 30,000 people participating in the scheme. An adaptation of a social welfare system to the particular social and economic circumstances of remote Indigenous communities, it has both supporters and critics. See papers in Morphy, F. and Sanders, W. G. (2001).

of western notions of wealth generation and materialism (Altman, 2004) or whether it should be measured in some other way that reflects Indigenous choices (Rowse, 2002). The challenge for corporations, driven by profit, is to understand that Indigenous concepts of business are not always about financial gain; there are social and family obligations that must be met, sometimes at the expense of delivering a product. Although lack of capacity in Indigenous communities is commonly blamed for business failures, other reasons are also evident. Studies of capacity development in an international context indicate that the problems may occur higher up, where non-Indigenous systems are actually undermining Indigenous capacity development (Hunt, 2005). At the same time Indigenous business people must appreciate the priorities of their partners.

Forest values

Forests are part of the original estate of Australia's Aboriginal people, wrested from them during this country's period of colonial history. The remnants left behind, now mostly in state-owned timber production forests and forested conservation reserves, have acquired a level of significance often attributed to a commodity that is rare (Purdie and Cavanagh, 1993). To many Aboriginal communities, islands of naturally vegetated land within a landscape transformed by a colonial history are often places where spiritual connections are remembered and renewed (Adam, 1987, Bowdler, 1983). But as the extensive literature now reminds us the forest remnants are prized by Australia's citizens for many reasons; as a source of timber and wood pulp, recreational pursuits, biodiversity conservation, educational activities and personal well-being through connecting with nature (Williams, 2002).

On the face of it, the forestry industry is well placed to increase its engagement with Indigenous people. Firstly it is a predominantly rural industry and can engage with rural Indigenous communities on a local and regional basis. In some locations it can build on existing arrangements. This process can enhance the capabilities of local groups to develop effective systems of local governance that could have far-reaching effects (Wootten, 2004). Secondly, the redefining of the industry to include non-wood products and non-economic values in its management objectives (Dargavel, 1995) facilitates inclusion of Indigenous worldviews in forest management and utilisation. Thirdly, forests are part of the original Indigenous estate and loss of access to forests is part of the historical legacy of dispossession. A renewal and reaffirmation of traditional associations, even if within a contemporary economic system, is critical to the post-colonisation healing process (Rose, 1996). Finally and more pragmatically, forecasted expansions in the plantation sector through the Plantations 2020 Visions³ initiative offer increased investment and business opportunities for the private sector within a sustainable framework for future use of the forest estate. Indigenous owned land is attractive to an expanding plantation industry which in turn appeals to Indigenous communities because of its opportunities for employment and wealth generation.

Historical associations

Indigenous people's engagement with forest management and forestry has a strong temporal dimension in Australia. For thousands of years forest resources were a significant component of a hunter-gatherer economy; providing plant and animal foods as part of the seasonal subsistence round, medicines, and raw materials for shelter and tools (Feary, 1988). Although cutting down entire trees was not a traditional practice, wood products were a significant component of the tool kit and material culture. Wood from a wide range of plant species was used to make wooden implements, musical instruments and ceremonial sculptures (Koenig, *et al.*, 2005), bark was removed for artwork, canoe manufacture, and building shelters (Kamminga, 2002). High levels of skill and intimate knowledge of forest ecosystems were necessary for harvesting wood from the right species and at the right time of year eg. in making bark canoes (Edwards, 1972).

3 Plantations for Australia: Launched in 1997, the 2020 Vision is a strategic partnership between Commonwealth, State and Territory Governments and the plantation timber and processing industry. It has a notional target of trebling the area of commercial tree crops by 2020 (<http://www.plantations2020.com.au>).

Fire was the major management tool and 'fire stick' farming was used to increase economic production in forest ecosystems eg. encouraging growth of green pick to attract macropods (Jones, 1969). The extent to which Aboriginal burning has altered the structure and floristic composition of the forests remains highly contested (Hill, 2003). Forested landscapes such as mountains were and still are spiritual places of immense significance and Aboriginal people have fought hard for their protection [see (Egloff, 1979, Feary and Borschmann, 1999), for a NSW example]. The significance of the Bunya pine (*Araucaria bidwillii*) to the ceremonial life of Aboriginal people of northern NSW and southeast Queensland is well documented (Huth, 2001).

During the early years of white settlement and expansion, Aboriginal people were part of the labour force that cleared extensive tracts of forest for pasture, agriculture and establishment of settlements. Aboriginal guides showed the loggers to the great red cedars in the forests of the eastern seaboard and led explorers through dense forests along well-travelled Aboriginal pathways (Vader, 2002).

Although the written record is sparse on detail about historical associations, the oral history record is rich. Interviews with Aboriginal people reveal that the timber industry was a major employer of Indigenous people in the mid 20th century in rural southern NSW, Victoria and Queensland (Feary, 1988, Thompson, 1985, Waters, 2005). Levels of Aboriginal employment dropped later in the 20th century, along with a general downsizing of the workforce with the advent of large, highly mechanised and automated sawmills (Dargavel, 1995). The impacts may have been relatively greater on Aboriginal people because of the requirements for academic and technical qualifications and the need to move away from their communities to take jobs in the fewer, centralised mills.

Contemporary associations

Forestry is an important industry in Australia. It contributes 1% to the Gross Domestic Product and directly and indirectly employs some 78,000 people or 1% of the workforce (Commonwealth of Australia, 2004). These statistics generally relate to a narrow definition of 'forestry' - as an industry producing wood and wood products from native and planted forests. Indigenous involvement in this aspect of forestry has not been accurately measured but anecdotal evidence gleaned during the NIFS consultation phase suggests that it is minimal at a national scale (BDO Consulting (SA) Pty Ltd, 2004).

The 1990s saw some major changes in both forest management and Indigenous affairs. The National Forest Policy Statement and the ensuing Regional Forest Agreements⁴ acknowledged Aboriginal people as legitimate stakeholders and paved the way for consultation with and participation by Indigenous people in management of public timber production forests (Commonwealth of Australia, 1995). Additionally, the landmark Mabo decision of the High Court⁵ and the ensuing Native Title Act 1993 effectively means that all public forests, plantations and native, are potentially subject to native title rights and interests (Nettheim, *et al.*, 2002).

Most state-based agencies responsible for managing public timber production forests now have policies for consultation with relevant Indigenous communities. A few Indigenous people are employed as liaison or cultural heritage officers to facilitate consultation processes and sometimes at higher policy levels. Consultation tends to be confined to protecting cultural heritage values, mostly in the form of site surveys undertaken in compartments or coupes prior to logging. In some cases, however, it has been expanded to embrace social justice issues through employment and provision of access to forests for cultural activities.

Although agency policy may provide the framework, implementation beyond the cultural heritage protection focus often depends on commitment and action at the local office level. Eden on the NSW far south coast is a

4 Regional Forest Agreements (RFAs) are 20 year agreements between the forestry industry and State and Commonwealth governments to stop conflict over management of public native forests. 12 RFA processes were undertaken between 1996-2001 (Mobbs (2003).

5 In 1992 the High Court of Australia held that pre-existing rights of Indigenous Australians in respect of land and waters may survive under the common law as native title (the Mabo decision). Thus, Australia was not 'terra nullis' when the British claimed it, but was subject to a valid system of land ownership.

good example of cooperation between a local Aboriginal organisation, the Eden Local Aboriginal Land Council and local forestry managers. A Memorandum of Understanding (MOU) between the Land Council and Forests NSW acknowledges not only protection of cultural heritage but also supports forest based enterprises run by the local community (NSW Department of Primary Industries/Forests, 2004). Development and honoring of the MOU is as much about commitment by the agency at a local level as it is about higher level policy.

There are no reliable figures for Indigenous involvement in downstream industries such as wood processing, driving logging trucks, etc. Small scale businesses manufacturing wooden artefacts for the tourism trade are known to exist but their economic viability and sustainability is not well researched. There are many challenges facing Indigenous communities in responding to increasing demands for material culture production for the tourism market. A study of woodcarvers in the Maningrida region of the Northern Territory points out how indigenous knowledge systems will need to adapt to cope with the impacts of the commercial exploitation of natural resources (Koenig, *et al.*, 2005). The same goes for exploitation of other forest based resources such as seed and sugarbag honey.

A broader meaning of forestry?

The last decade or so has seen marked increases in Indigenous engagement with forest management in the broader context of natural resource management (Orchard, *et al.*, 2003). This was prompted in part by the findings of the 1987 Royal Commission into Aboriginal Deaths in Custody. This important inquiry recognised that addressing the land needs of Indigenous people was fundamental to the overall question of remedying disadvantage and inequality. It recommended active participation in managing land, including forested land, to assist in addressing some of the wrongs of the past, through facilitating a reconnection with country.

Co-management agreements between conservation agencies and local Indigenous communities are in place for a number of forested landscapes, delivering a range of socio-economic benefits including employment, a capacity to go back to country, and recognising the value of traditional knowledge (Smyth, 2001, Young, *et al.*, 1991). These participatory arrangements, statutory and informal, are increasing in number with the Northern Territory government recently announcing its intention to hand back 27 national parks and reserves to traditional owners under a native title agreement with Northern Territory Land Councils (Land Rights News, 2005).

Similarly, the Indigenous Protected Areas (IPA) programme enables Aboriginal owned land to become incorporated into the national conservation reserve system (Smyth and Sutherland, 1996). The IPA model is a significant one because it recognises that nature conservation values can co-exist with customary land-use practices. Indigenous communities who own and manage Indigenous protected Areas across Australia believe that their people and communities are healthier and more functional because they are empowered to make decisions about managing their country (Department of Environment and Heritage, 2005).

Trees on the Land

Opportunities for achieving economic independence from managing forest country primarily for conservation or cultural purposes (and these are not synonymous) are limited. Community based tourism enterprises, arts and crafts manufacture and employment associated with protected area management activities bring in some money but operational costs are generally subsidised through Natural Heritage Trust grants or state budgets. Nevertheless, the models developed for Indigenous participation in conservation management have relevance for the forestry industry.

Other factors to consider are associated with location in isolated areas with few industries and even fewer opportunities for employment. Non-Indigenous people are vacating the rural sector because of lack of opportunities but by contrast in many regional areas the Indigenous population is increasing because there is little out-migration. The Murray-Darling Basin is a case in question (Taylor and Biddle, 2004). Young Aboriginal people are therefore growing up in situations with little education and few job prospects (Austin-Broos 2005). Leaving the community is often not an option because of family obligations and a realisation that moving

away from traditional lands and community life places enormous pressures on an individual's capacity to stay within cultural traditions.

When seen from this perspective it is obvious that economic independence for Indigenous people outside the main population centres cannot occur unless regional economies themselves receive a boost (Fletcher, 1999). This is more likely to come from the private sector than the public purse and the idea of joint ventures between Indigenous communities and tree-growing companies is attractive. But cross-cultural business partnerships can be challenging for both parties. An international review of community-company forestry partnerships identifies some of these challenges and suggests techniques for overcoming them (Mayers and Vermeulen, 2002).

The future of timber and woodpulp production in Australia seems to lie with softwood and hardwood plantations and a concomitant emphasis on private investment becoming the driving force in the industry (Howard, 2004) although there are a range of social and environmental issues yet to be resolved (Gerrand, *et al.*, 2003). Aboriginal people are proportionally well represented in rural areas and in a post-Mabo landscape are well placed in some areas to enter into forestry based partnerships with the private sector. Additionally, Indigenous organisations currently have ownership over approximately 20% of the continent, as a result of native title claims, land rights legislation and other processes (Pollack, 2001). A proportion of this land is suitable for forestry based industries, including plantations (URS Forestry, 2001).

One problem with plantations on Aboriginal land, especially those based on exotic species, is their limited capacity to utilise customary land management processes and values. Thus, although the plantations bring in royalties and may generate some employment, it may not result in improved social and economic circumstances. Similar problems have emerged in regard to royalty payments in the mining industry (Holcombe, 2004). Something more akin to natural forest ecosystems may be the answer for some Indigenous communities. A more diverse resource base with a mixture of enterprises using a farm forestry model with food plants grown under larger timber production trees or more complex plantation systems with multi-species and multi-aged trees (Kanowski, 1997) may meet both economic and social/cultural objectives.

The situation could be different where partnerships are based on the sustainable use of native forests. Commitment by public forest managers to acknowledging native title rights enables many types of partnerships to occur where the objectives go beyond economic returns. Small-scale community run enterprises can be an avenue for training and employment in a number of areas such as eco-tourism and land management. Public timber production forests have less legislative restrictions than national parks on cultural activities such as hunting and gathering and ceremonial gatherings and as such, can make an important contribution to the reconciliation process. Figure 1 provides examples of arrangements between Indigenous organisations and public forest management agencies across Australia involving employment and access for cultural activities, but application of these models to the business end of the partnerships demanded by the private sector is potentially problematical.

Where native forests are owned by Indigenous organisations, there is considerable capacity to develop integrated projects where forestry is part of a broader natural resource and land management programme (see Annandale and Taylor, this volume).

NIFS has the potential to play a critical role facilitating partnerships by establishing mechanisms to build capacity of Indigenous people in the skills needed to run a resource management business. Given the statistics mentioned earlier, this is no easy task and will take time. NIFS can also enlighten non-Indigenous partners about Indigenous social structures and governance and assist in developing intra-community systems that will cater for customary forms of doing business.

Conclusion

'Indigenous forestry' can be defined as the spectrum of forest management, forestry and forest related activities that deliver benefits to Indigenous people and to the environment. As such it challenges western ideologies of natural resource management with its dichotomy between conservation of natural values and

resource use. Forest based activities such as co-management of protected areas, eco-tourism and arts and crafts are enjoying greater success than mainstream forest industry enterprises in the Indigenous domain. All of these involve use of customary knowledge and it could be argued that incorporation of customary knowledge and facilitating its adaptation to a contemporary market economy is a key factor. Through recognising the importance of cultural traditions in contemporary socio-economic systems, NIFS can play a critical role in building the capacity of Indigenous communities, families and individuals to run successful forest based enterprises.

The real challenge for NIFS and for the private sector will be in plantation management and associated industries where the opportunities for the customary sector to operate appear to be limited. Much work needs to be done to establish equitable cross-cultural partnerships and to design plantations that are mindful of the complexity and diversity of Indigenous worldviews.

Figure 1: Examples of Forestry Related Activities

TENURE	GOVERNANCE	DESCRIPTION	BENEFITS			
			Social	Cultural	Environmental	Economic
Indigenous Protected Area	Owned by Nari Nari Tribal Council, funded through Commonwealth Plan of Management exists.	Toogimbee, near Hay in western NSW, old pastoral station. Contains river red gum forests with significant cultural places.	Empowerment through land ownership; some training.	Returning to country; looking after cultural heritage; educating young people.	Fixing up a degraded landscape through revegetation, erosion control, wetland management	Eventually, through ecotourism
Purchase by Indigenous Land Corporation	21 year lease agreement. Partnership between Gidarjil Land Development Corp and Integrated Tree Cropping, Qld	Hillgrove pastoral station, Qld, has 900 hectares planted to eucalypts.	Empowerment through land ownership; training scheme with TAFE and DEWR, future employment	Returning to country, educating young people	Ecological services provided through tree planting	Returns from lease; royalties from timber; employment
Aboriginal land	Lease agreement between Tivi Land Council and Sylwatech Ltd	Remote Melville Island, NT. <i>Acacia mangium</i> plantation, 8 year rotation to produce woodchips	Agreement is expected to provide training and employment	Enables people to stay on country	Potentially negative due to clear felling of native forests, could also have negative cultural impacts.	Returns from lease agreement, royalties from timber; employment; flow on effects to related enterprises eg transport for woodchips.
Public land- State Forest agencies (NSW)	Through RFAs, government policies, forest management plans.	Identified positions for Cultural Heritage Liaison Officers who consult with communities about forestry operations and do heritage surveys.	Training and employment; effective participation in forest management.	Looking after cultural heritage.	Cultural values exert some influence over land management decisions,	Employment, but often not permanent positions
Public land, CALM (WA)	Arrangement with local CALM office. Permit to collect fuelwood.	Manjimup Aboriginal Corporation, collection of fallen timber to sell as fuelwood	Capacity building in business management, brings funds into local community	Some ability to get back onto country	Fairly limited, but CALM has other mechanisms for consulting with Indigenous communities about forest management	Local, small scale sustainable business provides local employment and creates pride in the community.
Small business- Gundoi Didgeridoos	Agreement with local Indigenous land owners to collect 'sticks' for manufacturing didgeridoos.	Family business making didgeridoos for tourist market, Qld	Capacity building at family level, not dependent on welfare	Maintains cultural traditions, adapting market economy, seek permission from TOs when removing 'sticks'	Importance is attached to sustainable use of wood resource, using customary knowledge to collect sticks from 'right species and in right season.	Business runs at a profit, but competition from cheap imitations.
Public land/Indigenous land	Eden Regional Forest Agreement, ESFM reporting, leading to MOU between Eden LALC and local forestry office.	Various projects Eden, southern NSW, contracts to do pre-logging surveys, roadworks and other activities, access for cultural activities, consultation about forest planning and management, running cultural tours	Empowerment through recognition of native title rights and forest ownership. LALC is prominent in local community through association with forest management	Partnership with Forests NSW enables cultural heritage to be protected and Indigenous views to be heard. Ability to get back to country and also continue historical associations with forestry industry	Stable Indigenous governance structures enable Eden LALC to interact with several government agencies, including NPWS in relation to environmental management.	Economic returns from a range of contractual arrangements, contributes to economic independence of community and individuals.

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MAORI CONNECTIONS TO FORESTRY IN NEW ZEALAND

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Abstract

Maori connections to forestry and forest land in NZ are strongly cultural and spiritual, as well as commercial. Maori own over 400 000 ha of indigenous forests (6% of total indigenous forest) and some 238 000 ha of planted exotic forests (13% of total exotic forests). These forests contribute significantly to Maori socio-economic development. Maori involvement in commercial forestry commenced over 40 years ago with the planting of pine forests under forestry leases involving the Crown, companies, and Maori landowners. These forests are now maturing and Maori participation is moving from being principally a source of labour to a stronger commercial involvement. Currently, forestry comprises 10% of Maori's total asset base. This will grow as Maori take increasing ownership and control of their land and forests. The use of former State-owned forest assets to fund Maori claims under the Treaty of Waitangi could see Maori owning up to 41% of the planted forests in the future. The sustainable management of indigenous forests represents a relatively undeveloped opportunity for Maori, both for timber and non timber benefits. Maori owners are a very significant group within the forestry sector.

Overview of Forestry in New Zealand

The forestry sector in New Zealand is split into two divergent branches: exotic plantation and indigenous forests, with plantation forestry contributing almost all of the commercial harvest.

Exotic Forestry

The National Exotic Forest Description (NEFD) for the year to 1 April 2004 estimated that 1.82 million hectares, 6.72% of New Zealand's total landmass was in planted production forests with a total volume harvested for the year ended 31 March 2004 of 19.4 million cubic metres.

In the 2003/2004 financial year the forestry sector contributed 3.4% to New Zealand's gross domestic product (GDP), with 26 576 people (1.3% of the labour force) employed in forestry and first-stage timber processing as at February 2003. Forestry makes up 12% of all New Zealand's export earnings.

Radiata pine (*Pinus radiata*) is the dominant species of the plantation forests, making up 89% of the planted forest area, with Douglas fir (*Pseudotsuga menziesii*) the next most common species, making up 6%.

Plantation forests in New Zealand are largely privately owned, with 26% in public registered companies. Only 8% is under state ownership. There are few owners with plantation estates greater than 500 ha, with the majority of owners having less than 40 ha in plantation forestry.

Indigenous Forestry

Indigenous forests in this context refer to forests which occur naturally or are planted in a species native to the country. Historically, New Zealand has been more reliant on native species for timber production, and it has only been since around the mid 1960s that exotic plantation forests have had a greater production of timber (see Figure 1).

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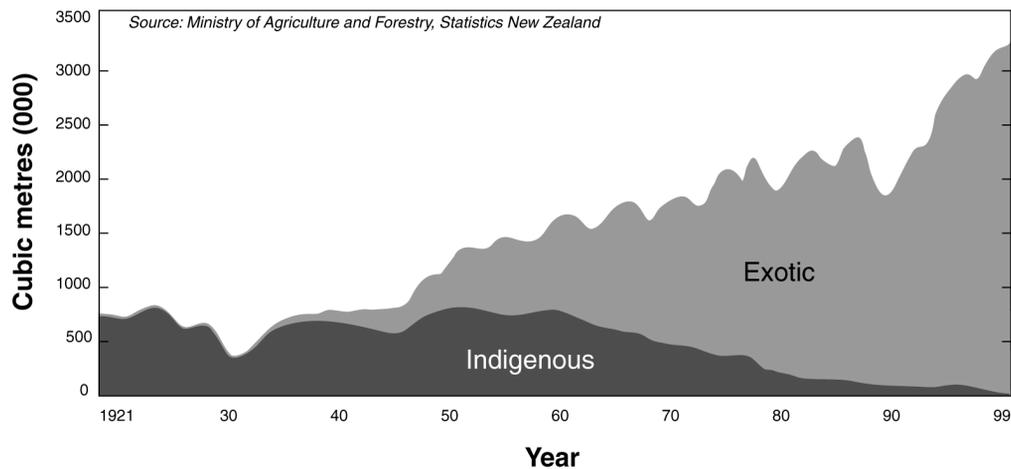


Figure 1: Indigenous and Exotic Sawn Timber Production in New Zealand Since 1921

Native forest in New Zealand covers approximately 6.22 million hectares (23%), however much of this (77%) is in state conservation estate and is unavailable for harvesting.

The remaining 1.4 million hectares of indigenous forest under private ownership in New Zealand has been regulated under Part IIIA of the Forests Act (1949) since 1994, and is now only available for harvest to landowners under strict sustainability conditions. Today, less than 1% of New Zealand's total forest production is harvested from indigenous forests. The commercial species harvested includes mainly New Zealand beech (*Nothofagus* spp.) and rimu (*Dacrydium cupressinum*). The total area under sustainable management is 113,000 ha. Over 29% of this is on Maori owned land.

Large areas of this privately owned indigenous forest have also been placed under voluntary conservation covenants. These include special schemes for covenanting Maori owned forest land, such as Nga Whenua Rahui, which is discussed later and more general covenants such as the QEII⁹ trust which now protects 86 701 hectares of private land.

Maori in New Zealand Society

The exact date of Polynesian settlement of the islands of New Zealand is unknown. Although it has previously thought to have been between 950 - 1130 AD, scholars now debate both the time and circumstances of first Polynesian settlement. After Dutch discovery by Abel Tasman in 1642, New Zealand was colonized by Europeans from many backgrounds.

The Treaty of Waitangi was signed between Her Majesty the Queen of United Kingdom of Great Britain and Ireland, and the Native Chiefs and Tribes of New Zealand in 1840. The Treaty is regarded as the founding document of the nation and has been used increasingly by Maori to assert their rights to land and other property which were alienated from them during the process of European colonisation. This is important in particular for forestry because a significant area of forest previously established and owned by the Crown is the subject of Maori treaty claims.

As at 31 March 2005, New Zealand had an estimated resident population of 4.09 million. During the last census in 2001, one in seven of the population identified themselves as being ethnic Maori, this is a 21% increase from 1991.

Only 1 in 4 of ethnic Maori speak the Maori language, and it is estimated that up to 20% of Maori have no

9 QEII National Trust was established in 1977 and landowners protect significant natural and cultural features on their land.

tribal affiliation.

Maori generally have not fared as well socio-economically as non-Maori. The Maori population in 1999 had a weekly median income of NZ\$485 compared to the national average of NZ\$532, and according to the March 1999 Household Labour Force Survey, 19% of the Maori labour force was unemployed, three times the non-Maori rate.

Forestry has however generally been an attractive sector for Maori employment. As at 2001, 16 002 Maori were employed in the agriculture, forestry and fishing sectors. This is approximately 8.9% of the total Maori workforce (see Table 1).

Table 1: New Zealand Employment by Sector.¹⁰

		Agriculture, Forestry and Fishing	Manufacturing	Construction	Wholesale and Retail Trade etc	Transport, Storage and Communication	Business and Financial Services	Education	Health and Community Services	Other Services	Total
Maori	(000's)	16.6	33.3	14.2	36.1	13.2	13.6	17.0	14.4	25.4	185.8
	%	8.9	17.9	7.6	19.4	7.1	7.3	9.1	7.8	13.7	
All	(000's)	155.9	283.5	145.0	449.0	116.1	258.9	155.7	177.3	207.3	1966.0
	%	7.9	14.4	7.4	22.8	5.9	13.2	7.9	9.0	10.5	

Although Maori in general are well represented in the Agriculture, Forestry and Fishing Sector, Maori women are less involved than their male counterparts. In 1996, approximately 7% of Maori women worked in this sector (TPK, 2005).

Maori Spiritual Connection to Trees and Forests

New Zealand's indigenous forests are a fundamental part of Maori whakapapa.

"Whakapapa or lineage connects us all to every aspect of the universe from the beginning of time to the very first seed that created the universe. Papatuanuku is the earth, Ranginui is the sky. We are descended from this source. Their 70 children are the original custodians of all elements of the universe. The first-born was Tane Mahuta. He is the custodian of the whole forest domain. In the succession of life, plants were followed by birds, then by fish, insects and animals. The last born were humans. In the whakapapa or genealogy humans are teina (junior) to all other animate or inanimate forms." - George Asher (2003)

Kaitiakitanga are traditions that Maori exercise as stewards, to protect the vital life force (Mauri) of all entities within whakapapa. Maori gained much intimate knowledge of their natural world, and the interrelationships of the entities. From this knowledge they formed a system of traditions and prohibitions that governed every aspect of their resource use – including forests.

"...the universe and I are not apart; we were born from the same source; we were formed from the same stuff..." (translated excerpt from a traditional Maori proverb).

While Maori are connected to indigenous forests spiritually and culturally (for food, medicines, building materials, shelter, clothing, implements, handicrafts), exotic commercial forestry is the "adopted son" who provides protection of remaining lands, employment and economic benefits.

¹⁰ Data sourced from Statistics New Zealand, www.stats.govt.nz

Treaty of Waitangi

The Treaty of Waitangi signed in 1840, outlines the rights and responsibility of both the crown and Maori tribes:

- Maori would retain possession of their lands and fishing areas.
- At the same time, Maori would accept the new Colonial government's pre-emptive right to purchase land.
- All sale of land by either Maori or European would be transacted via the government.
- Maori would accept the sovereignty of the Queen.
- Maori would be guaranteed the same rights and privileges as those of all British subjects

Despite the treaty and its explicit recognition of Maori's right to their land and fishing areas, during the period from 1840 to the 1970s there was a steady alienation of Maori land. As a result in 1975 the Waitangi Tribunal was set up to investigate Maori grievances under the Treaty of Waitangi, and to provide compensation for these grievances.

As of March 2004 there were 1,054 claims lodged at the Waitangi Tribunal. These may be historical or contemporary, and they may relate to either specific pieces of land or a generic government policy. Any Maori can make a claim at the Tribunal, so many of the claims relate to the same group of people or events.

By the end of 2003, there had been 18 settlements of historical Treaty claims, with a total value of about \$580 million. Included in these settlements are forest areas, both planted and natural, which have been returned.

The Crown Forestry Rental Trust was set up to assist Maori to prepare, present and negotiate claims against the Crown, which involve or could involve Crown Forest Licensed Lands. The Trust's fund comes from Annual Rental Fees for licences to use certain Crown Forest Licensed Lands. Until the beneficial owners of the lands have been determined, the Trust:

- Invests the rental proceeds and holds them in trust.
- Applies the interest earned on the rental proceeds to help Maori claimants prepare, present and negotiate claims that involve or could involve Crown Forest Licensed Lands.
- The accumulated Annual Rental Fees for all Crown Forest Licensed Lands will eventually be returned to successful claimants, or to the Crown. At the end of the 2004 financial year there was NZ\$373 million in trust.

Additionally, the Resource Management Act (1991) (RMA), provides directly and indirectly for Maori participation in the preparation of policy statement and plans and decisions on resource consent applications made by local authorities. This protects the rights of Maori as recognized by the Treaty. Through this participation, Maori have some input into the management of all resources including forests, not just those directly owned or managed by Maori.

Maori Ownership of Lands and Forests

Less than 6% of New Zealand's land area is currently classified as "Maori Land" (Carswell *et al.*, 2002). In this context "Maori Land" does not include general land under fee simple owned by Maori¹¹.

Maori association with the land is very strong not only through the land being passed through generations but through a variety of contemporary landuse interests ranging from forestry, farming, horticulture and tourism.

¹¹ Land still under Maori control and ownership, with a majority shareholding by Maori. The Ture Whenua Maori Act 1993 identifies both "Maori Customary land" – land passed through generations in accordance with Tikanga Maori, or "Maori Freehold land", which is land whose beneficial ownership has been determined by the Maori Land Court. "Maori land" in this context does not include general land under fee simple owned by Maori.

Similarly Maori have strong historical associations with forests on the lands. It is estimated that about 75% of New Zealand's land area was forested prior to permanent Maori settlement (Roche, 1990).

Subsequently from the 11th to about the 15th Century substantial areas of forests were burned, especially in the drier eastern regions of the country. Forests were a source for food, and timber was used for building materials, tools, weapons, carving and canoes. Over generations prior to European settlements in New Zealand Maori established a strong understanding of the indigenous New Zealand forests and the characteristics and uses of timber-producing, and other forest species.

Government Policies and Maori Forests

Prior to 1840 and significant European settlement in New Zealand, European traders sought timber for ship spars and masts – the tall straight kauri tree was particularly sought after for these uses. Timber was purchased from local Maori tribes who also provided the labour force for felling, hauling and loading.

During 1840 to 1920 following the Treaty of Waitangi, licensing controls were imposed to regulate the timber trade from Maori-owned forests. Leasing and royalty payment arrangements developed with Maori forest owners and there were also strong government actions to obtain control and ownership over New Zealand lands. The earlier timber export trade was largely replaced with an active domestic timber market during the period of European settlement and economic development and sharply contrasted with previous Maori patterns of land use. This was a period of rapid harvesting and clearance of indigenous forests. Much land moved into European ownership as the area of farmland expanded.

The period from 1920 to 2005 has been marked by increasing Government involvement in forestry; from the establishment of a government forestry agency, the State Forest Service, to a focus on expanded tree planting using fast growing introduced species such as radiata pine and related research programs. More recently the Government has substantially exited the business of forestry but left a legacy where significant areas of Maori land were planted in trees under various Government-sponsored and private schemes through subsidies, tax incentives and joint venture arrangements. Up to the 1950s the Government exercised considerable powers in regulating forestry operations on Maori lands. In recent decades there has been increasing influence from Maori aspirations for the lands and forests and the Crown's obligations under the Treaty of Waitangi, including the progressive assessment and return of these Crown lands to Maori ownership after the privatisation and sale of the Government-administered forests after 1987.

Maori Involvement in Commercial Forestry

A survey carried out by the Ministry of Agriculture and Forestry in November of 2000 (MAF, 2001) estimated that 238 000 ha of Maori owned land was in plantation forestry. This is around 14% of the total area of New Zealand's planted forests. But in comparison, only about 1%, 20 000 ha was under Maori ownership and management (MAF, 2001). Most of this forest area is managed by the crown or private forestry companies through long term leases. This is now changing and Maori are assuming management responsibility for a greater proportion of plantation forests on their land. Forestry contributes approximately 10% of Maori's total asset base (FOMA, 2005).

Crown Forestry is the state-owned body which administers and manages the Crown's remaining interests in plantation forests (25 forests totalling 39, 200ha), most of which are connected to Maori. Specifically, Crown Forestry manages 16 forests, which are planted on land leased from Maori landowners. The Crown has a policy of being prepared to sell its interest in the leases to individual lessor groups where lessors are keen to do this. A number of forests have already been sold or have had the leases significantly shortened and negotiations to effect similar lease variations are underway with several other lessor groups.

Table 2: Some major forest-based ventures involving Maori.

	Area (ha)	Management Structure
Lake Taupo Forest Trust	32 000	Crown forest lease with the forest being returned to trust as it is harvested.
Ngai Tahu	82 000	Ownership of land only, leased to various forestry companies.
Ngati Porou Whanui Forest Ltd	10 000	Joint venture with Hansol, a Korean forestry company on Maori land
Lake Rotoaira Forest Trust	16 500	Crown forest lease, being returned to the Trust as harvested.
Ngati Whakaue	400	Woodlots on iwi (tribe) owned and managed farms.
Ngati Awa	7 000	Proposed ownership under Treaty of Waitangi settlement offer. Much is currently part of Crown Forestry Rental Trust.
Maraeroa C Incorporated	5 500	Crown forest lease, however the Trust provides many services to the forest through wholly owned subsidiaries.
Ngati Hine	5 600	The iwi own the land only (forestry lease).
Waitutu Holding Company Limited	11 582	Forestry right (over native forests) in favour of a forestry company.
Māori Investments Ltd	31 000	11% share in Tarawera Forests Limited.
Waikato Raupatu Lands Trust/ Tainui Group Holdings Ltd	14 482	The iwi own the land only (forestry lease).

There are no definitive statistics of Maori involvement in forestry, however below is a list of prominent ventures (Table 2).

Commercial Development Models for Maori and Forests

Lake Taupo Forest Trust

The Lake Taupo Forest Trust (LTFT) was established in December 1968 to represent the interests of the owners of close to 60 separate Maori land titles located in the central North Island around the shores of Lake Taupo. LTFT is a Maori trust that administers the land interests of almost 10 000 owners and over 31 000 ha of land including 21 000 ha in plantation forestry.

LTFT signed a lease with the Crown in 1969 and under this arrangement the Trust provided the land while the Crown provided the funding and expertise to establish and manage a forest on the lands. The profits ("stumpage") were to be shared according to the relative inputs. The lease is now finishing, and as the first rotation trees are harvested, the land comes out of the Crown lease and is replanted by the Trust using its share of the first rotation profits. In this way the Trust increases its fully-owned area by around 900 ha per year. It is scheduled that by 2021 all of Lake Taupo Forest will be Trust-owned.

The Trust has nine fully owned subsidiaries which run various aspects of the Trust's interests. One of these, Lake Taupo Forest Management Limited (LTFM) acts as their forestry advisor.

Each year, there is an annual distribution after detailed consideration of income and forestry reserves. Income is distributed to landholders based on the area of blocks and shares in blocks.

The Trust also has several funds to support the beneficiaries and Maori community through funding for

tangihanga (funerals) for owners, cultural and sports grants, kaumatua (elder) assistance, health promotion programmes and support for Tuwharetoa Marae (meeting houses).

Ngati Porou Whanui Forests Limited

Ngati Porou Whanui Forests Ltd (NPWFL) is based in the East Coast region of the North Island. It is a Maori-owned forestry company which provides management expertise and cleared land, within joint venture forestry agreements with Maori landowners.

The landowners provide the land while retaining ownership and control. Investment partners provide funding and profits are shared at harvest. The Korean Forestry Company, Hansol is a major investment partner. The landowners also become members of the Ngati Porou Landowners Trust, and gain beneficial interest in the company. In this way the landowners maintain ownership and control of the company.

NPWFL currently manages 50 forests, totalling 10 000 ha. The company plans to double this area by 2010. The company's vision is to plant 40- 50 000 ha of forest. It currently employs 100 people with preference given to local Maori.

The East Coast community as a whole also benefits from this work. Each year, around NZ\$2 million is injected into the local economy through NPWFL forestry operations and associated management services. This is expected to rise to NZ\$3 million annually.

NPWFL is also committed to advancing the people of the region through their vision to create competitive advantage from intellectual capital by investing in research and development programs that support business growth.

More than 20% of the land managed by NPWFL has been retained as reserves, a direct consequence of a philosophy to protect areas of special significance and a reflection of landowners' spiritual connection to the environment and their commitment to sustainability.

The NPWFL forests also have a significant protective function. Most are located on land which is erosion prone and the company has been able to obtain erosion control funding from the Crown under the East Coast Forestry Scheme.

Ngai Tahu

Ngai Tahu are the Maori people of the southern islands of New Zealand. Their iwi (tribe) name means "People of Tahu", and all Ngai Tahu Whanui (family) can trace their ancestry back to the founder of the tribe, Tahupotiki.

Ngai Tahu first had contact with European sealers and whalers in 1795 and built up a thriving industry supplying these ships with provisions. By 1840, when seven of the Ngai Tahu high-ranking chiefs signed the Treaty of Waitangi, they were well educated in European trading and business.

By 1849, the crown had begun defaulting of the terms of the Treaty and related land purchase agreements, and Ngai Tahu made its first claim against the crown for breach of contract. This and other later claims were not resolved until the Deed of Settlement signed was on the 21st of November 1997.

The agreed settlement is large and complex, but is broken down into five major parts; an apology, the return of an ancestral mountain, economic settlement totalling NZ\$170million, cultural redress (being the return of culturally important sites and the pounamu/greenstone resource) and non-tribal redress (settlement of other smaller but related claims).

As part of the economic settlement, the iwi took ownership of the land under 27 Crown Forestry Licence lands (123, 000 ha of stocked area), and the associated accumulated rentals of around NZ\$20 million. Ngai Tahu have since on-sold 41, 000 ha of this area to forestry companies, but retain ownership of the remaining

82, 000 ha of forest land, which is leased under a forest right to the forestry companies. This provides Ngai Tahu with a steady income stream, without having to invest heavily in the management of the forest.

The iwi are now an economic powerhouse within the South Island, with interests in fishing, tourism, property as well as operating a diversified equities portfolio. In the year ending 30 June 2004, the iwi's total assets grew 12.7% to NZ\$441 million, with a revenue of NZ\$170 million.

In 2001, Te Puni Kokiri (TPK) (the Ministry of Maori Development), estimated that the total Maori-owned asset base was worth just under NZ\$9 billion, with Ngai Tahu one of the six major Maori organisations making up 15% (Treasury, 2005).

Maori and Indigenous Forestry

Forests Act (1949)

The harvesting of indigenous forests is regulated by Part IIIA of the Forests Act (1949). This ensures that all harvesting of timber is done in accordance with Sustainable Forest Management (SFM). Currently there are 34, 824 ha of Maori land under approved SFM Permits and Plans or applications. This gives a maximum annual cut of up to 26 855m³ roundwood volume (Miller, 2004). However, this volume is the permitted cut and not all of it will be harvested.

It is estimated that a total of 150, 000 ha of Maori land has potential to be managed under SFM permits and plans. This gives a potential annual allowable cut of 150 000m³ and a potential earning of NZ\$15million before processing.

Nga Whenua Rahui

This is a government established fund for forest protection covenants over Maori Land with compensation.

Covenanting: Maori landowners can protect their indigenous ecosystems under a Nga Whenua Rahui kawenata. The agreement is sensitive to Maori values in terms of spiritually and tikanga. Cultural use of these natural areas is blended with the acceptance of public access within the agreements. The objective of the protection mechanism is long term protection with inter-generational reviews of the agreements.

Maori Reservations: Some of the smaller blocks have opted for formal protection pursuant to sections 338 and 340 of Te Ture Whenua Act 1993. This involves the setting aside of areas as Maori reservations. Public access is with permission of owners.

The size of blocks protected under the fund vary greatly. Twelve blocks of over 2 000 ha have been approved by the Minister of Conservation for protection, including three blocks over 10 000 ha. At the other end of the scale, in terms of size, are 20 projects under 100 ha, including five important areas in the Chatham Islands. For larger blocks, a cash consideration payment is paid in respect of an agreement for long term protection coupled with public access.

Non-Timber Opportunities from Forests for Maori

Kyoto Protocol Carbon Sinks Credits - Permanent Forest Sinks Initiative

The New Zealand Government is currently setting up this new initiative to devolve carbon credits created under the Kyoto Protocol to landowners through covenants protecting the carbon sink in perpetuity. Only Kyoto Forests which have become established since 1990 and which will grow trees capable of reaching at least 5m in height and with a canopy cover greater than 30% are eligible. There are no species restrictions, and harvesting will be allowed under strict permanent forest guidelines. Landowners with carbon credits will then be able to

sell them on the international market.

Returns from the scheme will vary considerably depending on what sort of forest cover is present, how fast carbon accumulates and what market value for carbon can be achieved. Expected returns are expected to be between NZ\$50 and NZ\$500 per ha per year.

Eco-Tourism

Tourism directly and indirectly contributes almost 9% of New Zealand's GDP and is one of New Zealand's largest export industries. The industry as a whole (domestic and international) contributes NZ\$15.2 billion per annum to GDP. Much of the tourism businesses in New Zealand are small to medium enterprises, between 13 500 and 18 000 companies, with only 10 major publically listed companies.

There is much support for Maori development in this sector with advice, training, initial funding and promotion. This support comes from many sources such as various Maori development trusts, Tourism New Zealand and regional tourism organisations.

There are many Maori tourism businesses, most of these businesses are 100% owned by Maori and any non-Maori investment in Maori businesses is usually passive. Marae based cultural tourism ventures are also increasing. These ventures are often based on the unique Maori culture experiences and may be combined with experiencing New Zealand's natural environment.

A good example of this is the Te Mauku Trust which operates an eco-cultural tourism initiative that is providing local employment opportunities with spin-offs for the local cottage and hospitality industries. The Whirinaki Escape Eco-cultural Guided Walk is a full-day experience in the Whirinaki rainforest, east of Rotorua and Taupo. The forest is recognised for its giant ancient tree and plant species. Guides share tribal history, folklore and information on flora and fauna.

Future Trends

There will be an increase in Maori ownership of forest land resulting from treaty claim settlements. It is expected that the majority of these claims will be settled within 10-15 years and could result in Maori owning up to 41% of the land underlying New Zealand's planted forests. (MAF, 2001) There is also an estimated 200 000ha of currently Maori-owned unproductive pastoral land which show great potential for forestry development.

Maori involvement will also increase due to Maori taking ownership and management of leased lands and joint-venture forests as the first rotation are harvested, and stumpage shares are paid out.

It is also likely that there will be an increase in joint venture schemes, as a result of greater Maori land ownership. This is because outside parties can contribute investment to set up forestry on Maori land, where the Maori landowners have little equity, other than the land, to invest themselves.

The East Coast Forestry Project (ECFP) is a government sponsored project which assists in the replanting of erosion prone agricultural land of the East Coast through subsidies. 40% of the land identified as high risk, and targeted by ECFP is on Maori owned land. The assistance provided has contributed significantly to Maori involvement in forestry in the region, for example Ngati Porou Whanui Forests Ltd as discussed above.

Maori are moving from only providing labour for the forestry industry to being more involved in forest ownership and management. There are also greater numbers of Maori involved in the forestry industry through owning small to medium enterprises such as harvesting and silvicultural crews. This is likely to increase as Maori landownership provides more opportunity to manage Maori forests.

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BUILDING CAPACITY, ECONOMIC DEVELOPMENT OPPORTUNITIES AND PARTNERSHIPS: CANADA'S FIRST NATIONS FORESTRY PROGRAM

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Abstract

Canada's forest sector, a mainstay of the economy, generates about \$74 billion in revenues annually, including \$43 billion in forest products exports, and is the source of 361,400 direct jobs. While First Nations make up a significant portion of the population living in and around the forest, they remain under-represented in the forest sector in terms of employment and business activity.

Reliance on and respect for the land has always shaped the lives of the nation's first peoples. Approximately 80% of the 614 First Nations communities located across the country are found within the boreal and temperate forest regions. Estimates for the 2,873 reserves indicate there are 1.4 million hectares of forest land. In addition to these lands, it is estimated that First Nations own or control an additional off-reserve land base of 3.3 million hectares, much of which is forested. Although many reserve forest lands are too small to support large scale, long term sustainable commercial forestry, they offer a foundation upon which First Nations can build technical capacity, develop on and off-reserve business partnerships, maintain their spiritual and cultural connection with the land, and continue to carry on traditional uses such as hunting and trapping, fishing, and the gathering of edible foods.

Forest sector activities throughout Canada offer growing employment and business opportunities to a rapidly growing First Nations population. This paper describes a specific and innovative program that addresses First Nations' capacity and forestry development opportunities to help improve the economic conditions of First Nations communities.

Introduction

The First Nations Forestry Program (FNFP) is a joint initiative of Natural Resources Canada (NRCan) and Indian and Northern Affairs Canada (INAC). It was launched as a national program in 1996 to help improve economic conditions in First Nations communities and is scheduled to terminate on 31 March 2008. It is the federal government's primary forestry capacity-building program which assists First Nations manage their forest resources on and off-reserve, establish partnerships, and positions them to actively participate in local and regional economic development opportunities.

The program applies to duly elected First Nations bands and tribal councils, First Nations organizations and any other First Nations group or company involved in improving the economic conditions in their community and can contribute to the objectives of the program. Project initiatives beyond the reserve boundaries usually involve a working relationship with the local forest industry and/or the provincial or territorial government. The development of these working relationships is one of the main reasons the FNFP has become as successful as it has over the past ten years.

Since 1996, the program has funded over 1,650 projects in over 460 First Nations communities to assist in addressing their forestry requirements. Approximately 7,600 First Nations workers have participated in these projects thereby receiving on- the-job work and training experience.

Purpose and Objectives

The program was designed to improve economic conditions of First Nations communities with full consideration of the principles of sustainable forest management. The following four objectives were developed to achieve the program purpose:

- to enhance the capacity of First Nations to sustainably manage their forest lands;
- to enhance the capacity of First Nations to operate and participate in forest-based development opportunities and their benefits;
- to advance the knowledge of First Nations in sustainable forest management and forest-based development; and,
- to enhance the institutional capacity of First Nations at the provincial and territorial level to support their participation in the forest-based economy.

Program Governance

Management of the FNFP is a two-tiered structure comprising a National Management Committee (NMC) located in Ottawa and provincial and territorial management committees (PTMCs) located in each province and territory, except the new Territory of Nunavut. The program was structured to ensure that decisions related to all aspects of program administration, management and delivery are made at the grassroots level, i.e. at the provincial and territorial level. Differences between provinces and territories in forest types, size of reserve forests, stage of forestry development in communities, land claims, treaty land entitlements, and provincial/territorial policies and regulations influence individual committee decisions and direction on program management and delivery.

The NMC and PTMCs individually meet no less than four times annually.

National Management Committee

The NMC is responsible for the overall accountability and implementation of the program.¹²

It provides administrative direction, develops policy to ensure the uniform and consistent delivery of the program nationally, allocates program funds, conducts project audits, undertakes communications and outreach activities, and manages central program and administrative activities. It encourages knowledge and information generated from projects and other activities to be effectively shared with First Nations and others across the country through individual contact, workshops and conferences. The NMC comprises one appointed representative from each of the funding departments, NRCan and INAC, and a representative from First Nations.

Provincial and Territorial Management Committees

Each committee assumes overall administrative and management responsibility within its jurisdiction, including activities such as the receipt, review and approval of project applications, program delivery, allocation of funds to projects, annual reporting, and project monitoring. The committees are also the advocates and champions of First Nations forestry and participate in outreach activities such as conferences and other events to promote the program; First Nations involvement in the sector; and the opportunities for youth who want to consider natural resources management as a career path.

At a minimum, representatives from NRCan, INAC and First Nations comprise a committee. Representatives

¹² In 2004, the management committees in the provinces of New Brunswick, Nova Scotia, Prince Edward Island and Newfoundland amalgamated to form one committee, the Atlantic Management Committee.

from the provincial or territorial government, the forest industry, and other federal agencies are, however, invited to sit on the management committee if the committee believes these representatives can effectively contribute to the overall objectives of the program.

The involvement and participation by First Nations on the committees is a prime reason for the success of the program. They bring their values, culture and a perspective to the table that invokes better decisions by the committees as a whole in the delivery and operation of the program. For First Nations, the committees provide a stage to champion forestry, be a role model in their community and elsewhere, build leadership skills, gain programming experience and create a network regionally and nationally that they may not have been able to build otherwise. Presently over 80 First Nations representatives sit at the provincial and territorial management committee tables.

Program Funding and Expenditures

The FNEP is not a large program relative to other federally funded economic development initiatives directed at the Aboriginal population. Since 1996/97, total funding from NRCan and INAC has remained stable at \$5.0 million annually. This level of funding will continue until the termination of the program on 31 March 2008. As a partnership program, it is expected First Nations applicants applying for program funding will contribute towards project costs. The program funds up to a maximum of 80% of eligible project costs.

Between 1996/97 and 2004/05, over 1,650 projects were funded. First Nations have not only taken advantage of the program to participate, but have also sought and encouraged the cooperation and participation of members of the forest industry, provincial forest management agencies and other federal agencies as partners in project funding and implementation.

Total federal expenditures of \$39.6 million along with financial contributions from First Nations and their partners of \$97.8 million brought the total value of all projects undertaken to approximately \$137.4 million during this period.

Table 1 tabulates federal, First Nations and partner expenditures on forestry-related activities for the period 1996/97 to 2004/05, including the number of projects funded. In 2004-05, 75% of program funds were expended on forest management and skills development activities, followed by business development projects at 16%.

Table 1: Program Expenditures and Projects Supported, 1996/97 - 2004/05*

	1996/97 To 2000/01	2001/02	2002/03	2003/04	2004/05	Total
Federal Expenditures (\$millions)	25.1	3.5	3.5	3.6	3.9	39.6
First Nations and their partners (\$millions)	49.2	10.7	12.8	14.8	10.3	97.8
Total (\$millions)	74.3	14.2	16.3	18.4	14.2	137.4
Number Projects Funded	966	203	164	163	173	1,669

* As of March 31, 2005.

Eligible Activities for Funding

The program is primarily set up to support projects that assist sustainable forest management, knowledge and technology transfer, capacity building through work experience, forest protection and fire suppression training and business planning. Typical projects include preparing and updating forest management and operating plans, inventories, silvicultural projects, training and skills development (e.g., GIS and GPS, office administration, forest protection and fire suppression certification, business planning, etc.), preparing business plans and feasibility studies, land use planning and traditional ecological knowledge surveys. The program is quite flexible in terms of the types of initiatives eligible for funding.

Table 2 summarizes the number of projects submitted, considered eligible for financial assistance, and funded by the program for the years 2003/04 and 2004/05. As shown, 77% of the eligible projects were funded in 2003/04 and 82% in 2004/05. A lack of program funding prevented all eligible projects from receiving financial support. Applications submitted for funding, but ineligible, tends to indicate First Nations are applying to any program where funds exist in the hope that their "forestry" proposal fits the eligibility criteria and will be successful in receiving some level financial assistance.

Table 2: Project Approval Rate for 2003/04 and 2004/05*

Year	Number of Proposals Submitted	Number of Eligible Proposals	Number of Proposals Approved	Percentage of Proposals Approved
2003/04	272	214	166	77%
2004/05	318	212	173	82%

*As of March 31, 2005.

Partnerships

An underlying principle of the FNFP is that project applicants are expected to contribute financially towards project costs. They are also encouraged to seek out other partners who are interested in supporting their initiatives. Since the launch of the program, First Nations have been exceedingly resourceful and successful in obtaining funds from a number of different sources such as federal and provincial government agencies, the forest industry, Canada's Model Forest Program, and the forest consulting sector. These partnerships have provided First Nations with additional funding as well as professional and technical expertise that they would not have had otherwise. It has also brought about a more positive working relationship between First Nations and the partners. Table 3 tabulates the amount of funding that First Nations and their partners have contributed to project costs for the period 1996/97 – 2004/05. On average, partner funding represents approximately 70% of total project value.

Table 3: First Nations and Partner Contributions to FNFP Projects, 1996/97 to 2004/05*

Year	First Nations \$ millions		First Nations Partners \$ millions		Total
	Direct	In-Kind	Direct	In-Kind	
1996/97 to 2000/01	24.3	3	18.7	3	49
2001/02	6.3	0.6	3.7	0.2	10.8
2002/03	8.6	1.2	2.6	0.6	13.0
2003/04	7.3	2.3	4.4	0.8	14.8
2004/05	4.2	1.7	3.7	0.6	10.2
Total	50.7	8.8	33.1	5.2	97.8

*Source: First Nations Forestry Program. Canadian Forest Service. Ottawa. As of March 31, 2005.

Creating Economic Opportunities

As indicated previously, the FNFP has supported over 1,650 community projects since 1996/97. As a capacity-building and economic development program, some projects have succeeded in becoming viable business ventures creating both short and long term sustainable employment opportunities; other projects, particularly those related to reserve forest management, are longer term and are creating community capacity in sustainable forest management as well as seasonal and yearly employment for band members. As well, many communities and tribal councils are entering into partnerships and joint venture arrangements with members of the forest industry. The program supports communities and other First Nation organizations in developing these new relationships.

Over the past several years, the program has explored opportunities across the country to include regional initiatives in addition to community level projects. The concept is to engage a number of First Nations communities and organizations, the forest industry, federal and provincial agencies and universities and colleges working together in the creation of larger projects to create long-term sustainable job opportunities in the forest sector.

Following are three short narratives of typical community business projects in the provinces of Alberta and Manitoba. Also, a description is provided for the recent regional initiative underway in the province of New Brunswick where all interested parties are working together to provide better opportunities for Aboriginal peoples in the forest sector. These descriptions are provided to convey a sense of how projects are implemented and the working relationship with different partners. Regardless of where a particular community sits on the

forestry development curve, all projects implemented under the program provide a base to assist First Nations build capacity with the intent of increasing their involvement in the forest sector and being able to better manage their own forest lands.

(i) Piikani Nation develops logging plan for forest-based opportunities

The Piikani Nation is a community of approximately 3,400 people in southern Alberta. The unemployment rate for band members runs high on the reserve.

Commencing in 2004 and working in partnership with the FNFP and Timberline Forest Inventory Consultants, Edmonton, Alberta, the Piikani Nation developed a detailed logging plan and pre-harvest ecological assessment (PHEA) for Reserve #147B, located west of Lethbridge, Alberta. The Nation's goal is to create employment opportunities in forest management and harvesting for its band members. The harvesting operation is tightly aligned to the community's need for housing.

Logging plans detail an annual allowable cut of 5,000 m³ per year over the five-year period 2004-2009. The plan identifies proposed harvest areas, field layouts (marking temporary roads and cutting area boundaries), PHEA for logging planned in years two through five, as well as any partial cuts. Another integrated and critical component of the plan will be the completion of a mountain pine beetle survey and assessment. Financial support from both the FNFP and the Canadian Forest Service's Mountain Pine Beetle Initiative made this aspect of the five-year plan possible for the Piikani Nation.

With INAC's approval and issuance of a timber permit, Piikani began logging operations during the winter of 2004/05 to harvest the 5,000m³. This phase of their logging plan was completed. Partnering with Timberline set the stage for the Nation to work directly with, and learn from, the forest inventory consultant's expertise in controlling the establishment, composition, growth, and quality of forest stands to achieve management plan objectives.

The band is now planning to harvest a second 5,000m³. During the fall and winter of 2004/05, the band was able to employ about 30 workers in forest management and logging, albeit these jobs are seasonal at the present time. The band faces a number of barriers that slows their progress to a year-round sustainable operation. These include access to capital for harvesting and transportation, access to provincial timber resources, and access to programs to train their workers in all aspects of forest management, harvesting, transportation and processing. Community capacity is a problem and a challenge that has to be addressed in the short-term if the band wants to see their plans for long-term sustainable benefits from the forest turn into reality.

(ii) Peguis First Nation in training to become leaders in local forestry sector

The Peguis First Nation is located about 180 km north of Winnipeg, Manitoba in the Interlake region. With a band membership of over 7,000 people, the Peguis Nation is one the largest of the 64 First Nation communities in Manitoba. About 3,000 residents live on the reserve. At a meeting in 2004, Cheryl Bear of the Peguis Development Corporation, explained the thinking of the Peguis leaders in the following way: "Early on, our leaders saw the need to work with industry, all levels of government and other First Nations to create long-term economic opportunities that will benefit our community."

With strong potential for growth in the forest sector, it was important to develop a forestry-training program so that the community would be ready for growth and opportunities. Since 2000, the FNFP has supported the community with financial contributions of over \$80,000 for its strategic planning, conventional and mechanical harvesting training programs. In 2004, the forest harvesting program provided training in historical perspectives, forest harvesting techniques, logging aesthetics and safety, environmental standards, best management practices, and business concepts, along with on-site demonstrations and field work. The program now includes training for a Class 1 truck driver's license. This group of trainees has the specific goal of owning and operating their own trucking business once they complete the program.

Over the past three years, up to 30 band members have participated in the programs. Some 10 participants have found work in trucking, wood harvesting, and various forest management activities. Several found that forestry was not their interest and dropped out of the program. Others continue to take the training courses offered by the band.

Despite the current lack of forestry related opportunities in the region, Peguis Development Corporation continues to provide training programs to upgrade the skills and knowledge of its band work force. It works in partnership with the local forest industry and provincial government agencies aiming towards the objective of creating more stable, year round jobs for members of the community.

(iii) New Brunswick Forestry Initiative

In October, 2003, the federal department of Human Resources and Skills Development Canada (HRSDC) announced a new \$85 million over 5 years Aboriginal Skills and Employment Partnership (ASEP) program to support participation and jobs in major resource development projects.

The FNFP through its investigations of regional opportunities identified potential in New Brunswick to build up a strong partnership between Aboriginal communities and organizations, the Province, the forest industry, and academia in support of increasing participation in the province's forest sector. During the fall and winter of 2003-04, the FNFP was instrumental in providing leadership and with the interested parties developed a \$4 million four-year regional forestry skills training partnership initiative benefiting all 15 First Nations. Partners supporting the initiative included New Brunswick tribal councils, First Nations Human Resources Development Corporation, New Brunswick Aboriginal Peoples Council, New Brunswick Forest Products Association, Government of New Brunswick, Human Resources and Skills Development Canada and the First Nations Forestry Program.

The FNFP committed to contributing \$70,000 per year, with the remaining funding of \$930,000 coming from the partners for a total of \$1 million annual funding. Through this initiative, the partnership expects to create and retain up to 180 sustainable full-time jobs for Aboriginal people in the forest industry and provide forestry employment-related training and training upgrading for 700 workers.

The initiative was launched in September 2004. ASEP Inc. was legally incorporated and has a 10 member Board of Directors and three staff to manage and deliver the initiative.

Communications and Outreach Activities

The FNFP supports a variety of communication and outreach activities. National and regional reporting on annual activities is mandatory and reports are prepared and distributed widely to and non-individuals, organizations, academia, and other groups having an interest in forestry. Studies, conference and workshop proceedings, brochures, and other information on the program are also prepared and distributed.

For outreach activities, the program participates at First Nations events throughout the country to promote the program and to advocate and champion First Nations forestry. Several of the PTMCs produce a bi-annual newsletter for their particular region. The program produces a monthly two-page 'e-bulletin' containing short narratives of selected program projects as well as a listing of upcoming events. The bulletin is e-mailed to a wide audience and has its own website at www.fnfp.gc.ca on which program contacts, project descriptions, program reports and other information can be found.

Performance Indicators and Trends

The program has been successful in assisting First Nations enhance their capacity in forestry related skills and knowledge, thereby providing increased opportunities for employment in on and off-reserve. Many projects workers have gone on and found seasonal or full time work in the forest sector or in other opportunities.

Since 1996, the program has financially supported the preparation and updating of 179 management plans and the preparation of 267 feasibility studies and business plans. Over 400 workshops, classroom training, outdoor technology transfer and training sessions, and conferences were financially supported to upgrade skills and knowledge on a variety of forestry-related subject matter. Annually, hundreds of First Nations workers participate in these program activities. To date over 7,660 First Nations workers from over 460 communities have participated in the program. Table 4 summarizes these performance indicators since 1996/97.

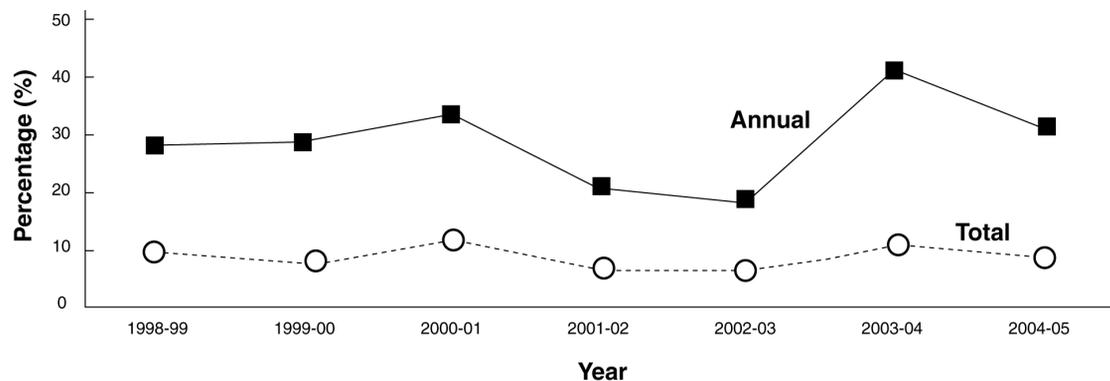
Table 4: Performance Indicators, 1996/97 - 2004/05*

Year	Management Plans	Feasibility Studies	Business Plans	Training Courses, Workshops and Conferences	Number First Nations Workers on Projects	Number of Communities Involved in Projects	Number of New Communities entering Program
1996/97 - 2000/01	84	72	99	216	3,961	672	314
2001/02	20	18	14	78	842	144	31
2002/03	27	16	9	54	941	131	25
2003/04	23	8	14	36	1,439	131	53
2004/05	25	6	11	17	479	119	38
Total	179	120	147	401	7,662		461

*Source: First Nations Forestry Program. Canadian Forest Service. Ottawa. As of March 31, 2005

Figure 1 shows the participation rate of First Nation communities in the program from 1998/99 to 2004/05 (the first 2 years have been omitted to allow for program stabilization). The figure indicates that the turnover rate (new communities entering the program versus experienced communities leaving the program) was relatively stable over the seven year period, with new communities entering the program for any given year representing an average 29% (minimum 19%, maximum 40%) of all communities participating for that year, and an average of 9% (minimum 5%, maximum 11%) of all communities that have participated in the program since its 1996/97 inception. The solid line represents new communities participating in the program as a percentage of all communities participating for a single given year. The dashed line represents new communities participating in the program as a percentage of the total number of communities that have participated in the program since 1996/97 (total number: 461).

Figure 1: Participation Rate of First Nations Communities in the First Nations Program: 1998/99 2004/05.



Source: First Nations Forestry Program. Canadian Forest Service. Ottawa.

Conclusion

For many First Nations, land and natural resources offer a meaningful opportunity for employment and economic development. The federal government is committed to strengthening the economic base and self-sufficiency of communities and the increased participation of First Nations in the forest sector.

Over the past decade, First Nations have become more involved in the forest sector through different kinds of activities, but this participation varies considerably in the different jurisdictions. There are excellent examples across the country exemplifying First Nations involvement in the forest sector such as community-owned logging enterprises, mill ownership and partnerships, forest management operations, consulting services and on-reserve forest management and wood operations. A number of factors, including land claim and treaty land entitlements, court decisions, international obligations, and the desire of First Nations communities to become active players in the sector will lead to increased participation as more First Nations build their capacity, strengthen their efforts to improve community governance structures, and gain easier access to capital.

The FNFP is the federal government's primary forest-based capacity-building program which assists First Nations manage their forest resources on and off-reserve, establish partnerships, and positions them to actively participate in local and regional economic development opportunities. It represents a modest, but important contribution towards achieving these objectives.

Several factors underlie the success of the FNFP. These include the participation of First Nations on the provincial and territorial management committees and the partnerships communities and individuals have developed with government and industry in support of project funding. The business developments and new opportunities that have evolved have vividly demonstrated the importance of these partnership arrangements. The New Brunswick regional forestry initiative represents a concrete example of how a composite of partnerships can work and the multitude of benefits that can be derived directly by individual communities.

Since the program was launched in 1996, a total of \$137.4 million was expended on over 1,650 project initiatives across the country. First Nations and their partners contributed \$97.8 million and federal program funding \$39.6 million.

The FNFP is viewed as more than just a program; it is a concept and a process that ushers in a new relationship between First Nations, government and the private sector. Through their involvement in the program, First Nations have clearly demonstrated their commitment to working within the program parameters to help achieve individual First Nation community aspirations in forest-based activities with full integration of their traditional, cultural and spiritual values. The FNFP will continue to act as a key advocate for First Nations forestry, building awareness around challenges, opportunities and best practices.

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LOCAL INSTITUTIONS AND INDIGENOUS FOREST MANAGEMENT PRACTICES IN THE INDIAN HIMALAYAS: A CASE FOR LINKING TRADITIONS WITH TECHNOLOGY

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Abstract

Sustainable forest management of pristine forest resources of the ecologically sensitive Himalayas contributes significantly towards ecological stability and the economic development of the area. Examples of traditional systems of management by indigenous local institutions of commercially important forest products yielding edible pine nuts, cumin, morels, medicinal plants, grasses, and willow coppice management are discussed. Local institutions play an active role in regulated collection and distribution of these forest products. Traditional initiatives and systems in the participatory and regulated forest products by indigenous communities have implications for policy support and sustainable livelihoods through income generating activities, due to increased pressure on forest resources. All these necessitate strengthening of management practices such as collection, storage and processing of superior propagules, establishment of high quality nurseries, improved plantation technology and value adding of produce through modern post-harvest handling techniques, and above all the sensitization of forest dwelling communities in protection and conservational efforts. The analysis of indigenous systems of management through local institutions reveals a strong positive relationship between social capital and natural resource management at grass root levels. The importance of indigenous technological knowledge in the socio-economy of the mountain people and the need to link it with improved technology and practices is highlighted.

Introduction

Sustainable management of the rich forest resources of ecologically sensitive Himalayan State- Himachal Pradesh contributes significantly towards ecological stability and economic development of the state, region and the country. The conservation and management of its forest resources have been possible with the active participation of local people. There are numerous successful 'traditionally in vogue' cases of people's active participation in forest resources management especially in the regulated collection and distribution of forest products in the inner Himalayas of Himachal Pradesh. Some successfully functioning cases are very old and the locals who remained active participants in their evolution and functioning do not know the period when these were initiated and matured to the present status. Such cases are widespread in which committees of local deities, with nominated and / or elected members plan and organize their functioning without written procedures. Participatory approaches vary from case to case but people have great faith in the decision-making and conflict resolution of these committees, which are neither political nor administrative bodies (Dhiman, 2001). This paper presents six case studies of the 'traditionally in vogue' participatory approaches in forest resources management and their regulated use, from Kinnaur, Lahaul & Spiti and Chamba districts constituting Himachal inner Himalayas.

The Study Area

The high mountain region within the trans-Himalayan zone, in the state of Himachal Pradesh, covers the districts of Kinnaur, Lahaul & Spiti and Pangi subdivision of Chamba with altitudes ranging from more than 2000 to 4000 meters above mean sea level and very steep, rugged and difficult mountain terrain. These areas are also known as the cold arid zone, with high hills, which is temperate and dry. It accounts for more than 30% of the geographical area of the state. The total annual precipitation is less than 1000 millimeters. The winters are severe and receive precipitation in the form of snow. The temperature is low for most of the year and drops significantly below zero in the winter. The region is under snow for about six months of the year, restricting farmland use and production mix. This zone is divided into a sub-alpine zone and an alpine zone on the basis of altitude and type of vegetation. The sub-alpine zone lies at an altitude of 3000 to 3500 metres above mean sea level. The alpine zone lies over 3500 metres above mean sea level and comprises the Himachal inner Himalayas.

The area under pasture is 80%, this being the main land use, with cultivated and forested areas covering 3% and 7% respectively. Tribal communities inhabit the area. Population density is low (5.6 persons per kilometre²) but the pressure on the 3% percent of arable land is high as human and livestock population is concentrated in a limited area (Bhati *et al.* 1992). Therefore, there are adverse conditions for livelihood and only one crop is possible each year. The dependence of people on forest recourses is therefore very high. The intensity of grazing is high during summer due to transhumance grazing by sheep and goats, which graze mainly on alpine pasture.

Himalayan moist temperate forests (sub-alpine and alpine) are the major forest types comprising Himalayan Cedar (Deodar), Fir, Spruce, Blue Pine, Chilgoza Pine, Birch, Juniper, Cypress, Willow, Poplar, Walnut as the main tree species. *Festuca*, *Dactylus*, *Agropyron*, *Bromus* are the main grass species. Dhup (*Jurinea macrocephala*), Karroo (*Piccorhiza karroo*), Kuth (*Saussurea lappa*) etc. are important medicinal plants. Kernels of chilgoza pine or neoza (*Pinus gerardiana*) constitute a popular dry fruit, traded in international markets. Chilgoza pine is a medium sized tree, growing naturally at an elevation of 1800 to 3000 metres in the dry temperate forests in the Indian Himalayas. Production of seed varies from year to year with good seed production cycles occurring every fifth year. Morels or black mushroom of genus *Morchella* and black cumin are of considerable commercial importance and are the main products of international trades occurring in Kinnaur and Pangi region and its collection is a source of livelihood to communities (Gupta, 1999).

Materials and Methods

The case study approach was adopted for the purposively selected villages from the study area. Most of the background information including description of the study area was obtained from secondary documents such as settlement reports and districts' gazetteers. The information from six villages was collected from forest functionaries and local people through interviews and observations and presented as case studies. The case studies are as follows:

1. Edible Pine nuts, black cumin and grass management and collection in Kanam forests (Kinnaur)
2. Extraction of the morels, medicinal plants and grasses in Nathpa forests (Kinnaur)
3. Extraction of the edible pine nuts, black cumin and grass in Neshang forests (Kinnaur)
4. Edible pine nuts and cumin seed collection in Akpa forests (Kinnaur)
5. Edible pine nuts and grass collection in Luj and Dharwas forests of Pangi (Chamba)
6. Willow coppice management and use in Lossar village (Spiti)

Results and Discussion

1. Edible Pine nuts, black cumin and grass management and collection in Kanam Forests

Kanam village is located 8 kilometres from Spiti on 42nd National Highway in Pooch subdivision at 2800 metres altitude. It has a population of 1030 people within 173 households. The village is in the cold arid region of the inner Himalayas where the vegetation is sparse and the people's dependence on natural forests is very high. Villagers have recorded rights on natural forests and use these forests for obtaining timber for house construction and repair under a timber distribution system. They also collect firewood, fodder and grass, edible nuts, medicinal herbs etc. to sustain their life and for economic upliftment through sale of some of these products. The main products of socio-economic importance obtained from the forests are edible pine nuts, black cumin seed and grass. Villagers have organized themselves through local deity institutions for protection, collective extraction and management of these products.

The institution of the local village God

The village gods control effectively, the social and religious system in a settlement. The institution of village gods is the major custodian of the activities in a village society and the village god is the symbol of village culture. He guides even marriages and deaths and even directs the followers to allow or disallow a new visitor to the village. With this cultural phenomenon in the background, the village society has grown like a family in perfect harmony (Sharma, 2005). The inhabitants have a great faith and respect and are under the strong influence of local deity institutions. The deity affairs are managed by three village persons (locally called *mathas*) nominated by inheritance to look after property of a temple, orchard and a bank account. The *mohatmim* (there may be more than one) is the chief of the management committee and in the capacity of the *shu Mathas* petitions the deity on behalf of the inhabitants. A man locally known as a *mate* appointed on payment of about Rupees 150 per month by the temple committee, informs the villagers about the meetings and other social activities undertaken in the village. He is assisted by other functionaries like the *pujaris* (priest) who performs the regular prayers, the *khazanchi* (treasurer), *kaithas* (accountant) and *bhandari* (storekeeper). The *gokch / gur* (oracle) is only the voice of the deota. Most of these offices are hereditary, conferred on the heads of eminent families. Offerings, of both cash and kind, are used to meet the expenses of everyday rituals and the special occasions when the deotas play host to their followers. Surpluses were traditionally given out as loans to devotees, to assist them in times of need. These days, cash may even be deposited in banks but the bulk of the gold and silver ornaments, coins and weapons are stored in chests kept in the temples. Most of the village affairs and disputes are settled in the meeting organized in the temple premises.

Chilgoza occur in compartment number 211 of Kanam forest for which only the local inhabitants have recorded rights over the produce. Chilgoza cones mature in the month of October. A meeting of the villagers to decide the collection of its cones is held by the deity nominees during October when the villagers feel that chilgoza cones are ready for plucking. The villagers assemble at a specified time, date and place, mostly in the premises of the temple. A senior deity nominee initiates meeting proceedings and the villagers collectively decide the system of collection and distribution. Generally one male and one female from each family are nominated for collection on the specified date. Teams of one male and one female (mostly of the same family) spread out in the forests and the male member climbs the tree and plucks the cones while the female member gathers the dropped cones. The trees contain three kinds of cones viz., old opened cones from last year's crop, freshly matured cones which contain ripe neoza nuts and the small immature cones which will mature in the following year. Only cones with ripe nuts are harvested. Collection starts in the morning and lasts until 4 pm when every party brings the collected cones to one place and the collections are entered in the record maintained by a person at the collection site.

In good seed years, a team collects about two gunny bags containing about 150 cones of 80 kilogram sugar capacity. The entire day's collection is heaped at a designated place and then distributed equally among all the collected partners by locally employed distributors. Distributors get about 50 additional cones for performing

this job. On the second day, people also spread out in the forests to collect cones which are heaped near the collection site and distributed in the evening. The collection in the area lasts for 4 days. In some cases some families forego their share, as they do not participate in the collection while in some others they engage paid labour to ensure their share of the collected produce.

On completion of the collection, some cones still remain on the more inaccessible branches and trees. The village then organizes an auction for collection of the remaining cones. Villagers generally do it for amounts ranging from Rupees 5000 to 10000 depending on the rough estimation of the leftover cones. The amount so realized goes into the deity account. 1999 was a poor seed year and the village decided to auction the standing crop. A man from the neighboring village took the auction for Rupees 1 lakh¹³ and harvested the entire crop. Each village family thus earned about Rupees 750. The contractor did not breach the conditions laid down during the auction and villagers were said to be happy with his performance as he complied fully with the conditions for removing the old cones. It is believed that the branches bearing old open cones do not bear enough fresh cones and thus leads to poor fruiting next year.

The second important forest produce of high economic value is black cumin (*Carum carvi*) seed. It occurs in about 250 hectares forest area and people collect it free of cost as per their recorded rights. It is collected during August / September. The mode of collection is decided the same way as that of chilgoza pine. Generally one person from each family is asked to collect on the specified date and collects the herbs and maintains a separate collection. On completion of the process, the individual carries away the day's collection. Collected herbs are then sun-dried and beaten for seed extraction. The extracted seed is then cleaned and stored for sale in the market. Each family collects about 5 kilogram seed / year and its value in the market is about Rupees 500 per kilogram.

An important product extracted from the forests is grass as fodder for domestic animals. It occurs in the forests surrounding the village. Villagers do not allow grazing in areas protected for grass cutting. Animal grazing is allowed at high altitude pastures commonly called Kandas located at a considerable distance from the village. In the adjoining areas, grazing is strictly prohibited and the committee appoints a watcher on a rotation basis for this purpose. Grass cutting is done in September before the onset of winter and the grass is used for feeding animals during the ensuing winter. Each family gets about 1 quintal (3 head loads of 30-35 kilogram having 120 hand bundles) of grass with a market value of about Rupees 1400 per quintal. A family who deliberately indulged in grazing will be fined Rupees 1000 and the amount is credited in the deity account.

2. Extraction of the morels, medicinal plants and grass in Nathpa Forests (Kinnaur)

Nathpa village is situated about 5 kilometers from the 42nd National Highway in Nichar at 2000 metres altitude and has 169 households comprising 589 people. The main occupations of the villagers are sheep rearing, agriculture and collection of guchhi (*Morchella esculenta*) and medicinal plants for sale.

The villagers are god-fearing and are under the strong influence of the local deity- 'Naag Deota' the serpent God. There is a five-member committee of the deity that includes Mathas (head), Pujari (priest), Mali (oracle), Mate (supervisor) and a Khajanchi (cashier). Membership of first three of these positions is inherited whereas the other two are selected. The villagers take every major decision on social activities and common resource use collectively and the decision of the Deity Committee is final and binding on all. The committee organizes meetings of the villagers in advance of any activity in which all families participate and approve the decision of the committee.

Villagers collectively maintain around 8000 sheep and goats and send them for grazing on high land pastures known locally as Kandas during May to September. During winters families with smaller number of animals maintain them in their respective households whereas those with big herds migrate to lower altitudes for grazing. Families having over 25 animals attend them in rotation during summer grazing at higher reaches, whereas those with smaller numbers pay Rupees 10 per animal to others for grazing their animals. The deity

13 A lakh is a unit in the Indian numbering system = 100,000 units

committee decides the rotation of grazing. The grass area in the forests is permanently divided among the families and the committee fines anybody grazing animals in areas reserved for cutting and the fine goes to the family whose share of grass has been grazed. A meeting of the villagers is held after the monsoon when date and time of grass cutting is decided and grass cutting is started on decided dates.

The Morels (*Morchella esculenta*) locally called Guchhi is a nutritious wild mushroom collected from the forests during May. Villagers hold a meeting before proceeding to collect the morels and decide the number of persons to be involved per family in collection and for taking protection measures for preventing fires in the forest during the collection period. Each family collects Guchhi of values between Rupees 1000 - 2500 in each season.

The villagers from the forests extract two medicinal plants called Dhup and Karu. An auction notice is issued and on a specified date, the selling of the medicinal plants is conveyed to a contractor. Villagers themselves collect the medicinal plants and sell them to the contractor at pre-decided rates. Outside people are not allowed to collect medicinal plants held as common property resource. The entire amount earned out of sale of medicinal plants is divided into three equal parts out of which two parts are distributed equally among the villagers and one part is deposited with the deity. Each family earns around Rupees 7000-10000 each year. The areas are closed for 3 years and thereafter collection is made for 5 years to allow the stock of medicinal plants in the forests to regenerate.

3. Extraction of the edible pine nuts, cumin seed and grass in Neshang forests (Kinnaur)

Neshang village is situated 9 kilometers from the 42nd National highway in Morang tehsil of Kinnaur district at 3200 metres altitude. It has 354 people divided into 91 households. The main forest products used by the villagers are timber, fodder, medicinal plants, edible pine nut and black cumin seed. The last two products have considerable economic importance to the villagers.

The village has a committee of 3 persons; each one is selected from three groups locally called Tomangs viz., Rangthang Tomang, Lakhang Tomang and Shupho Tomang. These are honorary members and do not get any salary or financial benefits from the village. This committee decides major social activities and collective resource use in the village and its surrounding forests.

The village committee maintains an account for which a cashier and secretary are employed from amongst the villagers and each of them gets Rupees 100 per year as remuneration from the village account. Villagers protect surrounding chilgoza pine, deodar (Himalayan cedar) and kail (Blue pine) forests and no-one is allowed to fell the green trees. The committee fines people felling green trees without permission and the amount is deposited in the village account. Fines for felling kail trees are higher as they are located in glacier-prone areas where felling of trees may increase damage caused by glaciers.

Villagers collect chilgoza cones during October-November in Taloka, Prikirik and Huringpara forests. A committee decides in advance the dates and number of persons per family to be engaged in collection of pine cones. The entire neoza forest is divided into three parts and each group is allowed to collect cones from their allotted area. These areas are rotated among groups each year. On a designated day, generally a male and a female from each family spread out in the area. The male member climbs the tree and plucks the cones and the female member collects them in the evening. All parties of a Tomang bring cones to a common place, heap them and distribute equally them among the families.

Like neoza forests, the grass cutting area is also divided into three parts and each year a new area is rotated to each Tomang. Each Tomang sends two persons to protect the grasses from grazing. Passage to the animals through the protected areas is given as per the committee's collective decision. Fines are imposed for illegally grazing animals in protected areas and are deposited in the village fund.

During August- September the villagers collect black cumin plants for its seeds from un-demarcated protected (UPF) forests called Taloka. On a pre- decided day, one member from each family collects the plants for and extracts seeds from them. Each family collects about 4 kilograms.

4. Edible Pine nuts and black cumin seed collection in Akpa forests (Kinnaur)

Akpa village is situated on the 42nd National Highway near Khadra Dhank in Morang tehsil at 2400 metres altitude. It has a population of 540 people divided amongst 145 households.

Villagers collectively gather edible pine nuts and cumin seed from surrounding forests as per the instructions of the deity committee headed by the man locally called 'charas'. The villagers collect these two products from Demarcated Protected Forests (DPF) stretched over 2-3 kilometers divided into small blocks equivalent to the number of families. A block is allotted to each family by drawing lots for 5 years. The earlier allotment was completed in 1999 and the area was redistributed in the year 2000. Villagers collect cones on the designated date from the allotted blocks. Each family gets around 15-40 kilograms of edible nuts each year. Some parts on the forest fringes have less chilgoza pine trees and edible pine nut yield. These areas are excluded from harvesting and are auctioned each year to any one person from the same village. Money obtained from the auction is deposited in the deity account. About 50-60 kilograms of nuts are available annually to the contractor from these auctions. During the nineties, there were conflicts with adjoining villagers on the collection of cones from some forests. The matter has been referred to the judicial court and is still pending in the case of Akpa village.

Cumin herbs are collected on the specified date decided by the deity committee by employing one person from each family. Each person collects herbs on a specified day and extracts the seed for himself. Each family gets around 5-6 kilogram seeds every year.

5. Edible Pine nuts and grass collection in Luj and Dharwas forests of Pangri (Chamba)

Luj and Dharwas villages are in the Killar Forest Division of Pangri Forest Division of Chamba district at an altitude of 2880 metres and 2440 metres respectively. Luj village has a population of 608 people divided among 117 households and Dharwas village has a population of 703 people divided in 125 households. The villagers have a similar tradition of participation as is in Kinnaur district for collection of edible pine nuts. A village committee commonly called 'praza' organizes the major social activities and those related to collective resource use.

Chilgoza pine forests occur over 40-50 hectares around these villages and their cones are collected during October. Praza organizes a meeting of the villagers under the chairmanship of 'pradhan' (village headman) and decides the dates and procedure for collection and distribution of cones. At least one member of each family attends the meeting. Generally two members per family are sent out for cone collection on the designated date. Cone collection starts on the designated date and lasts until all cones are collected. These cones are brought to a common place decided in the meeting and are distributed equally to participating families.

For grass collection from government forests, a different system is practised in the village. Grass is protected from grazing collectively by the villagers through instructions issued by the praza. A date is decided for cutting the grass in a meeting of the praza. On the designated date one person from each family goes to the forest early in the morning and earmarks the area having good grass growth which can be cut within that day. If an area cannot be completely cut on that day, the praza fines him. Villagers under this system are supposed to cut grass over the entire area earmarked in the morning but can carry home cut grass on following days.

6. Willow coppice management and use in Lossar village (Spiti)

Village Lossar situated at 4079 metres altitude is 68 kilometers from Kaza-Kullu State Highway and is the last village on this route, near the timber line. It has a population of 227 people divided in 53 households. Wild willow (*Salix fragillis*) is an arboreal shrub that occurs naturally on river and streambeds at high altitudes where no other woody species generally occur. Coppice shoots of the species are harvested and are extensively used as small timber, firewood, fodder, etc. by local people. The demand for its sets (1 metre long branch parts) has increased since 1980s for their use in making new plantations by the 'Desert Development Project', Forest

Department and other organizations. These sets are also used to support the mud-roofed houses locally made in the area.

Management of the willow forests and harvest of coppice shoots is done by a 3-member committee headed by a 'nambardar' (village head man) and two other members of the village who are selected from each house by rotation. The willows are managed under a coppice system in which coppice shoots are harvested in alternate years. The area is divided for harvesting and each year a different area is selected. All willow shoots are harvested from stumps during April by employing one or two members from each family. The harvested shoots are made into 1-metre sets, which are sold to different agencies for field planting. The lops and tops of these branches are equally distributed among the villagers for use as firewood; about 10000 sets are sold for about Rupees 30000 annually in Lossar village.

Besides the willow sets, villagers also work collectively in making plantations, irrigating them in their "watch and ward". The committee decides the number of persons to be engaged from each family for planting, irrigation, making stonewall fencing and other activities. Persons for "watch and ward" work are selected by drawing lots. Each family gets a job for 3-4 months in "watch and ward" in existing plantations. The total amount of sale of willow shoots and plantation work is received through 'nambardar' and is equally distributed among the village families. Each family gets around Rupees 10000-15000 every year from these activities.

If any member violates the instructions of the committee, he/she is fined with having to consume or donate a bottle or two of locally brewed alcohol. Offenders are asked to take an oath in front of the committee of not having done that violation. It is believed in the area that taking a wrong oath results in some bad omen.

Besides these forestry operations, the villagers also conduct all other agricultural operations jointly through co-operative labour. Repair of traditionally and newly made water channels is collectively done by the villagers and is an important activity, as all agricultural and plantation activities in the village are only possible because of irrigation. Grass cutting, sowing and harvesting of agricultural crops in the entire village is governed by the time schedule given by the committee. Violators are fined in terms of local alcohol that is consumed collectively by the villagers during social gatherings.

Implications for participatory forest management and sustainable livelihoods: a discussion

In the trans-Himalayan zone of Himachal Pradesh, the inhabitants have recorded rights on forest use through legal forest settlements. However local tribes inhabiting the area are conservative and use collective participatory approaches (as described in case studies) in their management and use of forests and pastures on which their very survival and existence is dependant. Hence, people protect resources used by them. The control is exercised through their local institutions, for example, local deity committees for conflict resolution generally by consensus and fines. The interdependence amongst people is very high. There is a strong commercial activity involved as edible nuts, cumin seeds, morels and medicinal plants found in the area are highly valued and source of cash income. It demonstrates the sound forest-good livelihood linkages in HP (Morrison 2001).

These case studies of 'traditionally in vogue' participatory approaches in forest resource management and regulated use of their products are deeply embedded in local deity system as discussed. The different approaches to distribution of forest products by committees for collective collection is followed by equitable distribution; permanent distribution by area; number of trees by rotation meaning unclear, direct auction to contractors and equitable distribution of produce by members of the group as highlighted in the six case studies. Therefore, the conflicts between individual families' castes and groups in level of participation in different operations and in distribution of forest products are minimal in comparison to those found in government introduced joint forest management (JFM) programmes. These systems have undergone time testing for several decades and indicate villagers' increased dependence on natural resources for sustenance on these land-locked valleys of inner Himalayas.

These traditional systems are very appropriate community institutions under which rights are consistent with

the capacity of forests to yield income and livelihoods that can be sustained, thus leading to sustainable forest management. These forest product use systems demonstrate combination of private, state and common property use and management regimes. The harsh climatic and living conditions of the inner Himalayas has helped to strengthen social capital by minimizing sources of conflict and has also strengthened equity consideration amongst the communities. The local institutions have ensured that they have a basic level of institutional and financial sustainability. Mutual trust and cooperation amongst the members of communities is a significant factor explaining the performance of local institutions. The internal norms, role clarity, equity in benefits flow, livelihood impacts and ability to resolve conflicts, lead to strong social capital formation in these communities and have a positive impact on forest management.

However, modernization and market forces, development projects, shift in belief systems and increased tourism are posing threats. Since independence, forest resources have come under increasing pressure due to increased population, local needs, changing policies and the need for modernization in a rapidly developing state. Improved infrastructure and communication have further intensified the pressure through commercialization and economic diversification, including a rapidly expanding tourism industry. The splitting of joint families, partition and allotment of land and recent increases in prosperity have caused additional direct pressures on forest resources and have undermined traditional local responsibilities towards forest resources (Morrison, 2001).

The conservation of forests in the Himalayas is in line with the current national forest policy with its focus on environmental conservation and the meeting of subsistence needs for forest dependent communities. The case studies demonstrate that forest and tree resources contribute to livelihood outcomes of the inhabitants through increased income (large number of inhabitants generate a proportion of their income from the forests). Improved well-being has reduced vulnerability and resulted in a more sustainable use of the natural resource base (Arnold 1998). However, it needs to be strengthened through modern nurseries to support plantation efforts where natural regeneration is not occurring and supplemented through value adding of harvested produce.

New joint forest management programmes initiated in Himachal Pradesh and other states have shortcomings due to two large committees, which under-represent communities. There is an over-reliance on forest guards as animators and secretaries of committees. The committees are single-issue bodies with weak links to other community institutions. Micro-plans are too long and complex, focused mainly on enclosure and replanting with no consideration of livelihood consequences for the poorest (Gupta 1999). The traditional participatory approaches and local institution in Himalayas based on sustainable livelihood principles hold promise for sustainable forest management. The decentralized system seems decidedly to be more effective at building partnership than a centralized system (Morrison 2001).

It is significant to note that these traditional participatory and institutionalized approaches to managing common property resources such as the adjoining forests have clear implications for promoting the quality of the life of concerned communities. These approaches have an in-built system for ensuring income and employment for local people. The system is highly equitable and participatory and ensures conflict resolution without monetary cost or interpersonal rancor to the people and families of these tribal communities. It provides a simple yet very effective method for preserving environmental assets like the forests. These approaches clearly provide a system of perfect balance between exploitation of natural resources and their preservation and help in avoiding the conflict that arises elsewhere in India between tribal communities and the government when the latter tries to undertake development work on land inhabited by the former.

Thus, the traditional participatory approaches to forest management discussed above, have clear implications for the quality of life through improved livelihood opportunities while maintaining or even increasing existing social capital of the concerned tribal communities. This system of forest management ensures income and employment to the local people on an equitable basis. It helps to harmonize exploitation of these common property resources with their preservation and provides a democratic mechanism for conflict resolution. At the same time the system also perfectly jells with the religious beliefs and practices of the communities through their deity committees. These traditional approaches need to be replicated elsewhere because this method

of empowering local communities to manage their common property resources can promote sustainable livelihoods on a much wider scale.

Conclusion

These case studies of 'traditionally in vogue' participatory approaches in forest resource management and regulated use of their products have deep roots in deota (local deity) system prevalent in these and other areas of the state. The most distinctive features of the Himalayan regions are the hill deity as the centre of all religious social and culture activities. The population of the trans-Himalayan region had begun to lead a settled social existence marked by the organization of the village republics governance being in the hands of those who spoke on behalf of and executed the commands of the local deota (deity) (Sanan and Swadi 2002). The deota have evolved out of the religious practices and beliefs of the various social strains, which made their way to these areas. The local deotas are not remote beings, represented by idols in village temples for those seeking spiritual solace. They are more like the Greek or Roman immortals, possessing all the emotions and feelings of mortal men. In this system, conflicts between individuals, families, castes and groups in the level of participation in different operations and in distribution of forests products are the minimal in comparison to those found under joint forest management programmes. The system has undergone time testing for several decades and indicates the villagers' increased dependence on natural recourses for sustenance in these land-locked valleys of the inner Himalayas. New joint forest management programmes initiated in this and other states strongly underline the need for developing areas to produce sustenance-based products for the community. The cases presented here have a strong base of commercial activity through sale of edible pine nuts, cumin seed, medicinal plants etc. while still ensuring participation of local people in protection and management of adjoining forest resources.

The policy of Joint Forest Management (village level institutions for formulation of forest use and management rules) introduced by the government has created institutions of village development committees that should now be assessed vis-à-vis these 'traditionally in vogue' participatory approaches in the Himachal Himalayas for sustainable forest management. The latter have great merit for promoting equitable distribution of the produce from neighboring forests. The democratic and decentralized management by small village communities themselves, and their having evolved over a long period of time is a satisfactory system of exploitation as well as preservation of this common property resource in perfect harmony with each other. However, these efforts need to be supplemented by supporting communities with modern nurseries, available technology for plantations and post-harvest technologies for value adding of products so as to increase income and livelihoods earning opportunities.

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INDIGENOUS PEOPLES AND FORESTRY IN CANADA: WHAT DOES "ABORIGINAL FORESTRY" REALLY MEAN?

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Abstract

The last thirty years have seen Canadian First Nations seeking an increasingly significant role in the management of the country's forests. The wide diversity of Canadian experiences highlights several important issues that need to be addressed by forest planners, governments, and indigenous peoples themselves. Existing forest management systems have developed reflecting the interests of governments and of the timber industry, and so participation in these systems poses many difficulties for First Nations. Aboriginal rights are formally acknowledged in treaties, in the Canadian Constitution, and in a series of legal judgements, but implementing these rights in forestry planning and harvesting has been slow. Business partnerships and other arrangements provide First Nations with new opportunities to share in economic development and in financial returns, but may also conflict with traditional values, knowledge, and uses of forestlands. In response to these dilemmas, First Nations, foresters, policy makers, and others are developing new approaches to improving participation and to making forest management more responsive to indigenous understandings of the forest and of forestry. These issues help us to consider what "aboriginal forestry" could mean, and whether or not it is achievable.

Introduction

Forests cover nearly half of Canada's surface area and are one of the most important sectors of the national economy. They are also of great importance for Canada's 600 First Nations¹⁴, with 80 % of communities being located in commercially productive forest areas (Curran and M'Gonigle, 1999). After long being ignored, the last thirty years have seen First Nations assume a much greater role in forestry, in resource utilisation and in Canadian society more generally. Legal judgements and protest actions by First Nations have led to changes in government policy and in forest management procedures. First Nations have also collaborated with the forest industry, seeking to share in economic benefits, and there are now hundreds of Aboriginal businesses involved in forestry and in resource industries. This increasing participation of First Nations in forestry has led to a new term, "Aboriginal forestry", gaining in popularity (Parsons and Prest, 2003; FNFP, 2004).

However, developing a First Nations' role in forestry not been straightforward; there have been numerous conflicts and misunderstandings alongside the successes and advances. Protests, legal challenges and blockades of logging roads continue. New planning processes, aimed at preventing conflicts, impose additional costs on forest industries. If "aboriginal forestry" is to be attained, then it is important that practitioners and policymakers understand the meaning of the term, and some of the factors that contribute to its realisation. This paper will provide a broad review of Canadian experience of First Nations participation in forestry over the last thirty years. These experiences are based on the existing Canadian forest management system. But they are also based on the expanding recognition of aboriginal rights concerning Canadian forests. From these two bases, First Nations are seeking participation in both the economic benefits of the forest industry and in management activities in forest landscapes. Successes and failures in these efforts demonstrate the importance of differing cultures, values and forestry paradigms. A deeper understanding of these issues enables us to consider what "Aboriginal forestry" really is and how it could be achieved.

¹⁴ The term "First Nations" is used to describe the largest of the three groups of Aboriginal peoples in Canada, otherwise known as "Indians" or "Amerindians". The other groups are the Inuit and the Métis.

Forest management systems in Canada

Aboriginal forestry is not just about forests. It is about forest management systems; the ways that governments and other parties control, manage and use forest resources. Although the specific rules for forestry vary among the Canadian provinces, most forestry occurs on publicly owned land (often potentially subject to aboriginal title) where private enterprises manage and log forests under government licences and regulations. These licences provide industry access to timber resources in exchange for controls on logging operations and specified responsibilities for forest management (Burton *et al.*, 2003). Management of the forests for timber production is characterized by rational scientific planning coupled with economic analysis of the costs and returns of such management. Those provinces that encourage First Nation participation in forest industries usually do so by facilitating access to particular types of forestry licences (NAFA/IOG, 2000; Wilson and Graham, 2005). However, such licences may have the effect of binding First Nations to a forest management system that does not respond to their interests. Willems-Braun (1997) argues that this approach to forestry is, in itself, a factor that acts against First Nations obtaining a major role in the forest management system.

There have been many changes in forest management practices across Canada. Uncontrolled exploitation was replaced by a highly professional forestry industry, which is now being opened to wider ecological and social concerns. Sustained yield of timber is being replaced as a guiding principle by sustainable forestry and ecosystem management (Burton *et al.*, 2003). The forest is being understood as an integrated system; an approach that may be more compatible with First Nations' views (Curran and M'Gonigle, 1999). However, these approaches can also be interpreted as concentrating on biological rather than social factors (Adamowicz *et al.*, 1998), which may act against First Nations' interests. Forest management is not limited to forestry principles and practices, but also concerns regulations, institutions and decision-making. Changes to Canada's forest management system to accommodate First Nations will need to acknowledge both the complexity of forest ecosystems and the role of humans within these systems.

Aboriginal rights

Aboriginal rights and aboriginal title have their origins in the occupation of North America by First Nations before the arrival of European traders and settlers. Aboriginal rights are often perceived as being unclear and in need of definition, but Asch and Zlotkin (1997) describe them as including not just the right to use land, but also the rights to self-government, to language, to culture and indeed to identity. The legal definition of these rights has also been proceeding in the Canadian court system over the last thirty years, especially in relation to aboriginal title. The Calder decision in 1973 acknowledged the existence of aboriginal title; the Sparrow case in 1990 strengthened the recognition of aboriginal rights by specifying conditions under which governments could regulate or limit these; and in 1997 the Haida Nation case established that aboriginal title (if proven to exist) would limit the government's ability to impose forest management rules (Notzke, 1995; House, 1998). More recently, the 1997 Delgamuukw judgement concluded that First Nations may use oral history to prove their claims and that aboriginal title gives the right to use the land for a variety of activities, not just for "traditional" or "subsistence" purposes (House, 1998; Curran and M'Gonigle, 1999). Given this process of continuing definition, Canadian federal government policy has been to replace undefined aboriginal rights with rights and benefits specified in a negotiated agreement (Asch and Zlotkin, 1997).

The effects of this evolving understanding of aboriginal rights can be seen in the examples of the Cree of northern Québec and the Nisga'a in British Columbia. For the Cree, the James Bay and Northern Quebec Agreement (JBNQA) (Figure 1) of 1976 aimed to extinguish aboriginal title (except on particular areas) and to replace this with a series of specific rights and the establishment of a co-management regime. However, the JBNQA did not specifically address forestry and Cree opposition to forestry grew as logging expanded during the 1990s. Feit and Beaulieu (2001) concluded that government and industry consultation of the Cree was mainly aimed at legitimizing existing practices. Finally a new agreement in 2002 resolved a number of forestry and hydro-electric issues, but did not modify positions on aboriginal title. Similarly, the Nisga'a in central British Columbia have contested forestry practices on their traditional lands since the late 1970s before finally arriving at a settlement with the federal and provincial governments in 1998. This settlement gives them

control of nearly 2000 square kilometres of their traditional territory, provides for self-government and enables the Nisga'a to establish their own forestry management rules and activities (Ross and Smith, 2002). However, some observers believe that the agreement is too limiting of aboriginal title and that the Nisga'a will have little opportunity to establish their own approach to forest management (Curran and M'Gonigle, 1999; Rynard, 2000).

The continuing legal definition of aboriginal rights is showing that the Canadian forest management system can evolve to provide a greater role for First Nations. However, this lengthy process has been slow to provide First Nations with either a share of the economic benefits of forestry or a degree of control over forest management. Aboriginal rights and title are important for First Nations participation in forestry, but they alone will not suffice.

Economic participation

The difficulty of obtaining a role in forestry and forest management, coupled with needs for economic development, have lead many First Nations to seek economic participation in the forest industry. In 2002, there were at least 1 500 aboriginal firms involved in forestry across Canada and the numbers of firms, workers and partnerships will almost certainly continue to increase (Wilson and Graham, 2005). The simplest and most common arrangement is the establishment of forest services companies to undertake contracts for larger companies (NAFA/IOG, 2000). Such arrangements enable the First Nations to develop technical and management skills and to establish links with larger forestry enterprises. However, they provide few opportunities for First Nations to participate in decision making about the forest or to implement activities in ways that differ from the industry or government norms specified in the contract (Curran and M'Gonigle, 1999; Wyatt, 2004).

A smaller number of First Nations are involved in joint ventures or other arrangements for construction of a timber mill or for forest planning and management. Such partnerships give First Nations a greater degree of control over activities, recognised rights to forests, and access to skills and resources of their partner. For the industry, benefits can include better links with First Nations, improving a corporate image or complying with government requirements (Anderson, 1997). There are a number of partnership success stories, but there are also many barriers to increased aboriginal participation in the forest industry. These include market conditions, regulatory frameworks and a lack of capacity among both First Nations and industries (Wilson and Graham, 2005). Furthermore, most partnerships are based on forestry permits or licences issued by government and so First Nations are still limited in the way that they can control management of forests and lands.. This can lead to conflicts between business and social objectives (Treseder and Krogman, 1999), especially if partnerships are based on western business models with little reference to the interests of First Nations communities. Economic partnerships need to be flexible and adaptable to reflect the needs of First Nations and to provide control over both the resources and the institutions (Scott, 2001).

Participation in forest management

Many First Nations are seeking greater control over the resources on their traditional lands and aboriginal rights and economic participation offer possibilities to obtain this. However, real achievements in changing forestry practices have been few and many First Nations are now investigating options for direct participation in forest management.

Participation & consultation

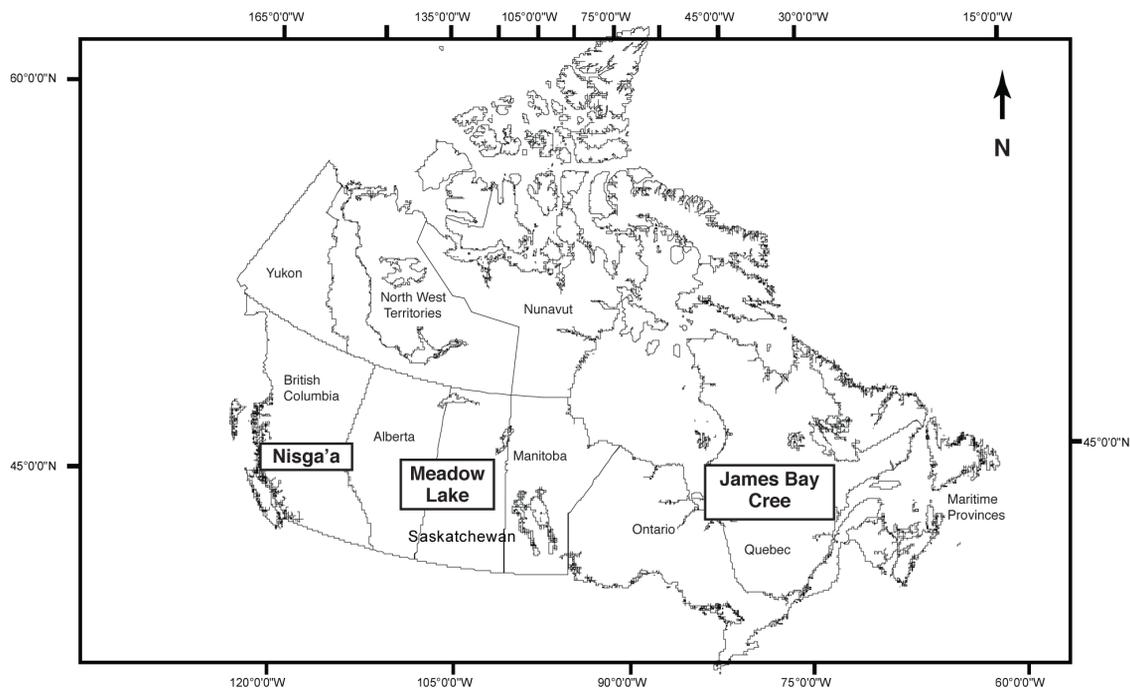
Consulting First Nations (and the general public) in forestry and in resource management planning has become a major issue during the last two decades. Policies and regulations at federal and provincial levels require that information be provided to First Nations, and that their opinions be sought. However, such an approach does not fully take account of aboriginal rights (Smith, 1995) and often does not satisfy First Nations' expectations

concerning their ability to control forestry practices on their traditional lands (Feit and Beaulieu, 2001). This has led to demands for "meaningful consultation", indicating effective and equal participation leading to decisions that respect First Nations views (Ross and Smith, 2003). Although consultation and information sharing processes do not always provide a decision-making role for First Nations they can contribute to greater mutual understanding between First Nations, governments and industry.

Impact assessment and certification

Impact assessment requirements and forest certification processes have become very important in Canada, obliging forestry planners and decision-makers to consult with First Nations (Collier *et al.*, 2002). These processes can contribute to achieving "meaningful consultation" and to monitoring the ways in which concerns and information are acknowledged in forest management. However, assessment and certification processes tend to be highly technical or "scientific" (in the western positivist sense) and are not necessarily conducive to the integration of First Nations' views and knowledge (Notzke, 1994; Scott, 2001). Often such processes are

Figure 1 Map of Canada, indicating some of the First Nations



focused on approval of a particular project or a management plan, whereas the interests or concerns of a First Nation may be much wider (Wiles *et al.*, 1999). Impact assessment and certification do not necessarily bring First Nations a decision-making role in forestry, but are rather processes that encourage industry to modify practices to take account of concerns expressed by the public, including First Nations.

Traditional knowledge

Traditional ecological knowledge (TEK) refers to knowledge held by a group of people based on their observations and interactions with the local environment over a number of generations (Johnson, 1992). Studies of TEK and of traditional land use and occupation are increasingly used in resource management, but Robinson and Ross (1997) note that documenting traditional knowledge is easier than integrating the information into management plans or ensuring that First Nations can actively participate in planning and decision-making. A significant issue here is the distinction between the holistic approach of traditional knowledge and the positivist and reductionist basis of western science (Johnson, 1992). For some, aboriginal

knowledge is not intended as a way of managing or controlling nature, again in opposition to the direction of western science (Kawagley, 1995). Furthermore, mapping and documentation approaches used to collect TEK are often highly technical and may fail to describe the cultural importance of the landscape (Natcher, 2001). In order to address these issues, Folke *et al.* (1998) look at management practices, linking traditional practices and knowledge based to the social systems which have enabled these practices. Accordingly, incorporation of TEK into existing forest management systems will need to include the social systems and the institutions that sustain this knowledge.

Co-Management

Co-management has become a popular model for sharing responsibility and control of resource management between local groups on one side and government or industry on the other (Curran and M'Gonigle, 1999). Many co-management arrangements have arisen from disputes concerning Aboriginal rights or access to natural resources, and so co-management may be considered as a means by which First Nations can increase their power in land management (Rodon 2003). Arrangements between First Nations and governments are the most common, but co-management agreements have also been signed in other situations, such as at Meadow Lake in Saskatchewan to resolve conflict between indigenous communities and the forest industry (Chambers, 1999). Critical elements within a co-management structure usually include the recognition and application of traditional knowledge, devolution of decision-making authority, and specified power sharing arrangements (Berkes *et al.*, 1991), but there is no single model. Instead, co-management arrangements demonstrate a wide variety of institutional structures, decision-making responsibilities, and power sharing mechanisms. Rodon (2003) concludes that is probably most useful to think of co-management as a process and a structure for negotiating power with the State, or with the industry, and a way of influencing parties on both sides.

Differing cultures, values and paradigms

A recurrent theme in almost all discussions of aboriginal participation in forestry is the existence of cultural factors, implying that First Nations have particular beliefs, values, norms, practices or knowledge associated with forest landscapes. These cultural factors are increasingly understood as representing traditional land and resource management systems based on ecological knowledge, management practices and social systems (Notzke, 1995; Folke *et al.*, 1998; King, 2004). But "mainstream" forest management also represents a system based on knowledge, practices, beliefs, and values. Canadian forests are subject to both traditional and mainstream forest management systems, suggesting competing paradigms or worldviews (Brown and Harris, 1992; Burton *et al.*, 2003; Wyatt, 2004).

In understanding "Aboriginal forestry", the issue of paradigms becomes critical. The forestry paradigms of professional foresters in government and in the industry form the basis of the mainstream forest management system, with an emphasis on production and scientific management (Burton *et al.*, 2003). In contrast, First Nation paradigms reflect long occupation of forestlands, beliefs and values concerning the place of humans in the environment and social institutions for controlling resource use (Folke *et al.*, 1998; King, 2004; Wyatt, 2004). Differences between these paradigms contribute to differing perceptions of aboriginal rights, of economic participation and development, of consultation processes and of the place for traditional knowledge in forestry. Mainstream forestry institutions are in competition with First Nations' own institutions, and professional forestry has become the dominant paradigm. Re-establishing traditional institutions will require management structures such as co-management and partnerships that provide space for different forestry paradigms to cohabit, without one necessarily being dominant.

"Aboriginal forestry" - what does it really mean?

It is clear that Canadian forestry is evolving to provide a greater role for First Nations. Aboriginal rights are being defined and recognised, First Nations are taking their place in forest industries, and forest management increasingly takes account of their interests. But many uncertainties, difficulties and conflicts remain and it

is important to consider where this evolution is going. What does "Aboriginal forestry" really mean for First Nations' participation in forestry? Based on Canadian experiences, we can perhaps envisage three different positions:

- Forestry with an aboriginal flavour
- Forestry with aboriginal participation
- Aboriginal forestry

Forestry with an aboriginal flavour

"Forestry with an aboriginal flavour" represents the existing forest management system with a number of modifications to provide a place for First Nations. Existing licensing arrangements would remain, but with flexibility to encourage First Nation participation and to take account of other forest values. Forest management would continue to be the responsibility of professional scientists and managers; adopting principles such as ecosystem management, consulting with First Nations, and calling upon their traditional knowledge. Partnerships, joint ventures and co-management arrangements would gain in popularity, but would continue to reflect existing business and management models, often leaving relatively little power with First Nations. This position does not recognise aboriginal rights in ways that lead to greater control over forest management. Hence "forestry with an aboriginal flavour" is likely to be unstable as further definition of rights (through legal, policy or negotiation processes) leads to changes in existing regulatory frameworks.

Forestry with aboriginal participation

This position is based on a greater acknowledgement of aboriginal rights and on significant modifications to existing forestry regimes. New forestry tenures would seek to facilitate forest management and forest products transformation by First Nations. Co-management and joint ventures would provide for equal sharing of power and responsibility while consultation processes ensured that First Nations' concerns and issues are incorporated into management planning. Forest management would reflect both knowledge and institutions from mainstream forestry and from traditional management. Certification and related processes would monitor not only the impacts of operations, but also the extent of aboriginal participation in management. Although this position recognises aboriginal rights and establishes new systems for forest management, it remains within existing regulatory systems. Hence it may not be acceptable to those who interpret aboriginal rights outside this framework and will also be subject to further definition of rights. "Forestry with aboriginal participation" may, however, prove to be acceptable to governments and public opinion as a compromise between aboriginal rights and the interests of non-aboriginal Canadians.

Aboriginal forestry

"Aboriginal forestry" represents a forest management system based on aboriginal rights, where the interests of First Nations (the "aboriginality") are dominant. Existing regulatory frameworks and institutions would be replaced, enabling First Nations to define the forestry and practices they wish to engage in or to permit on their land. Aboriginal management systems and institutions would be central to forestland management, reflecting the various traditions and interests of each Nation. Mainstream forest science would still be required, but professional foresters would need to recognise aboriginal management systems, expanding the new demand for indigenous people trained in forestry science. Co-management of the land and business joint ventures would facilitate utilisation and management of resources in accordance with First Nations goals. Full recognition of aboriginal rights should replace debates about definition, enabling the parties to concentrate on developing mechanisms for co-operation. However, this position may be unacceptable for government, industry and the general public, and would also require massive development of capacity, institutions and systems for First Nations.

Conclusion

Canada may occupy an enviable position internationally in relation to indigenous participation in forestry. Forestry is one of the most important sectors of the national economy and First Nations are steadily increasing their role. However, such a role can take several forms. The three positions presented in this paper reflect different balances between the existing Canadian forest management system and First Nations' participation in this system. Central to this balance is the level of recognition of aboriginal rights; this determines First Nations' roles in decision-making for forestlands and the extent to which they can realise their own goals. Although the three positions are presented as distinct, it is inevitable that there will be gradation and overlap between these positions. Nevertheless, each position represents a certain level of change in the forest management system in response to First Nations' participation.

"Aboriginal forestry" may be a term that is danger of becoming trendy; a term that can be widely used to cover a multitude of situations, with different meanings depending on the user and their objectives. Governments, forest industries and First Nations all have an interest in promoting aboriginal participation in forestry, and in describing their efforts as "aboriginal forestry". These efforts are contributing to changing our understanding of forestry and to making management more sustainable. However, "Aboriginal forestry" should represent more than just minor modifications to an existing forestry; it should be a new form of forestry based on Aboriginal values, systems and paradigms, and supported by the science and technology of mainstream forestry.

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FOREST FUTURES – INDIGENOUS TIMBER AND FORESTRY ENTERPRISES ON CAPE YORK

Mark Annandale¹⁵ & David Taylor¹⁶

Abstract

This paper describes development of small-scale sawmill operations in the remote indigenous communities of the Cape York Peninsula (CYP), Far North Queensland, Australia to supply timber to the domestic markets and create local employment opportunities. The primary aim of the Queensland Government inputs into these projects is to assist Aboriginal people to improve their economic and social well being through culturally appropriate and sustainable development of their extensive forest resources. Management and utilisation of a renewable resource will provide ongoing benefits to the community through availability of local timber for construction purposes and creation of meaningful jobs.

This paper outlines progress, methods and issues to date in assisting indigenous communities to utilise their skills and knowledge in developing small-scale forest based enterprises. An 'action learning' approach has been undertaken whereby community members, private companies and government staff are working together to develop skills and knowledge about sustainable forest management, operating and marketing timber from small mobile sawmills and developing a viable small business.

Small-scale pilot project development has commenced in each of the communities, starting with a comprehensive community consultation process to determine community needs and aspirations and to identify people within the community who were to be the community drivers for the projects. Once determined, after many months of discussion, funds were sought to provide support for small-scale harvesting operations and the establishment of 'demonstration sites.' Demonstration sites are important for evaluating and monitoring the effects of harvesting and other silviculture techniques and practices associated with sustainable forest management as well as for providing "hands-on" training opportunities. Initial inventory is required to quantify the available resource and facilitate planning for future harvest and management. Based on initial harvest sites, selected logs have been processed on a mobile sawmill and initial grading and testing of the processed timber carried out. Early results indicate a range of materials can be produced, some of which is suitable for structural purposes and others for landscaping and other purposes.

The challenge is to develop this into a viable small business, managing the available forest resources sustainably and maintaining a sawn timber supply to develop a reliable market. It must be stressed that sustainable forest management practices have been adopted for forests in the Northern Peninsula Area while those on the mining leases of the western Cape York Peninsula are a salvage logging operation and present a broader range of opportunities, including larger scale operations. The long term sustainability of the latter operation is being addressed through establishment of plantations as a part of mine rehabilitation programs that will provide a sustainable timber resource after mining operations have ceased.

Successful development of these small pilot industries presents a major opportunity for Indigenous involvement in Queensland's forestry industry, on a competitive and commercial basis.

Introduction

Cape York Peninsula (CYP) is a biogeographically diverse region of tropical Australia and is important for a range of environmental, social and cultural reasons. It covers approximately 13,720,000 hectares and has a current population of about 18,000 people, over half of which are of Aboriginal and Torres Strait Islander

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origin. The vegetation is diverse and includes extensive areas of dry eucalypt woodland dominated by Darwin Stringybark (*Eucalyptus tetradonta*), Melville Island Bloodwood (*Corymbia mesophylla*) and to a lesser extent Cooktown Ironwood (*Erythrophleum chlorostacys*), the latter occurring mostly on deeply weathered plateaus and remnants (Neldner & Clarkson 1996). Significant areas of rain forest occur along the eastern coast, mostly in national park, and extensive tropical grasslands, heathlands, and mangroves are also well represented throughout the CYP.

Climatically, the majority of the Cape is 'dry tropical' with a relatively low rainfall in comparison to pan evaporation, with distinctive wet and dry periods. The wet season occurs between December and April with much of the remaining year relatively dry. Some areas along the east coast receive higher levels of rainfall due to the prevailing south easterly winds, geography and onshore weather systems.

The Cape York Peninsula Land Use Study (CYPLUS) identified the need to develop projects that will create a strong and diversified economy, in the framework of enhancing the capacity for environmental protection. The major objective for land use planning and decision making identified in the CYPLUS, is:

'To encourage environmental and economic land use decision making which takes full account of all relevant land and resource values.' (CYPLUS, 1996)

Historically CYP has had a slow rate of development, with most development activities occurring, after World War II. Extensive cattle grazing and major mining activity, together with some small forestry operations have been the principal enterprises developed in CYP. Tourism is a developing industry associated with a steady improvement in infrastructure over time. Commercial forestry activities in the CYP have traditionally been of a small scale and have concentrated on lower value products, e.g. fencing materials or sleepers. The Wannan report (1994) identified several small timber operations in the CYP. For example, a sawmill on the Holroyd River Station was producing about 1200 cubic metres of sawn timber and small amounts of round timber (poles and girders) per annum in the 1990s.

Typically however, employment opportunities are limited within Indigenous communities other than employment by local shire councils for providing basic services to communities. The availability of natural resources, such as large forest areas, offers an opportunity for some of the communities to develop industries based on utilisation of natural resources, consistent with the CYPLUS study. However this needs to be accomplished in a culturally and environmentally sensitive manner.

This paper looks at the process and results of development of two small-scale forest industries; within the Injinoo community of the northern peninsula area (NPA) and in the Napranum community near the mining town of Weipa on the western side of Cape York. Queensland Government staff have been working with both communities, providing strategic support in the development of these forest industries.

Indigenous communities of Cape York

Community Organisation

There are a number of indigenous communities on CYP that are generally accessible by road for only 6-8 months of the year, otherwise access is restricted to aeroplane or boats. Most are relatively small, isolated settlements with the exception of the five communities in the NPA who are in relatively close proximity to each other and the Napranum community which is adjacent to the mining town of Weipa. Indigenous communities in CYP are self governing in that they are run by an elected council comprising local residents. Councils carry out the basic services within the community and in most cases, the council also owns and manages many of the enterprises in the communities, together with other enterprises normally associated with small business operators.

As well as the elected council, there are also the Traditional Owners (TOs), often represented by Elders, who also influence the running and function of the communities. Where land claims have been successful, large tracts of

traditionally owned land have been deeded to the community, for example at Injinoo, and these are generally managed by a 'Land Trust', composed of representatives from the TO group.

Historically access to business opportunities by Indigenous people on CYP has been limited and the forestry sector is one that indigenous people see as a real opportunity to engage in mainstream business.

Land Tenure

Land tenure in the Cape is complex. There is a range of leasehold tenures as well as Land Trusts, freehold land and mining leases. Large areas of land surrounding indigenous communities include lands held in trust for the Traditional Owners and the wider local indigenous community known as called Deed of Grant in Trust (DOGIT) lands.

Community engagement and effective community consultation

A draft report to the Rural Industries Research and Development Corporation provides a comprehensive review of protocols for effective consultation with Indigenous communities of Cape York Peninsula (Annandale 2005). The report is based on practical experience on CYP and emphasises that when working with Aboriginal and Torres Strait Islander communities one must first make steps towards understanding some of the background issues which have impacted on the communities and individuals in both recent and past times. There is a need to be aware that previous consultation processes have not always met the needs and aspirations of Aboriginal and Torres Strait Islander communities because of inappropriate methods of consultation.

Non-Aboriginal people who work in and for Aboriginal and Torres Strait Islander communities should undertake comprehensive induction and cultural awareness programs; it should be a prerequisite before entering communities and working with Aboriginal and Torres Strait Islander people. It is important to acknowledge that Aboriginal people must be able to freely exchange information and transfer skills and that this requires, as a minimum, a basic level of communication with and understanding of the people in that community.

Building meaningful relationships is critical for the success in the delivery or undertaking of any project or program. These take time, which must be factored into work programs. Once established, projects and enterprises evolve and mature. There is a vast amount of existing knowledge and experience in Aboriginal and Torres Strait Islander communities that rests with people who have insights into what sorts of projects work. For successful project development there needs to be an exchange of this information and experiences.

When discussing project development ideas or opportunities both parties must be committed, have confidence in the process, be open, honest and provide reliable information. The project must be discussed at length and clearly outlined so that expectations remain realistic.

Aboriginal and Torres Strait Islander people identify a common desire to return to country. 'Country' is a term used by Traditional Owners to make sense of their connections and responsibilities for the land and sea. It refers to the traditional estates of Traditional Owners and incorporates the biophysical environment and associated cultural property recognised according to Aboriginal and Torres Strait Islander custom and tradition as belonging to particular individual, family, or tribal group. To get back to country with a purpose includes educating younger people in traditional ways, looking after country or being able to make a living, consistent with the lifestyle of the people involved. Therefore projects that involve people getting back onto country are attractive and often provide an opportunity for younger people to get to know their country in greater detail. Elders in several CYP communities have talked about the time when many people lived on country, in outstations, as a time that many of the social problems and dependency on welfare did not exist. There is a desire to find a balance between living in towns or communities and living on country. Agroforestry business development may provide this opportunity.

Natural resource based enterprises have operated successfully in the past, including market gardens, cattle enterprises and sawmills based on native forest use. Many of these have closed down or failed due to changes

in government policy or reduced levels of support. Others have failed because the project leader, often an individual, moves away, leaving no one to continue driving it along, because knowledge and skills transfer were not primary project objectives. One of the challenges of working in Aboriginal and Torres Strait Islander communities is to adapt services to suit the needs and aspirations of the people concerned and to pass on all relevant skills. If this does not occur then participation rates decline and projects fade away when support is removed.

The need for sustainable economic development is critical. A holistic approach is required, providing the communities with the tools to freely determine their own economic and social development and to empower people to control their destiny. The criteria for measuring the success of any business need to be identified and agreed by all those involved, instead of being determined by people outside the process. This will help keep expectations at a realistic level.

Education and training needs to be adaptive and responsive to community needs. People need the opportunity to have inputs into curricula, including appropriate use of cultural knowledge.

In summary, consultation should achieve understanding and agreement on the following:

- Outcomes (benefits, risks, adverse impacts) - what is everyone going to get out of the project?
- Level of participation - who will be involved and what is needed from them?
- Timelines - how long will it take and when will things happen?
- Resources - what do we need to make things happen; people, money, transport, training, etc.
- Key contact person/s - who should we talk to?
- Consultation, negotiation and decision making processes - how will we get to hear what people think and make sure the right people get to have their say, how do we decide on the best way forward to make decisions?
- Meetings - what steps and considerations should be made prior to, during and after a meeting?
- Monitoring and review processes - how can we check that everyone is doing what they said and check to see if it is the best way, so we can change things if needed?
- Information collection, storage, access and use.
- Type and format of feedback - what is the best way to let people know what is going on?
- Acknowledgment processes - who should we thank for helping with and doing the work and how should we thank them?
- Compliance - how can we check that everyone has done what he or she said?
- Relevant legislation and policy - which government laws affect what we are talking about?
- Appropriate use of intellectual cultural property/sensitive information - what traditional lore is important, how does it affect what we are talking about and how can we protect traditional knowledge?
- Document, on completion of the activity, the outcomes of the consultation process, including recommendations for future improvement - what is the best way to let everyone know what we did, so others can learn? (Annandale, 2005).

Case Study projects

Initial approaches were made to Annandale by each of the two communities of Injinoo and Napranum seeking assistance and technical advice on the potential for small-scale forest operations. Housing construction within the communities represents a major cost and replacement of expensive timber imports was identified as a potential cost saving. Additionally there was recognition of the social benefits arising from employment and utilisation of their own resources. In the case of Napranum an old sawmill already existed although this had not operated on a commercial basis in the past. However it had processed some timber for local use during the

previous decade. The NPA has had a number of commercial sawmills operated by external people, including the army and state government since the Second World War, the last of which ceased operating in the late 1990s.

Therefore each community had a certain level of knowledge and experience in the forestry processing industry but lacked skills in contemporary business development and forest management. They also lacked the formal qualifications required to operate modern sawmilling machinery and some other equipment. Technical capacity and business skills were identified by communities as the main areas where lack of expertise needed to be addressed.

The bio-geographic location of the two communities has created quite different social and economic situations. Injinoo is located in the NPA adjacent to four other small indigenous communities of Umagico, Bamaga, New Mapoon and Seisia (Figure 1). The traditional landowners of the NPA live in each of the five communities, with the majority living at Injinoo. Their extensive areas of land are managed by the Injinoo Land Trust (Apudthama). Few other industries exist, other than those associated with community services, for example housing construction, workshops and tourism. Employment opportunities are therefore very limited.

The Napranum community is situated close to the mining town of Weipa, where an extensive open cut bauxite mine is in operation. This offers a number of different options to that of Injinoo including:- jobs within the mine; a range of service and supply business and employment opportunities; large scale salvage of timber in front of mine operations; potential market for timber and other forest products and; potential for development of plantations following post mining revegetation.

Prior to the initiation of this project, neither community was harvesting timber commercially, however Napranum was harvesting and processing small volumes of timber for local use. All sawn timber for housing and other construction was fully imported.

Napranum Case Study

Indigenous involvement in forestry in the Cape York Peninsula (CYP) commenced in the late 1800s with the collection of sandalwood. Across CYP Aboriginal people located, harvested and transported sandalwood for export. Some of Queensland's earliest exports were sandalwood from the CYP. With the establishment of missions in the CYP sawmills were established to meet local construction needs, with most communities having a small sawmill for this purpose. At the township of Napranum, a mission was established in the late 19th century, located at Jessica Point. During the establishment of this mission a small sawmill was built and managed by the missionaries, with an Aboriginal workforce. Elders in Napranum still remember their fathers and uncles as sawmill operators and timber cutters. Some recall their fathers cutting messmate (*Eucalyptus tetradonta*) up river and towing it to the mill by wooden canoe, where the logs were dragged up the beach by horse and loaded onto carts for transport to the sawmill.

With the establishment of the mining town of Weipa in the 1960s, Comalco set up a sawmill to meet local construction needs, with some Indigenous labour inputs. From the late 1970s timber imports, mainly pine began to replace local construction materials because of tighter building regulations and the requirement for treated timbers. These, together with a range of other factors saw a decline in local milling operations.

In the early 1990s the Napranum Aboriginal Corporation received the remains of the sawmill from Comalco and set it up at Napranum for the production of timber for local construction needs and sales to Weipa. This mill was operational for about ten years and has been replaced temporarily with a mobile sawmill as part of a staged development aimed at building capacity of local staff while utilising all of the available salvage resource. The sawmilling operation is intended to build capacity of new local indigenous staff by undertaking comprehensive training programs and establish a larger scale sawmilling operation to utilise the forests cleared by bauxite mining operations, under a new indigenous owned business called Nanum Tawap.

The Napranum Aboriginal community is interested in pursuing socially, culturally environmentally and economically sustainable end land use on relinquished land (land handed back to traditional owners after mining and regeneration) for generating employment and industry development. This concept is supported by

Comalco, who are currently developing criteria for meeting community expectations in regard to the quality of mined land acceptable for relinquishment back to traditional owners.

The objectives of Comalco's mine site rehabilitation at Weipa, include:

"Rehabilitate land to type and quality, or End Point Criteria, acceptable to government & traditional Aboriginal owners." (Neale Dahl, pers com 2000)

Numerous reports have identified the potential of forestry on CYP with a primary focus on the native forest potential. Less attention has been paid to the potential of using mined land for plantations. Plantations can supplement utilisation of the native forest resource, with high value species planted for targeting specific markets, such as sandalwood, African mahogany and bush food species. Plantation development on mined land, complemented by use of native forest resources generated from mining clearance, could lead to a significant and viable forestry industry and numerous value adding business opportunities. This could result in long term employment opportunities for the indigenous communities of the Western Cape York Peninsula.

Experimental forestry plantations were first established in 1967. These trials tested a suite of potentially suitable species and provenances focusing on high value species. By 1973, 34 species had been trialled, of which 11 were considered to be suited to the area, both climatically and to the post mine substrate (absence of some trace elements). Some of the early problems associated with plantation establishment and subsequent tree growth were due to teething problems in the rehabilitation process. As techniques were refined, plantation establishment became more successful and "fair" assessments of species/provenances performances could be made. Forestry plantation establishment continued into the 1980s. The current plantation resource is somewhere in the order of 400 hectares (Neale Dahl, pers. comm. 2000) and comprises several species identified as having some commercial potential. Many of the forestry plantations at Weipa are considered to have commercial sawlog potential subject to some silvicultural management. The existing plantations on previously mined lands indicate that productive forestry plantations can be established on regenerated land at Weipa. Careful consideration has to be given to the species selection, site selection and silvicultural management to obtain a commercially viable plantation at the end of the rotation period (Annandale 2000).

Over the past few years the Indigenous community of Napranum has established agroforestry plantation systems, with support from Comalco, the state Department of Primary Industries and the Department of State Development and Innovation. These recent plantations, covering approximately 30 hectares have included high value species such as sandalwood, African mahogany and the testing of several bush tucker species. An agroforestry development program will be implemented over the next three years.

Training of Indigenous communities, who will be the eventual owners of the resource, is required to establish capacity for implementing the forestry management plan. This training has been ongoing for the past two years and will continue with support from government. A forestry team of Indigenous people trained in techniques of thinning, pruning and other silvicultural skills will be in a position to manage the existing plantation resource for agroforestry purposes.

The traditional owners in the five clan groups, within the mining lease area who now mostly reside at Napranum, own a small sawmilling operation called Nanum Tawap (NTL), This business also incorporates a concrete block plant, laundromat and provides other Indigenous business support and is based in Napranum. NTL has a current timber sales permit issued by the state government that authorises harvesting of salvage timber resulting from mine clearing operations conducted by Comalco on its mining lease.

The mining of bauxite deposits on mining leases around the Western Cape York Peninsula involves clear felling forests prior to mining. There is opportunity to advance efforts to salvage commercial timber and process timber, that to date has been burnt as a method of disposal. Several hundred hectares of forest with commercial quantities of timber are cleared annually. It has been estimated that if all the sawlog quality logs were salvaged, a volume of several thousand cubic metres per annum would be available for processing.

Historically the total removal of log timber from mine clearing operations has been well below what is required for effective salvage of the cleared timber resource. Timber products produced by the NTL sawmill are taking

full advantage of the resource by producing structural, flooring, pallet, bridge and furniture timbers. The operation will be developed over the next few years, as local capacity is developed.

The low harvesting level to date can be attributed to a number of factors. The processing plant used initially was inefficient and there was a shortage of trained operators. The updated processing plant is more efficient but its capacity is still fairly small and there is an ongoing problem of available trained operators.

Until recently NTL and its predecessors did not have any of its own harvesting plant to snig and haul logs to the sawmill.

Over the past 2 years NTL, have addressed these issues by undertaking the following actions:-

- Appointment of a professional general manager to NTL
- Support for the traditional owner based Board of NTL
- Significant upgrade of hardwood sawmilling equipment capable of harvesting and processing up to 4000 cubic metres of log per annum;
- Technical skill building in sawmilling, through training and mentoring;
- Management capability of a sawmilling enterprise, through employment of a professional sawmill manager
- Testing and supply to both the domestic and international markets of processed timber products
- Development of business plans and a strategic plan

Longer term plans include the development of an autonomous commercially viable business that directly provides Indigenous employment opportunities and support for Indigenous owned and operated value adding as well as service and supply enterprises. Anticipated outcomes include:-

Import Substitution

- Import replacement of some timber products through local processing of salvaged hardwood timber for local construction.
- Development and sales of high grade timber products manufactured in local processing (eg.Hardwood flooring).

Regional Enterprise Development

- Establishment of a significant Indigenous owned business.
- Establishment and expansion of Indigenous owned and operated spin-off businesses based on a local timber processing industry.

Small Enterprise and Export Development

- Establishment of a local enterprise capable of producing exportable high grade product to domestic and other markets.

Education and Training

- Opportunity for establishment and delivery of comprehensive timber industry training to a local Indigenous based workforce.

Injinoo Case Study

In mid 2000, the Injinoo Aboriginal Council developed an Operational Plan that allocated funds and Community Development and Employment Program (CDEP) labour to develop a sawmill enterprise. At this time the Council approached Department of Primary Industries (DPI) - Forestry Research Institute (QFRI) for technical advice and support for the development of this project. The project was identified by traditional owners and their representatives and aimed to assess and utilise sections of the eucalypt woodland forest north of the Jardine River.

Subsequent to initial advice from DPI, the Council purchased a portable sawmill considered suitable for both the scale of operations and the nature of the proposed enterprise. This advice also considered larger issues, such as the need to provide training in sustainable forest management and environmental protection. A long term plan was developed for utilising the native forest which specifically addressed the development of a small scale forest industry for production and use of timber within the Injinoo community.

Methodology

Following purchase of the sawmill by the Injinoo Aboriginal Council, consideration was given on how best to approach the development of a small scale forestry operation with the community which; (i) resulted in a viable small scale enterprise, (ii) met the requirements of the community for capacity building, i.e. development of skills, jobs, and (iii) developed a knowledge of the resource and its optimum management requirements.

The agreed methodology was to undertake a staged project, with DPI staff working closely with the community, in particular those people selected to participate in the sawmilling enterprise. This provided for a gradual process of developing skills and confidence and continuing training, accreditation and technical support as required. Technical experts and trainers were to be used where necessary. Local knowledge and experience was considered critical to gaining an understanding of the forest. Elders and Apudthama rangers from Injinoo played a lead role in the training and development of skills of the younger traditional owners. They provided valuable information on the forest, the history of its uses and information on more recent impacts to the forest. These inputs were integral to the forest management planning.

Assessment of the resource and developing a scientific understanding of the forest response to harvesting were to be undertaken in the context of a 'test' harvest where after harvesting, monitoring plots could be established to investigate residual tree growth, regeneration and response to fire and other abiotic factors. A staged project was also consistent with seasonal conditions in the NPA where work was undertaken in the 'dry' season thus reducing any potential environmental impacts.

Thus the project was to have a number of phases:

- Phase 1 – Initial sawing study investigating sawn recovery and graded quality, training and accreditation in sawmill operation and basic tree felling accreditation.
- Phase 2 – Forest management, harvesting and environmental management, initial inventory and harvest plan for five years. Assessment of the potential of timber for use in local housing construction within the community.
- Phase 3 – Ongoing support, some further inventory and general skill and capacity improvement. Post harvest forest management.

Phase 1

This initial study investigated sawn recoveries, both green-off-saw and graded, from harvested timber (Annandale & McGavin 2001). A total of 30 trees was harvested and results from green sawn and graded recovery were compiled. Training in the use of the sawmill, visual stress grading and basic tree felling were also completed.

Results from this first stage of the study were positive. Green-off-saw recovery of timber averaged between 30 – 35%, consistent with other similar native forest resource. High levels of recovery of structural grade material were also obtained from some of the sawn material (Annandale, *et al.* 2002).

Phase 2

To further progress establishment of a viable small scale enterprise for the community, this second phase of the project sought to undertake a test harvest over a larger area of approximately 50 ha. This was to provide training opportunities for the community in a number of areas; (i) developing a knowledge of the available

resource through a simple forest inventory, (ii) developing the skills to manage forest harvesting to comply with environmental protection guidelines included in the Draft Code of Practice for Native Forest Timber Production, (iii) develop a knowledge of basic native forest silviculture, (iv) prepare a forest management plan for Injinoo land, and (v) reinforce and expand on the previous training and accreditation in log presentation, portable sawmilling, wood properties and structural timber grading.

A site was located and marked out in 2003. Training and accreditation was undertaken in forest management and harvesting operations during the process of harvesting timber. Part of the remaining area was prepared for harvest to be undertaken following the initial selection and tree felling. An initial low intensity inventory of available areas for future harvest was undertaken and a number of monitoring plots were established in the 'test' harvest area and other sites. During this phase, the sawmill was not able to operate because government technical experts were unavailable to provide support. Additionally, the original community members who had been accredited for sawmill operation and stress grading were also not available.

Following on from this phase, maps were prepared and an initial 'forest management guideline' was drawn up for discussion with the forestry enterprise team and council for their approval.

Concurrent to the forest management component, a report was prepared and submitted to the Indigenous housing authority, ATSI Housing, seeking approval to use the sawn and stress graded timber in the construction of housing within the community. Problems were encountered because current policy of the State Department of Housing prevents the use of non-treated timbers in department funded construction. This is in direct conflict with industry standards for use of hardwood timbers in construction throughout Queensland. It is hoped that this project will highlight the issue and be a catalyst for change by lending support for use of local processed timbers on a commercial basis and aligning the region with the rest of the state.

Phase 3

A further technical support trip was undertaken in 2004 at the start of the dry season to complete work in the test harvest area. A sawmill training expert was provided by DPI to train the sawmill 'crew'. Unfortunately, no further work had been undertaken at the test harvest site since the 2003 field trip and the sawmill was in a state of disrepair. During this session, the sawmill was repaired and a number of logs processed in the workshop compound. Following the success of this, the sawmill was moved out to the test harvest site and set up. A number of logs were processed and a quantity of sawn timber was produced. Discussions were initiated concerning the forest management plan, however there were insufficient members of the sawmill 'crew' available to provide adequate feedback.

Discussion

The initial aim of this project was to develop a small-scale forestry enterprise to utilise the community owned natural resource, replace expensive imported timber and provide employment for community members. This was initiated at the request of the Council and community members were selected for participation on the basis of interest in the project. In terms of timber sawn and used in the community, progress has been slow. A number of reasons account for lack of progress, and discussion and close examination of these may offer a way forward.

Available Resource

The limited inventory undertaken in this project has indicated that adequate volume exists for a small-scale industry. Up to 2 m³ / ha of logs, suitable for harvesting and sawing, are available through most of the area within the community lease area and the Injinoo Land Trust land. Of these however, many logs exhibit some defect and are difficult to process into good quality sawn timber. In terms of standing timber available for harvest, they compare poorly to other eucalypt forest areas in Queensland where 5 – 10 m³ of logs per hectare is available for harvest.

Additionally, much of the forest in the NPA was harvested between the 1950s and the early 1980s by government sawmills operating at Bamaga, Umagico and Crystal Creek. Anecdotal evidence suggests that the harvest operation consisted of high-grading - a harvesting method which removes all trees which can be sawn and leaves trees which are generally defective or not suitable for sawing (M. Lifu, pers. comm. 2002). In terms of recovery for work involved in sawing, particularly using a mobile sawmill, processing poor quality logs is not rewarding. Some of the harvesting in these studies has included these high graded forests, with the intention of quantifying the costs of silvicultural treatment of the forest areas for recovering some of the structural forest characteristics and increase forest productivity.

Training and Accreditation

The 'hands on' approach was taken where the sawmill team undertook training and accreditation in the process of running the project, i.e., during the sawing study and subsequent test harvest. This approach is consistent with an 'action learning' method which has been used successfully in rural communities in Australia for technology transfer, ownership and adoption of results (Bawden & Packham nd; Bawden *et al.* 1985; Wilson & Morren 1990). In relation to developing skills for both forest harvesting and timber processing, this method was very successful and those participating quickly acquired skills. However, community members recently commented that training and accreditation are not useful if the project work is not continued and skills are not put to use. Lack of continuity of government support for training and technical inputs compounded by constraints on timber use in government funded construction also hampered project development.

Possibly the major barrier faced by the project was the constant change of community participants over the three years. There was little continuity between support trips and when faced with new participants each time, little progress can be made.

Equipment

Lack of equipment, with the exception of the mobile sawmill, made operation of a forest harvest extremely difficult. Where equipment had been purchased previously, as in the case of the sawmill, it was often not kept in a well maintained state and at times was misplaced. The absence of either a machine for snigging logs in the forest to the sawmill and absence of a dedicated vehicle available for transport of the sawmill to the bush and subsequent transport of sawn timber to a storage area also presented serious impediments.

Ownership

The 'ownership' and adoption of the sawmilling varied among community members. Successive field trips demonstrated that initial enthusiasm for timber harvesting and sawing does not continue in the absence of technical support. However some individuals, expressed a strong sense of ownership and a desire to continue with the work. In the absence of adequate equipment and no ability to influence the purchase of essential tools to undertake the job, this desire quickly waned.

There was little interest in forest management planning. While there is little doubt that the community owns the land, there is a deal of complexity and uncertainty in relation to responsibility for land management and utilisation of the resources such as timber. During the period of this project, the group established within the community to oversee land management failed through lack of funding. Many of these 'Rangers' were very interested in the forestry enterprise and the failure of this group certainly contributed to lack of progress of the project.

Issues

- Government support (local, state and federal)
- Lack of continuity of training, business development and technical inputs to project staff
- Lack of site based project manager
- Changing staff. In all cases there was little continuity of individuals between training and technical support visits. This resulted in a need to retrain on most occasions and a lack of progress.
- Skills
- Lack of equipment
- Internal politics. As with many communities, internal divisions often impede the efforts of individuals within the community.

Conclusion

Community development programs supporting small-scale sawmill operations in the remote Indigenous communities of the Cape York Peninsula provide a range of opportunities. These projects assist Aboriginal people to improve their economic and social well being through culturally appropriate and sustainable development of their forest resources and establishment of new plantation forestry resources. Management and utilisation of a renewable resource will provide ongoing benefits to the community through availability of local timber for construction purposes and the creation of meaningful jobs.

This paper has outlined progress, methods and issues to date in assisting Indigenous communities to utilise their skills and knowledge in developing small-scale forest based enterprises. An 'action learning' approach was used, whereby community members, private companies and government staff are working together to develop skills and knowledge of sustainable forest management, operating and marketing timber from small mobile sawmills and developing a viable small business.

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SUMMARY OF PRESENTATIONS

On a global scale, Indigenous participation in the forest industry is increasingly recognised as being beneficial for both sustainable management of the forest resource and for alleviating social and economic disadvantage of marginalised peoples. Using examples from Australia, Canada, New Zealand and India, speakers in this session demonstrated the diversity of ways in which Indigenous communities engage with forests and the forest industry. At the same time, they showed a remarkable commonality in the issues to be faced when the economic rationalism of an industry encounters a value system where forests are an integral part of identity and culture.

Stephen Wyatt wrestled with the complex issue of defining "Aboriginal Forestry" in the context of the First Nations of Canada, using sloganed t-shirts as innovative and useful props. He pointed out integrated approaches of contemporary public forest management in Canada are beginning to recognise the aspirations of First Nations but many changes are still needed. Most First Nations want more control over resources on their traditional lands through effective participation in planning, impact assessment and certification and proper use of traditional knowledge. Aboriginal forestry should be a new form of forestry, based on aboriginal values and rights, supported by western science and technology.

Jack Smyth's paper was also about First Nations in Canada, with a focus on the First Nations Forestry Program. This partnership between two federal departments and First Nations is aimed at building capacity and identifying economic development opportunities to increase First Nation's participation in the forest sector. He acknowledged the constraints to effective participation but was optimistic about a future that would see First Nations achieving greater economic independence.

Robert Miller's paper on Maori forestry began with some evocative images and stirring music from New Zealand, leaving no doubt as to the enduring nature of Indigenous culture in this country. Maori are a significant stakeholder within the forestry sector for both native and planted forests, owning 13% of pine plantations and nearly 50% of privately owned native forests. This is likely to increase as Maori rights from the 1840 Treaty of Waitangi are realised. Robert gave some examples of Maori forest management that incorporated both economic and non-economic values, similar to First Nations and Australia.

Hemant Gupta presented a very different scenario in his paper on Indigenous forest management practices in the Indian Himalayas. He described the importance of traditional systems of management by local Indigenous communities for sustainable harvesting of non-wood forest products. Analysis of these systems through case studies has revealed that they are grass roots expressions of true participatory resource management. Social capital is built through respecting traditional systems of power and knowledge, thus reducing conflict and ensuring equitable distribution of resources. Many countries could learn from these Himalayan examples.

The Australian component of the session comprised two papers; a brief overview of Aboriginal involvement in forestry by Sue Feary, and a paper by David Taylor and Mark Annandale on forestry operations on Cape York Peninsula in far North Queensland. Sue's paper stressed the need for the industry to understand that Indigenous perspectives of forests are pluralistic and strongly influenced by historical factors. Forests are valued for their economic potential but their cultural meanings must also be maintained.

The paper by Mark and David showed that how, with appropriate government assistance, Aboriginal communities have the ability to establish and run viable forestry based industries. Based on their first-hand practical experience in working with remote Aboriginal communities they stressed the importance of being realistic about what can be achieved, the value of participatory, bottom-up approaches that involve listening to people and, the need to keep technology at a level appropriate for the location.

CONCLUSION

This suite of papers is significant in the context of the "Traditions and Technology" theme of the IUFRO 2005 Congress. All presenters recognised that the forest traditions of Indigenous peoples are ancient and enduring despite the influences of colonial histories. Globally, discourses on social justice recognise the importance of maintaining connections to forest landscapes as part of cultural identity. However, for poor and marginalised Indigenous societies, forests may also offer opportunities for much needed employment and business development.

The need for Indigenous people to combine cultural responsibilities for forests with their use in economic development is as much a challenge for the forestry industry as it is for Indigenous people. The majority of presenters in the session are trained in the profession of forestry, not anthropology or Indigenous affairs. Each has demonstrated an empathy with Indigenous people's perspectives on forests and forest management, as a result of working with Indigenous people during their research and career experiences. Little progress can be made in linking the forest industries' and Indigenous peoples' interests without this respect being shown similarly by the forest industry as a whole. In this context, effective participatory processes and appropriate systems for building individual and community capacity are critical to development of a viable forestry for Indigenous peoples. Such processes and systems should recognise that the social capital built through forestry business may be an end in itself, and a means of raising society's awareness of the impacts of historical legacies.

Sue Feary,

Session Coordinator