International experiences of community forestry and its potential in forest management for Australia and New Zealand

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ABSTRACT

Our research documents seven case studies from Asia, Europe and North America evaluating what determines the successes and challenges facing community forestry. We collected as much as information as possible on each case study in order to explore the issues in detail. However, due to the limited availability of documented information on many of the case studies from developed countries this resulted in unavoidable inconsistencies in depth of case study presentation. We find that the success of community forestry depends on whether the community forest reflects community values, targets community objectives and delivers community benefits. Furthermore, community forestry initiatives that come from the 'grassroots', rather than being government-led are usually more resilient and successful. Community forestry is found to bring many social and economic benefits to local forest communities, indigenous forest users or owners as well as urban communities living nearby. There are also improvements in the health of the forests due to the people's sense of resource stewardship/ownership. Economic improvement such as a greater degree of forest job security reduced unemployment and revitalised local economy and recreational attractions are additional sources of revenue from the forest. Our studies indicate that the lessons learned from these case studies can serve as guidelines, if community forestry is to be introduced to Australia or New Zealand.

KEYWORDS: Community forestry, New Zealand, Australia, forest management.

INTRODUCTION

Community forestry can be urban or rural forestry, a forest based activity where the crucial aspect is its control by the community either directly or through management accountable to the community through representatives (Wicklund 1993). Direct results of these activities are benefits that accrue back to the community. Community forestry is founded on the belief that local residents should play a meaningful role in decisions affecting surrounding forests. Community people are increasingly seeking more say in how local forest resources are managed and used. Community forestry is one way in which this desire can be met. However, local community groups will only manage their forests if it is in their interests to do so. This means they must recover their 'costs' and be able to protect those values that they consider important (Brown *et al*. 2002). For communities in developed countries, this generally includes recreation, tourism and environmental protection, as well as local employment.

There is an increasing recognition that rural communities derive a far wider range of benefits from forests than has previously been acknowledged, and that local forest management can make a critical difference to the socio-economic sustainability of rural populations (Brown *et al*. 2002; Carter, 2002; Collett *et al*. 1996). A growing number of communities in several developing and developed countries are attempting to gain greater control over their forest resources. To address this issue, national policies are being developed worldwide to re-engage communities in forest management decision-making (Hyde 1992; Duinker, *et al*. 1991).

In many developed and developing countries, interest in community forestry is increasing as an alternative successful forest management option. Community forestry is clearly people-oriented. It involves local residents in decisions that affect their quality of life and in activities on forest lands near their community that affect them directly. It is a way that forest-dependent communities can enhance their access to the benefits that come from using and managing local forests by controlling or owning forest lands (Hyde 1992). Community has a significant role in land-use decision-making and is satisfied with its involvement in and benefits from the management of their surrounding community forests (Duinker *et al*. 1991).

Major investments have been made in recent decades in the development of community forestry. Initially, community forestry was conceived as a strategy to address deforestation and rural development in developing countries. Hence, there is a long list of community forestry initiatives in developing countries during the past two decades (Carter 2000). In developed countries, community forestry is more recent, but there is growing public interest in it as an alternative form of sustainable forest management in improving local economy, environmental improvement, community value and needs including creating a feeling of community stewardship in forest resource management (Duinker *et al*. 1991).

Community-based forest management is not practiced in Australia or New Zealand although in both countries indigenous and non-indigenous rural communities have an increasing awareness of forest and land-use management issues. In order to do so an initial review study of community forestry systems from developed and developing countries is important to increase awareness and understanding of the elements of success and failure elsewhere. Therefore, the objectives of our study are to review and identify the key challenges, opportunities and strategies for implementing community forestry as a feasible forest management option for Australia and New Zealand. The combined benefits and characteristics of each community forestry case study described here will serve as useful guidelines.

METHODOLOGIES

Our study is based on secondary information documented in journals, proceedings and technical or discussion papers from development projects of developed and developing countries. We reviewed the above so as to gain a broad international perspective and to learn about the critical ingredients for successful community forestry. In addition, we collected relevant information on community forestry from Internet sources. However, Internet sources were only cited if the sources were published in websites of internationally recognised agents, such as the International Union for Conservation of Nature, Center for International Forestry Research and Food and Agriculture Organisation. Despite having collected as much information as possible on each case study in exploring issues in detail, the availability of documented information is limited, especially for some of the European

studies. Whereas information about community forestry in Canada was more and both Nepal and India was plentiful. This has resulted in unavoidable inconsistencies in depth of case study presentation

FINDINGS - INTERNATIONAL CASE STUDIES OF COMMUNITY FORESTRY

Case Study 1: Community Forests of the Native Americans, USA.

Many Native Americans have regained greater control over their forest areas through legislation, new treaties and other agreements with the government and the private sector over the past few decades. A growing number of groups are working to balance traditional cultural values with the development of modern forest management systems for meeting commercial, social and religious goals. Although there are cases of commercial failures there are also many successful ventures (Poffenberger and Selin 1998).

The Native Americans of the western United States are seeking to demonstrate that forest management can be tied to the conservation values of their own cultural traditions, rather than be driven only by the economics of the dominate commercial timber industry. Native tribes seek to achieve multiple objectives through their forest stewardship practices. Through their holistic approach to forestry, they are helping redefine sustainable forest ecosystem management.

Case Study 2: Vernon, British Columbia, Canada

By 1993, public concern in British Columbia over the visual impact of clear cutting and the loss of jobs as large industries have influenced the closure of small operators, resulted in the establishment of the Small Business Forest Enterprise Program by the local government. The program's aim is to develop alternatives to clear cutting and to increase community income from wood-based enterprises (Wicklund 1993). This in turn should lead to sustainable forest management systems with the new added objective of protecting the natural environment and encouraging community economic and social stability. Forest communities are increasingly demanding opportunities to engage in forestry; many, however, have rejected the volume-based tenures in search of alternatives to large-scale industrial forestry. This is forcing the government towards greater local control over land-use planning (Duinker *et al*. 1991; Roy 1989).

In Vernon, the provincial Ministry of Forestry has worked with local loggers and wood processors to develop environmentally sound and economically successful alternatives to conventional clear cutting. The programme has redesigned the system of timber sales to encourage local involvement (Poffenberger 1998). Now far more small cutting contracts are made with local operators. Government foresters are very careful to involve the community in decision-making. Alternative logging also employs more individuals than the past clear cutting method did. Overall, the Vernon program is a financial success with almost double the income generated compared to the previous clear cutting period and with the added benefit of reduced environmental costs.

Case Study 3: Waswanipi Cree Model Forest, Quebec, Canada

In Canada, First Nations must be considered in forestry management under recent legal reforms (Sherry and Myers 2002). Co-management regimes are promoted as a means to

enable this co-operation and are arising because of many factors: tribal dissatisfaction with state management systems that overlook traditional approaches and undermine local stewardship and harvesting interests; environmental degradation and loss of wildlife; tribal land and resource claims, as well as concerns over economic and industrial development pressures (Hall 1996).

Over the past few years, local involvement in management has increased both on tribal reserve land and on Crown lands. However, co-management agreements often emerge out of conflict and are agreed upon due to political diplomacy (Poffenberger and Selin 1998). Despite this, community involvement in forest management in Quebec has been improving in recent years, facilitated by a recent law that allows local municipalities to sign forest management agreements with the provincial government, in effect allowing the creation of community forests (Roy 1989).

The Waswanipi are a local tribe in Quebec that has a successful community forestry management system in operation, called the Waswanipi Cree Model Forest[1]. The Waswanipi tribe is noted for its community cohesion and participation in forest management (Poffenberger and Selin 1998). Yet this community has not developed these characteristics in isolation. It has the full commitment of the Canadian government and has received logistical and financial support.

The Waswanipi Cree Model Forest is based on a strong partnership of individuals and organizations with a variety of experiences and backgrounds in resource management. As the tribe's heritage is closely linked to the forest, the Waswanipi Band Council's proposal expressed a strong desire to use traditional environmental knowledge as the basis for sustainable forest management. The vision of the Waswanipi Cree Model Forest is to link traditional tribal ties with the development of resource-based activities such as forestry, tourism and recreation. To achieve this vision, the Waswanipi Cree Model Forest will combines its expertise in traditional knowledge with applied research and technologies to develop new sustainable forest management practices (Natural Resources Canada 1997)**.**

Case Study 4: Strathmashie Forest, Scotland.

In Scotland, many rural communities have been setting up local action groups, which in turn are planning community woodlands. It is these initiatives that are welcomed and encouraged by many conservation organisations to act, in turn, as advisors in pointing the community in the right direction. Participation has given the people a sense of stewardship and an understanding about how to realize sustainability and direct economic benefits.

Laggan, a small settlement in Scotland, is the first British community to be granted community control of a State owned forest for rural development purposes. The newly formed community forestry group is known as the Laggan Forestry Initiative. Its major objective is to provide sustainable employment for present and future generations based on the commercial management of the forest. The community stands to benefit both directly through the creation of modest employment opportunities and indirectly through the creation of local value-added wood processing industries and recreational facilities. These, in turn, have increased tourism in the area (Tylden-Wright 1997). The other objective of enhancing

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[1] Canada's Model Forest Program began in 1991 and is an attempt by the government to promote sustainable forest management with strong community involvement.

the forest's conservation and amenity features will also increases tourist potential (Jeanrenaud and Jeanrenaud 1996).

Case Study 5: Status of Community Forestry in Nepal

In Nepal, forests have long been an integral part of rural life. Traditional societies historically coexisted with the forests and their production systems were grounded in utilizing wild resources on a sustainable basis. When the government began preparing management plans for managing the forests, they were not effective because local people who were using the forests were not involved in the planning processes, with local people viewed as threats to the forest and were often even deprived access to the natural basis of their livelihood. This led to resentment and demolished any sentiments of forest stewardship, which in turn led to over exploitation of forest resources both by the government and local people. However, in the early 1980's, the government realized the role and value of the local communities in sustainable forest management and began community forestry as a forest management system (Joshi 1997).

The development of community forestry in Nepal is an attempt to improve the socio-economic conditions of rural communities and halt environmental degradation (Baral *et al*. 2000). The transfer of the management rights from the government to the local people for selected forests represents an important opportunity for the local communities to manage and utilise the forest. Hence, local communities are establishing legally recognised communities known as Forest User Groups (FUGs). Plantation on degraded lands, enrichment plantation under exiting forests, their management, as well as management of well-established natural forests, are being carried out by the FUGs. The Ministry of Forests provides technical support on silvicultural operations and writing management plans. The timber and non-timber production from the FUG managed forests belongs to the local community. Distribution and sale of the forest products is decided by FUGs. One hundred per cent revenue from its sale gets deposited into FUGs treasury. The FUGs solely decides the use of the revenue on forest and community developments, such as drinking water, school and others (Carter 2000). Some FUGs can even afford to employ forest rangers. Presently, national level FUG federation has been established with a legal reform. Managing local forests by FUGs are supporting community livelihoods by providing firewood, fodder, timber and non-timber forest products. Although scientific studies yet needs to be carried out, local people and development workers point to the reduction in soil erosion, establishments of gullies, water sources conservation and improvement in water quality, as positive environmental impacts resulting from community forestry in Nepal.

Despite the successful development of community forestry in Nepal there are instances when not all people receive the same benefits (Shrestha 2002). Management problems are basically issues relating to equity within local forest communities with disadvantaged groups, whether by wealth, gender or caste, being the ones, most likely to suffer from one or more, of the following: (i) failure to give access rights to all people who depend on local forests, (ii) disputes over the geographical boundaries of forests and other land uses, (iii) unequal and discriminatory portioning of the uses, (iv) unequal participation by stakeholders in key decision-making process, and (v) unfair distribution of workloads (Agarwal 2001; Ostrom 2001). Although the above are the current social and socio-political issues that need to be solved for further development of community forestry, community forests in Nepal are having a positive impact on restoration of degraded land and forest vegetations, increasing biodiversity, reduction of excessive grazing, forest fires and forest encroachment activities

and forest products are harvested on a sustainable basis in supporting rural livelihoods (Collett 1996).

Case Study 6: Status of Joint Forest Management in India

In India, community forestry is being promoted under the concept called Joint Forest Management. The programme comprises a partnership between local community institutions and state forest departments for sustainable management and benefits sharing.

Although the primary objective of community forestry in India is that of growing timber, the programme deals mainly with the reforestation and rehabilitation of degraded forestlands. This is accomplished mainly through the natural regeneration of Sal (*Shorea robusta*) forests, which in many areas regenerates easily if protected from grazing animals (Pardo 1995).

The prerequisite for Joint Forest Management is an agreement between government and local people – the management plan. Yet solely the forest department can prepare the management plan without adequate negotiation with local people (Jain 1996). This is a limitation to community forestry's success in India. The local people are requested to look after the forest but it is the government, which logs the timber. For example, in Bihar state, Krishnaswamy (1995) mentions that low participation persists because people do not expect to benefit from the forests they are supposed to protect. The government generally only designates poorly stocked, relatively unproductive and degraded forests for Joint Forest Management. Revenue sharing between villagers and the government only reduces the inadequate return local communities receive from these forests. Ideally, the community needs all the benefits to have a reasonable chance at rural development (Paudyal 1996).

Case Study 7: Northern Alps, Italy

Magnifica Communita di Fiemme (MCF) [translate the name to English, in parenthesis] is a community forest in the Alps of northern Italy. It is a partly private, partly public institution. The local economy of agriculture and forestry is now supplemented heavily by tourism, especially skiing. The total land owned by this community forest is mostly forest with some alpine meadows and pasture and a small proportion of unproductive land. Of the forest area about a quarter is protective forest and the rest is productive forest (Duinker and Pulkki 1998). The forest is dominated by Norway spruce (*Picea abies* Karst.), partly due to climate and topography, and partly due to its being favoured for its high-quality timber (Duinker and Pulkki 1998). MCF has a strong emphasis on quality timber grown and is processed locally. It owns a modernized saw mill that is the key to its economic viability as it can process value-added products for speciality markets.

Duinker and Pulkki (1998) who conducted a case study of this community forest, believe that the MCF is successful in terms of socio-economics and low-impact logging, but that it is not a success when perceived through the viewpoint of conserving natural biodiversity and ecosystem functions. However, the MCF, whether natural or not, is a sustainable situation which fully involves the community in decision-making, so from this perspective, it is successful.

While the MCF is an example of a community forest, which is clearly focussed on timber production as its primary management objective, this is not representative of northern Italy's community forests as a whole. In fact, there is a clear trend in recent years toward more

multipurpose management especially management for recreation and the production of non-timber forest products (NTFPs). For example, timber sales account for only one third of total revenues in other important Italian community forests: the *Regole* of Cortina, where access rights for sports and tourism constitute the main source of revenue; and the *Comunalie Parmensi*, where revenues are generated primarily from the sale of harvesting permits for medicinal herbs and mushrooms (Merlo 1995).

Italy's community forests display a high degree of adaptability, and it is this quality which has ensured their survival despite numerous socio-economic changes. Their ability to respond to changing social demands stems from their community-based, participatory decision-making process, and it is this that sets them apart from both public and private forests. This success has helped to change the image of many alpine regions in northern Italy; formerly considered under-developed or marginal lands, they are now seen as models of sustainable development (Morandini 1996; Merlo 1995).

DISCUSSION

Community forestry was found to bring about social, environmental and economic benefits to local forest communities as well as to urban communities living nearby. For example, in Nepal, community forestry has generally been successful, particularly from conservation and supporting livelihoods from socio-economic perspective. Comparisons before and after handing over the forests to the communities showed that forest regeneration or plantation were well established and had a better tree growth after handing over the forest to the communities. This resulted from control over forest grazing, forest fire and illicit felling of trees. Similarly, community forests supported the local communities on their livelihood by providing forest resources for their daily needs, generated income from timber and non-timber forest products and alleviated farm land deterioration from soil erosion. However, social social-political issues such as inequitable distribution of benefits in favour of influential people and at the expense of suppressed people and disputes between communities over geographical boundaries needs to be resolved (Joshi 1997; Baral *et al*. 2000). These issues need to be made aware of in the management of any community forestry project. The challenge is how to ensure an equitable distribution of benefits from the forest to all community forestry stakeholders. This highlights the need for a transparent relationship with all stakeholders, where decision-making must include all stakeholders, including the process for distributing benefits within the community. Dispute over the geographical boundary based on traditional land-use rights could rise between Maori and non-Maori New Zealanders as well as between Aborigines and non-Aborigine communities. Consensus for a mutual benefit to both communities from community-managed forests could help to resolve such a dispute.

The situation of community based forest management: Joint Forest Management in India highlights the difficulty the government is facing to fulfil the basic needs of local forest communities at the same time as fulfilling its economic goals and addressing environmental degradation. The success of community forestry is hampered here by the limited incentives for local people to participate in community forestry and help the government achieve its goals. This is because the benefits they are legally allowed from the forest is too low compared to their workload input and the forests allocated to them are often already environmentally degraded. A community forest must also have the resource capacity to fulfil the forest needs of the local community. To ensure community involvement, the community forest must reflect community values, target community objectives and deliver community benefits. In addition, community forestry initiatives that come from the 'grassroots', rather

than being government-led are usually more resilient and successful. An analysis of Joint Forest Management in India shows that the policy and work strategies of JFM are not dynamic enough in empowering communities by providing a legal status in managing forests, handing forests and forest lands to communities, providing them legal rights to make their own decision on forest management as it is observed in Nepal. It could be argued that Joint Forest Management is a lame way for the government to retain powerful control over forests (personnel communication Messerschmidt). Community forestry in Nepal evolved in 1980 and has experienced many economic and socio-political turmoil in Nepal. This has resulted in a refinement of community forestry in Nepal that has by now reached a successful development stage. However, Joint Forest Management in India is still in its childhood stage compared to Community Forestry in Nepal. We believe that with a holistic approach, Joint Forest Management will get better gradually. The reasons behind the greater success of community forestry in Nepal compared to the limited success of the Joint Forest Management in India is a lesson for Australia and New Zealand to develop a broad based holistic approach for implementing successful community forestry management.

Community forest management comprises mixed forest management strategies rather than just timber production through classic forest management. For example, in Scotland, the local communities were motivated to manage community woodlands. This benefited local people economically by modest employment opportunities and a greater recreational facility, and subsequently this attracted tourism from outside the community, which again promoted local economy from the creation of local forest jobs and from recreation related income. Within the management systems timber production and conservation both were equally considered. Similarly, in alpine areas of Northern Italy, the community forests were managed by local people to achieve a viable income from their community forest. This was achieved through the selection of high quality timber and the local processing of that timber rather than classic clear felling of forest. The community forests were managed to meet diversified social needs that included promotion of non-timber forest products, local recreation, tourism business and conservation. In the forests of the west coast of South island, New Zealand, community managed forestry is possible for multiple purpose forest use including timber production, tourism and the harvesting of non-timber forest products such as moss, honey and mushrooms.

Legal reform could play a "starter" role in bringing indigenous and non-indigenous communities together to managing forest resources for their mutual economic benefit. For example, in Canada, community forestry projects have allowed workers in small forest dependent communities a greater degree of job security, reduced unemployment and revitalised the local economy of both the Canadian tribal groups and non-tribal Canadians (Poffernberger 1998; Natural Resources Canada 1997). Such economic benefits would not have been possible if legal reforms in Canada had not provided legal thrust for tribal groups who must now be considered in forest management (Sherry and Myers 2002). Similar results were achieved in USA by many native Americans who have regained greater control over their forest areas through legislation, new treaties, and other agreements with the government and the private sector over the past few decades. A growing number of groups have worked to balance traditional cultural values with the development of modern forest management systems for meeting commercial, social and religious goals. These case examples indicate that legal reforms played a "starter" role in developing consensus between indigenous and non-indigenous communities to develop mutual partnership in managing their local forest resources. This lesson could be of benefit to Australia and New Zealand in bringing about mutual consensus between diverse communities for forest management.

Indigenous people have been shown to benefit much from community forestry with a positive effect on their socio-economic conditions as well as a gradual improvement in the health of the forest ecosystem due to their sense of forest ownership. For example, many native Canadians have been given control over the management of their native forest areas. This will encourage them to protect the forest ecosystem, gain local employment and conserve tribal traditions. Indigenous people's strong community cohesion as well as their traditional skills and knowledge in sustainable forest management are prime ingredients for success in community forestry. In New Zealand, Maori trusts account for a growing number of private forest owners. Here, there is opportunity to interest Maori groups in community forestry as a sustainable forest management option. Similarly, in Australia, Aborigines could be one of the key stakeholders in land planning processes in forest areas therefore their participation in any community forestry initiatives should be actively sought.

CONCLUSIONS

Our study indicated that community forestry is site-specific, with comparative success or failure largely determined by unique local conditions. However, there are prerequisite basic conditions, such as legal reforms, community consensus, equity, transparency and accountability, which are vital for successful community forestry as were revealed from the case studies discussed above.

As new demands on forests emerge, so to new management models, such as community forestry, may be required to address society's changing relationship with its forests. Community forestry is a means whereby several desired outcomes can be achieved i.e. greater accountability for public and industrial foresters, meaningful opportunities for local people to share in the responsibility for managing forests and hopefully more diverse and healthier forests which provide a wide range of benefits to society. The lessons learnt from these case studies, can assist the establishment of community forestry in Australia and New Zealand, where appropriate. The challenge is to develop frameworks based on a pilot level action research so that lessons learned from successful community-based initiatives can be replicated widely. Facing and resolving the challenges of community forestry is an on-going process and is the key to the long going and sustainable success of community forestry.

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