ELSPETH YOUNG National Centre for Development Studies, Australian National University ACT 0200, AUSTRALIA

Fax: 61 2 62495570 E-mail: <u>elspeth.young@anu.edu.au</u>

Stream: Aboriginal Territory and Management Rights Discipline: Human Geography

# **Reconciling Property Concepts for Effective Indigenous Resource Management: Some Alternative Approaches.**

# The Issue: Indigenous and non-indigenous perspectives

Indigenous and non-indigenous views of property ownership and use are significantly different. To indigenous peoples, whether they are minority 'first peoples' groups from industrialised countries such as the United States, Canada, Australia or New Zealand or whether they form the majority populations in their own countries (eg in Melanesia, Africa), natural resources, both marine or terrestrially based, have traditionally been perceived as held, in accordance with Bromley's (1991) definition in common by a group whose members may exclude non-members and who have rights and responsibilities in using and maintaining the resource. This definition, as Ostrom (1990) and Berkes and Farvar (1989) amongst others stress, clearly distinguishes such a regime from that of an open access resource, as referred to by Hardin (1968). Common property resources, shared in accordance with customary regulatory systems and traditionally managed in a relatively sustainable manner form the core of indigenous social coherence, the key to an holistic approach to life in general. As indigenous people in widely separated parts of the globe have eloquently expressed, human beings do not 'own' the land or sea or animals, but rather are at one with them. While details of such forms of ownership have demonstrably changed under pressures from population growth and desire for wealth and higher living standards, this holistic perception of an integrated people/resource system persists.

Non-indigenous peoples, in contrast, generally see natural resources in a very different way. They value more individual forms of 'ownership' and 'control', and assess resources primarily for their potential commercial exploitation and use as tradeable commodities; or for conservation as an integral part of the planet's biodiversity. They therefore want to regulate resource ownership and use under legislation which publicly sets out the rights and responsibilities of registered owners.

These two perceptions of property ownership and use obviously clash. Ownership under common property regimes frequently lacks visibility – its spatial dimensions and the cultural, political and

economic systems which combine to regulate its use are unmarked on the ground and publicly undocumented. Instead such knowledge is held by the customary 'owners' and transmitted orally. In contrast, visible signs of non-indigenous ownership abound – boundary fences, animals tagged to indicate ownership and clear evidence of resource use; public land registration and legal restrictions with which land-holders are obliged to comply. As I have commented elsewhere (Young, 1992: 259 – 262) such contrasts have often resulted in conflict. The invisible nature of common property holdings justified colonial powers in claiming control over resources on the grounds that, as occurred in Australia prior to 1992, the land was terra nullius, not 'owned' by the inhabitants who preceded British based settlement. While recent information, commonly compiled in the course of indigenous land claims such as those conducted in Canada and Australia, firmly contradicts such assumptions, the clash between indigenous and non-indigenous concepts of property ownership still has serious consequences. Indigenous minority groups in many countries battle with ruling governments, who are intent on resource development for national rather than local good and economic growth, or on resource conservation for environmental or aesthetic rather than community benefit to regain/retain control over their customary natural resources. They want to be able to use/manage these resources according to their own priorities. Indigenous majority peoples in developing countries, many of which are heavily indebted to donor organisations and multi-lateral banks, grapple with similar pressures. In both cases that pressure is frequently articulated as a requirement to individualise property ownership and/or institute state control, as a necessity for creating the stability to ensure that economic advancement can occur. Such a claim may not be valid. As Ostrom (1990) argues nationalisation of land can create open-access, thus opening up the system to the threats posed by the 'Tragedy of the Commons'; and private land may, because of the greed of land-holders, be progressively degraded so that its productivity decreases.

Not surprisingly such pressure has often led to conflict, sometimes resulting in physical violence. Australia's indigenous people have clashed with non-indigenous property holders and agents of government at all levels over the ownership and use of wildlife, the management of pastoral properties and, most fundamentally, in the attempts to resolve the problem of overlapping Native Title and state and private holding of alienated lands. In Papua New Guinea, Australia's nearest Melanesian neighbour, violent interactions have occurred between customary land-holders, who still hold 97% of the land primarily under common property regimes, and external development companies, regional and national governments and foreign aid donors and banks. Demanding that indigenous people radically change their property concepts in favour of individualisation does not eliminate such conflicts. Alternative approaches, including mutual respect for both viewpoints and couched in terms of information sharing, negotiation and agreements for the co-management of resources, are more likely to have positive results. Such approaches need to be facilitated, perhaps through indigenous representative organisations fully supported to perform that role. And, no matter what alternatives are chosen all parties need to accept that reconciliation of indigenous and non-indigenous concepts of property must reflect a widely accepted consensus rather than a shortterm solution about which many people have severe reservations. 'Crossing Boundaries' is fundamental to such an approach.

## Why Reconcile Indigenous and non-Indigenous Property Concepts.

Reconciliation of indigenous and non-indigenous property concepts has practical value because it increases the basis for effective and efficient resource management, particularly in ecologically fragile environments. Important points favouring a combination of these approaches include the following. First, since property concepts frequently overlap in a single geographical space resources can only be effectively managed if the plans adopted are accepted by all stakeholders. Secondly, the sustainability of the resources and of the communities who are sustained by them only becomes enhanced if all interests are reconciled. And thirdly, it is by no means certain that the destruction of common property regimes through interaction with the market system is beneficial at any scale or in shorter and longer terms.

#### **Overlapping property holding regimes**

The existence of overlapping property holding regimes is widely documented. In Australia, although most of the accessible and seemingly valuable land has, over the last 200 years, been alienated into state or private ownership under both institutional and individual management regimes indigenous concepts of ownership have not been eradicated. Over the last 25 years indigenous claims have increasingly been recognised and, where legislation has been established, legally accepted (see, for example, Young, 1992). Some traditional owners whose claims have been granted have regained tenure of their customary lands, with the right of exclusion and decision-making over use and management. Others, living in parts of Australia where their claims have so far not been supported through common law, have had to be content with recognition of their customary interests. These have sometimes provided a basis for negotiation for sharing royalties arising from resource exploitation on that land (eg from mining), or for the establishment of joint management institutions for land use (eg for parks and protected areas). Following the 1992 Mabo judgement and subsequent passage of the Native Title legislation in 1993 the issue of overlapping claims, and hence of concepts of resource ownership, has become much more prominent. The Mabo judgement, as we have argued earlier (Ross et al., 1994), morally obliges the state to recognise indigenous rights and concepts of property ownership. However contention continues. For many non-indigenous land-holders, mining companies and other private developers, politicians and government officials the uncertainties arising from overlapping resource interests are an insuperable barrier to development which must be removed. The current Commonwealth government's determined efforts to revise the Native Title legislation aim primarily at removing that supposed uncertainty. But, as indigenous people and some nonindigenous individuals and groups have stressed, these overlapping interests have always existed and resources have often been shared harmoniously. In that case does uncertainty matter?

If these overlapping interests in land are ignored then not only are basic human rights denied but also, I argue, effective management is most unlikely. In the remote north Kimberley, for example, non-indigenous pastoralists have given tourists permission to camp at many permanent waterholes, sometimes collecting rents for such use. In the late dry season such places provide the only water sources for stock as well as people, and hence under heavy use become rapidly degraded. The interests of indigenous customary land-holders, for whom most of these places are of great spiritual as well as economic importance, have been largely discounted. Not only does this deny a basic human right. It also ignores the benefits to be gained through using indigenous ecological knowledge of these water regimes, knowledge which could positively contribute to

better management of the whole resource (Davies and Young, 1996). Altogether, recognition and mutual respect for the overlapping interests of stakeholders and the establishment of appropriate avenues for exchange of information and negotiation to resolve differences is vital for the management of the land.

## Sustainable Development from Resource Management

Reconciliation of indigenous and non-indigenous concepts of property is also a key element in the search for sustainable development through management which promotes 'the needs of the present without compromising the ability of future generations to meet their own needs' (WCED,1987:43). Sustainable development recognises that while economic growth is a vital ingredient for improvement of human well-being, the environmental impact of such growth and its interactions with human society must be taken into account (see, for example, Barbier, 1987; Diesendorf, 1997). Equity, both between members of the same generation and between present and future generations, is a vital element in achieving greater sustainability. Without equity, and the process of sharing which this entails, certain groups and individuals interfere with the sustainability enhancing mechanisms adopted by others and thus jeopardise the entire process – boundaries must be crossed.

By espousing equity sustainable development approaches assume that different concepts of resource ownership and resource management, including indigenous and non-indigenous knowledge are mutually recognised. This means that both the common property nature of most indigenous resource ownership and also the nature and value of traditional ecological knowledge (TEK) should be recognised alongside scientific, normally non-indigenous, knowledge of how to manage resources. TEK greatly extends the known value of resources. In many parts of the world TEK is particularly linked to the maintenance of common property regimes; scientific knowledge, in contrast, is often difficult to apply unless more individual forms of resource ownership apply. In the contemporary world they coexist and, where this applies, a combination of TEK and scientific knowledge, along with both concepts of property holding, is the best approach for enhancing sustainability of resource use. In some environmentally marginal cattle stations in the north Kimberley area of Australia, for example, non-indigenous pastoralists have replaced extensive cattle ranching, the activity sanctioned by their leasehold agreements, by tourism, because they feel it will be more lucrative. Few questions have been asked. In this fragile, degraded country, tourism might well improve overall land sustainability because cattle stocking rates have dramatically declined. But this cannot be guaranteed. These tourist enterprises are, after all, on privately-held land and can expand with little control. Such expansion could cause resource degradation and, since tourist operators want to show their customers areas of religious and cultural significance to indigenous peoples, destruction of places central to TEK. This form of development is not sustainable. Sustainability would be greatly increased through the involvement of local indigenous customary owners in all aspects of these tourist ventures.

# Individual ownership: a pre-requisite for development?

Those who are operate largely outside a common property system – state policy-makers and agencies, financial lending institutions such as the World Bank or IMF, overseas aid agencies and

private resource developers - generally believe that clearly defined resource ownership, often on an individual basis, is essential for development. Pressures on customary land-holders to embark on the transition to individualisation and registration of their land-holdings has been strong, particularly in areas such as the Pacific. In Papua New Guinea, for example, the World Bank/IMF's 1994 structural adjustment package required the government to examine 'land mobilisation programs' including the registration of customary land. This requirement, as Larmour (1997) has commented, arose not only from a desire to promote economic growth for the overall benefit of the population in terms of increased living standards and well-being, but also from political interests. Ultimately, because of strong opposition from most Papua New Guineans, efforts to introduce land registration were abandoned. This failure reflected deficiencies in the method of implementation – externally-imposed regulation, with little attention paid to meaningful consultation and negotiation with land-owner groups. But it also demonstrated that many people felt that land registration was unnecessary for economic development. As Holzknecht (forthcoming) points out commercial gains from subsistence and cash-cropping in Papua New Guinea come mainly from agricultural activities on customary land, managed under well-regulated common property regimes. And, while commercial logging of Papua New Guinea's tropical rainforests has highlighted many problems concerning the operation of property rights (Filer, 1997) most timber earnings are also derived from land under customary ownership.

Australian evidence also refutes the assumption that individual ownership is essential for appropriate development. On many indigenous held pastoral leases the people have deliberately decided to combine the two systems. They use the land within their lease conventionally, for commercial cattle ranching; but at the same time they manage some of that land according to the coexisting common property regimes which are the foundation of their traditional ownership. In Australia's extensive semi-arid and arid rangelands such management is probably more sustainable than the practices adopted on many non-indigenous held pastoral leases (Young, 1988; Young and Ross, 1994). Here commercial cattle farming with stocking rates which, while sustainable in normal years, are not sustainable in times of drought, is the norm. The damage inflicted on the land by high stocking during dry periods, let alone stock loss during those times has been enormous, and hard to remedy. Some non-indigenous pastoralists now recognise that their conventional management approaches are unsustainable and are beginning to incorporate plans for multiple use and diversification. But these changes are recent. Acknowledgement that alternative approaches, including the combination of indigenous subsistence resource use with smaller scale, more controlled cattle ranching and possibly cultural and eco-tourism is still in its infancy (Young, forthcoming).

## Reconciling Indigenous/non-indigenous property concepts: some practical applications

New approaches to resource management which combine indigenous and non-indigenous property concepts, and make use of different knowledge of resource management are becoming more common. They include the establishment of resource management projects based on common property regimes but incorporating elements of individual entrepreneurship and pursuing dual goals such as conservation and development; the exchange of property concept information between individuals, their representative organisations and external agencies which support them; the establishment of workable negotiation processes to facilitate information exchange; and

comanagement approaches, processes whereby indigenous and non-indigenous people pool appropriate knowledge and skills to draw up plans for resource management in ways acceptable to both sides.

#### Sharing Knowledge and Ideals- a cornerstone for more sustainable resource management.

Reconciliation of differences in land holding concepts and also of differences in concepts of 'development' presents many problems. The establishment of Integrated Conservation and Development projects (ICADs) is one approach which is attempting to overcome some of these hurdles. ICADs embody the prime elements of sustainable development. They aim to conserve vital elements of the environment while also enabling development, both from social and economic perspectives. Many ICADs are established in communities for whom notions of common property resource use are still dominant (James, 1996: 7-8). These projects commonly involve small scale, community based activities and are often focused on indigenous groups. The participants accept two prime responsibilities - the conservation of the natural resources within their country the establishment of economic enterprises which may be based on the regulated use of these same resources. Rather than 'conservation or economic development' they aim for 'conservation for economic development' (Orsak, 1997). External support, both financial and technological, is normally essential. Effective sharing of information - primarily between ICAD members and government and non-government organisations providing that external support is essential. Papua New Guinea's experiences with ICADs graphically illustrate some of the pitfalls and gains coming from this approach.

Papua New Guinea's ICADs, now exceeding ten in number, largely originate from pressures arising from commercial logging and the people's desire for cash incomes. Since independence in 1975 an increasing number of customary land-owners, whose wealth consists primarily of land and its tropical forest resources, have been persuaded by foreign-owned companies to trade their trees. They have bartered the natural resource base on which they subsist for short-term cash gain. This is clearly unsustainable. In granting the logging concessions the land-owners allowed individualistic forms of tenure, demonstrated by the rights exerted by the developers, to be imposed on top of their common property regimes. High rates of deforestation, soil erosion and other environmental degradation has occurred and those who have been 'bought out' face a bleak future once their profits from the deal have been dissipated.

ICADs were intended to offer a viable alternative. There have been some positive results. Increased mutual awareness of different property concepts, development priorities and opportunities between the facilitators – conservation experts, small business promoters, adult educationalists, funders and general project workers – and the local people has occurred. This process has been slow. For example, one central highland ICAD existed for a number of years as a conservation project in which overseas based scientists conducted research on wildlife species and habitat survival, but had little interaction with local villagers within whose lands they were working. Increasing recognition by the scientists of the limited relevance of their studies to the community, on whom future conservation of these species would depend, and of the people's needs for better services and cash-earning opportunities has recently led to much closer collaboration. Villagers have been trained as research assistants, the scientists, and other facilitators, together with the local people, have developed small economic enterprises often based on local resource use (ecotourism, arts and crafts from natural resource products), and all stakeholders combined to draw up resource management plans, using both TEK and scientific conservation techniques. The longterm prospects for this ICAD look brighter than they did before.

Whether or not ICADs are sustainable is another question. As Sehkran (1996) stresses, conservation with small cash gains is unlikely to compete with the large cash incentives offered by logging companies wanting to buy forest concessions from such groups. As both Sekhran and van Helden (1997) argue, despite the obvious linkage of people, land and resources customary landowners do not necessarily have an inbuilt conservation ethic. If the profit motives are sufficiently strong they will abandon ICADs. One of the first ICADs, in the Lak District of New Ireland, has been abandoned because the attractions of ready money over long-term conservation values proved too strong and also because of the failure of promised planning mechanisms and programs which the people relied upon to provide the benefits they desired (McCallum and Sekhran, 1997). The realities of customary land ownership in Lak also proved to be a hurdle - opportunities for individual gain by powerful family groups led to uneven distribution of royalties and widespread dissatisfaction with the operation of the ICAD. They may also flout the regulatory systems essential to viable common property management. James (1996) describes one case which graphically illustrates this dilemma. One ICAD established an economic enterprise in which tourists were taken to points where they could view the breeding activities of the raggiana bird of paradise. After some time the birds began to move their displays to other trees and, in order to maintain their own personal advantage, customary owners felled trees at these new sites to try to force the birds back to the trees on their own land.

In Australia, indigenous land councils and resource management agencies play an intermediate role between the indigenous land holders, operating to a large extent under common property regimes, and the external development agencies, government, non-government and private industry. This role is of key importance. Indigenous representatives on the land councils and the legal and anthropological staff employed provide people in small remote communities with much needed support to deal with the external pressures designed to make them relinquish elements of their resource rights, or to accept different approaches to managing these resources (Kalit and Young, 1997). Over the last 10-15 years, as land claim settlement has proceeded, land councils have complemented their legal and anthropological work with support for land and resource management in general. Their land management sections are devising innovative ways of combining TEK and scientific approaches to land management and of assisting communities to adapt to property ownership concepts which are both common and individualistic. The Alice Springs based Central Land Council's Land Assessment and Planning unit provides a particularly graphic illustration of these valuable initiatives.

The Central Land Council (CLC), a statutory Aboriginal organisation established under the Land Rights Act (1976) Northern Territory, is required under that act to provide land management support for the 15000 traditional owners whom it represents. Until the mid 1980s, because land claims had to be dealt with within restricted time limits, that support formed only a minor part of their operations. Instead Aboriginal land holders were given land management advice from

government extension staff employed in Departments such as Primary Industry and Aboriginal Affairs. Not surprisingly that advice was heavily biased towards non-indigenous concepts and knowledge of arid and semi-arid land management; indigenous priorities and knowledge received scant attention. Pressure to accept such approaches, essentially reflecting individualistic and commercially driven concepts of how resources should be used, was particularly strong on Aboriginal held pastoral leases. These leases had, from the early 1970s, been purchased by government and returned to the indigenous traditional owners who had earlier been dispossessed through land alienation (Palmer, 1987; Young, 1988; Young, 1995). Following the 1976 NT Land Rights legislation many of these groups succeeded in making traditional ownership claims to have their leases converted to freehold title. They were then free to use this land according to their own priorities. Uses which accorded with indigenous common property regimes became strong priorities and on most of these former pastoral properties subsistence hunting and foraging, maintenance of spiritual sites, and the transmission of TEK throughout all community sectors became as important, if not more important that the commercial cattle enterprises with which they coexisted. The CLCs land management efforts have fully supported this dualistic indigenous/nonindigenous approach.

More recently the CLCs conventional extension activities have been complemented by the establishment of a Land Assessment and Planning Unit. This unit takes sustainable land management planning to the community and aims to produce plans that reflect indigenous people's knowledge and present and future priorities (Mahney et al., 1996). Sharing information between the non-indigenous and indigenous scientists working in the CLC unit, the indigenous people whose land is the focus of the planning exercise and additional technical and scientific expertise from government organisations such as CSIRO's Rangeland Management unit – is fundamental to these efforts and, as Rose's (1995) study demonstrates, understanding of indigenous perceptions of land management has grown significantly. Cattle station plans produced through this process combine common property and individual approaches to resource ownership, often related to overlapping subsistence and commercial grazing usage. Tools and techniques developed are proving to be of great interest not only to other indigenous organisations with similar needs but also to visionary non-indigenous pastoralists. They are increasingly beginning to promote diversity of use in an effort to decrease their vulnerability when threatened by drought or market downturns. Sustainability is thus enhanced (Young, forthcoming).

## Comanagement – Sharing responsibility for Resource Management.

Co-management, an approach whereby indigenous people form partnerships with government agencies to manage natural resources, also shows how common property and individual concepts of land ownership can be combined. Co-management systems have usually improved resource management, allowing scientific knowledge and TEK to enhance each other and increasing understanding of how resource management must be adapted to deal with scales other than local (regional, national, global). It has also had positive effects on the partners. Their mutual understanding of different ways of looking after resources has increased, and skills have been transferred between members of different groups. And, particularly where indigenous people's claims over the area/resources concerned has not been accepted, co-management can give them a significant degree of power in decision-making (Davies and Young, 1996). This does not always happen. Power-sharing in co-management arrangements is, as far as indigenous peoples are concerned, rarely evenly balanced; and co-management plans themselves may be primarily externally imposed. Not surprisingly many indigenous peoples see co-management as a compromise. They would prefer full recognition of their rights and responsibility for ownership and management of their customary lands.

In Australia co-management arrangements largely operate over national parks and protected areas. Some thirty such arrangements, varying according to the degree to which power is shared, either exist or are under negotiation (De Lacy, 1994). Kakadu and Uluru - Kata Tjuta National parks, in the Northern Territory, are the most widely recognised co-management models. Here indigenous people hold the land under Aboriginal freehold title and have subsequently granted a 99 year lease to the Commonwealth's conservation agency for the management of those lands as national parks. The indigenous traditional owners form a majority on the Boards of Management and therefore strongly influence policy and planning. Conservation agency staff and contractors take day-to-day responsibility for park management and indigenous traditional owners and others are employed as rangers and in other capacities. Co-management has, for both Kakadu and Uluru - Kata Tjata, provided economic benefit for the indigenous traditional owners (rents, park entry fees, wages for employment, enterprise development), and has also supported socio-cultural aspects of their lives (enabling the maintenance of spiritual traditions, empowerment and the enhancement of political knowhow). Environmental outcomes have also been positive, TEK, particularly in managing wildlife and in the use of traditional burning practices, is an integral part of management plans. In its broadest sense these parks combine the individual concept of property ownership, delineated by the boundary of the declared area, and common property ownership within that boundary. Actual management of park resources may accord with the rules of that common property ownership, providing clear guidelines for conducting specific management practices such as burning off vegetation.

Negotiations to extend co-management agreements to other Australian parks and protected areas (see Davies et al., 1997 for summary) have so far been hindered by the lack of supportive legislation in State/Territory (as compared to Commonwealth) governments; and by lack of commitment to the principles of co-management by these governments and their conservation agencies. Recognition of Native Title may in future help to overcome some of these problems. Elsewhere, notably in Canada, co-management has been instituted outside parks to develop management plans for areas in which a number of stakeholders have an interest; or for particular wildlife species which range across territories held under different jurisdictions. Here the conjunction of individual and common property concepts of resource ownership is vital because overlaps of these systems is legally recognised. Inuit Tapirisat of Canada (ITC) (1994) and Usher (1996) outline how co-management processes are being implemented in areas covered by Canada's Comprehensive Claims Agreements in Arctic regions. Here, while claims settlements confer absolute indigenous title only on parts of the region claimed (eg the Inuvialuit and Nunavut claims) co-management agreements cover the whole area. These are administered by Boards of Management on which both governments and indigenous traditional owners are represented. Boards of Management are responsible for policy decisions, and for advising government on these; subsidiary groups deal with actual day-to-day management. These arrangements have led to new relationships between indigenous peoples, government agencies and scientists, with mutual learning and information sharing between all groups. Problems identified include the need for strong commitment and political will from all stakeholders, the need for adequate financial resources and, of particular issue in terms of reconciling individual and common property approaches to management, the need to safeguard indigenous rights to subsistence harvesting of animals and plants in the face of efforts to impose restrictions stemming from international agreements. Application of these Canadian experiences in Australia is yet to come but would probably be a useful model to examine in relation to the management of marine species such as dugong and turtle (Davies et al., 1997).

# **Reconciling Indigenous and non-Indigenous concepts of Property: a necessity for Sustainability**

Given continuing high population growth and the declining quantity and diversity of both the renewable and non-renewable resources on which the planet's life-forms depend the quest for more sustainable forms of development is paramount. Greater sustainability can only be achieved through full commitment and cooperation between all groups of people, indigenous and nonindigenous. It is imperative that people make deliberate efforts to understand each other's fundamental viewpoints about preferred life-styles, and to know and respect what each can contribute to better resource management. Bringing together indigenous and non-indigenous people to share ideas, learn from each other and devise innovative ways of using their combined knowledge to manage resources must assist this process. Understanding different concepts of property ownership and of how property should best be managed is central to this approach. Because of the dynamic nature of society no people, whether they are from rich industrialised nation-states, from poverty stricken developing countries or whether they are of indigenous or non-indigenous origin, can afford to be complacent about their own beliefs or convinced that they have the best answers. The checks and balances which are integral to robust common property systems are complemented by human ability to adapt to changing circumstances, including the incorporation of aspects of 'individual' ownership into the communal system. As some of the cases referred to here indicate that kind of adaptation enables economic development to occur without enforcing radical changes which eradicate traditional ways of caring for and using resources. Reconciling these different ways of regarding resource responsibility means finding answers to a number of key questions. How can information can be made more accessible to all people with legitimate interests? How can negotiation between stakeholders be made more effective? How can co-management, on terms as equal as possible, support sustainable resource use? And, of great importance in practical terms, how can indigenous people tap into the necessary financial and human resources to make such alternatives work?

#### **References:**

Barbier, E., 1987: 'The Concept of Sustainable Economic Development', *Environmental Conservation*, 14(2): 101-11.

Berkes, F. and Farvar, 1989: 'Introduction and Overview', in F. Berkes (ed.), Common Property

Resources, London, Belhaven Press.

Bromley, D., 1991: *Environment and Economy: property rights and public policy*, Cambridge, Mass., Blackwell.

Davies, J. and Young, E., 1996: 'Taking Centre Stage: Aboriginal strategies for redressing marginalisation', in R. Howitt, J. Connell and P. Hirsch (eds), *Resources, Nations and zindigenous Poepls: case studies from Australasia, Asia and the southwest pacific*, Melbourne: Oxford University Press, 152-171.

Davies, J., Higginbottom, K., Noack, D., Ross, H. and Young, E., 1997: 'Animals for Living': Indigenous community wildlife management in Australia, Regional review for the International Institute for Environment and Development (IIED) study "Evaluating Eden". (Draft, now under revision for publication through IIED)

De Lacy, T., 1994: 'The Uluru/Kakadu Model – Anangu Tjukurrpa: 50000 years of Aboriginal law and land management changing the concept of national parks in Australia', *Society and Natural Resources* 7: 479-498.

Diesendorf, M., 1997: 'Principles of Ecological Sustainability', Ch.3, in Diesendorf, M. and Hamilton, C.(eds), 1997: *Human Ecology, Human Economy*, Sydney, Allen and Unwin.

Filer, C. (ed.), 1997: *The Political Economy of Forest Management in Papua New Guinea*, Port Moresby, National Research Institute and London, International Institute for Environment and Development.

Hardin, G.1968: The Tragedy of the Commons', Science 162: 1243-8.

Holzknecht,H., (forthcoming): Customary Property Rights and Economic Development in Papua New Guinea', in T. van Meijl and F. Benda-Beckmann (eds), *Property Rights and Economic Development in Southeast Asia and Oceania*, London, Kegan Paul International.

Inuit Tapirisat of Canada (ITC), 1994: *Comanagement in Inuit Comprehensive Claims* Agreements, Presentation to the Standing Committee on Aboriginal Affairs and Northern Development, Ottawa, Canada.

James, J., 1996: 'Linking Sustainable Resource Management and Conservation to Sustainable Enterprise Development', in James, J (ed.), 1996: *Proceedings of the 1995 Meeting of Integrated Conservation and development Projects in Papua New Guinea*, DEC/UNDP OPS-PNG/93/G31

Kalit,K. and Young,E., 1997: Common property conflict and resolution: Aboriginal Australia and Papua New Guinea, in P. Larmour (ed.), *The Governance of Common property in the Pacific region*, NCDS/RSPAS, ANU, Canberra, 183-208.

Larmour, P. 1997: 'Introduction', in P. Larmour (ed.), *The Governance of Common property in the Pacific region*, NCDS/RSPAS, ANU, Canberra, pp1-17)

Mahney, T., Gambold, N., Walsh, F. and Winstanley, D., 1996: Looking at country two ways – Land Resource Assessment on Aboriginal Lands in central Australia, *Australian Collaborative Land Evaluation Program (ACLEP) Newsletter*, March, 2-5.

McCallum, R. and Sekhran, N., 1997: *Race for the Rainforest*, DEC/UNDP, Global Environment Facility, UNOPS-PNG/93/G31, Port Moresby.

Orsak, L., 1997: 'Conservation or Economic Development? No! Conservation for Economic Development!', *CRI Educational Publication* No. 13, Christensen Research Institute, Madang.

Ostrom, E., 1990: Governing the Commons, Cambridge, Cambridge University Press.

Palmer, I., 1987: *Buying back the Land*, Canberra, Australian Institute of Aboriginal Studies Press.

Rose, B., 1995: Land Management Issues: attitudes and perceptions amongst Aboriginal people in central Australia, Alice Springs, Central land Council.

Ross, H., Young, E. and Liddle, L., 1994: Mabo: an inspiration for Australian land management, *Australian Journal of Environmental Management* 1(1), 24-41.

Sehkran, N., 1996: 'The Economics of Logging in southern New Ireland', in James, J (ed.), *Proceedings of the 1995 Meeting of Integrated Conservation and development Projects in Papua New Guinea*, DEC/UNDP OPS-PNG/93/G31

Usher, P., 1996: Contemporary Aboriginal Land, Resource and Environment Regimes: Origins, Problems and Prospects, A Report prepared for the Royal Commission on Aboriginal Peoples, Land, Resource and Environment Regimes Project, Ottawa, Canada.

van Helden, F., 1997 "Kampani bilong Environmen": Community Motivation for Biodiversity Conservation in the Bismarck-Ramu', unpublished paper presented at ICAD Workshop on Development Incentives, Motupore Island, PNG.

WCED, 1987: Our Common Future, Oxford, Oxford University Press.

Young, E., 1988: 'Land use and resources; a black and white dichotomy', in R.L.Heathcote and J. Mabbutt (eds), *Land, Water and People: Geographical Essays in Australian resource Management*, Sydney: Allen and Unwin.

Young, E., 1992a: 'Hunter-gatherer concepts of land and its ownership', in K. Anderson and F. Gale (eds), *Inventing Places*. Longmans, Melbourne.

Young, E., 1992b: 'Aboriginal land rights in Australia: expectations, achievements and implications', *Applied Geography* 12 (2): 146-62.

Young, E., 1995: *Third World in the First: development and indigenous peoples*, London/New York: Routledge.

Young, E., (forthcoming): 'Sustainability and Development: Indigenous Approaches in Australia's Rangelands'

Young, E. and Ross, H., 1994: Using the Aboriginal rangelands: 'insider' and 'outsider' perceptions', *The Rangeland Journal*, 16(2), 184-97.