



Payment for Ecosystem Services Markets on Aboriginal Land in Cape York Peninsula Potential and Constraints

Michael Winer, Helen Murphy
and Harold Ludwick



United Nations
Research Institute
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Occasional Paper Six

Social Dimensions of Green Economy and Sustainable Development

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April 2012

This United Nations Research Institute for Social Development (UNRISD) Occasional Paper has been produced in collaboration with the Friedrich-Ebert-Stiftung (FES). UNRISD thanks the Norwegian Ministry of Foreign Affairs for supporting the conference, Green Economy and Sustainable Development: Bringing Back the Social Dimension, and the governments of Denmark, Finland, Mexico, South Africa, Sweden and the United Kingdom for their core funding.

Illustrations on front cover: Aine Cassidy.

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ISBN 978-9-29-085086-1

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Acronyms

AU\$	Australian dollar
CEO	Chief Executive Officer
CFI	Carbon Farming Initiative
CYPAL	Cape York Peninsula Aboriginal Land
DERM	Department of Environment and Resource Management
DOGIT	Deed of Grant in Trust
ILUA	Indigenous Land Use Agreement
LULUCF	Land use, land use change and forestry
NETT	National Emissions Trading Taskforce
NGO	Non-governmental organization
NRM	Natural resource management
NTA	Native Title Act
PES	Payment for Ecosystem Services
Qld	Queensland
REDD	Reducing emissions from deforestation and forest degradation

Summary

In the global arena, improving environmental outcomes at the same time as ensuring social equity outcomes for disadvantaged landholder groups has become increasingly important. This is especially true in regions with pressing environmental problems populated by low-income indigenous land stewards. The ability of Payment for Ecosystem Services (PES) schemes to lift poor people out of poverty and, in particular, the potential for PES schemes to improve social and welfare conditions in remote Australian indigenous communities is increasingly being recognized. Based on research in Cape York, Australia, this paper argues that a new approach to environmental management is needed to incorporate PES market participation by indigenous landowners. This is because the current framework for environmental management on Cape York is failing on two fronts: it is delivering suboptimal environmental outcomes and constraining the economic development aspirations of traditional owners. Current barriers to participation by indigenous communities in the Cape York Peninsula in PES markets—including legislative constraints and the existence of weak Aboriginal land and property rights—must be overcome.

This paper argues that insufficient government funding and lack of indigenous involvement in design and implementation of natural resource management (NRM) has resulted in increased environmental risk in the region and an NRM system characterized by insufficient, unreliable and short-term government funding. Such funding regimes result in communities becoming financially dependent, politically vulnerable and disempowered from decision making, discouraging entrepreneurship and career development opportunities. There has been an overall lack of formal recognition and at times active undermining of Aboriginal governance structures by the government and non-governmental organizations (NGOs) to achieve political outcomes, further weakening Aboriginal negotiation and governance capability and disempowering indigenous NRM on their lands.

PES market participation could enable indigenous people in Cape York to reap the rewards gained from market participation by taking responsibility for environmental stewardship on their lands. One of the barriers that currently constrain indigenous development in PES markets is the multiple layering of environmental legislation. The restrictions on indigenous land use imposed by the current complex regime of environmental legislation greatly devalues the potential for indigenous people to engage with the voluntary and potential mandatory market for carbon and ecosystem services without any significant improvements in NRM outcomes stemming from this regulatory overload. The system of legislation and regulation imposes a very heavy burden of environmental maintenance on communities with little capacity to bear the cost.

Another important contributing factor is the underlying existence of weak Aboriginal land and property rights. Where there is lack of security and certainty of indigenous landholding (through native title rights, as well as other rights and interests) it is difficult to achieve the levels of permanence required to demonstrate ecosystem service benefits. Restrictions imposed on indigenous land use by NRM laws and regulations have the effect of transferring property rights and environmental values to society with little or no consideration of or accountability for the actual NRM costs that are required. The opportunity costs of imposing poorly designed blanket restrictions over entire landscapes disproportionately impact on indigenous communities that have not developed their land or had the chance to consider future land use options.

A new approach to environmental regulation that genuinely recognizes the conditions and history of Cape York is needed. An approach such as PES would seek to reconcile the legitimate development aspirations of traditional owners with effective environmental protection mechanisms, instead of creating conflict. What should have become one of the biggest economic values and opportunities for the Aboriginal people of the region—ecosystem services—is now increasingly becoming a liability. While, in some cases, a higher perceived level of potential or

real threat to the environment can provide the impetus for implementation of ecosystem service schemes, in Cape York, many major perceived threats have now been legally removed from the region and are no longer tradable. For example, land clearance laws have halted land clearing so one cannot trade that right for carbon credits through avoided deforestation. While there are still some significant PES opportunities such as fire management for carbon credits and some broader ecosystem services such as feral animal and weed control, many major opportunities that are developing nationally, such as tree planting and land use changes related to agriculture, are not relevant to an undamaged landscape. The remaining PES opportunities come nowhere near compensating for the acquired carbon and environmental values.

If Cape York is to realize the larger opportunities—the opportunities that could potentially fund the real costs and effective management of this vast and ecologically rich region—then significant policy changes will need to be made by governments at the state and federal level. These include:

- strengthening indigenous land tenure and property rights;
- enacting long-term, integrated NRM goals and programmes with greater indigenous participation;
- legally requiring Indigenous Land Use Agreements (ILUAs)¹ as part of any consent process for land use change on Aboriginal land such as new conservation regimes or industrial development;
- the further exploration of PES approaches as complements to existing conservation tools; and
- the establishment of a supportive legislative and policy environment to enable indigenous participation in PES markets.

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¹ "The Indigenous Land Use Agreement (ILUA) is a voluntary agreement between a native title group and others about the use and management of land and waters." Source: Agreements, Treaties and Negotiated Settlements database, www.atns.net.au/subcategory.asp?subcategoryid=121, accessed on 3 February 2012.

Introduction

In the global arena, there has been an increased understanding and focus on the challenges of improving environmental outcomes at the same time as ensuring social equity outcomes for disadvantaged land-holding groups. This is especially true in regions with high environmental values and pressing environmental problems populated by indigenous land stewards with very low levels of income and limited economic opportunities, such as the Peruvian Amazon, Coron Island in the Philippines and the Borana ethnic territory in Ethiopia. In Australia, the potential for Payment for Ecosystem Services (PES) schemes to improve social and welfare conditions in remote Australian indigenous communities is increasingly being recognized (Zander and Garnett 2011; Garnett et al. 2009). This paper argues that a new approach to environmental management in Cape York is needed, built around strengthened indigenous land tenure and property rights; longer-term natural resource management (NRM) goals and programmes with greater indigenous participation; and the incorporation of PES markets characterized by broad private investment and enabled by a supportive legislative and policy environment. This is because the current framework for environmental management on Cape York is failing on two fronts: it is delivering suboptimal environmental outcomes and is constraining the economic development aspirations of traditional owners. However, current barriers to participation by indigenous communities in the Cape York Peninsula in PES markets—including environmental legislative constraints and the existence of weak Aboriginal land and property rights—must first be overcome.

The remoteness and limited economic options in Cape York means that payments for land management are crucial for improving social outcomes for indigenous communities. Income derived from land management enables indigenous people to fulfil cultural responsibilities by caring for country and maintaining the health of country through “the physical presence of its traditional owners” (Zander and Garnett 2011:1). However, insufficient government funding and lack of indigenous involvement in design and implementation of natural resource management (NRM) has resulted in increased environmental risk in the region. It has also led to an NRM system characterized by insufficient, unreliable and short-term government funding. Such funding regimes result in communities becoming financially dependent, politically vulnerable and disempowered from decision making, discouraging entrepreneurship and career development opportunities. Disturbingly, there has been an overall lack of formal recognition, and at times active undermining, of Aboriginal governance structures by the government and non-governmental organization (NGOs) to achieve political outcomes, further weakening Aboriginal negotiation and governance capability, and disempowering indigenous NRM on their lands.

PES market participation could enable indigenous people in Cape York to reap the rewards gained from market participation by taking responsibility for environmental stewardship on their lands. One of the barriers that currently constrains indigenous development in PES markets is the multiple layering of environmental legislation. The restrictions on indigenous land use imposed by the current complex regime of environmental legislation greatly devalues the potential for indigenous people to engage with the voluntary and potential mandatory market for carbon and ecosystem services without any significant improvements in NRM outcomes stemming from this regulatory overload. The system of legislation and regulation imposes a very heavy burden of environmental maintenance on communities with little capacity to bear the cost.

Another important contributing factor is the existence of weak Aboriginal land and property rights. Where there is a lack of security and certainty of indigenous landholding (through native title rights, as well as other rights and interests), it is difficult to achieve the levels of permanence required to demonstrate ecosystem service benefits. Restrictions imposed on indigenous land use by NRM laws and regulations have the effect of transferring property rights and environmental values to society with little or no consideration of, or accountability for, the actual NRM costs that are required. The opportunity costs of imposing poorly designed

blanket restrictions over entire landscapes disproportionately impact on indigenous communities that have not developed their land or had the chance to consider future land use options.

Based on research in Cape York, Australia, this paper examines the obstacles that prevent indigenous participation in PES markets. This paper is structured as follows: first, we outline the conceptual framework of the paper and the background of Cape York. This is followed by a brief overview of current green economy approaches in Queensland, followed by a discussion of the main issues facing indigenous communities in Cape York regarding their involvement in PES, including the effect of restrictive regulation and legislation, and weak land tenure and property rights.

Payment for Ecosystem Services

Recent years have seen PES schemes being increasingly used as an alternative approach to fund environmental management both globally and in Australia. The driving idea behind PES is that the provision of environmental services that provide a public benefit should be recognized financially. The PES model is an attempt to assign a financial value to critically important services such as the provision of clean water or maintenance of biodiversity, and thus develop a market-based solution as part of the NRM toolbox. This paper uses Wunder's definition of PES as "a *voluntary* transaction where a *well-defined* ecosystem service (or a land use likely to secure that service) is being 'bought' by a (minimum one) PES *buyer* from a (minimum one) ecosystem service *provider* if and only if the ecosystem service provider secures ecosystem service provision (*conditionality*)" (Wunder 2005:3). Another key dimension of PES is the requirement for *additionality*. This means that services must show that payment causes the benefit to occur where it would not have done otherwise. That is, "what would have happened if there had been no intervention (a counterfactual event that is not observed)?" (Ferraro and Patanayak 2006). To put it another way, there must be a causal relationship between the payment and the ecosystem service delivered.

The PES paradigm seeks to move away from traditional approaches to conservation and development based on either "fortress-type" approaches of protected area management or Integrated Conservation and Development Projects focused on trade-offs between conservation groups and local communities (Dahlberg and Burlando 2009). Thus it represents "a departure in traditional approaches to environmental protection, land use controls and service provision strategies" (Salzman 2009:16). The question of whether this approach has the potential to benefit low-income land stewards (see Milder et al. 2010) is one that must be examined carefully. Results from several studies indicate that "PES does or could provide important livelihood benefits to poor people at the household or community level, whether in the form of cash payments or noncash benefits such as...establishing more secure land tenure, or strengthening social capital and supportive local institutions" (Milder et al. 2010:3). However, while the potential of PES schemes to "result in increased social welfare" has been noted (Salzman 2009:16), overall there is a lack of research into the costs and benefits of emerging PES markets (Landell-Mills and Porras 2002; EcoTrust 2009). In particular, we lack answers to the questions of whether payments deliver additional environmental services compared to other policy approaches, and in what situations PES schemes most effectively improve environmental and social conditions (Ferraro 2011:1135).

PES is a tool tailored to address a specific set of problems: those in which ecosystems are mismanaged because many of their benefits are externalities from the perspective of ecosystem managers (Engel et al. 2008). And as with other tools for ecosystem management, it suffers from "real world constraints" such as adverse selection, poor administrative targeting, poor contract allocation and price-setting (Ferraro 2011:1135). Hence, good system design is crucial, as badly designed PES schemes can either fail altogether, or fail to produce social development objectives for disadvantaged participants. High transaction costs, including unclear property

rights, inadequate or complex regulatory frameworks, inadequate skills and education, inadequate finance, insufficient communication infrastructure, high coordination costs and weak political voice can impede market development (Landell-Mills and Porras 2002). International experience with PES approaches in Asia, North and South America, and Africa show the need for accurate valuation of ecosystems, supportive policy, legal and institutional frameworks and the importance of careful system design to prevent elite capture. In addition, the importance of secure property rights and good governance has been widely noted.²

That said, while we recognize that PES schemes have disadvantages and constraints, we also believe that, on balance, they can also offer important benefits if correctly designed and implemented. Well-designed PES schemes as part of a larger natural resource management framework have the potential to complement existing conventional conservation mechanisms by increasing funding and potentially giving more flexibility to land managers. In particular, we note Ferraro's recommendation that PES "as a tool for investing conservation funds [as opposed to raising funds for conservation] ... promise to be strong complements to regulatory and norm-based approaches and substitutes to indirect alternative-livelihoods approaches" (Ferraro 2011:1137). We also note that more research into the environmental and social outcomes of PES schemes is urgently needed.

Natural Resource Management in Cape York

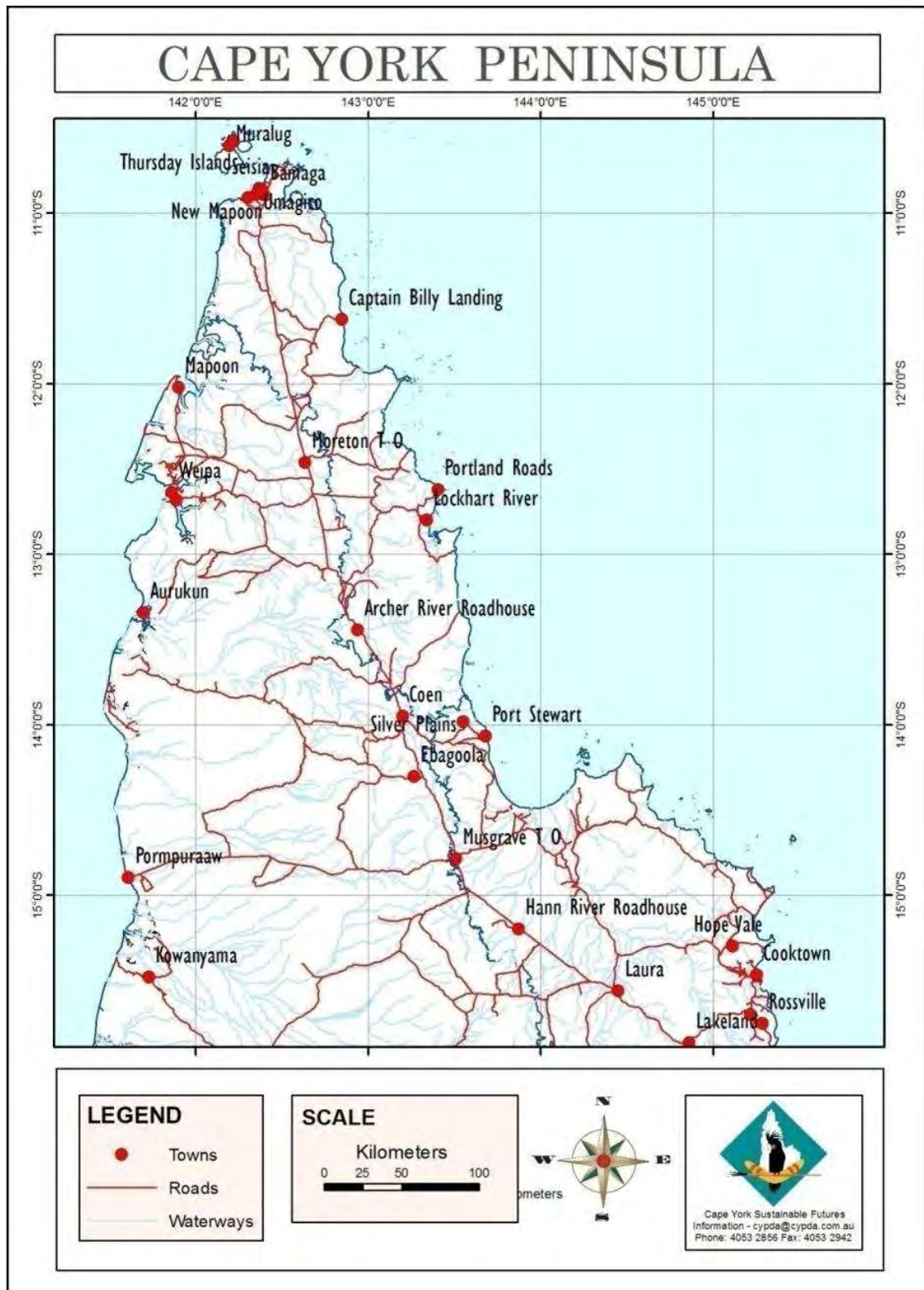
Cape York is a sparsely populated region of north Queensland that holds within its 137,000 square kilometres ecosystems of global ecological significance. Its diverse ecosystems such as wetlands, monsoonal rivers, extensive undamaged tropical rainforest, heath lands, dune fields and tropical savannah woodlands have a high level of retained integrity. Over 3,000 plant species and 500 species of terrestrial vertebrates have been recorded in Cape York. This includes a quarter of Australia's frogs and reptiles, half of Australia's birds, a third of the mammals and nearly two-thirds of the country's butterflies (Earth Tech 2005:37). In addition, the region is also home to globally significant populations of crocodiles, dugong, turtles and cassowary. Thus it is said to "encompass a living mosaic of interlocking habitats that provide a globally outstanding resource for the in-situ conservation of biodiversity" (Mackey et al. 2001:11).

About two-thirds of the 15,000 people that live in Cape York self-identify as indigenous (ABS 2008, cited in Winer et al. 2009). The indigenous population represents over 50 language groups and presents a great diversity of culture. This indigenous population is mainly situated in seventeen separate communities on or near the coast, including Wujal, Mossman Gorge, Kaurareg (Horn Island), Hope Vale, Lockhart River, New Mapoon, Aurukun, Injinoo, Umagico, Old Mapoon, Pormpuraaw, Napranum and Kowanyama (see figure 1) (Winer et al. 2009).

After a history of bitter conflict with white settlers and forced removals of Aboriginal populations, the majority of Cape York is now covered by various levels of native title recognition. Approximately 40 per cent of the land in Cape York is Aboriginal-owned or controlled (or soon will be through the Queensland Land State Dealing process). The Aboriginal freehold or Deed of Grant in Trust (DOGIT) lands (comprising approximately 3,235,620 hectares) coexist with a similar area of national parks and nature refuges as well as substantial Aboriginal-owned pastoral leases (Balkanu and Cape York Institute 2007:1). The remainder of Cape York consists primarily of pastoral leases and mining leases. Through the Cape York Heritage Act, national parks will now have underlying Aboriginal ownership and joint management and are included as part of the Aboriginal estate.

² Rojas and Aylward 2003; Russo and Candela 2006; Ecotrust, 2009; Rakshi 2009.

Figure 1: Map of Cape York towns and communities



Source: Cape York Sustainable Futures 2010:25.

Despite being the owners and managers of large tracts of land and sea containing a diverse array of cultural, ecological, economic and social values and assets, many Aboriginal communities in the Cape are characterized by widespread disadvantage and welfare

dependence. It has been acknowledged that “indigenous Australians are suffering because of an overly bureaucratic system imposed on them that has left many ‘land rich but dirt poor’” (Peatling 2005:1). This manifests itself in a system characterized by indigenous dependence on government funding for NRM initiatives. Reliance on short-term funding results in indigenous NRM organizations chasing immediate funding opportunities at the expense of long-term goals and programmes. The result is not only ad hoc decisions, duplication of services and lack of strategic planning, but also little development of long-term infrastructure, skills and activities (Balkanu and Cape York Institute 2007). In recent years, there has been significant local pressure on indigenous people to forgo significant property rights to retain funding under new conservation regimes. Thus we recommend enacting long-term, integrated NRM goals and programmes with greater indigenous participation as well as legally requiring Indigenous Land Use Agreements (ILUAs) as part of any process of land use change on Aboriginal land, such as additional formal conservation regimes.

It has also been recognized that government spending on natural resource management in Cape York is insufficient given the vast size of the region and the increased costs associated with managing land in remote areas.³ The Queensland government has long been criticized for insufficient financial resourcing and level of staff for national parks.⁴ As such, and despite the introduction of stricter environmental legislation and regimes, critical environmental issues such as weeds, feral animals, fire management and quarantine continue to affect the region. Adopting an approach based mainly on legislation that cannot be effectively implemented on the ground means the vast task of environmental management across remote Australia will remain an unworkable challenge for the government. Instead, PES market participation by indigenous landowners in Cape York should be enabled, in order to provide long-term funding through perpetual agreements and contracts that can directly benefit land managers. It is unknown at the present time what level of funding PES schemes may be expected to provide, however, as stated earlier, the potential for Cape York ecosystem services is significant. The authors believe that more research needs to be done into the real management costs of environmental protection, the size of the market needed to ensure this level of funding, as well as the social and economic cost of lost development opportunities. In short, much work needs to be done to ensure that future environmental and development needs are met.

There are some positive initiatives currently being implemented by the federal government. These include the Carbon Farming Initiative (CFI) and related Biodiversity Fund, and the Working on Country programme. The CFI will recognize some PES opportunities, such as the Carbon Fire initiative, which will reintroduce traditional burning patterns that significantly reduce emissions from current wildfire methods. The Biodiversity Fund combined with carbon abatement may help fund feral pig and cattle control pending the outcome of supporting research. Working on Country currently employs 70 Aboriginal rangers across Cape York and allows a much greater level of Aboriginal control of land management priorities and methods and is proving a more positive programme than other ineffective regimes.

As ecosystem managers on their lands, Aboriginal people currently receive few benefits from land uses such as forest conservation. They are paid minimal amounts to manage their land by the government and environmental outcomes suffer. Self-funded management through a combination of government transfers, enabling PES opportunities and broader economic equity may be a viable option to improve environmental outcomes. It must be noted that while PES opportunities and environmental regulation should work together to complement each other; currently this is not the case in Cape York. With these two approaches in opposition, the result is poorly enforced complex environmental legislation that benefits neither the environment nor traditional owners. With greater opportunities to pursue PES schemes, environmental

³ Environmental and natural resource management activity represents up to 10 per cent of total economic activity in Cape York, with financial inputs mostly provided through government transfers for services, grants and community development employment projects (Balkanu and Cape York Institute 2007).

⁴ Gall 1994; Beeton 2001; Larsen 2005.

protection may be enhanced, but care must also be taken to ensure schemes entered into are carefully designed and carried out. However, while PES schemes could provide both a way to reduce reliance on government funding and increase indigenous participation in NRM, meaningful indigenous participation in PES markets is currently impeded by (but not limited to) the following factors: (i) environmental legislation and (ii) weak underlying land and property rights. These factors will be examined in the following section.

Environmental Legislation

Over the last several decades, Cape York's indigenous communities have been burdened by increasing amounts of environmental legislation and conservation regimes. Major pieces of legislation and zonings include the Vegetation Management Act (1999) (land clearance laws), the Environmental Protection and Biodiversity Conservation Act (1999), the Biodiversity Act (2004) (Qld), the Wild Rivers Act (2005) (Qld) and the Nature Conservation Act (1992) and a mosaic of protected areas such as expansion of the national park estate, indigenous protected areas, nature refuges and proposals for World Heritage listing. However, the cumulative impact of these environmental laws and regimes severely limits economic choice and options on Aboriginal lands and has the same effect as the use of resumption powers of property by government but without a fair and reasonable process to protect the legal and economic rights of individuals and families—in other words, the appropriation and gifting away of property rights. In addition, the intact nature of Cape York and its high levels of biodiversity result in a much larger proportional impact of conservation legislation over these remote Aboriginal homelands. As it is beyond the scope of this paper to discuss in detail all environmental legislation affecting land management in Cape York, here we explore just two examples that highlight some of the ways in which legislation acts to impede indigenous participation in PES markets.⁵

Wild Rivers Act

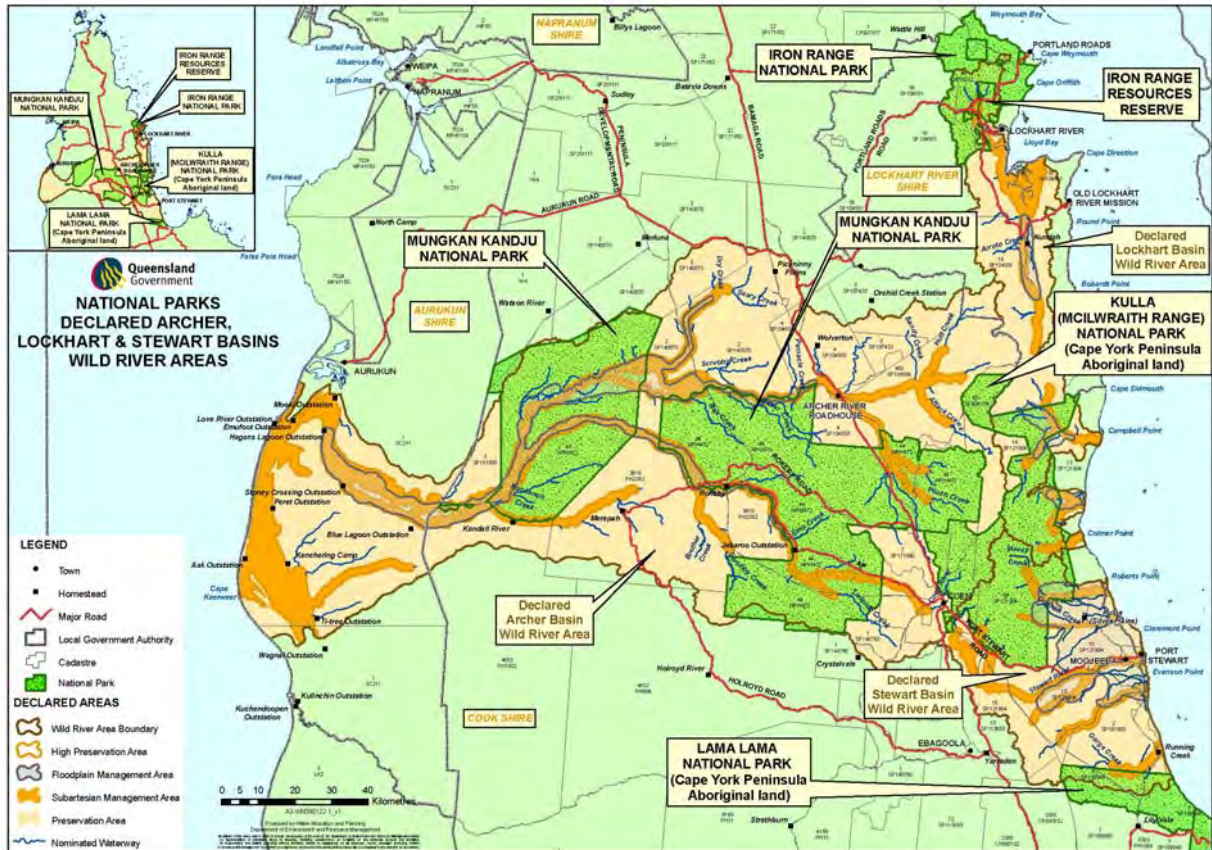
The Wild Rivers Act 2005 has significant implications for indigenous participation in PES markets. The Queensland government has increased environmental protection over many of the rivers of Cape York, announcing on 3 April 2009 that it had made declarations over 13 wild rivers and their catchment areas in the Cape York Peninsula under the Wild Rivers Act 2005 (Qld) (McLoughlin 2009:3). The act covers over 20 rivers flowing through the Gulf of Carpentaria, Cape York, Hinchinbrook and Fraser Islands, many of which are recognized as Aboriginal lands or waters. It seeks to preserve these rivers that have been deemed to have "all, or almost all, of their natural values intact" (Wild Rivers Act 2005). The act provides for four types of management zones: high preservation, preservation, sub-artesian and floodplain management areas as well as designated urban areas and nominated waterways management areas. High preservation areas are covered by the most restrictive conditions, with land up to one kilometre on either side of the river "prohibited" for use for animal husbandry, agriculture, aquaculture and surface mining. Broader preservation areas covering all land in entire wild river catchment areas provide environmental and government agencies with a powerful weapon to limit new development activities by the very definition and intent of the word preservation (that is, the maintenance of something in an unchanged condition).

Five wild river basin declarations on Cape York have already been made, incorporating many distinct river systems—the Stewart Basin, Lockhart Basin, Archer Basin (see figure 2 below) and the Wenlock and Staaten Basins. As entire basin areas can be declared wild river areas, each declaration can cover multiple rivers. For example, the declarations of the Stewart, Lockhart and Archer Basins cover 13 rivers and as such cover a larger portion of land than appears at first glance. The areas considered high preservation areas under the five declarations are those most

⁵ More detail of relevant legislation and its impact on indigenous participation in PES markets can be accessed on the Cape York Institute website, www.cyi.org.au.

likely to support indigenous economic development, including PES-based activities. Government and green groups are proposing a further eight basin declarations that, when added to those already declared, will cover over 75 per cent of the Aboriginal homelands on Cape York.

Figure 1: Map of declared Archer, Lockhart and Stewart Basins wild river areas



Note: High preservation areas are marked in dark yellow with broader basin preservation zones in pink which also covers national parks within the declared basins. **Source:** Queensland government, DERM website, www.derm.qld.gov.au, accessed on 3 February 2012.

The restrictions on indigenous land use imposed by the wild rivers scheme have significantly reduced the opportunity for PES-based activities. This is most evident in the case of high preservation areas. The requirement to achieve additionality generates difficulties where environmental regulation already operates to protect natural values. The protective effect of environmental regulation reduces the potential for additionality by crowding out any additional environmental benefits that can be achieved through the provision of PES. This is particularly damaging to indigenous participation in PES, as high preservation areas are likely to contain high-value ecosystem service assets such as waterways, forested areas and high biodiversity values (Taft 2011). In addition, if this legislation is poorly enforced, indigenous landowners not only suffer continued environmental problems, but are also unable to participate in PES schemes that have the potential to result in equal if not greater environmental benefits.

Land clearance laws

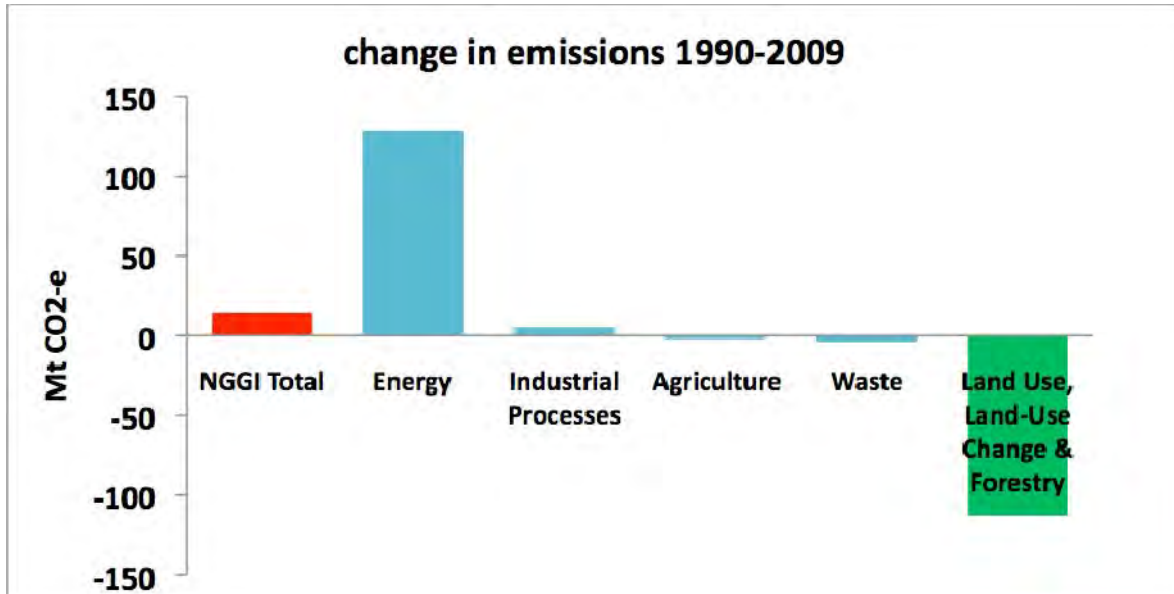
A second form of legislation that acts to impede indigenous participation in PES markets is land clearance laws (such as the Vegetation Management Act). Due to a historical legacy of relatively low rates of land clearing, much of the remaining remnant vegetation in Queensland is situated on Cape York Peninsula. Areas in southern and south-eastern Queensland bear less of the burden of this legislation, because there is less remnant vegetation remaining as a consequence of extensive land clearing for economic development. For instance, land clearance laws and

bans are applied in over 99 per cent of Cape York, whereas in more populated areas in South-East Queensland less than 20 per cent of forest cover remains. These land clearance laws have two key impacts: the first is a huge opportunity cost by removing options for future development that require land clearance, such as agriculture. The second impact is that they capture the potential carbon and ecosystem service values of the land.

Land clearing controls have been shown to directly contribute to Australia's ability to meet its Kyoto Protocol target, yet there is little recognition of the way in which they limit opportunities for Cape York Peninsula indigenous communities to participate in the "green economy" through future emissions abatement activities (NETT 2007:159). Cape York Peninsula will be penalized in several ways in respect to carbon pricing. The relative absence of past land clearing on Aboriginal freehold land in the Cape York Peninsula means that the capacity to market environmental services such as reforestation ("carbon sinks") is limited. Under the United Nations Framework Convention on Climate Change, Cape York is characterized as retaining high forest cover through low rates of deforestation, which means there is little opportunity to participate in reducing emissions from deforestation and forest degradation (REDD) projects (da Fonseca et al. 2007). If Cape York Peninsula indigenous communities had engaged in major broad-acre land clearing, there would have been opportunities to develop and market Kyoto compliant carbon sinks. In addition, Kyoto rules mean that Australian businesses will be able to acquire emissions offsets from non-Annex I countries (developing countries such as Indonesia and Papua New Guinea) under an emissions trading regime, but will not have similar incentives to support emissions abatement in Cape York Peninsula. Thus Cape York Peninsula indigenous communities have been bequeathed responsibility for the management of the native forest environment through restrictive conservation legislation and regimes but with no consideration of local capacity to bear these costs.

Australia will meet its Kyoto Protocol target almost solely because of controls on land use, land use change and forestry (LULUCF) primarily in New South Wales and Queensland. In the absence of these changes, Australia would probably have exceeded its Kyoto Protocol commitment target by more than 9 per cent (Farrow 2011:8). In carbon accounting, this is due to reductions in deforestation and increases in afforestation and reforestation. If these LULUCF changes had not taken place, Australia would probably have had emissions of about 118 per cent of its Kyoto Protocol target (Farrow 2011:13). Kyoto Protocol rules exclude forests established prior to 1990 and require "additionality" in order to be recognized. This effectively excludes any recognition of the emissions abatement role played by existing native forests on indigenous land in the Cape York Peninsula despite the financial value derived by government and industry from the future avoided liability of emissions from land clearing. It could be said that the Australian government has extracted payment for an ecosystem service through the avoided carbon liability associated with future land clearing retired under land clearance laws. This should not be their payment to receive. A fair and reasonable approach would have been to enter into a voluntary PES/resource rental agreement through an ILUA with expectations of carbon stewardship built into the agreement.

Figure 3: Change in carbon dioxide emissions in Australia, 1990–2009



Source: Department of Climate Change and Energy Efficiency, Australian Greenhouse Emissions Information System database, <http://ageis.climatechange.gov.au/> accessed on 30 May 2011.

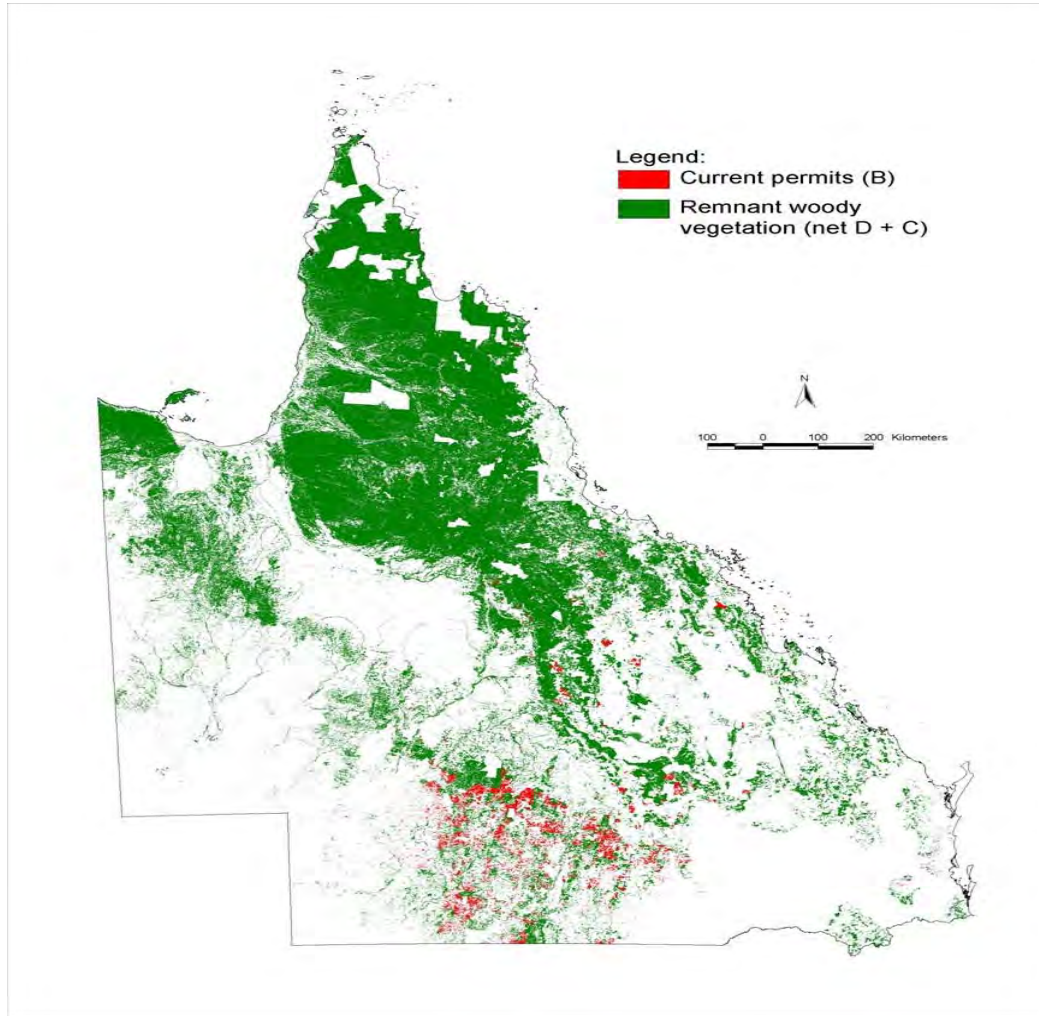
The 2007 National Emissions Trading Taskforce (NETT) report noted significant emissions abatement from the LULUCF sector:

Avoided deforestation has already made a significant contribution to reducing greenhouse gas emissions in Australia. For example, the phase-out of broad-scale land clearing in Queensland and New South Wales has done more than any other action to help Australia achieve its 2008–12 target under the Kyoto Protocol. Internationally, a number of groups are examining whether a robust methodology can be developed that would appropriately reward avoided land clearing (NETT 2007:159).

Emissions (or liabilities) avoided through the controls on land use change in just 10 per cent of Aboriginal land in Cape York Peninsula would be approximately 32 million tonnes, and if valued at AU\$ 23⁶ per tonne would raise AU\$ 736 million (Cape York Institute estimate 2010). A 2003 map of Queensland showing the distribution of remnant woody vegetation illustrates the extent to which Cape York Peninsula represents a substantial proportion of Queensland's uncleared land.

⁶ AU\$1 = US\$1.03 approximately (April 2012).

Figure 4: Remnant woody vegetation in Queensland



Source: DAFF 2003: Figure 4.5, p. 12.

In 2009, the then Queensland Minister for Natural Resources, Mines and Energy, Hon. Stephen Robertson MP, told Parliament:

[The Vegetation Management Act] put an end to the broadscale clearing of remnant vegetation in Queensland and has delivered the single largest reduction in greenhouse gas emissions ever in Australia. It set the framework for the delivery to the then Howard government a 20- to 25-megaton reduction in carbon emissions and the ability to claim that Australia had met its international commitments outlined in the Kyoto Protocol (Robertson 2009, in Queensland Parliament 2009:64).

The Australian government has thus “booked up” the carbon asset on Aboriginal lands on Cape York, which has allowed it to set much lower targets for industry and the Australian public.

Impacts on Indigenous Landholders

As well as the additionality requirement, environmental legislation also imposes a disproportionate burden on indigenous landholders. The development aspirations of indigenous owners are subject to regulatory barriers that would have made the economic development of settler society impossible. These stringent restrictions on land clearing and development around waterways designed to “lock up the land” have been criticized as

“neocolonial” by indigenous groups in Cape York. Traditional owners express the view that non-indigenous “mismanagement in the past has apparently led to today’s feral species invasions” and dissatisfaction that their 40,000 year stewardship of the land has not been recognized (Sullivan 2008:12). Thus, indigenous peoples in Australia, similar to those in Canada, Ethiopia, New Zealand and Nigeria, who have not created the litany of environmental problems facing their countries and have not economically benefited from the industrialization causing the problems, bear a disproportionate portion of the burden in remedying them. This includes not only dealing with ongoing environmental degradation with limited resources but also reduced opportunities for economic development.

The existing environmental regulation paradigm advantages those who have caused and benefitted from significant environmental damage, both by supporting their participation in the green economy (for example, through participation in the Carbon Farming Initiative/CFI, reforestation and improved land management practices) and by using command-and-control regulatory mechanisms that restrict development in so-called “wild” areas; that is, areas where settler development has not occurred. The intact landscapes of Northern Australia (containing the largest indigenous land holdings) have become the major focus of the expansion of the conservation estate in Australia. And when environmental laws, designed to protect relatively small areas of remnant landscape or environmental examples in the agricultural and population belts are applied to the northern Aboriginal estate, many of the laws are triggered across the majority of the landscape. Thus, the Aboriginal estate is proportionally affected to a much greater degree by conservation laws due to their intact nature.

The disproportionate impact of environmental regulation on Cape York is compounded by the reality that the traditional owners of Cape York possess a limited capacity to navigate through layers of regulation. The costs of obtaining the requisite expertise, whether legal, scientific or financial, are far higher than for non-remote parts of Queensland. Given the relative economic disadvantage of Cape York traditional owners, these costs may be prohibitive (Bartlett 2010). This disproportionate bearing of the environmental burden serves to both diminish the opportunities for mainstream economic development, as well as exclude traditional owners from participation in green economy.

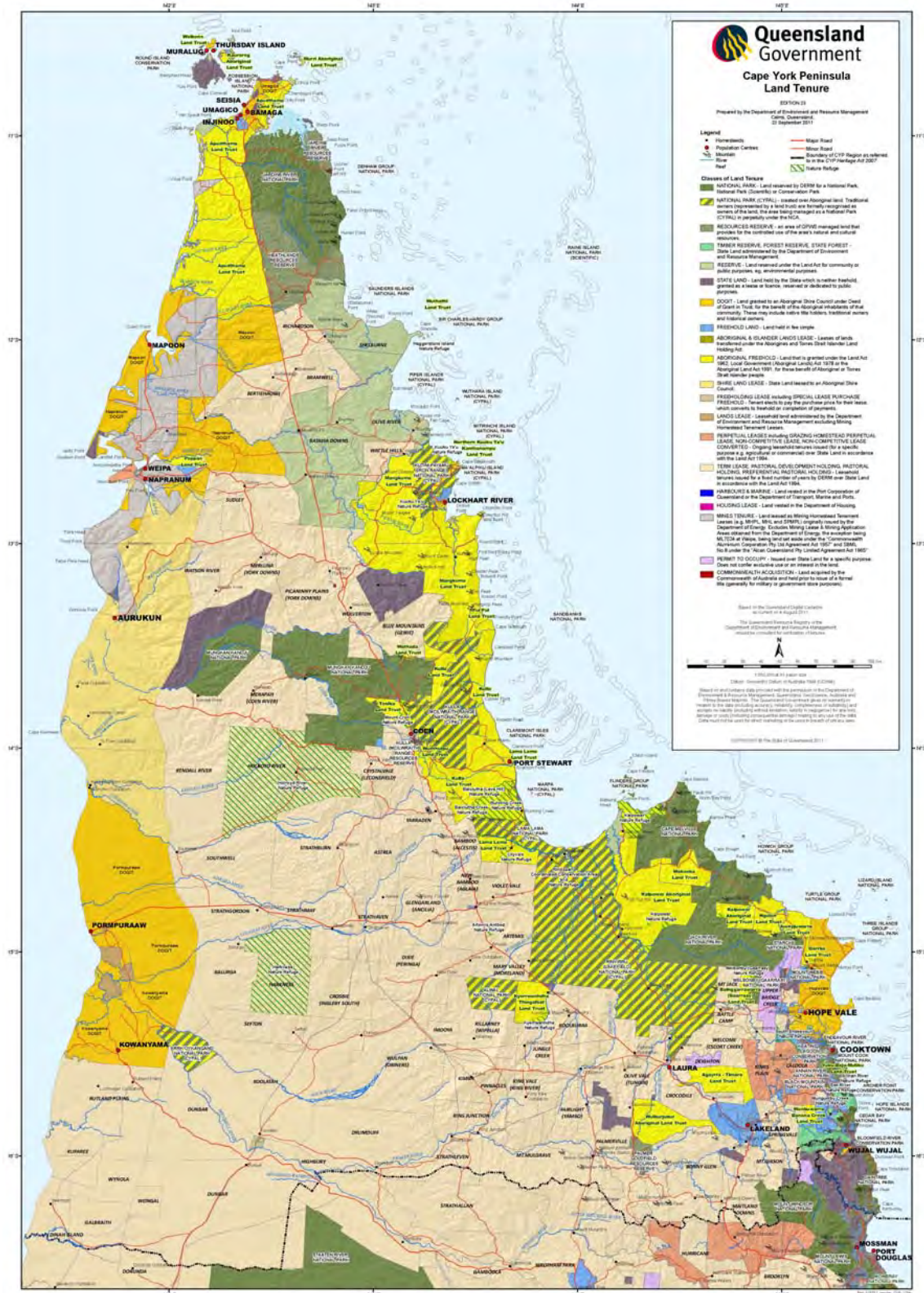
Weak property rights

A precondition for indigenous participation in PES markets is security and certainty of landholding. As Salzman notes:

Since payment is generally premised on specific land use activities, the other basic obligation of the provider is to demonstrate sufficient ownership or control of the land to ensure service provision. The buyers need to know whom to pay and have some assurance that they can undertake the land management or service provision they have agreed to (Salzman 2009:7).

There are a range of different rights and interests in land held by traditional owners on Cape York, including native title land, DOGIT land, Aboriginal freehold and leasehold (see figure 5). The difficulties posed by these different forms of tenure to the adoption of a PES approach are examined in the following section.

Figure 5: Cape York land tenure map



Source: Earth Tech 2005:117.

The Aboriginal Lands Act 1991 establishes a framework for the transfer of land to traditional owners. There are two distinct categories of land under the act: transferable land and claimable land. Land that is designated “transferable” can be transferred to traditional owners in the absence of a claim, whereas “claimable” land requires the traditional owners to apply to the

land tribunal. The overwhelming bulk of Aboriginal freehold on Cape York is transferable land rather than claimable land. A precondition for participation in PES markets is security of land tenure. Unfortunately, the protracted nature of the land transfer process under the Aboriginal Lands Act delays this certainty for traditional owners (Taft 2011). In addition, new environmental laws are being made over land and property rights that are yet to be transferred.

A further issue arises in relation to leasehold land. A significant area of land on Cape York consists of pastoral leases held by traditional owners. These leases generally extend for long terms, typically between 30 and 70 years. The capacity of pastoral leaseholders to participate in PES schemes is likely to be limited for two reasons. First, their land use rights are restricted to certain categories of activities. Secondly, lessees must enter into a land management agreement with the government, which stipulates principles for the sustainable management of the land for the term of the lease. These land management agreements generally set out specific land management strategies for a host of outcomes. These obligations reduce the scope for additional environmental benefits to be achieved.

The other key limitation of this form of land tenure is achieving permanence of environmental service benefits. PES schemes commonly involve long-term contracts for the provision of ecosystem services. Obviously, the limited duration of pastoral leases may impose constraints upon the ability of lessees to enter into such agreements. This problem is likely to be most pronounced in relation to carbon sequestration and storage PES schemes, where there will generally be a requirement of permanence; that is, that the carbon remains stored for a long period of time. These limitations mean that whilst there may be scope to engage in PES on pastoral leasehold land, these opportunities are likely to be relatively marginal.

Another component of the land mix on Cape York is native title land, which can be both exclusive and non-exclusive. The native title regime under the Native Title Act (NTA) erects significant hurdles to indigenous participation in PES markets. In determining the content of native title rights, the approach taken by the High Court in *Western Australia v Ward* was to require particularization of each element of traditional law and custom (Bartlett 2003). The majority of Gleeson CJ, Gaudron, Gummow and Hayne JJ held that determining the content of native title rights “requires not only the identification of the laws and customs said to be traditional laws and customs, but, no less importantly, the identification of the rights and interests in relation to land or waters which are possessed under *those* laws or customs” (High Court of Australia 2002:17–18). Bartlett accurately comments of this approach:

The Court refuses to make any assumption that the society must necessarily have had a system of laws and customs that governed the society’s relationship to the land. It entails a very literal reading of the Native Title Act, severed from its origins, context and purpose which renders proof of native title inappropriately difficult (Bartlett 2003:8).

The consequence of this excessively narrow approach to determining the content of native title is to undermine the likelihood of a declaration of native title rights able to support participation in the PES market. Rather than treating native title rights as holistic and comprehensive, akin to fee simple ownership, the approach taken has been to fragment the content of native title rights, erecting often-insurmountable evidentiary barriers to the finding of exclusive native title rights. Non-exclusive native title rights, which comprise a fragile foundation upon which to base ecosystem services, are likely to be the outcome of this judicial approach (Taft 2011).

This narrow approach also treats native title rights as historical relics. The conception of native title as bundles of disconnected individual rights, and consequent fixation on the particularization of individual rights, restricts the capacity of native title rights to adapt to changing social and economic conditions. It means that the content of native rights is “frozen” as those precise rights enjoyed at the point of European colonization and sovereignty, rather than treating native title as a comprehensive system of relationships with the land capable of

adaptation. Kirby J's dissent in *Western Australia v Ward* rejected this freezing of native title rights:

In relation to the capacity of the common law to recognize change and development in traditional laws and customs, I prefer North J's approach. It supports the recognition of historical uses of resources, such as ochre. It also includes other minerals. It envisages the extension of such recognition to modern conditions, developed over time, so as to incorporate the use of other minerals and resources of modern relevance. Such an approach is generally consistent with the authority of this court and decisions in Canada. When evaluating native title rights and interests, a court should start by accepting the pressures that existed in relation to Aboriginal laws and customs to adjust and change after British sovereignty was asserted over Australia. In my opinion, it would be a mistake to ignore the possibility of new aspects of traditional rights and interests developing as part of Aboriginal customs not envisaged, or even imagined, in the times preceding settlement (High Court of Australia 2002:159, 574).

Stoekel correctly states that "this approach has frozen Aboriginal communities in the pre-settlement era, denying them the ability to redefine their relationship with the land as challenges and changes arise" (Stoekel 2003:272). Therefore, this approach poses almost insurmountable barriers to the declaration of the rights needed to underpin economic development, in either the mainstream economy or green economy. Weak Aboriginal property rights are allowing the government to continue to impose additional conservation laws and regimes over Aboriginal lands without meaningful negotiation or compensation. Commentators have noted that native title law should

operate upon the well-established common law presumption of fee simple ownership based on demonstrated possession, rather than restricted rights to use the land in accordance with proven continuing traditional law and custom. Indigenous land law should be constructed to allow indigenous people full beneficial ownership of their returned land, so that land won can be a fungible asset for indigenous people (Morris, 2011a:40).

While many countries have struggled with this issue, it must be noted that states such as Alaska may be getting it right by utilizing flexible land management approaches for native title land (Morris 2011b).

The protracted nature of the NTA process is also likely to pose a barrier to the use of native title land for PES. The native title determination process is exceptionally arduous and lengthy. According to the *2009–2010 National Native Title Tribunal Annual Report*, as at 30 June 2010, 36 per cent of claims have been in the system for between 10 and 16.5 years (NNTT 2010:27). The length of this process led the National Native Title Council to state that "the current expenditure of time and resources in prosecuting a claim raises serious questions about the actual benefits of the system to indigenous people" (NNTC 2010:2).

Regulatory challenges

In addition to the various types of land tenure and rights noted above, some areas of the indigenous estate on Cape York are designated protected areas as either national parks or nature refuges under conservation agreements made between traditional owners and the Queensland government. This is occurring on Aboriginal-owned land, pastoral leases and through the current State Land Dealing process (where the government acquires pastoral leases and then negotiates with traditional owners about a 50-50 split between expanding the national park estate and the Aboriginal freehold estate). During this process of negotiation, large areas of the highest conservation value, such as wetlands, rainforest corridors and so on are allocated as national parks or nature refuges. The approach of embedding the "jewels of the crown" within larger blanket regulated estates has significantly reduced the private market value of potential

ecosystem services on the Aboriginal freehold and opportunities for sustainable economic activity more generally.

Nature refuges are established under the Nature Conservation Act 1992. The management principles for nature refuges are established under section 22 and include the conservation of the area's cultural and natural resources and provision for controlled use of those resources. Conservation agreements made between indigenous land trusts and the state government typically cover a range of areas, including permitted activities, management conditions for these permitted activities, prohibited activities and monitoring mechanisms. Although the different conservation agreements governing nature refuges on Cape York differ in some respects, they generally impose significant restrictions on indigenous land use. Typical restrictions include limitations on the use of timber resources for commercial purposes, agricultural and aquacultural activities, dams, mining activities and a range of other activities. The other key function of conservation agreements is the land management obligations they impose upon the land trust party. Common obligations are to develop and implement weed management strategies, reduce the environmental impact of feral animals such as pigs and brumbies, and develop and implement a fire management plan. The cumulative effect of these wide-ranging restrictions and obligations is to limit the scope of nature refuge areas to provide ecosystem services by reducing the scope to demonstrate additionality.

There are a significant number of national parks on Cape York, some on the indigenous estate. These national parks include some Cape York Peninsula Aboriginal Land (CYPAL) national parks, owned by traditional owners as Aboriginal freehold. CYPAL national parks are jointly managed by traditional owners and the Department of Environment and Resource Management (DERM). An Indigenous Management Agreement provides the framework agreement for the relationship between the joint managers. Each national park is also managed in accordance with a park management plan. The management principles of national parks (including CYPAL national parks) are set out in section 17 of the Nature Conservation Act 1992. These principles provide for the permanent preservation of the area's natural condition and the protection of the area's cultural resources and values, and ensure that the only use of the area is nature-based and ecologically sustainable. These management principles mean that the scope for development activities is strictly limited and the capacity of such areas to form the basis for the provision of ecosystem services is negligible. This is likely to be the case even if land management outcomes within the national park area are poor due to inadequate funding levels or other reasons.

Conclusion

The current paradigm of environmental regulation is not benefiting traditional owners of Cape York because it reflects a system of environmental protection based on government dependency. The current system, characterized by restrictive environmental legislation with insufficient funding for adequate implementation on the ground, has resulted in suboptimal environmental outcomes, with short-term, overlapping projects, underfunded and understaffed projects and inadequate Aboriginal involvement. It has also resulted in suboptimal social outcomes, as it provides only short-term employment that fails to increase capacities and skills or provide long-term career paths for indigenous workers. The current government approach creates resentment among indigenous owners who not only feel that their land is being locked up, thereby denying them the opportunity for sustainable economic development, but also that they are not being permitted to take responsibility for either managing their land effectively or for the impacts of poor management.

The current environmental protection regime fails to recognize the historical legacy of underdevelopment on Cape York, and responds to historical disadvantage by turning it into current and future disadvantage. Because of the limited extent of development on Cape York, traditional owners bear a disproportionate burden of command-and-control environmental

regulation that prohibits development in underdeveloped areas. The current regime embodies an approach to regulation that is suited to highly-populated “settled” areas where there has been economic development and consequent environmental degradation over an extended period. It is not an appropriate paradigm for Cape York, where the extent of environmental damage has been limited, at least in part because of the ethic of environmental stewardship practiced by traditional owners. This disproportionate impact of the environmental burden serves to both diminish the opportunities for mainstream economic development, as well as exclude traditional owners from participation in green economy.

The regulatory burden imposed by both the Wild Rivers scheme and the Vegetation Management Act is severe. Half of the river systems declared to be wild rivers are located on the Cape York Peninsula and it is likely that current and potential future declarations will eventually mean that the majority of the indigenous estate on Cape York will fall within preservation areas. In addition, around 15 per cent of Cape York indigenous lands and almost all waterways will fall within high preservation areas. In addition, the introduction of legislation, such as land clearance laws, have resulted in the benefits accrued from Aboriginal lands being forcibly acquired by broader society without the legal process or recourse that would normally be available in a modern Western democracy. These dividends or benefits have benefited governments (through votes and expanded protected areas), green groups (through victories, memberships and donations), industry (through lower compliance targets) and the broader public (through lower personal targets, costs and obligations) while leaving the management liability with the traditional owners, the poorest and most marginalized people in Australian society.

The cumulative effect of these laws, which are generally designed to protect remnant and highly threatened vegetation in regions where over 80 per cent of the landscape has been cleared or radically altered, has been to stifle not only mainstream economic opportunity but also emerging green industries in Cape York. For example, as the landscape of Cape York is largely intact, with little land clearing, the indigenous population has been unable to participate in projects selling carbon benefits from reforestation, as they are unable to meet additionality requirements. Further to this, the protected area estate is rapidly expanding through new national parks, nature conservation agreements and nature refuges across the Aboriginal estate. Alarming, some of these new and proposed conservation estates such as wild rivers and World Heritage are being imposed without Aboriginal consent and through third-rate “consultation” processes, breaching a range of national and international human rights agreements. These estates come with some government funding as well as management agreements that further remove ecosystem service market opportunities and property rights.

A new approach to environmental regulation that genuinely recognizes the conditions and history of Cape York is needed. An approach such as PES would seek to reconcile the legitimate development aspirations of traditional owners with effective environmental protection mechanisms. The four key markets for ecosystem services, as identified by Wunder, are biodiversity protection, carbon sequestration and storage, watershed protection and landscape beauty (Wunder 2005:2). The potential for PES activities in Cape York should be significant and possible activities could include the following: (carbon) reforestation/afforestation; avoided deforestation; livestock management; savannah burning; reduced emissions or increased sequestration in agricultural soils; feral animal management; improved forest management; biochar; non-forest revegetation; land use conversions; wetland management and (biodiversity) turtle and dugong management; and cassowary conservation.

However, what should have become one of the biggest economic values and opportunities for the Aboriginal people of the region—ecosystem services—is now increasingly becoming a liability. The simple ecosystem service marketplace fact is that the higher the potential or real threat is to the environment, the higher the ecosystem service value and the more trade and buyer options that are available. Most major perceived threats have now been legally removed from the region and are no longer tradable. Land clearance laws have halted land clearing so

one can no longer trade that right for carbon credits through avoided deforestation. There are still some significant PES opportunities such as fire management for carbon credits and some broader ecosystem services such as feral animal and weed control. Many major opportunities that are developing nationally are not relevant to an undamaged landscape such as tree planting and land use changes related to agriculture. The remaining PES opportunities come nowhere near compensating for the acquired carbon and environmental values.

If Cape York is to realize the larger opportunities – the opportunities that could potentially fund the real costs and effective management of this vast and ecologically rich region – then significant policy changes will need to be made by governments at the state and federal level. As stated, this new approach should have at its core:

- strengthening indigenous land tenure and property rights;
- enacting long-term, integrated NRM goals and programmes with greater indigenous participation;
- legally requiring ILUAs as part of any process of land use change on Aboriginal land such as new conservation regimes or industrial development;
- the further exploration of PES approaches as complements to existing conservation tools; and
- the establishment of a supportive legislative and policy environment to enable indigenous participation in PES markets.

As stated earlier, more investigation is needed not only into the potential for PES markets and opportunity costs of conservation, but also into broader international opportunities around future international carbon agreements, future directions for biodiversity payments and “REDD plus” mechanisms to better understand the global implications raised in this paper. These larger opportunities have been acquired by the Australian government and accrued to society more generally at the expense of Aboriginal people. The challenge we need to put to society is to give equitable control of those assets so the landowners can manage their own country properly. Insufficiently funded, ad hoc government initiatives carried out by a small number of rangers will not protect Cape York’s valuable heritage. A diverse and large ecosystem service economy working alongside a broader mainstream economy will ensure protection of the region’s natural and cultural heritage as well as economic equity for its indigenous inhabitants.

Bibliography

- Balkanu and Cape York Institute. 2007. *Creating an Effective Natural Resource Management Economy for Cape York Peninsula*. Mimeo.
- Bartlett, Andrew. 2010. *Wild Rivers, Part One: A Bitter Battle*. ABC News, May 27. www.abc.net.au/unleashed/34680.html, accessed on 20 August 2011.
- Bartlett, Richard. 2003. "Humpies not houses or the denial of native title: A comparative assessment of Australia's museum mentality." *Australian Property Law Journal*, Vol. 10, No. 2, pp. 83–107.
- Beeton, R. J. S. 2001. *Local Government Association of Queensland National Park Public Inquiry*. Local Government Association of Queensland, Brisbane.
- Bennett, Michael T. 2009. *Markets for Ecosystem Services in China: An Exploration of China's "Eco-Compensation" and Other Market-Based Environmental Policies*. Forest Trends, Washington, DC.
- Cape York Sustainable Futures. 2010. *New Horizons and Opportunities: Cape York Peninsula Investment Prospectus*. Prepared by Cape York Sustainable Futures from information provided by Outsource Management Pty. Ltd. www.cysf.com.au/images/stories/documents/reports/new_horizons_and_opportunities.pdf, accessed on 4 July 2011.
- DAFF (Department of Agriculture, Fisheries and Forestry). 2003. *Queensland Land Clearing Proposal: Socio-Economic Impact*. Department of Agriculture, Fisheries and Forestry, Canberra.
- Dahlberg, Annika C. and Catie Burlando. 2009. "Addressing trade-offs: Experiences from conservation and development initiatives in the Mzuke Wetlands, South Africa." *Ecology and Society*, Vol. 14, No. 2, pp. 37–49.
- DCCEE (Department of Climate Change and Energy Efficiency). 2011. *Australian Greenhouse Emissions Information System*. Department of Climate Change and Energy Efficiency, Canberra. <http://ageis.climatechange.gov.au/>, accessed on 4 July 2011.
- Earth Tech. 2005. *Cape York Peninsula Natural Resource Management Plan: Final Draft*. Cape York Interim Advisory Group, Cairns. www.capeyorklandcare.org.au/CYPNRM_Plan.pdf, accessed on 12 March 2012.
- Ecotrust. 2009. *Pro-Poor Rewards for Environmental Services in Africa: (PRESA) Current and Potential Payment for Environmental Services Schemes in Three Landscapes: Mobuku, Kalinzu Kasyoha-Kitomi and Budong-Bugoma*. Ecotrust, Kampala, Uganda.
- Engel, Stefanie, Stefano Pagiola and Sven Wunder. 2008. "Designing payment for ecosystem services in theory and practice: An overview of the issues." *Ecological Economics*, Vol. 65, No. 4, pp. 663–674.
- Farrow, I. 2009. *Carbon Pricing Issues for Cape York*. Cape York Discussion Paper, Cape York Institute, Cairns. Mimeo.
- Ferraro, Paul J. 2011. "The future of payments for environmental services." *Conservation Biology*, Vol. 25, No. 6, pp. 1134–1138.
- Ferraro, Paul J. and Subhrendu K. Patanayak. 2006. "Money for nothing? A call for empirical evaluation of biodiversity conservation investments." *PLoS Biology*, Vol. 4, No. 4.
- da Fonseca, Gustavo A. B., Carlos Manuel Rodriguez, Guy Midgley, Jonah Busch, Lee Hannah and Russel A. Mittermeier. 2007. "No forest left behind." *PLoS Biology*, Vol. 5, No. 8, pp. 1646–1647.
- Gall, Bruce. 1994. *A Review of the Adequacy of Resourcing of the National Parks of Cape York Peninsula, Qld*. Department of Environment and Heritage, Brisbane.
- Garnett, Stephen, Bev Sithole, Peter J. Whitehead, C. Paul Burgess, Fay H. Johnston and Tess Lea. 2009. "Healthy country, healthy people: Policy implications of links between indigenous human health and environmental conditions in tropical Australia." *Australian Journal of Public Administration*, Vol. 68, No. 1, pp. 53–66.
- High Court of Australia. 2002. *Western Australia v Ward; Attorney-General (NT) v Ward; Ningarmara v Northern Territory [2002] 191 ALR 1 (8 August 2002)*. www.atns.net.au/agreement.asp?EntityID=782, accessed in March 2012.
- Landell-Mills, Natasha, and Ina T. Porras. 2002. *Silver Bullet or Fool's Gold? A Global Review of Markets for Forest Environmental Services and their Impact on the Poor*. International Institute for Environment and Development, London.
- Larsen, Kathryn A. 2005. *Parks in Crisis: An Analysis of the Resourcing and Management of National Parks and Other Protected Areas in Cape York Peninsula*. Wilderness Society. www.wilderness.org.au/pdf/CYP-ParksReport.pdf/view, accessed on 7 March 2012.

- Mackey, Brendan G., Henry Nix and Peter Hitchcock. 2001. *The Natural Heritage Significance of Cape York Peninsula*. Commissioned by the Queensland Environmental Protection Agency. ANUTECH Pty Ltd. www.derm.qld.gov.au/register/p00582aj.pdf, accessed in March 2012.
- McLoughlin, Meg and Melissa Sinclair. 2009. "Wild rivers, conservation and indigenous rights: An impossible balance?" *Indigenous Law Bulletin July/August 2009*, Vol. 7, No. 13, pp. 3–6.
- Milder, Jeffrey C., Sara J. Scherr and Carina Bracer. 2010. "Trends and future potential of payment for ecosystem services to alleviate rural poverty in developing countries." *Economy and Society*, Vol. 15, No. 2, pp. 1–19.
- Morris, S. 2011a. *Reanalyzing Mabo and Native Title: Communalism, Inalienability and Racial Discrimination*. Cape York Institute, Cairns. Mimeo.
- _____. 2011b. *The Time is Now Right for Rational Non-Discriminatory Analysis of Indigenous Land Law*. Cape York Institute, Cairns. Mimeo.
- NETT (National Emissions Trading Taskforce). 2007. *Possible Design for a National Greenhouse Gas Emissions Trading Scheme: Final Framework Report on Scheme Design*. National Emissions Trading Taskforce, Canberra.
- NNTC (National Native Title Council) 2010. *Submission to the United Nations Committee on the Elimination of Racial Discrimination*. National Native Title Council, North Melbourne.
- NNTT (National Native Title Tribunal). 2010. *Annual Report 2009–2010*. National Native Title Tribunal, Perth.
- _____. 2011. *History of Native Title*. National Native Title Tribunal. www.nntt.gov.au/Information-about-native-title/Pages/History.aspx, accessed on 3 July 2011.
- Peatling, Stephanie. 2005. "Black dilemma: Land rich, dirt poor." *Sydney Morning Herald*, 24 February. www.smh.com.au/news/National/Black-dilemma-land-rich-dirt-poor/2005/02/23/1109046992110.html, accessed on 25 August 2011.
- Queensland Parliament. 2009. "Vegetation Management (Regrowth and Clearing Moratorium) Bill". In *First Session of the Fifty-Third Parliament*, 22 April 2009. Queensland government, Brisbane. www.parliament.qld.gov.au/documents/hansard/2009/2009_04_22_WEEKLY.pdf, accessed on 13 March 2012.
- Rakshi, Shaika. 2009. *An Analysis of the Potential for Rewards to Stewards of Ecosystem Services in Three Projects in the Mount Kenya Region*. State University of New York, Syracuse, NY.
- Rojas, Manrique and Bruce Aylward. 2003. *What are We Learning from Experiences with Markets for Environmental Services in Costa Rica: A Review and Critique of the Literature?* International Institute for Environment and Development, London.
- Russo, R.O. and G. Candela. 2006. "Payment of environmental services in Costa Rica: Evaluating impact and possibilities." *Tierra Tropical*, Vol. 2, No.1, pp. 1–13.
- Salzman, James. 2009. *A Policy Maker's Guide to Designing Payments for Ecosystem Services*. Duke Law Faculty Scholarship Paper No. 2081. http://scholarship.law.duke.edu/faculty_scholarship/2081 accessed 7 March 2012.
- Stoeckel, Kate. 2003. "Western Australia v Ward and Ors." *Sydney Law Review*, Vol. 25, No. 2, pp. 255–272.
- Sullivan, Rachel. 2008. "A new voice for the Cape." *ECOS Magazine*, No. 143, June–July 2008, pp. 11–13.
- Taft, D. and H. Murphy. 2011. *PES and the Impact of Environmental Regulation in Cape York (draft)*. Cape York Institute, Cairns. Mimeo.
- Winer, M., M. Schuele and J. Charles. 2009. *The Economic Potential of Emerging Markets for Carbon and Biodiversity for Cape York Indigenous People*. Cape York Institute Discussion Paper, Cape York Institute, Cairns.
- Wunder, Sven. 2005. *Payments for Environmental Services: Some Nuts and Bolts*. C IFOR Occasional Paper No. 42. Centre for International Forestry Research, Jakarta.
- Zander, Kerstin K. and Stephen T. Garnett. 2011. "The economic value of ecosystem services on indigenous-held lands in Australia." *PLoS ONE*, Vol. 6, No. 8 (e23154), pp. 1–6.

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