

'LOOKING AFTER COUNTRY' THROUGH WILDLIFE UTILISATION

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ABSTRACT

Vast areas of northern Australia have become sparsely populated; as a result they are threatened by unmanaged fire, weeds and feral animals. Active land management is needed to preserve natural heritage, cultural and social values. With economic opportunities and incentives the Aboriginal Traditional Owners can make a living and undertake this land management. 'Looking after country' is a holistic term which to Aboriginal people includes spiritual, cultural and land management connotations and includes the sustainable use of wildlife. Kakadu Plum (*Terminalia ferdinandiana*) is a tree endemic to northern Australia whose unique properties have many commercial applications. It is prolific across northern Australian where it is being commercially harvested by some Aboriginal communities. There is an opportunity to meet more of the substantial commercial demand through wild harvest. However many social, cultural, ecological, business, and legislative considerations need to be worked through. This paper provides a synopsis of the development of the Kakadu Plum industry and considers the business structures, research, community engagement and private industry inputs required for expansion. The value chains and business acumen created through the commercialisation of Kakadu Plum will create a pathway for other native species, with Indigenous ecological knowledge being valued and protected. This approach will provide conservation, economic and social benefit to northern Australia.

Keywords: Kakadu Plum, Indigenous, livelihoods, bushfood, business

INTRODUCTION

Context

The landscapes across northern Australia are vast, largely undeveloped and relatively intact with important natural and cultural heritage values. The landscapes in the wet/dry tropics of the north consist of rainforests, mangroves, mesic savannah woodland and forests, swamps and wetlands. The environment is heavily influenced by the monsoon with rainfall in excess of 1600mm falling in the wet season in the north gradually declining to the south.

The Northern Territory (NT) is exceptionally sparsely populated with just 0.1 person per square kilometre across 1.3 million square kilometres. Aboriginal people make up around a third of the population (with 75% of Aboriginal people living in remote areas), and they own (mostly under communal title) and manage over half of the land. There are about 200 Aboriginal communities ranging from a few to over 2000 people. These remote Aboriginal communities generally have high levels of unemployment, fairly basic infrastructure; low levels of education and poor health compared to other parts of Australia and few economic activities. The economic status of Indigenous people is the lowest of any demographic of Australians (Altman 2004; AIHW 2014) with unemployment rates being as high as 90% if

various Government welfare programs (such as the Community Development Employment Program) were not taken into consideration (Abbott 2002).

The Aboriginal economy in remote regions has been described as a 'hybrid' economy comprising of three sectors: customary, State and market (Altman 2001). The *customary sector* refers to subsistence harvest; the *State* includes social security and work for the dole type schemes and the *market sector* relates to the free market, notably arts and craft. The Aboriginal economy has certainly changed over time (Vemuri and Gorman, 2013) but customary harvest is still a very important component of Aboriginal livelihoods and based on Indigenous ecological knowledge.

Aboriginal people's long connection to their country has resulted in a rich ecological knowledge of the plants and animals within. Their ontology or world views are very different to the Eurocentric view that prevails over much of Australia. The 'dreamtime' and Aboriginal spirituality encompasses culture and its intrinsic links between land and people. The place of birth, gender, skin group, moiety, totems, and matrilineal/patrilineal link to country plays an important role through which people will ultimately manage and make decisions over country. In this way people are integrally linked to place, and place is integrally linked to people (Bradley 2001).

'Looking after country' is a term which relates to the cultural obligations that Traditional Owners have in maintaining the health of their Clan Estates and is very much about caring for both cultural and natural resources and maintaining the spiritual connections that are so important to Aboriginal people. Economic activity that is based on the use of resources on people's country will assist people to meet these obligations whilst financially supporting them.

Commercial use of wildlife – opportunities and barriers

There are numerous examples of wildlife based enterprises in the NT, many based in Indigenous communities and often through the Indigenous Ranger groups. The crocodile (*Crocodylus porosus*) industry is one of the largest and most successful and is based on the wild harvest of eggs and subsequent ranching of the hatchlings. It has been shown to be sustainable (DoE 2016) and is currently generating about A\$25 million annually (CFANT 2015).

Given the connection and knowledge Aboriginal people have for country and the plants and animals within, it is no surprise that many commercial opportunities on Aboriginal land involve natural resources, often in association with cultural heritage values (SRRATRC 1998). The reasons Aboriginal people are interested in wildlife based enterprise are many and varied (Gorman *et al.* 2006, 2008; Nikolakis 2010). Additional to money and employment, they provide opportunity for people to be on their country and collect bush tucker, undertake cultural activities and allow people to work in family groups, hence facilitating interactions between old and young and hence the intergenerational flow of knowledge. Often these 'other benefits' are thought to outweigh monetary benefits.

Many Aboriginal groups have been involved in wildlife based enterprise, with the Djelk and Thamarrurr Rangers among the leaders. Activities include wild harvest of crocodile (*Crocodylus porosus*) eggs; harvest and sale of long-necked turtles (*Chelodina rugosa*) and tarantula spiders (*Selenotholus sp.*) to the pet industry; whole plant harvest and frond harvest of cycads (*Cycas sp.*), collection of a variety of bushfoods for consumption and value adding (soaps, body products), domestication of native bees (*Trigona sp.*); harvest of wood for carving (*Bombax ceiba*, *Brachychiton diversifolius*), painting and other craft

products; harvest of magpie goose (*Anseranas semipalmata*) and buffalo (*Bubalus bubalis*) (Griffiths *et al.* 2005; Gorman *et al.* 2006, 2007, 2008; Fordham *et al.* 2010) some eventuating in success but many in failure.

Many factors have been attributed to the failure of Indigenous wild harvest based enterprise, consistently cited are the 'tyranny of distance' and costs associated with operating any business in regional Australia, lack of knowledge of markets and market engagement and working within a business and legislative framework (Young 1988; Davies *et al.* 1999; Nikolakis 2010). Some of these barriers result from cross-cultural differences and aligning traditional values and knowledge with the market economy and government regulation. The communal ownership of land managed through the land councils adds an additional layer of complexity and bureaucracy, with the land councils focus on land rights and royalty rather than business development by Indigenous people.

CASE STUDY – KAKADU PLUM

Background

Kakadu Plum (*Terminalia ferdinandiana* Excell) is a native which is endemic to northern Australia from the Kimberley (WA) and the Gulf of Carpentaria (NT) (Pedley 1995). It is abundant and occurs at high density along the coastal strip, much of which is Aboriginal land. The fruit and leaves have exceptional chemical properties which are well documented (Brand *et al.* 1982; Cock and Mohanty 2011; Konczak *et al.* 2014, 2010; Mohanty and Cock 2012; Netzel *et al.* 2007; Woods 1995; Williams *et al.* 2014). Aboriginal people have long used the plant for its medicinal and nutritional benefits (Brock 2001, Brand-Miller *et al.* 1993, 1998; Lindsay *et al.* 2001; Raymond *et al.* 1999); and many Aboriginal people have been involved in commercial harvest. The broad distribution, exceptional chemical qualities, market demand and interest from Aboriginal communities make this species an excellent first choice in initiating and establishing value chains and pathways for commercial Indigenous enterprise development.

Commercial use – supporting people to be on country

There is a substantial and growing market for raw and processed Kakadu Plum products. These include the seafood industry for the anti-bacterial qualities and the pharmaceutical industry for the vitamin C and anti-cancer properties (William *et al.* 2014; Cock 2015). Although Aboriginal people have been involved in wild harvest of Kakadu Plum for the past 15 years demand still far exceeds supply. The current wild harvest represents a tiny fraction of the available crop and there is little commercial horticulture (Gorman *et al.* 2016).

The Indigenous community of Wadeye has become the largest single wild harvest supplier of Kakadu Plum fruit with the most recent harvest over five tonnes and involving more than 100 Indigenous harvesters. The plum industry is one of the only non-government contributors of cash and employment in the region. The harvest of plums involves Traditional Owners picking on their own country often as family groups, allowing transfer of knowledge and harvest of other bush products for personal use. As autonomous harvesters Indigenous people engage with the broader economy on their own terms. The harvest is an obvious source of pride for the community. To further grow the industry requires a far larger harvest and greater guarantee of regularity that cannot be provided by a single community.

To meet market demand a cooperative type business model is being developed which aims to combine wild harvest from across northern Australia. The model, which will operate under the business name Traditional Homeland Enterprises (T.H.Es.), will involve a central processing hub, most likely based in Darwin and/or Broome, which is supplied by numerous community-based collection hubs. The collection hubs are Aboriginal owned and operated businesses in their own right which work with the Traditional Owners and local community and in accordance with applicable legislation relevant to each area. T.H.E.'s business includes the processing hub where the value adding occurs, and it is the intention that Aboriginal people benefit not only from the supply of the raw product but also from the value added products, such as powder and extract. This model has potential to deal with a much broader suite of native plant products and as the value chains between supplier and market develop so too will it offer opportunity to explore commercialisation of other products from both ends of the value chain.

DISCUSSION

The Kakadu Plum industry is already providing significant economic and social benefits to Aboriginal communities such as Wadeye. There is a need for careful thought and strategic planning to ensure Australia continues to benefit commercially from this species and that Aboriginal people are supported in their involvement as the industry grows and expands into horticulture.

There is always a threat that genetic material of this species will be taken and domesticated outside of Australia; with no benefit to Australia or the Aboriginal people on whose land it is found. This has occurred with the *Macadamia*, many *Eucalyptus* species (oils) and a number of native Australia cut flowers (Boland *et al.* 1991). The *Convention of Biological Diversity* (1993) should protect the country of origin from other countries commercialising a species without consent and partnership agreements; as of 2016 there were 168 countries signatories to this Convention. More specifically, the *Nagoya Protocol on Access and Benefit Sharing* is an international agreement with 92 signatories which provides guidelines related to sharing the benefits arising from the utilization of genetic resources in a fair and equitable way (Convention of Biological Diversity 2016). These should provide some protection in commercialisation of new commercial crops like Kakadu Plum.

As the Kakadu Plum industry grows there will be a progression from wild harvest to horticulture with a potential shift of control of the industry from Aboriginal people to large commercial horticultural companies. Much of the genetic diversity of this species occurs on Aboriginal lands and there is already pressure on Aboriginal people to supply the genetic diversity for the development of commercial cultivars with a promise of some benefit through royalties from *Plant Breeders Rights* of a registered variety. However, there are potentially far greater benefits from an expanded wild harvest and from active engagement in domestication through small local horticultural production.

An approach better suited to Aboriginal involvement is development of local varieties across the range, allowing communities to domesticate based on local genetics and aspirations. There are examples of local cultivars being grown in other countries (Dawson *et al.* 2014). Across the range of the Kakadu Plum the fruit and leaf have different phenotypic properties (chemotypes) suitable for different commercial applications. Aboriginal clans and language groups have different names and dreamtime stories associated with this tree. The variety in properties and stories provide marketing opportunities for each region.

Another horticultural opportunity for Aboriginal lands is enrichment planting of Kakadu Plum which involves increasing the density of this species amongst existing vegetation. There has been some success with this method in the Kimberley (WA) (Lee and Courtenay 2016). Successful models such as this provide a demonstration that Indigenous people can be involved in horticulture, contributing to the economic base of Indigenous communities.

Kakadu Plum is just one of many native species with commercial potential; there is a lot of Indigenous knowledge which can direct these commercial opportunities. The co-operation of communities and researchers in the development of value chains and a business model for the Kakadu Plum industry offers a framework for intellectual knowledge sharing and bio discovery research much needed in developing other commercial products. For Aboriginal people to share this knowledge they need partners they can trust in sharing benefits, such relationships take time to develop. Land Councils and Government agencies need to support the development of industries that provide opportunity for people to stay connected to their land and in turn have many ecological, social and cultural benefits.

CONCLUSION

By exercising some control of the Kakadu Plum industry and developing a cooperative type business that jointly processes and markets fruit, expanding wild harvest and developing regional cultivars (grown in horticultural settings managed by Aboriginal communities) Aboriginal people can continue to benefit from, and greatly expand this industry. Kakadu Plum can be seen as a model on which the development of other native species could be based. These industries could provide an economic base for Indigenous people to live on and manage country in remote and regional Australia enabling protection of natural and cultural values to the benefit of all Australians.

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