‘LOOKING AFTER COUNTRY’ THROUGH WILDLIFE UTILISATION

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‘Looking after country’

- term used by Aboriginal Traditional Owners to describe customary obligation in managing their country
- holistic and includes management of both cultural and natural resources
- use of wildlife considered an essential part of land management
Where are we?

Complex cultural, social, ecological and political landscapes
Context

What do remote Northern Territory landscapes have of value?

- a vibrant, unique and largely intact culture with many dimensions of connectivity between people and country: totems, kinships, ceremony, language, art

- healthy country with a great diversity of plants and animals (many of them unique and endemic to this country)

- traditional landowners and land managers who are still involved in decision making and management of their country

- Indigenous Rangers trained to link between traditional ways and Western ways of manage country
Value of NT landscapes
- unexploited and structurally intact landscapes
- rich in natural and cultural heritage values
Major ecological threats and issues

- feral animals (buffalo, camel, pigs) and invasive plants (Mimosa, gamba etc)
- changing fire regimes (destructive wildfires)
- species loss of granivorous birds and small mammals at an alarming rate

Very low number of people on country – land management at very large scale.

Government programs which encourage people off country into townships (education, employment and health programs) further reducing people on country
NT Landscapes
Limited conventional economic value (cattle, cropping etc.)
High natural and cultural values
Requires active management to remain intact (weeds/feral animals, wild fire)
Currently incentive-based management: carbon credits – fire abatement, customary harvest
Looking after country

Healthy people

- Wildlife based enterprise
  - Ecotourism/hunting
  - bush tucker
  - croc eggs
  - reptiles for pets
  - cycad harvest
  - buffalo muster

Commonalities

- people on the country
- livelihood opportunities
- natural and cultural management

Healthy country

Land management

- weeds, fire, ferals, water management conservation
- Payment for Service (WALFA, AQIS, Customs)
Looking after country

Healthy people

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Ligntning strike

Sawing tree
Distribution of Indigenous population in NT

32% population, 50% of land, 75% live remote

~200 communities in Northern Territory
- range in size from a few small family groups to over 3000 people

Population density \(\sim\) is 0.1 people per km\(^2\)

Remote Aboriginal communities generally have:
- high levels of unemployment
- little infrastructure
- poor education and health
- few economic activities other than management and commercial use of wildlife
Examples of some wildlife based enterprise (WBE):

• Wild harvest of crocodile eggs (for ranching – skins etc.)
• Harvest and value adding of plant products (soap, food, dyes for weaving)
• Domestication of native bees (honey, wax, pollen, pets)
• Harvest of bark and wood (painting, carving and music)
• Reptiles and spiders for the pet industry (snakes, long necked turtle, tarantula spiders)
• Land management services (carbon abatement, weeds, feral animals) as fee for service
Why do Aboriginal communities like WBE?

- money and employment
- be on their country (bush tucker, cultural obligations)
- healthy as it involves exercise
- interaction old and young (intergenerational flow of knowledge)
- ability to work in family groups
- manage themselves (when, where, who)

What are the main obstacles?

- tyranny of distance (markets, equipment, training)
- lack of business acumen (value chains, western markets, product development)
- lack of support
- scale (ability to supply markets consistently and right quantity)
- cultural differences (different world views, governance and obligations)

References: Young 1988, Evans 2006; Gorman et al. 2006/8; Fordham et al. 2010; Nikolakis 2010
Collection of bush tucker: Kakadu Plum

Ecology Aspects:
Scientific name: *Terminalia ferdinandiana*


Family Combretaceae*

- *T. ferdinandiana* is endemic to northern Australia, one of 29 species in Australia
- small to moderate sized, semi-deciduous tree to ~7m tall
- found in the western tropical savannas
- often on stony, poorly drained clay soils fringing flood plains

Reference: * Dunlop * et al. 1995
TERMINALIA

• ~200 species worldwide, tannins, timber and dyes;

• edible nuts (T. catappa, T. copelandii, T. cunninghamii);

• edible, Vitamin-C rich fruit (T. ferdinandiana, T. carpentariae, and T. petiolaris) - and hybrids;

• edible gums (eg: Terminalia canescens)

• high commercial value and many Terminalia species have been well researched – especially in India
Properties of Kakadu plum fruit and leaf - active compounds (phytochemicals)

**Total Vitamin C (Ascorbic Acid) content**

- *Strawberry*
- *Boysenberry*
- *Kakadu Plum*

**Total Ellagic Acid content**

- *Free Ellagic Acid*
- *Other Ellagic Acid Forms*

**Vitamin C (Ascorbic Acid)** = highest of any plant product in world

**Ellagic Acid**: high antioxidant capacity = anti-microbial properties = preservative qualities/anti-cancer properties

**Markets**: preservative (seafood industry), pharmaceutical, nutraceutical, cosmetic industry

References: Williams et al. 2014; Mohany and Cock, 2012; Cock and Mohanty, 2011
Example of wild harvest in Wadeye: The Thamarrurr Region

• main town in the Thamarrurr Region (TR) is Wadeye (formally Pt Keats mission)
• 21 clan estates in the region
• population 3000, ~200 non-indigenous
• main language in Wadeye is Murrinh-Patha, one of 6 languages and 7 sub-dialects
• Thamarrurr Development Corporation (TDC) - main governing body
• Thamarrurr Rangers manage 20,000 km\(^2\) land in this region

References: *Ivory 2008;
History of commercial harvest of *Kakadu Plum* in the Thamarrurr Region

2007 – 2010:
- wild harvest through Indigenous Ranger group – Thamarrurr Rangers
- $20 per kg sorted, packed, frozen and delivered to Darwin
- *never harvested much (400kg per annum)*

2011/12
- Thamarrurr Development Corporation established an enterprise centre
- payment up front to community members
- 2011 season >2000 kg harvested

2013 - 2015
- a Wadeye Indigenous woman’s centre took over the business from TDC
- purchased freezers, employed staff, quality control, funding for equipment
- 3500 kg in 2014 season, 4000 kg in 2015 season, 5,500 kg in 2016
- in the 2016 season, Wadeye had 148 pickers registered (11 men and 137 women),
- $55,000 going back into community directly into pickers pockets!

Set up to operate as a collection centre
Collection Centres
- No direct contact with markets
- Supply to a processing hub that does the value adding

Stages – pre harvest planning
Culture
Consultation with Traditional Owners/NLC – compliance with ALRA (NT) 1976

Sustainability
Application for ‘Take’ Permits, NTG – compliance with TPWCA 2006

Induction – rules about picking (harvest practice, authority)

Logistics
Business – freezers, training of staff, payment process, agreements with processing hub
Harvest – on ground logistics

• Wild harvest - some assistance getting out to country
  - advice from rangers about best practice

• Sorting, grading and payment (quality, country?)

• Some processing - pulping and freezing

• Packaging and transport

<table>
<thead>
<tr>
<th>Raw fruit</th>
<th>Pulp</th>
<th>Powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>10kg</td>
<td>6kg</td>
<td>1kg</td>
</tr>
<tr>
<td>$30 per kg</td>
<td>$60 per kg</td>
<td>$550 per kg</td>
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Why is it successful?

• Community is empowered
  - Aboriginal owned business
  - cultural authority for picking
  - people work when they want
  - different areas can have input into names and branding

• People like the work conditions
  - payment is piece meal and immediate
  - can work as a family or group
  - get back on country (bush tucker, obligation)

• Scale of enterprise
  - no pressure from large markets to preform as part of a cooperative
Cooperative Model - meeting demand from wild harvest

COLLECTION CENTRES
NT and WA Indigenous Communities

A
Collect fruit and freeze

B
Indigenous collection hubs across Northern Australia

C
Sorting, grading and some processing

MARKETS
Australian Seafood Industry
Skin products and cosmetic
Neutriceutical Market

Marketing, product development

$\leftarrow$
Powder

$\leftarrow$
Puree

$\leftarrow$
Whole fruits

CENTRAL PROCESSING HUB
Traditional Homeland Enterprises (T.H.E.) Pty LTD

Whole fruits

Puree

Freeze-drying
Increasing commercial demand and limited supply
– how can meet demand without turning to large scale monoculture horticulture

Three ways to supply:

Wild harvest: leaf and fruit

Enrichment planting
- Kimberley Training Institute

Monoculture/Mixed
- Bidyadanga, WA
- Wildman River, NT
Research and development

• Cultural and social
  - community aspirations (size, directions, involvement)

• Ecological
  - sustainability (harvest practice, yields, impacts)
  - wild harvest vs horticulture (cost benefits, best practice, varieties)

• Economic
  - harvest costs, value chains, linkages to markets

• Governance and logistics
  - scale and ownership

• Commercial
  - What other products does market want?
References


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• Kindred Spirits Enterprises
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Thankyou and questions?