

The Traditional Owner-led Bush Products Sector: An overview

Scoping Study and Literature Review

Emma Woodward, Diane Jarvis, and Kirsten Maclean

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JAMES COOK
UNIVERSITY
AUSTRALIA



Kimberley Land Council



Australian Tropical Herbarium



Australian Native
Food & Botanicals



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The 'Building the Traditional Owner-led bush products sector' project team is led by an Indigenous Steering Committee with representatives from the Kimberley Land Council, the Tropical Indigenous Ethnobotany Centre, Giringun Aboriginal Corporation and IN-Group Investments. The project receives additional guidance from industry and government representatives including the Australian Native Foods and Botanicals.

The Cooperative Research Centre for Developing Northern Australia (CRCNA) is funded by the Commonwealth Government. It also receives support from its investment partners: the Western Australian, Northern Territory and Queensland Governments. The CRCNA brings together industry, universities and other research bodies, regional development organisations, all northern Australian jurisdictions and international partners in a collaborative industry-led R&D venture to assist businesses, governments and researchers identify opportunities for business and growth in the north.

Kirsten Maclean (CSIRO) and Emma Woodward (CSIRO) wrote the Executive Summary and the recommendations for potential future investment in research to support the Indigenous led Bush Products sector growth. Emma Woodward (CSIRO) wrote the scoping study (Chapter 3-5). Diane Jarvis (JCU and CSIRO) and Kirsten Maclean (CSIRO) wrote the literature review. Diane Jarvis (JCU and CSIRO) wrote Chapters 8 and 9 (co-benefits and trade-offs; and the legislation regarding Access and Benefits Sharing and Intellectual Property rights). Kirsten Maclean (CSIRO) wrote Chapters 7 and 10 ('Challenges' and 'Ways forward').

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Executive summary

This review forms part of the project *Building the Traditional Owner-led Bush Products sector in northern Australia*, funded by the CRC for Developing Northern Australia and the CSIRO. This project is guided by an Indigenous Steering Committee comprised of representatives from the Kimberley Land Council, Giringun Aboriginal Corporation, the Tropical Indigenous Ethnobotany Centre and In Group Investments Australia with support from The Australian Native Food and Botanicals industry body and the Australian Department of Agricultural and Water Resources. At present there is limited research into the base condition, potential opportunities (investment and supply chain) or key development priorities (including R&D) for this sector to ensure its appropriate and sustainable growth. This 'snapshot' Scoping Study and Literature Review draws on a systematic review of relevant Australian academic, practitioner and grey literature (total of 104 published papers, as well as numerous reports and webpages) to describe the current 'condition' of the Traditional Owner-led bush products sector, and a review of the challenges, potential opportunities and key development priorities for development of the sector. This Scoping Study and Literature Review will inform the development of a future Strategic Sector Development and Research Priority Framework to guide future sector development and research.

The Traditional Owner-led bush products sector incorporates a wide range of enterprises. These include bush foods, native plant derived industries (seed harvesting, nurseries, cut flowers etc.) and the development of botanicals-based products including bush medicines, essential oils, and health and beauty products. Each of these types of enterprises may result from the wild harvest, cultivation and/or enrichment planting of select native plants. The sector continues to grow and diversify across northern Australia.

Aboriginal and Torres Strait Islander people (hereon called 'Indigenous' people) face unique challenges to their involvement in local economies in Australia. Historical economic marginalisation, low inter-generational wealth transfer, the ongoing impacts of inadequate education, unemployment, and poor health affect the extent to which Indigenous people are able to ensure their effective and sustained participation in domestic and international economies. Marginalisation is perpetuated by well-meaning but potentially misinformed government policies and programs that seek to overcome persistent Indigenous disadvantage via economic mainstreaming. Such programs and policies frequently involve migration to regional centres and cities for employment. Such approaches undervalue Indigenous world views, place-based cultural practices (including caring for country), and alternative models of 'development' that include social, cultural, environmental benefits along with economic benefits. Additional challenges stem from limited land rights and/or restricted access to traditional country. This limits opportunities for: self-determination; maintenance of cultural strength, law and pride; confidence and self-esteem; and an inability to leverage the capital necessary to start a business. In addition, Indigenous Australians, particularly those living in remote and regional Australia, have limited access to knowledge about how to gain appropriate business development support. This limited access to support hinders their ability to develop the business acumen needed to create and build an enterprise, develop a product, identify a suitable market and access value chains for their product.

Although the literature highlights many challenges faced by Indigenous Australians in developing businesses and enterprises, it also reveals diverse examples of Indigenous-led pathways to access, develop and take advantage of opportunities for Traditional Owner-led bush product enterprises.

The opportunities and benefits that will arise, for both Indigenous Australians and the non-Indigenous community, via the development of a successful and sustainable Traditional Owner-led bush products sector are diverse, complex and multifaceted. In addition to providing direct economic benefits via the creation of jobs, incomes and profits, outcomes are likely to include significant social, cultural and environmental benefits including for example those generated from working on country, knowledge sharing, partnership development and so on. There is growing global demand for alternative food and botanical products that can be proven to be sustainable, and which are seen to maintain human health. Accessing alternate options for treating minor ailments has become popular in Australia and within many other affluent nations, to the extent that there are now large industries providing products and services. Their popularity is at least in part derived from preferences for natural products and styles of treatment, rather than the more aggressive and synthetic remedies characteristic of modern medicine (Gorman et al. 2006). Indigenous enterprises that draw on Indigenous knowledge of native plants are well-positioned to answer to this global market demand.

Alternative models of economic development acknowledge how livelihood strategies of many Indigenous people living in regional and remote Australia are based on hybrid economies. These hybrid economies include 'income' generation from the public/state sector, the customary sector (e.g. returns from hunting, fishing, gathering) and the private/market sector (e.g. returns from bush product enterprises, payment for environmental services and art). They support and acknowledge the meaning, value and benefits that Indigenous people derive from being on country, practising their culture while caring for their country, and involving both elders and young people. Bush product-based enterprises can be considered a good fit within the 'hybrid economy', providing products that can be sold within commercial markets whilst also contributing to the customary economy and assisting Indigenous communities to fulfil their aspirations. Furthermore, bush product enterprises are frequently social enterprises, explicitly seeking to achieve economic and social goals (Tedmanson and Guerin, 2011; Wood and Davidson, 2011), as well as cultural and environmental benefits (Fleming et al., 2015), including ensuring that traditional knowledge and techniques are not lost (Logue et al., 2018) and that country is cared for. Accordingly, many bush enterprises seek sustainable livelihoods for their participants, encompassing all aspects of the social, cultural and physical world in addition to seeking financial benefit (Holcombe et al., 2011). The importance of bush foods enterprises, over and above economic benefits, has been emphasised in the research: *the activities provide sustenance on two levels: they bring income and they bring meaning (Yates, 2009 p52).*

The literature also highlights the role of vocational education and training that may occur via *existing* Indigenous enterprises and businesses as a way to address some of the identified business development challenges. This responds to the findings of Whitehead et al. (2006) who state that: *critical constraints will rarely involve inadequate knowledge, skills or capacity to ensure biological sustainability, but derive from poor understanding of markets and social issues, including community governance (Whitehead et al., 2006 p28).* The literature includes frameworks that highlight how Indigenous enterprise development can best occur within existing systems of government, and the role of co-research partnerships to support Indigenous-led and/or co-developed research into

enterprise development for sustainable livelihood development in natural and cultural resource management.

Development of the Traditional-Owner led bush products sector is likely to be incredibly diverse, with enterprises operating at a multitude of scales. However it has been suggested that community-based enterprises may find durable "comparative advantage" where they link their culture (that cannot be easily imitated by others) with access to plants unavailable outside Aboriginal lands, and promote the attractiveness of products grown in "clean and green" remote lands free of pollution and development (Whitehead et al., 2006). Further, enterprises that draw heavily on customary skills and knowledge are most likely to capture this comparative advantage, as has happened with the arts and crafts market (Whitehead et al., 2006).

Further, that in the development of new enterprises across the sector, more ambitious and independent enterprise may follow from modest initial success and the increase in confidence and capacity that flows from it (Whitehead et al., 2006).

Finally, involvement in business networks has been found to be low among remote Indigenous businesses, even though this has been found to be an important factor in influencing growth. Morrison et al. (2014) suggest funding or organising the establishment of networks among remote businesses can help fill this gap, facilitating greater networking between Indigenous communities (Evans et al., 2010), with local, state and federal governments (Austin and Garnett, 2011), and with those with business experience and skills (Collier et al., 2011).

1 Introduction

Aboriginal and Torres Strait Islander people (hereon referred to as ‘Indigenous’ people) face unique challenges and opportunities in enterprise development, including identifying pathways for their effective and sustained participation in domestic and international economies. This ‘snap-shot’¹ review includes a scoping study of the Traditional Owner-led bush products sector, and a literature review of the broad challenges, opportunities and ‘ways forward’ identified in the *Australian² literature*. Where possible we present specific examples of place-based bush product enterprises from remote and/or regional northern Australia to illustrate the complexities of these challenges, opportunities and ‘ways forward’ in the Indigenous context.

Indigenous Australians have long been involved in enterprise and entrepreneurship (Foley 2006). Indigenous Australians conducted trade and commercial activities within Australia, and with neighbouring nations long before the arrival of English colonisers. These early economies were impacted by colonisation, and the impacts of colonial governance continue to influence Indigenous economic development and self-determination – a topic that is explored in the literature review.

There are various definitions of what constitutes an ‘Indigenous enterprise’ in the literature, with some researchers arguing that an appropriate definition should identify a business as being Indigenous, if at least one person holding equity in the company identifies as Indigenous; the business is identified as an Indigenous owned business; and it is accepted by the Indigenous business community as an Indigenous enterprise (Foley and Hunter, 2013). These researchers also argue that an appropriate definition is necessary to ensure that Indigenous enterprise and innovation efforts are adequately captured by government reporting mechanisms³, and that policy can appropriately respond to the needs of all enterprises, not just those in urban, regional or remote locations (Foley, 2006; Foley and Hunter, 2013). Further, if a business is seeking certification from Supply Nation (which is mandated as the first port of call for Federal Government procurement officers looking for Indigenous businesses to fulfil their targets under the Indigenous Procurement Policy) they must be able to demonstrate that Aboriginal and/or Torres Strait Islander people own at least 51% of the business and that the business is managed and controlled by Aboriginal and/or Torres Strait Islander people (see <https://supplynation.org.au>).

The concept of a ‘social enterprise’ business model is of particular interest to those Indigenous enterprises that seek outcomes and benefits that extend beyond purely economic motivations, and which attend to broader social, cultural and political goals (e.g. Spencer et al., 2016, 2017). Scholars have argued that the ‘social enterprise’ concept/model is useful in defining both not-for-profit and for-profit social enterprise, where the aim is to reinvest the majority of the profit into the fulfilment of their social mission. Kerins (2013 as cited by Spencer et al., 2017) provides a useful definition that appears to correlate with the mission of many Indigenous-led enterprises. Kerins articulates that social enterprises: *are not based on utilitarian-economic models but rather an economic model in*

¹ We describe it as a ‘snap-shot’ review due to the length of time available to conduct this review of the literature

² For reviews of relevant literature from Canada, NZ and north America, please see for example: Shoebridge et al., 2012; Fleming, 2015.

³ Such as the Australian Bureau of Statistics annual survey on Characteristics of Australian businesses

which resources provide for broader goals: economic, social, cultural and political. They include the creation of jobs and the strengthening of social capital by supporting people who have been inactive back into the wider activities of the community (Kerins 2013 as cited in Spencer et al., 2017:840). Interestingly this definition resonates with that adopted by the Indigenous Social Enterprise Fund (a partnership between Social Ventures Australia, Indigenous Business Australia and Reconciliation Australia) that defines social enterprises operationally as organisations that *fulfil a social, cultural or environmental mission which has a public or community benefit; trade to fulfil their missions; derives a substantial portion of their income from trading revenue; [and] may be not-for-profit or for-profit businesses* (Indigenous Business Australia, cited in Spencer et al., 2017:840).

Bush product-based enterprises provide products that can be sold within commercial markets whilst also contributing to the customary economy, for example providing both money and food to eat (Gill, 2005). Aspirations of communities that have established bush product enterprises frequently fit within such a model (Fleming et al., 2015). Furthermore, bush product enterprises are frequently social enterprises, explicitly seeking to achieve both economic and social goals (Tedmanson and Guerin, 2011; Wood and Davidson, 2011), as well as cultural and environmental benefits (Fleming et al., 2015), such as ensuring that traditional knowledge and techniques are not lost (Logue et al., 2018). Accordingly, many bush enterprises seek sustainable livelihoods for their participants, encompasses all aspects of the social, cultural and physical world in addition to financial benefit (Holcombe et al., 2011). Indeed, the importance of bush foods enterprises, over and above economic benefits, has been emphasised: ‘the activities provide sustenance on two levels: they bring income and they bring meaning’ (Yates, 2009 p52).

This Scoping Study and snapshot Literature Review forms part of the project *Building the Traditional Owner-led Bush Products sector in northern Australia*, funded by the CRC for Developing Northern Australia and the CSIRO. This project is guided by an Indigenous Steering Committee comprised of representatives from the Kimberley Land Council, Girringun Aboriginal Corporation, the Tropical Indigenous Ethnobotany Centre and In Group Investments Australia with support from The Australian Native Food and Botanicals industry body and the Australian Department of Agricultural and Water Resources.

The Scoping Study and Literature Review draws on a systematic review of relevant Australian academic, practitioner and grey literature to describe the current ‘condition’ of the Traditional Owner-led bush products sector, and a review of the challenges, potential opportunities and key development priorities for development of the sector. The aim Scoping study is to get an understanding of the base condition and potential opportunities (investment and supply chain) for the Indigenous-led Bush Products sector across Northern Australia. The aim of the Literature Review is to get a better understanding of the development priorities (including R&D) for this sector to ensure its appropriate and sustainable growth. Taken together they will inform the development of a future Strategic Sector Development and Research Priority Framework to guide future sector development and research.

The next section of this report outlines the methodology used to gather data to inform the Scoping Study and Literature Review. This is followed by Scoping Study (Part I) that outlines the existing state of the Indigenous bush products industry within Australia. The Literature Review (Part II) is a systematic review of the *Australian* literature. It presents the challenges, co-benefits and trade-offs related to Indigenous bush product enterprises. It includes a discussion regarding access and benefit

sharing and intellectual property rights. It ends by identifying possible ways forward for this industry. The Report ends with a list of recommendations for potential investment opportunities to support the development of Traditional Owner-led bush product enterprises, including research to support the development of the sector as a whole.

2 Methodology

This Scoping Study and Literature Review draws on relevant *Australian* academic, practitioner and grey literature to determine base condition, potential opportunities, risk and key development priorities for the sector.

To ensure we captured all of the relevant literature for this review, we followed the 'systematic review' methodology which seeks to collate all the empirical evidence that complies with pre-specified eligibility criteria, as outlined in Higgins (2011).

The literature included in the systematic review were identified through a three step process, with the finding of each step discussed in further detail below.

- (1) Identification of literature via various databases and search engines using pre-agreed search criteria.
- (2) Supplement identified literature with additional appropriate articles provided by members of the project Steering Committee and Research Team.
- (3) Screen the identified literature based on Abstract and Key Words to ensure appropriateness for the research questions of this study; when unclear a more thorough eligibility assessment was conducted based on assessment of the full text.

First, all of the relevant literature was identified through an initial search. This was done by searching the Web of Science database and the Google Scholar search engines during November 2018. Searches were restricted to only include papers from 1st January 2005, and when using Google Scholar were restricted to the first 50 most relevant papers for each search terms.

The search criteria were established during discussions between the Steering Committee members and the Research Team on 10th October 2018, and were as follows:

- (1) Literature must include all of these terms:
 - (a) Indigenous and/or Aboriginal
 - (b) Enterprises and/or business
 - (c) Australia
- (2) Additionally includes at least one of these terms: Bush products/bush foods/bush tucker/botanicals/native plant nurseries/healthcare products/medicinal products/supply chain/value chain/value added/export

The Web of Science search revealed 232 papers that satisfied criteria category 1, and 1,046,817 papers satisfying criteria category 2 alone; however combining the criteria revealed only 33 papers that satisfied all the search requirements. The Google Scholar search revealed 206 papers that satisfied all the search requirements. An additional 39 papers were separately sourced from the Steering Committee and the Research Team. Thus, in total, 278 papers were identified from steps 1 and 2, prior to the elimination of duplications and the screening for appropriateness process.

The screening and elimination of duplicates process was conducted as one process, and resulted in the elimination of 10 duplicates and 163 papers which did not comply sufficiently with the established selection criteria. This left 104 papers remaining for use within the literature review.

As part of the screening process, in addition to eliminating non-relevant materials, the papers were also classified according to the section(s) within the literature review to which they were relevant. Each section of the literature review was then developed drawing from the identified literature.

Part I Scoping Study

3 The Indigenous-led Bush Products Sector

3.1 Introduction

The Indigenous business sector has experienced significant growth in recent years (Price Waterhouse Cooper, 2018) and is growing faster than the rest of the economy (Australian Government, 2018a). The development of a robust and sustainable 'Indigenous economy' has been described as essential for realising self-determining futures, facilitating sustainable and independent communities, and closing the gap (Price Waterhouse Cooper, 2018). More Aboriginal and Torres Strait Islander people (herein referred to as Indigenous people) than ever are seeking to achieve economic independence by contributing to the economy through the establishment of Indigenous businesses. Evidence suggests that the recent growth in the Indigenous business sector has been influenced by a range of factors, including:

- Indigenous people seeking alternatives to traditional employment opportunities in order to provide for their families and communities;
- developing local businesses to deliver needed services within their local communities;
- increased access to government-funded programs that promote Indigenous economic development (e.g. Indigenous Business Australia and government procurement policies), and
- the emergence of community-based mechanisms that promote Indigenous business development such as Supply Nation, Indigenous Chambers of Commerce, and the Global Corporate Network of Australia.

According to (Price Waterhouse Coopers 2018), another factor contributing to the growth of the sector is the competitive advantage that Indigenous businesses have over non-Indigenous businesses in a number of industries including the emerging domestic and export markets for bush foods and bush medicines (Price Waterhouse Cooper, 2018). Of specific interest to the development of the Indigenous-led bush products sector in northern Australia is the finding that the unique cultural knowledge held by different Indigenous groups together with the immense opportunity associated with the use of Indigenous-owned and controlled lands, can be leveraged to contribute to commercial success (Price Waterhouse Cooper, 2018).

Further, the development of this sector will also support Indigenous employment, as Indigenous businesses are more likely than non-Indigenous businesses to employ Indigenous workers (Hunter, 2014), which in turn reduces the employment gap, welfare dependency, and the reliance on subsidies such as housing assistance. The development of successful Indigenous-led bush products enterprises can create a 'multiplier effect' that in itself can foster further economic development and wealth creation: Indigenous businesses use other Indigenous businesses within their supply chain and invest back into their communities (Jarvis et al., 2018b). Specifically, it can lead to a greater culture of employment and social contribution within Indigenous communities, and foster an environment that supports further innovation and opportunity by inspiring the next generation of Indigenous business owners (Price Waterhouse Coopers, 2018).

Indigenous peoples have been using native foods for more than 40,000 years, and in recent years interest has grown in the commercialisation of these products (White, 2012). Commercial opportunities exist for a very wide range of bush products, including bush foods, bush medicines, essential oils, timber and wood products, crafts, seeds for horticulture, and wildflowers.

The Indigenous-led native foods industry itself is still growing and suffers from the well-known problems of fledgling new crop industries. These include, for example, matching supply with demand, market development, development of production capacity, and education and awareness. The industry is also based on a small number of small to medium businesses, which are not able to make large investments in research and development. Further, the industry tends to be fragmented, although some industry participants favour cooperative approaches (De Sousa Majer et al., 2009; p8).

In tropical environments, such as within the Northern Territory (NT), the harvests and commercial sale of plant products for food and medicine has developed only relatively recently. A review of tropical species with potential for Indigenous-led development was conducted by Whitehead et al., in 2006. An indicative list of species, and a score reflecting a preliminary assessment of their potential in sustainable commercial use, can be seen in Table 2.1 (Whitehead et al., 2006). Higher scores (1 being highest) represent more favourable assessment and lower scores indicate that some significant difficulties are anticipated in achieving sustainable commercial use. It must be noted that as the review was published 13 years ago and changes have occurred during this time, although this review is very useful, it is indicative of the market at the time. The sector would benefit from research to update this important work.

Table 3.1 Tropical plant species and a crude assessment of their potential for sustainable commercial development. Adapted from Whitehead et al., 2006 p57-86.

Species	Common name	Potential commercial use Feasibility Score	Species	Common name	Potential commercial use Feasibility Score
<i>Abrus precatorius</i>	jequirity bean or rosary pea	9	<i>Eucalyptus jensenii</i>	Ironbark	16
<i>Acacia auriculiformis</i>	auri, earleaf acacia, earpod wattle	7	<i>Eucalyptus miniata</i>	Woollybutt	3
<i>Acacia producta</i>	Wattle	15	<i>Eucalyptus phoenicea</i>	Scarlet Gum	3
<i>Acacia sericoflora</i>	Wattle	16	<i>Eucalyptus tetradonta</i>	Darwin Stringybark	3
<i>Acacia simsii</i>	Heathlands Wattle	15	<i>Exocarpos latifolus</i>	Scrub sandalwood	17
<i>Acacia subulata</i>	awl-leaf wattle	15	<i>Ficus superba</i>	sea fig, deciduous fig	20
<i>Acacia yirrkallensis</i>	Unknown	13	<i>Flacourtia territorialis</i>	unknown	16

<i>Adansonia gregorii</i>	Boab	9	<i>Flueggea virosa</i>	Common bushweed	17
<i>Adenanthera pavonina</i>	Peacock flower fence, Sandalwood tree	9	<i>Grevillea formosa</i>	Mount Brockman grevillea	13
<i>Albizia lebeck</i>	lebbek tree	17	<i>Grevillea parallela</i>	Unknown	14
<i>Allosyncarpia ternata</i>	An-binik	13	<i>Grevillea pungens</i>	Silky oak	17
<i>Ampelocissus acetosa</i>	wild grape and djabaru.	14	<i>Grewia asiatica</i>	Unknown	15
<i>Antidesma ghesaembilla</i>	Unknown	12	<i>Gyrocarpus americanus</i>	Helicopter tree, propeller tree	11
<i>Aponogeton elongatus</i>	Unknown	13	<i>Haemordium coccineum</i>	Scarlet bloodroot	4
<i>Austrodolichos errabundas</i>	Unknown	15	<i>Hibiscus menzeliae</i>	Rosella, native sorrell	14
<i>Bambusa arnhemica</i>	Native bamboo	6	<i>Hibiscus sabdariffa</i>	Rosella	11
<i>Bombax ceiba</i>	cotton tree	1	<i>Horsfieldia australiana</i>	Cape nutmeg	10
<i>Boronia lanuginosa</i>	Boronia	12	<i>Ipomoea abrupta</i>	Morning glory	15
<i>Bossiaea bossiaeoides</i>	Unknown	12	<i>Marsdenia viridiflora</i>	Native pear	14
<i>Brachychiton diversifolius</i>	northern kurrajong	8	<i>Melaleuca cajuputi</i>	Cajuput, white samet	2
<i>Brachychiton paradoxum</i>	lacebark kurrajong, bottle tree	9	<i>Mimusops elengi</i>	Spanish cherry, bulletwood	2
<i>Buchanania arborescens</i>	Jam Jam, Green Plum	14	<i>Morinda citrifolia</i>	Beach mulberry	16
<i>Buchanania obovata</i>	Green Plum, Wild Mango	9	<i>Myristica insipida</i>	Unknown	8
<i>Callitris intratropica</i>	White Cypress-pine	6	<i>Nauclea orientalis</i>	Leichhardt pine	10
<i>Calophyllum inophyllum</i>	tamanu, mastwood	13	<i>Nelumbo nucifera</i>	Indian lotus	14
<i>Calytrix exstipulata</i>	Kimberley heather	12	<i>Nymphaea macrosperma</i>	Water lily	3
<i>Calytrix megaphylla</i>	Starflowers	13	<i>Ocimum tenuiflorum</i>	Basil	8
<i>Carallia brachiata</i>	Freshwater Mangrove	12	<i>Pandanus spiralis</i>	Pandanus palm, screwpine	4

<i>Carpentaria acuminata</i>	carpentaria palm	13	<i>Passiflora foetida</i>	Bush passion fruit	14
<i>Cochlospermum fraseri</i>	kapok tree	9	<i>Piliostigma malabaricum</i>	Mountain ebony	13
<i>Cucumis melo</i>	Unknown	15	<i>Pouteria sericea</i>	Northern yellow boxwood	16
<i>Cycas angulata</i>	Cycad	6	<i>Regelia punicea</i>	Flags	12
<i>Cycas arenicola</i>	Cycad	5	<i>Santalum album</i>	Sandlewood	13
<i>Cycas armstrongii</i>	Cycad	9	<i>Schefflera actinophylla</i>	Queensland umbrella tree	17
<i>Cycas arnhemica</i>	Cycad	5	<i>Sesbania formosa</i>	Swamp corkwood	11
<i>Cycas calcicola</i>	Cycad	1	<i>Solanum echinatum</i>	Related to the bush raisin/bush tomato	16
<i>Cycas orientis</i>	Cycad	6	<i>Stemodia lythrifolia</i>	Unknown	11
<i>Cymbidium canaliculatum</i>	Tiger Orchid	16	<i>Sterculia quadrifida</i>	Peanut tree, red fruited kurrajong	12
<i>Dendrobium affine</i>	White butterfly Orchid	16	<i>Syzygium eucalyptoides ssp. bleeseri</i>	Unknown	13
<i>Dendrobium canaliculatum</i>	Orchid	16	<i>Syzygium eucalyptoides ssp. eucalyptoides</i>	Red bud satinash	13
<i>Dillenia alata</i>	Red Beech	15	<i>Syzygium fibrosum</i>	Small red apple	13
<i>Dioscorea bulbifera</i>	Air yam, bitter yam	15	<i>Syzygium suborbiculare</i>	Red bush apple	12
<i>Dioscorea transversa</i>	Unknown	15	<i>Tacca leontopetaloides</i>	Polynesian arrowroot	11
<i>Elaeocarpus arnhemicus</i>	Blue Plum, Quandong	12	<i>Terminalia catappa</i>	Sea Almond	15
<i>Eleocharis dulcis</i>	Unknown	7	<i>Terminalia ferdinandiana</i>	Gubinge, Kakadu Plum	7
<i>Erythrophleum chlorostachys</i>	Cooktown ironwood	14	<i>Terminalia grandiflora</i>	Yalu, Plumwood	15
<i>Eucalyptus arnhemensis</i>	Tasmanian bluegum	15	<i>Vitex glabrata</i>	Unknown	16

Aboriginal and Torres Strait Islander knowledge has contributed to the commercial development of over 15 bush food species, including macadamias, desert raisins and Gubinge/Kakadu Plum (*Terminalia ferdinandiana*). Bush food products include nursery seedlings, new plant varieties and

gourmet sauces and jams. These commercial pathways form part of a 'bush food commercialisation system' (Ninti One: CRC for Remote Economic Participation, 2015).

3.2 Bush products production

The Indigenous bush products industry incorporates a wide range of different sectors, including bush foods (plants and animals) and bush medicines/healthcare products, each underpinned by a wide range of different bush medicines/healthcare products and related bush plants and animals. Whilst much of the research to date has focused on a particular plant and industry sector (for example, bush foods based around the Bush Tomato (*Solanum centrale*) (Cleary et al., 2008) or crocodile eggs⁴ (Corey et al., 2018), the lessons learned and opportunities identified (for example see Cleary et al, 2008; Corey et al, 2018) could be applied widely across the entire industry.

Many bush product enterprises seek sustainable livelihoods for their participants, encompassing all aspects of the social, cultural and physical world in addition to financial benefit (Holcombe et al., 2011). Indeed, as previously mentioned (p13) the importance of bush foods enterprises, over and above economic benefits, has been emphasised: *the activities provide sustenance on two levels: they bring income and they bring meaning* (Yates, 2009 p52).

The production of bush products can be based upon wild harvesting, enrichment plantings and horticultural developments, and can take place at varying scales.

Wild harvest

The wild harvest of bush products relates to the collection of plants and fruit that occur naturally in a given landscape (as opposed to farmed plants or enrichment planting). Ecological sustainability will be an important issue in any effort to develop and extend commercial wildlife harvesting ventures, and will require significant research effort for establishing baseline populations, identifying relevant ecological parameters and for monitoring impacts into the future (Morse, 2005). Bushfood crops are seasonal, weather dependent, and subject to year-to-year variation and failure (Morse, 2005). Overcoming the vicissitudes of wild production requires an ability to acquire a crop when it is available, and to store it effectively without significant deterioration for up to several years at a time.

One example of such a crop is *Solanum centrale* (bush raisin/bush tomato) which has been identified as a species that has growing market demand. The bush tomato is a small, fast-growing shrub bearing fruits that are 1–3 cm in diameter, yellow to orange in colour when fully ripe, and have a high concentration of Vitamin C and a strong, pungent taste that makes them popular for use in jams, sauces, chutneys and condiments (Bryceson, 2008a).

It is being cultivated in various parts of Australia, including SA, NT and WA, but a large proportion of fruit currently going into commercial food products is wild harvested from the bush (White, 2012).

⁴ Important to note: although animal derived products are included in 'bush foods', and we have include some reference to them in this scoping study and accompanying literature review, the focus of this project is on the plant-based bush products sector.

Enrichment plantings

Enrichment plantings are a means of enhanced bush food and bush medicine plant production and involves the establishment of plants for food, medicine or other uses, in a landscape that is otherwise natural and largely undisturbed. Gubinge/Kakadu plum is one species that is both wild harvested, and harvested from small community-based plantings (enrichment plantings). It is estimated that currently twenty tonnes of Gubinge/Kakadu plum are harvested across northern Australia each year, but there are plans to increase this wild harvest to more than 100 tonnes by planting new trees in existing Gubinge/Kakadu plum growing areas to meet commercial demand. This species is further considered as a potential horticultural crop in the following section due to the ongoing efforts to increase production of this high demand bush food.

A review and status report of the potential of enrichment plants (Lee and Courtenay, 2016) can be found here:

<https://www.cdu.edu.au/sites/default/files/the-northern-institute/10.18793-lcj2016.19.05-revised.pdf>

In short, Lee and Courtney (2016) suggest that the establishment of enrichment plantings of bush food and medicinal plants in bushland settings complements wild harvest and, as an alternative to the agricultural farming approach, accommodates the important social and cultural interactions of value to Aboriginal people in collecting bush food and traditional medicines, while also generating a source of income.

Horticultural Development

Three examples of bush products that are being planted on increasingly larger scales are the Kakadu Plum/Gubinge (*Terminalia ferdinandiana*), the Macadamia nut, and Sandalwood.

Gubinge/ Kakadu Plum

Terminalia ferdinandiana (family Combretaceae) is restricted to the Top End of the Northern Territory and the Kimberley region of Western Australia. Known as Gubinge, billygoat plum, Kakadu plum and green plum, the fruits of *Terminalia ferdinandiana* form from the middle of the wet season to the early dry (January-June). A small to moderate-sized semi-deciduous tree, *Terminalia ferdinandiana* grows in open woodland and produces smooth fleshy ovoid drupes, 1.5-2.5 cm long and with a short beak. The fruits are yellow green when ripe (Gorman and Whitehead, 2006). The fruit, fresh or frozen, is sought by bushfood wholesalers in Darwin and elsewhere in Australia. The Australian native food industry has identified *T. ferdinandiana* as one of thirteen native plants warranting commercial development (Gorman and Whitehead, 2006). The fruit is currently sold commercially in fruit, puree or powder form, for use in skin care, cosmetics and confectionary, such as chocolate. It is of specific interest to the health supplements industry due to its very high levels of Vitamin C.

The growing interest in the Gubinge/Kakadu plum as both a food supplement and for use in skin care products, offers an exciting opportunity for Australia's indigenous communities to create new industries.

In 1999, the Australian Government's Rural Industries Research and Development Corporation (RIRDC) funded a research project titled 'Feasibility of small scale commercial plants harvested by

Indigenous communities' (Gorman and Whitehead, 2006). This study considered the feasibility of wild harvest of *Terminalia ferdinandiana* and found potential for remote communities to generate income with fairly minor initial capital outlay or training (Gorman and Whitehead, 2006). A number of Aboriginal Ranger groups across the Northern Territory including the Djelk Rangers (Maningrida), Asyrikarrak Kirim Rangers (Peppimenarti), Thamarrurr Rangers (Wadeye), Wudicupildiyerr Rangers and Adjumarrllarl Rangers (West Arnhem Land) began wild harvest of the plum with support of the Northern Land Council. This fruit was sold to Coradji Pty Ltd, although only small amounts were harvested during the period 2005-2010.

One of the groups involved in this initial period of harvesting has been particularly proactive in building their engagement in the developing Kakadu Plum industry. The community of Wadeye in the Thamarrurr region of NT has become the largest single wild harvest supplier of Kakadu Plum fruit, with the recent harvest over 5 tonnes and involving more than 200 Indigenous harvesters, established through the independently-owned, Indigenous women's organisation Palngun Wurnangat Aboriginal Corporation (PWAC) in conjunction with the Thamarrurr Development Corporation and Thamarrurr Rangers (see Traditional Homeland Enterprises, 2018).

Thamarrurr Development Corporation Ltd (Thamarrurr DC) is a not-for-profit corporate entity owned by members of the Wangka, Lirrga and Tjanpa peoples. It was established in 2008 by the 20 Aboriginal clans of the Thamarrurr Region, to represent them in relation to business, socio-economic development, employment and training. Thamarrurr DC is one of nine members of the newly formed Northern Australia Aboriginal Kakadu Plum Alliance – formed in part to provide a more reliable supply of plum to meet growing demand in the region.

More recently the CRCNA has invested in a project that seeks to improve processing and storage methods, distribution of Kakadu plum products and provide training in harvesting, manufacturing and marketing. It has been suggested that *demand and growth for Kakadu plum products here and overseas is expected to be around 10 per cent annually, with significant opportunities emerging in the nutraceutical, supplement and pharmaceutical industries*. The project is interested in identifying how the value chain for Kakadu plum can be improved to better capture these new markets (Developing Northern Australia CRC, 2018; see also UQ, 2017).

Macadamia

According to the Australian Macadamia Society, Australia is one of the world's major producers of macadamia nuts and the only Australian native food crop that has ever been developed and traded internationally as a commercial food product. Macadamias are now the fourth largest Australian horticultural export. There are more than 700 growers across three states, producing around 50,000 tonnes per year, with 70% of the crop exported to more than 40 countries. It is unknown if any of the 700 growers are Indigenous, however given the growing scale of production, and economic value of this bush product, it has been included here for consideration. (Australian Macadamia Society, 2018).

Sandalwood

Australia is one of the major players in the international Sandalwood market, in 2006 harvesting up to 2,500 tonnes of mostly Western Australian Sandalwood every year. Six species of Sandalwood grow naturally throughout Australia and of these only Western Australian Sandalwood (*Santalum spicatum*), that is native to Western Australia and to a minor degree it's closely related North

Queensland species Bush Plum (*S. lanceolatum*) are grown for commercial use. The major use of sandalwood has been for joss (incense) sticks in south-east Asian countries (Forest Products Commission of Western Australia, 2018).

3.3 Bush Foods

Enterprises based on Bush foods

Bush foods catering

There are a number of Indigenous entrepreneurs involved in value adding to native plant products to bring a variety of table-ready foods to the market. Some of these entrepreneurs are then using their products in their cafés, restaurants and through their catering companies. Some examples are:

- Kungkas Can Cook is an Aboriginal-owned and run catering company operating out of Alice Springs which specialises in native foods collected straight from country. Kungkas Can Cook was established by Rayleen Brown in 2001. More recently the business has expanded to include a Bush Foods Cafe & Shop. Kungkas Can Cook are passionate about Bush Foods and are dedicated to utilising wild harvested produce (e.g. salt bush, wattle seed, bush tomato/raisin, gubinge/Kakadu plum).
- Fred's Bushtucker: Indigenous inspired catering company with a vision to encourage the acceptance of quality, authentic, Australian Indigenous bush foods and culture (Illawarra ITec, 2018). Based in Wollongong, this mobile service provides catering services using bush foods (e.g. including warragal greens, lemon myrtle, Kakadu plum/Gubinge, mountain pepper, wild lime) to the Greater Sydney region, the South Coast the Far South Coast, the Southern Highlands, Canberra and surrounding districts.

Bush foods in cultural tours, eco-tourism and cross-cultural education

Many Indigenous-led eco or cultural-tourism enterprises include the consumption of bush-products as a component of their service. This might include tasting bush-tucker, or offering for sale family-made chutneys and jams that have bush-products as their marketed ingredient.

For example, Broome-based tourism operator and Nyul Nyul man Robert Dann is using Boab nuts to create unique products including iced tea, boab ginger beer, boab beer and cosmetic ointments. These new enterprises grew from an interest from his Kimberley tourism clients, who asked to buy the boab powder he was using to make their iced teas. The business, Bindam Mie, employs local Indigenous people to pick, then process the nuts at a commercial kitchen in the WA regional town of Broome. Boab seeds are used to create oils for use in beauty products and the pulp is ground into a powder for food and beverages, worth \$280 per kilogram (Brammer, 2018).

There are also a number of initiatives to support and promote Indigenous-led tourism. These include the *Indigenous Tourism Champions* initiative: to enhance the competitive advantage that Indigenous culture offers Australian tourism by building a reputation of reliability and consistent quality in service delivery. The Indigenous Tourism Champions are achieving this by meeting a set of stringent criteria, ensuring that they are able to meet the needs and expectations of trade and the international market (see Tourism Australia, 2017). As stated on the Tourism Australia website (2017):

“Adventurous customers can taste bush tucker, experience the healing powers of nature, discover breathtaking scenery and join expeditions over land or sea. At the end of the day, they can catch fish and mud crabs before sharing a campfire meal beneath a canopy of stars. Culturally inclined visitors can also explore ancient rock art galleries, meet living artists, and participate in lively workshops to see how contemporary Aboriginal art is made.”

Bush food promotion

Potentially playing a role in the promotion and development of the Indigenous-led bush products sector, via raising the profile of native Australia bush foods, are celebrity and high profile chefs (e.g. Mark Olive, Clayton Donovan). The promotion of new and unique native ingredients by these individuals has likely influenced the uptake of bush products by other chefs and cooks, as well as encouraged consumers to engage with new native tastes.

See for example the following articles: *Native chefs using bush tucker* (Lethlean, 2017) and *'Chef's Oscar' for champion of Australian native food, Jock Zonfrillo* (Elston, 2018).

3.4 Botanicals

Alternative approaches to the maintenance of human health and treatment of minor ailments have become popular in Australia and many other affluent nations, to the extent that there are now large industries providing products and services. Their popularity is at least in part derived from preferences for natural products and styles of treatment rather than the more aggressive and synthetic remedies characteristic of modern medicine (Gorman et al., 2006).

Aboriginal people hold detailed knowledge of the medicinal uses of plants, including knowledge of those plants that are targeted for treating gastro-intestinal upset, respiratory problems, skin conditions, pain relief and the treatment of wounds (Gorman et al., 2006). In a study by Gorman et al., (2006) interest was expressed, particularly by Aboriginal people in Cape York, in exploring options relating to a number of plants with aromatic properties.

Hair/skin/beauty

Bush Medijina

Bush Medijina is an Aboriginal owned and run enterprise that harvests local bush produce (e.g. Merrika (Broad Leaved Wattle), Dumburumba (Native Sandalwood), Mawilyaburna (Liniment), Mamarra (Small Leaved Paperbark), Mamaburra (wild peach tree) and combines it with natural and sustainable ingredients from suppliers across Australia to hand make a range of beauty products.

The Bush Medijina vision is to be a sustainable, independent enterprise that supports “*our women, our culture, our community and our future*” (Bush Medijina, 2018). The enterprise is governed by an all-female board. Further, the entire team is made up of women, of whom eighty percent are Indigenous. The enterprise creates regular governance, leadership and women’s advocacy opportunities for the team and the wider community throughout the year.

Bush Medijina is based in Groote Eylandt, Northern Territory and is supported by the Anindilyakwa Services Aboriginal Corporation (Bush Medijina, 2018).

Essential oils

Essential oils are volatile, aromatic substances obtained from plants, often by processes of steam distillation. They are used as flavourings and fragrances in food, soap, perfumes and lotions. Some of these substances are thought to have medicinal properties (Gorman et al., 2006).

Sandalwood oil

A facility is being built in the Goldfields to process oil from wild sandalwood sourced from the Central Deserts. Scheduled for completion in June, the Kalgoorlie-based processing facility is being set up by Australian Dutjahn Botanical Products, a joint venture between Central Deserts native title holder Dutjahn Custodians and essential oil supplier Australian Botanical Products. Dutjahn Custodian Kado Muir has stated that the aim is to build a market for Australian sandalwood oil on the basis of its sustainability, ethical sourcing and connection to Indigenous people. It is intended that the initiative will deliver about \$40 million in export revenue over the next decade and create jobs for local Aboriginal people (Brammer, 2017).

Beverage additives

The Something Wild Beverage Company has collaborated with the Adelaide Hills Distillery to produce an Australian Green Ant Gin which contains a number of native botanicals and is marketed as containing *unique bush tucker that is hand harvested in the Northern Territory by the Motlop family of the Larrakia people. Traditionally favoured by Indigenous societies for their medicinal benefits and protein content, Green Ants display vibrant flavours of Lime and Coriander.* The gin also contains Native Juniper; Finger Lime and Lemon Myrtle (Allen, 2018).

Medicinal

Bush Balms and the Purple House Well-being Program

Traditional knowledge has inspired the creation of a range of Bush Balm products made from wild harvested medicinal plants (e.g. irmangka irmangka (*Eremophila alternifolia*), Arrethe, Yawirriyawirri, (native lemongrass) expertly collected on Aboriginal Lands in Central Australia. The Bush Balms were first produced by and for the growing number of Indigenous dialysis patients and their families. Forced to leave their country indefinitely for treatment, many longed for traditional bush remedies to remind them of home. *“And so the Bush Balms were born”* (Bush Balm, 2018).

Run by Purple House, an innovative Indigenous-owned and operated health service based in Alice Springs in the Northern Territory, this dynamic social enterprise provides employment opportunities for patients and their families. Created by people with an unbroken tradition of Indigenous intellectual and cultural knowledge, Bush Balms are marketed as *“truly made from the heart”* (Bush Balm, 2018).

3.5 Propagation: plant nurseries, seed banks, cut flowers

There is a significant market for native Australian plants for use in domestic gardens and commercial landscaping. Many plants are already used and industry members consider that most options have been thoroughly examined and commercially-rewarding options have already been taken up

(Whitehead et al., 2006). However, there may be some interest in plants with distributions that are confined to Indigenous land that offer options to local communities unavailable to the wider industry. These might involve harvest of propagating material from rare plants or harvest of adults of more common plants. Unfortunately, current regulatory regimes for rare and/or endemic plants may constrain commercial use even where methods or quota of use in no way threaten the status of the species in the wild (Whitehead et al., 2006) .

Some Indigenous communities have expressed a desire to cultivate plants preferentially for sale within communities, even if larger external markets were unavailable (Whitehead et al., 2006). Such motivations include: a desire to see money entering the community used to stimulate wider activity within it; and a wish to see fresher, healthier traditional foods available to community members. Cultivation of yams (especially *Dioscorea* species) was mentioned in this context (Whitehead et al., 2006).

Some examples of Indigenous-led enterprises in the native plant nursery area of the bush-products sector include:

- The Maningrida plant nursery propagates locally sourced plants and trees, and source traditional bush medicines, maintain a greenhouse, and advise on plantings suited to the region (Bawingana Aboriginal Corporation, 2018).
- Girringun Aboriginal Corporation runs the Girringun Native Plant Nursery. The Biodiversity & Nursery Team collect and propagates local endemic plants, trees and grasses (including bush tucker species) for use in revegetation work, as well as supplying to landscapers, nurseries and the general public (Girringun Aboriginal Corporation, 2018).

There are a vast number of fledgling enterprises that are currently being tested and developed by Aboriginal Land Councils, Aboriginal Corporations, Aboriginal ranger groups, families and individuals. Examples include those trialling production of body care products by Thamarrurr Development Corporation, Northern Territory, and the production of balms and bush medicines by Kimberley women rangers in Western Australia (see KLC, 2018).

3.6 Other enterprise types (not included in the bush products research project)

Construction material: Artistic and creative purposes

Much attention has been directed at the Indigenous art and craft industry, and it is not the purpose of this review to include the multiple existing studies into this sector. It is worth noting however that the Indigenous arts and crafts industry does base many of its products on material derived from the bush and most often obtained through wild harvest. These products include fibre-producing plants for weaving of baskets, string bags, fish nets and other objects of art (see Merrepen Arts, 2018; Tjanpi Desert Weavers, 2018); berries, roots and flowers for the production of natural pigments to dye weaving materials and create water-colour style paints; trunks, branches and roots of trees for carving of digeridoos, boomerangs, coolamons, and other carvings to be sold to tourists and collectors, and the collecting of bark for bark paintings (Maningrida Arts & Culture, 2018).

Furniture production utilising native hardwoods is also emerging as an Indigenous-led enterprise (Manapan, 2018).

Paper and cardboard

The Indjalandji-Dhidhanu people are the traditional owners of areas around the upper Georgina River including the small town of Camooweal not far from Queensland's border with the Northern Territory. In 2002, the traditional owners, led by Colin Saltmere, established the Myuma Group of companies, including Dugalunji Aboriginal Corporation, which manages the group's native title and cultural heritage interests. Their vision is to create economically sustainable industries based around spinifex farming, harvesting, and bioprocessing that will empower Indigenous communities in north-west Queensland

In 2015, Myuma Group and the University of Queensland (UQ) signed a Spinifex Research-Umbrella Commercialisation Agreement to develop nanotechnology platforms. The nanotechnology platforms could have significant commercial applications in global industries such as latex products, packaging and road surfacing.

UQ's Australian Institute for Bioengineering and Nanotechnology (AIBN), working in partnership with the Indjalandji-Dhidhanu People, developed a method of extracting nanocellulose from spinifex that could be used as an additive in latex products such as condoms and gloves.

The spinifex commercialisation agreement recognises traditional-owner knowledge about spinifex and ensures the Indjalandji-Dhidhanu people will have ongoing equity and involvement in the commercialisation of the nanofibre technology. In recognising the Indjalandji-Dhidhanu people's contribution to the research, the agreement provides the traditional owners with opportunities to participate as an equal partner in commercialisation decisions arising from the research (see Australian Government, 2018c).

4 Operational and Business models for sector development

4.1 Cooperative farming and marketing

Due to the frequently small and localised scale of Indigenous engagement in bush-products enterprises, and the transaction costs associated with reaching markets for small amounts of product when remotely located, some enterprises function as part of a cooperative. Cooperative models can support warehousing of product to match supply and demand, enable quality to be more easily monitored and potentially facilitate adding value to the supply to maximise overall value.

Kakadu Plum enterprises

Research undertaken for AgriFutures Australia (Price Waterhouse Cooper, 2017) on emerging business models for the Gubinge/Kakadu Plum industry identified a cooperative model as providing the best fit for Indigenous engagement in the Gubinge/Kakadu Plum industry. The report determined that *the co-operative model is consistent with human rights principles, the rights of Indigenous peoples and the UN's Protect, Respect and Remedy Framework, including economic, social, and cultural rights and sustainable development outcomes* (Price Waterhouse Cooper, 2017 p 53). The cooperative model was also deemed to provide the best opportunity for whole of sector success.

In determining what 'success' might look like for a cooperative, the report identified the following factors, which were common between the majority of successful co-operatives both nationally and internationally:

- *Good governance* Cooperative work for the sustainable development of their communities through policies approved by their members – policy decisions need to include all members: 'one member one vote'
- *Balancing social outcomes with economic viability*: Cooperatives must be very clear on their objectives and measures of success, and employ management capable of making decisions consistent with the cooperative's goals.
- Employing qualified, full-time management to manage business risks, assets, and pursue business opportunities and market the cooperative more broadly
- *Business capacity and volumes*: Large cooperatives benefit from bulk buying and selling, through combined production and business operations.
- *Market environment*: Includes such factors as government policy, regulations, marketing systems and poverty issues. The market environment must be conducive for all players to participate and be competitive.
- *Partnering with other cooperatives*: Cooperatives should work together to advance the wellbeing of their members (Price Waterhouse Cooper, 2017 p 55).

Aboriginal Bush Traders

One example of a physical cooperative market place (rather than having a more common, online presence) is Aboriginal Bush Traders in Darwin. Aboriginal bush traders is a retail gallery selling authentic Indigenous products, which also houses a modern bush tucker café (e.g. that uses products from Indigiearth including lilly pilly and wild lime jams and chutneys, quandong dessert sauce) and function facilities. Aboriginal Bush Traders is 100% not-for-profit and provides support to Indigenous people wanting to engage in economic activities in a sustainable way (Aboriginal Bush Traders, 2018).

4.2 Social Enterprise Model

Social enterprises are businesses that operate with the explicit intention to improve individual, community and/or environmental wellbeing (Social Traders, 2018). This type of organisation seeks to achieve financial sustainability through revenue-generating activities whilst directing a significant proportion (if not all) of its profits towards social objectives, thus differentiating from non-profit, charitable organisations. Bush product enterprises are frequently social enterprises, explicitly seeking to achieve both economic and social goals (Tedmanson and Guerin, 2011; Wood and Davidson, 2011) as well as cultural and environmental benefits (Fleming et al., 2015), such as ensuring that traditional knowledge and techniques are not lost (Logue et al., 2018).

Enterprise Learning Projects (ELP)

Enterprise Learning Projects (ELP) is a not-for-profit social enterprise that has created Yunmi market place to connect Aboriginal entrepreneurs to the market. ELP exists to provide support to people living in remote Aboriginal communities to enable them to establish and grow microenterprises (Yunmi, 2018) including through facilitating access to appropriate business support infrastructure. This includes relevant networks, information, markets, finance and financial management support, physical spaces and technology.

ELP has a team of enterprise facilitators that work with individuals and community groups to provide capacity building support to enable people to build the skills, knowledge and confidence required to engage in the economy. This includes governance and decision-making, financial literacy, creative thinking and problem-solving, and the confidence to explore opportunities and take measured business risks. One example of a product for sale through the Yunmi market place is Gulbarn Tea, which is a plant containing high levels of antioxidants, and traditionally used for medicine. Grown on Alawa Country in the Northern Territory, it is picked by people from the Minyerri community (Price Waterhouse Cooper, 2017).

Koskela

Koskela markets itself as an innovative and inspiring Australian furniture, design and lifestyle brand that is committed to exceptional design, manufacturing in Australia and championing social enterprise. Koskela have developed 20 partnerships with Indigenous owned and run art centres to produce homewares, some of which are based on bush products (woven items) (Koskela, 2018). Koskela create opportunities for Indigenous artists and artisans to collaborate with their business,

allowing Indigenous partners to use their skills to create new contemporary design products. This allows the artists to continue to live a life they have chosen to lead, maintaining their traditional practices by creating an alternate income source, independent of Government funding.

As a registered member of the Indigenous Art Code, Koskela is committed to preserving and promoting ethical trade in Indigenous art. The communities we work with are paid in excess for what they normally receive for their artworks and woven goods. To further the development of these opportunities, from 2017 onwards Koskela has committed an additional 1% of all other Koskela product sales to go towards developing more of these projects with Australian Indigenous communities (Koskela, 2018).

Indigiearth

Indigiearth is an Indigenous owned company founded by Sharon Winsor, a Ngemba Weilwan woman of Western NSW (Indigiearth, 2018). Although Indigiearth is based in NSW, learnings would be useful for enterprises starting and building in other parts of Australia. Indigiearth products contain wild harvested materials purchased from Aboriginal communities across the country *ensuring that employment, income and education stay within the community*. A recent project undertaken with the Director of Indigiearth, Sharon Winsor, focused on her ability to upscale. She was keen to upscale after finding herself in a position where increased opportunities for international expansion were demanding increased volume and scale from her rural operations, where she works with Indigenous communities (Logue et al., 2018). She saw herself facing three key questions in regards to the future of Indigiearth:

1. How can Indigiearth achieve scale while maintaining profitability and social mission?
2. How can Indigiearth protect its competitive advantage in the face of increased local agricultural competition, as Indigenous crops increase in value?
3. How can traditional knowledge be both shared and protected for community development (jobs and wealth creation) and for future generations (Logue et al., 2018)?

4.3 Partnership Approach

There are several examples of successful partnerships being formed between Indigenous entities and University researchers. In one example, the Jarlmadangah community and Griffith University became joint patent holders for a process using the analgesic compounds from the Mudjala Plant, and are now seeking to develop commercial opportunities for this (Janke, 2018).

A case that was already mentioned above is the partnership developed between the Indjalandji-Dhidhanu people of the upper Georgina River in QLD who established the Myuma Group of companies and signed a Spinifex Research-Umbrella Commercialisation Agreement with the University of Queensland (UQ) in 2015. UQ's Australian Institute for Bioengineering and Nanotechnology (AIBN), working in partnership with the Indjalandji-Dhidhanu People, developed a method of extracting nanocellulose from spinifex that could be used as an additive in latex products such as condoms and gloves.

The spinifex commercialisation agreement recognises traditional-owner knowledge about spinifex and ensures the Indjalandji-Dhidhanu people will have ongoing equity and involvement in the commercialisation of the nanofibre technology (see Australian Government, 2018b).

The formation of such partnerships require complex legal negotiations that requires each party to have access to independent, specific, legal advice.

5 Sector Support Frameworks

5.1 Indigenous Sector support

Significant support for the development of Indigenous-led bush products enterprises is already available through the Indigenous sector, in the form of social ventures, Indigenous-led research entities, Aboriginal Corporations and Land Councils, and from entrepreneurs and businesses willing to act in mentoring roles. A small selection of these support networks are reviewed here.

Aboriginal Entrepreneurs, Businesses

Numulla Pty Ltd

Numulla is a collaboration of growers, investors and business consultants in the Australian Native Food and Botanical industry. They are 67% Indigenous owned and strongly believe Australia should be the primary producer and beneficiary of Australian native foods and botanicals.

The collaboration runs two Indigenous nurseries in the belief that the native food industry *is the future economical success of Australia*. They aim to see that success start first and foremost with Indigenous growers. As well as investing in the commercialisation of native foods and botanicals, the group provides market support and structure to Indigenous community businesses and projects (see <https://www.numulla.com.au/>).

The LOOP Program

The Loop Program is a social venture developed by In-Balance Australia, an 100% Aboriginal owned enterprise run by the Rowland family. The Program involves Aboriginal Businesses & Corporate Partnerships to create positive change & employment outcomes. This includes a diverse set of initiatives including supporting Indigenous mentoring programs; showcasing and promoting Indigenous models on the international stage; and working with traditional owners in the wild harvesting of native plants (e.g. eucalyptus globulus, melaleuca teretifolia, backhousia citriodora) for inclusion in their skin care range. Boodjera – ‘Life Changing Skincare’ is a fusion of traditional bush medicine & modern aromatherapy (see <https://www.boodjera.com.au/>).

Aboriginal Corporations

Anindilyakwa Services Aboriginal Corporation is supporting the Bush Medijina: An Aboriginal owned and run enterprise that engages local Aboriginal women in the hand crafting of beauty product (see <http://www.bushmedijina.com.au/bush-medijina/our-story/>).

Thamurrurr Development Corporation seeks to represent the 20 clans of the Thamarrurr region with regard to business, socio-economic development, employment and training (see <http://thamarrurr.org.au/>).

Aboriginal Land Councils

KLC Cultural Enterprises Hub

The Kimberley Land Council is supporting Aboriginal people to use their cultural values and land management skills to develop sustainable businesses that stimulate economic growth in remote Indigenous communities, ignite social change and enrich ecological biodiversity (see <https://www.klc.org.au/>).

A cultural enterprise economy is founded on the core principle of looking after country and protecting Indigenous cultural values. Cultural enterprise economies are based on four pillars: recognition, cultural governance, sustainable enterprise and conservation: Recognition and respect for Indigenous culture, rights and title; Development of strong Indigenous cultural governance models for decision-making and guidance; Increasing meaningful employment opportunities to generate income and wealth in communities through sustainable enterprises; Conserving and restoring the environment.

The KLC is supporting the development of a Cultural Enterprise Hub: a specialised entity that identifies and develops commercial opportunities in remote areas. It provides specialist business and technical services for start-up and support to the ongoing operation of cultural enterprise (Kimberley Land Council, 2015; Kimberley Land Council, 2017).

Indigenous Research Centres

Tropical Indigenous Ethnobotany Centre

One principal aim of the Tropical Indigenous Ethnobotanical Centre (TIEC) is to record, document and research cultural plant use knowledge, which could be of mutual benefit to traditional Owners and their partners. The TIEC aims to empower Indigenous people to renew and strengthen their cultural knowledge and practices about plants. Many Traditional Owners believe that keeping their knowledge alive and passing it on to the next generation is very important. The TIEC will support Traditional Owner information sharing, practice and collaboration, and also support keeping plant collections and data for Traditional Owners through shared protocols and agreements (see <https://www.jcu.edu.au/australian-tropical-herbarium/research-and-programs/tropical-indigenous-ethnobotany-centre-tiec>).

5.2 Government sector support

Federal government business support

Supply Nation

Supply Nation is a not-for-profit organisation that aims to grow the Aboriginal and Torres Strait Islander business sector through the promotion of supplier diversity in Australia. Supply Nation certifies Aboriginal and Torres Strait Islander businesses as being genuinely Indigenous by establishing that they are at least 51% owned, managed, and controlled by Indigenous people. Once an Indigenous business is certified it is able to use the Supply Nation certification logo on its marketing material, access the corporate and government Member database, and get discounted rates to Supply Nation events and workshops. Supply Nation is part funded by the Federal

Government, and raises the remainder of its funding by charging an annual membership fee to its corporate, government, and non-profit members. From July 2015, Supply Nation has hosted a publicly available directory of 50% or more Indigenous owned businesses, called Indigenous Business Direct. As of August 2018, Supply Nation had over 1,500 Indigenous businesses registered or Certified on Indigenous Business Direct (see www.supplynation.org.au).

Indigenous Business Australia (IBA)

Indigenous Business Australia (IBA) is a progressive, commercially focused organisation that promotes and encourages self-management, self-sufficiency and economic independence for Aboriginal and Torres Strait Islander peoples. IBA is a government organisation (within the Prime Minister and Cabinet Portfolio) that provides workshops, advice, business support programmes and in some cases, business finance, to eligible Indigenous business owners (see <http://www.iba.gov.au>).

For example, IBA supports a Strong Women Strong Business mentoring and support program for Indigenous women where membership provides access to tailored support to build business skills; opportunities to grow networks, and access to support and advice from other Indigenous business women including through mentorship. They also deliver the Morning Star Project, where participants learn about running their own business, managing finances, striving for financial security and accessing procurement opportunities. Aimed at aspiring, early-phase and established Indigenous business women, the free workshops cover topics such as developing a value proposition, identifying potential key partners, building customer relationships and segments, cost structures and potential revenue streams.

Indigenous Land Corporation

The Indigenous Land Corporation (ILC) is a Corporate Commonwealth entity whose purpose is defined by the Aboriginal and Torres Strait Islander Act 2005. The ILC's purpose is to assist Aboriginal and Torres Strait Islanders to acquire and manage land to provide economic, environmental, social or cultural benefits, which are defined as long-term improvements in Indigenous wellbeing. Through its legislative purpose, the ILC is committed to supporting Indigenous people to achieve economic, environmental, social and cultural benefits from the Indigenous Estate. The Indigenous Estate comprises the assets held, or reasonably likely to be held, by or for the benefit of Indigenous people. These assets can include: lands and the resources located on them; property assets and infrastructure; cultural and intellectual property rights and traditional knowledge (e.g. arts, dance, music, language, cultural, environmental and bioscience practices (Indigenous Land Corporation, 2018)). The ILC has priority outcomes for achieving Indigenous benefits including:

- Access to and protection of cultural and environmental values: The ILC recognises the importance of land to Indigenous people's cultural identity. It is committed to assisting Indigenous people acquire and manage land of cultural and environmental significance, and to protecting and maintaining the cultural and environmental values of land.
- Socioeconomic development: The ILC assists projects that deliver social and economic outcomes for Indigenous Australians. Priority is given to projects that provide sustainable employment and training that leads to employment. The ILC believes that sustained employment creates a range of benefits for Indigenous people, including increased standards of living, income and improved health and wellbeing.

Indigenous.gov.au (PM&C networks for Indigenous people)

This website is designed to connect Aboriginal and Torres Strait Islander people with Australian Government policies and programs and raise awareness about initiatives. The site shares stories from individuals, communities and organisations across Australia, telling real stories about Aboriginal and Torres Strait Islander people, the challenges and opportunities facing them, and the successes and achievements being demonstrated every day.

Austrade

There is great scope, therefore, to consider how Austrade could support Indigenous enterprises to expand value chains for bush product enterprises. Each year Austrade assists around 5000 organisations from across Australia (Indigenous and non-indigenous) enter export markets, gaining a depth of understanding of Australian suppliers' capabilities and their competitive advantages. This, combined with Austrade's knowledge across industries in Australia, is valuable in presenting a holistic Australian solution across the customer's value chain.

5.2.1 Federal Government policy and strategy

Selected Federal Government policy that directly or indirectly supports the development of the sector include:

Closing the Gap

The Closing the Gap Report for 2018 (Commonwealth of Australia, 2018) reiterated the importance of supporting Indigenous entrepreneurship: *One of the most effective means to achieve financial and economic independence is through entrepreneurship. The flow-on benefits of greater Indigenous business ownership are significant, as they build family and community wealth, create employment, encourage the uptake of education, increase choice possibilities and open opportunities to engage with a globalised economy.* Support for increased Indigenous entrepreneurship, is intended to flow from the Indigenous Business Australia's Business Development and Assistance Programme and the Indigenous Entrepreneur Fund. The Government will deliver these through the Indigenous Business Sector Strategy (discussed further later) that forms a 10-year roadmap to help Indigenous entrepreneurs access vital business and financial support.

Indigenous Advancement Strategy

The Indigenous Advancement Strategy (IAS) (Australian Government, 2014) is the way in which the Australian Government funds and delivers a range of programmes targeting Aboriginal and Torres Strait Islander peoples. Introduced on 1 July 2014, the IAS replaced more than 150 individual programmes and activities with five flexible, broad-based programmes:

- Jobs, Land and Economy
- Children and Schooling
- Safety and Wellbeing
- Culture and Capability
- Remote Australia Strategies

In the 2015-16 Budget, the Australian Government allocated \$4.9 billion to the IAS, over four years to 2018-19, for grant funding processes and administered procurement activities that address the

objectives of the IAS. This is a potential funding source to approach to support the development of Indigenous Bush Product enterprises.

Commonwealth Government Indigenous Procurement Policy

The purpose of the Indigenous Procurement Policy (IPP) is to leverage the Commonwealth’s annual multi-billion procurement spend to drive demand for Indigenous goods and services, stimulate Indigenous economic development and grow the Indigenous business sector (Australian Government, 2018b).

The Indigenous Procurement Policy has delivered a huge impact to Indigenous businesses. Indigenous businesses winning Commonwealth Government contracts worth \$594 million in its first two years of operation. This compares to just \$6.2 million in Commonwealth procurement to Indigenous businesses since 2012-13.

The Australian Government Indigenous Business Sector Strategy (IBSS)

The Australian Government appears to have responded to the recommendations of the PWC (2018) report *The Contribution of the Indigenous Business Sector to Australia's economy* by creating the Australian Government Indigenous Business Sector Strategy (IBSS)(Australian Government, 2018a). To be implemented over a 10-year period, the Strategy aims to increase the number, size and diversity of Indigenous businesses (see Figure 1). An Implementation Advisory Group will ‘inform and guide actions under the Strategy and identify when shifts and innovations are required.’

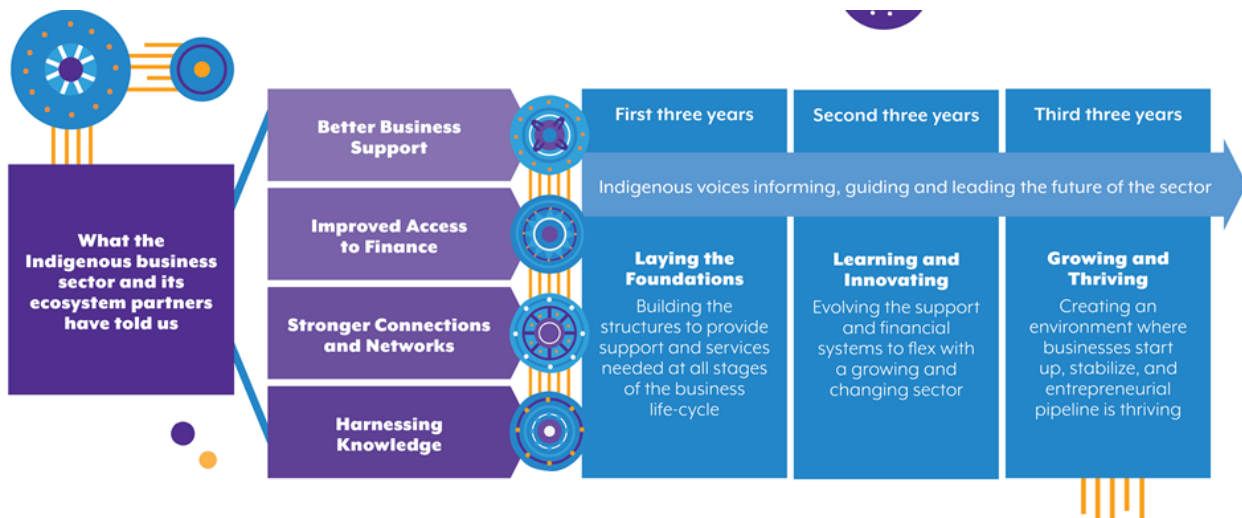


Figure 1 The Indigenous Business Sector Strategy Roadmap (Price, Waterhouse and Coopers 2018).

The Australian Government, via the IBSS, aims to fulfil a number of actions in the first three years of operation including to:

1. Roll out Indigenous Business Hubs, anchored to major cities. These Hubs will be a one-stop-shop to access better business advice, support, and connections they need at any point in their business journey. Work to start in three locations.
2. Stand up three Project Specific Support Hubs that will provide specific support to Indigenous businesses looking to take advantage of major infrastructure or service delivery projects.
3. Pilot an Indigenous Entrepreneurs Capital Scheme to unlock a wider range of finance and capital products for Indigenous businesses who are looking to transition to mainstream banking.

4. Double the microfinance footprint across Australia to support more entrepreneurial activity and economic development in regional and remote locations, as well as support more women and youth get a start in business.
5. Increase funding for networks to allow them to strengthen their links with mainstream businesses, industry bodies and education providers and to better link emerging businesses to link them to key support services.
6. Fund support for Indigenous businesses looking to enter into joint ventures to ensure that key commercial and legal issues are well understood and negotiated.
7. Increase opportunities for Indigenous businesses to build stronger connections with Commonwealth buyers by funding improvements to Supply Nation's Indigenous Business Direct, hosting an annual Indigenous Business Summit and funding more meet Commonwealth buyers events.
8. Invest in a digital platform that will help Indigenous businesses navigate the support system.
9. Invest in high quality data collection and evaluation to track what works and tailor investment.

Northern Development Agenda

The Federal government strategy for the development of northern Australia is guided by the White Paper *Our North, Our Future* (Australian Government, 2015). The Federal Government objectives include working in close consultation with, and with the support of, Indigenous communities to make it easier to use natural assets, and also focuses on creating opportunities for Indigenous people through education, job creation and economic development (examples include the Co-Operative Research Centre for developing northern Australia and the Office of Northern Australia).

Other Federal Government Strategies

Some other Federal Government agencies have policies and run programs that act to support the bush-products sector. For example, the National Indigenous Forest Policy Strategy. This Strategy responds to the recognition that the forestry sector holds potential for Indigenous economic gains in areas which have not been fully explored including: *value added wood products, utilisation of new commercial species, further development of non-wood products like bush foods, traditional Indigenous medicines and essential oils, native cut flowers and, of course, capitalising on tourism and conservation* (Australian Government, 2005).

State and Territory government roles

Agencies and Departments within many State and Territory Governments are in a position to facilitate and/or support the development of the Indigenous-led bush products sector. Here are some examples:

- Department of Trade, Business and Innovation (NT): responsible for using permits for wild harvest licensing
- QLD Government Department of Aboriginal and Torres Strait Islander Partnerships: Enterprise development support services (see <https://www.datsip.qld.gov.au/programs-initiatives/enterprise-development>).

Examples of non-government support networks that have received support from Government include:

- Black Business Finder (see <http://ww.bbf.org.au>).
- Aboriginal Business Directory of Western Australia (see www.abdwa.com.au/).
- Northern territory Indigenous Business Network (see <http://www.ntibn.com.au>).
- First Australian Chamber of Commerce and Industry (see <http://www.facci.org.au>).
- Savanna Alliance (see <http://www.savannaalliance.org>).
- Townsville Region Indigenous Business Network (see <http://tribn.com.au>).

One example of a focused and targeted research and development exercise for supporting the development and success of an Indigenous-led bush products enterprise was the study 'Dedicated supply chains for Noongar branded food products' commissioned by the Western Australian Government's Department of Primary Industries and Regional Development (DPIRD)'s Sheep Industry Business Innovation project and Aboriginal Business Development project. Although this study did not yield a supply chain, the findings are interesting to note. The study was guided by a Supply Chain Working Group that consisted of enterprises with shared cultural and sustainability values and who wished to cooperate for the production of Noongar branded, value-added sheep meat and native food products. Key stakeholders included the Noongar Land Enterprise Group (GHD, 2018).

The Supply Chain Working Group identified their project values as:

- Connection and commitment to country, particularly for the Aboriginal people of Noongar Boodja.
- Land stewardship and rehabilitation (especially for salt-affected non-cropping land in southern WA).
- Animal welfare and ethical production.
- Producing a high quality product for premium market consumption.

Key findings included:

- There is a growing demand for native foods, particularly in premium food service.
- Security, consistency and quality of product supply is a vital success factor and key to determining business success or failure, especially for a new product.
- A well-communicated provenance story is a key success factor.
- Businesses have found that a well-communicated and consistent bundle of provenance attributes is a key success factor – e.g. cultural heritage + environmental stewardship + health benefits + gourmet product quality.
- Stakeholder engagement and governance for the production business is important, especially when the business is built around cultural values and economic empowerment. i.e. a commercial board focusing on making a return on investment, and then a social board, whose role is to decide what to do with the profits.

Research driven by the interests of Indigenous-led enterprises, with a working group created from Indigenous-led enterprises at its core, is critical to the development of the sector.

5.3 Industry support

Australian Native Foods and Botanicals (ANFAB)

ANFAB identifies as the peak national body which represents all interests in the rapidly-growing Australian native food and botanical sector. They see their purpose being: to guide the sustainable development of the sector by supporting ethical engagement with Traditional Owners and facilitating research and innovation. They were a partner in the CRC for Distinctive Australian Foods and are working on projects that investigate models for the Kakadu Plum Industry; develop market access for native Australian foods, and support a Growing the Grower initiative that seeks to identify opportunities for new primary production in all areas of Australia, including the northern areas where Indigenous participation could be particularly encouraged (see <https://anfab.org.au/>).

Nursery and Garden Industry Australia (NGIA)

NGIA identifies as the peak industry body for the Australian nursery and garden industry, and is responsible for overseeing the national development of the industry. The Nursery & Garden Industry is a \$2.29 + billion dollar industry that employs an estimated 23,000 people. NGIA engages in a range of research and development activities to support its members' businesses and influence policy development. Membership is open to all organisations/businesses involved in the nursery and garden industry. The NGIA makes training available to all members (see <https://www.ngia.com.au/>).

Horticulture Innovation Australia (Hort Australia)

Hort Australia is the grower-owned, not-for-profit research and development corporation for Australia's horticulture industry. There is scope for the Indigenous-led Bush Products sector to engage more proactively with Hort Australia. As one of the nation's 15 Rural Research and Development Corporations. Hort Australia is tasked with investing horticulture levies and Australian Government contributions into initiatives to help the industry be as productive and profitable as possible. Hort Australia identifies three areas of focus: 1) identifying critical Research and Development, with their two main R&D priorities being food safety (the handling, preparation, and storage of food in ways that prevent foodborne illness), and ensuring that Australian horticulture does what's required to remain and become more globally competitive, 2) Marketing that grows Industries, and 3) Building Australian Competitiveness (see <https://horticulture.com.au/>).

Australian Macadamia Society

The Australian Macadamia Society (AMS) is the peak industry body for the Australian macadamia industry, representing more than 700 individual and business members, comprising 85% of Australia's macadamia producers. There is much scope for Indigenous bush products enterprises interested in the macadamia industry to engage with the Society. Their membership base includes both growers and representatives along the supply chain: nurseries, consultants and researchers, processing companies and marketers, and commercial suppliers (see Australian Macadamia Society, 2018).

Lack of Indigenous representation on Industry authorities

Ninti One identified one critical issue with current legal avenues for Aboriginal and Torres Strait Islander involvement in the commercialisation of bush foods as being:

- No relevant industry authority constitution requires Aboriginal and Torres Strait Islander representation in the deliberations of industry authorities.
- Only the Constitution of the Australian Native Food Industry Limited requires board members to consider Aboriginal and Torres Strait Islander interests.

They identified the following as possible ways for government to improve involvement

- Encourage industry authorities to amend their Constitutions to require:
 - Aboriginal and Torres Strait Islander peoples to be represented on governing boards;
 - Consultation with Aboriginal and Torres Strait Islander peoples in the setting of industry research priorities; and
 - The development of industry codes of conduct in partnership with Aboriginal and Torres Strait Islander peoples.
- Help industry authorities to resource the involvement of Aboriginal and Torres Strait Islander peoples in these governance processes, to support processes that address power imbalances (Ninti One: CRC for Remote Economic Participation, 2015).

5.4 Business support

Reconciliation Action Plans

Businesses can support the development of the Indigenous-led bush products sector by preferentially engaging their services and setting hard company targets through Reconciliation Action Plans. For example, Australia's largest food services company, Compass Group Australia, launched its Elevate Reconciliation Action Plan (RAP) in Dec 2017, committing to making 10% of the organisations workforce Indigenous by June 2019 and increasing the company's spend on Indigenous products and services by \$400,000 p.a. up till 2020 (see <http://www.compass-group.com.au/news/media-centre/2017/04/12/compass-group-commits-to-elevate-rap>).

Supermarkets

The Coles Indigenous Food Fund was established in 2001 to support Indigenous business development. The main focus of the fund is to establish and support an economically sustainable Australian native bush food supply. The fund also supports other Indigenous food suppliers.

Support is provided to Indigenous farmers to establish commercial crops including bush tomatoes, Kakadu plums, wild limes and lemon myrtle. The growers are now part of the supply chain for a number of products stocked by Coles.

The fund has provided more than \$2 million to Indigenous communities and enterprises in locations such as central Australia, Broome, York Peninsula and Cape York.

5.5 Not-for-profit industry support

Many Rivers

Many Rivers Microfinance Limited (Many Rivers) is a not-for-profit organisation that supports aspiring business owners with microenterprise development support and access to finance in order to see the potential of people and communities realised. They currently have 23 regional offices across Australia, but are entering a growth phase (see www.manyrivers.org.au).

Bamara

Bamara is a majority Indigenous owned company created for the purpose of delivering social impact programs and quality related services to Indigenous and non-Indigenous clients and communities. Bamara has a vision for:

- Individual economic independence for individuals, achieved through education and employment and positive life choices;
- Empowering communities through capacity and capability development to create sustainable futures built on local strengths and opportunities, and
- Providing practical support for local Aboriginal and Torres Strait Islander business owners to increase their business capability and grow their businesses (see <https://bamara.com.au/solutions/>).

5.6 Research programs

Many research institutions have contributed to the development of the native foods industry and Indigenous-led bush products sector to date. A very significant initiative has been Ninti One: CRC for Remote Economic Participation, which was preceded by the Desert Knowledge CRC.

Ninti One

Ninti One has contributed significant research and associated literature in regards to strengthening opportunities for Aboriginal and Torres Strait Islander involvement in the commercialisation of bush products. These include investigation into appropriate governance frameworks for bush foods commercialisation and consideration of current limitations including those related to: Biosecurity and export authorities (who determine interstate trade rules for plants and plant products); environmental authorities (who administer laws related to the scientific and commercial use of wild native plants); food authorities (who determine permissible ingredients for food products, product label requirements and food business licensing conditions); intellectual property authorities (including IP Australia who administers applications for patents, Plant Breeder's Rights, trademarks and industrial designs); research and collection management authorities (those authorities who set relevant research agendas, fund and conduct research, maintain specimen collections and information databases, and determine access conditions for collections and databases), and industry authorities (those authorities with the power to influence bush food research priorities and set industry codes of conduct). Ninti One has also published a series of Policy Briefings (available

online) for example: Ethical Guidelines for Commercial bush Food Research, Industry and Enterprise based on the report by Merne Altyerre-ipenhe (Food from the Creation time) Reference Group et al. (2011).

Desert Knowledge Cooperative Research Centre

The Desert Knowledge Cooperative Research Centre was funded from 1 July 2003 to 30 June 2010. The work of the DKCRC continues under Ninti One Limited, the management company for the new Cooperative Research Centre for Remote Economic Participation (CRC-REP) and the Australian Feral Camel Management Project. The DKCRC produced significant research related to the development of bush-products in the central desert region of Australia, including the report, *Bush resources: Opportunities for Aboriginal Enterprise in Central Australia* (Morse, 2005) and *Aboriginal people, bush foods knowledge and products from central Australia: Ethical guidelines for commercial bush food research, industry and enterprises* (Merne Altyerre-ipenhe (Food from the Creation time) Reference Group et al., 2011). The Morse (2005) report concluded that opportunities exist in central Australia for Aboriginal people to become involved in commercial enterprises based on bush resources – especially bushfoods. Aboriginal people have large tracts of land, access to bush resources, significant knowledge and skills and a large, mostly underemployed workforce. On the other hand, they are often hampered by lack of capital, resources, equipment and management know-how, and face significant disadvantages in comparison to mainstream producers in better irrigated parts of the country closer to markets in terms of:

- Greater distances to markets and customers
- Virtually no access to influential connections and networks in the business world
- Severely limited ability to secure loans and credit for new businesses
- Lack of start-up capital – the personal wealth of Aboriginal people is rarely high and the collective wealth of Aboriginal settlements is limited
- Limited access to the wide range of services and facilities that are typically located only in cities
- Lack of awareness and knowledge of services and facilities, and limited ability to make use of them even when they are accessible
- Limited availability of educated and well-trained workers and, more importantly, managers
- Most importantly, severely limited ability and opportunity to access information and expertise, which are possibly the most valuable resources of all for building new businesses, especially those based on new products (Morse, 2005).

Rural Industries Research and Development Corporation (RIRDC) & AgriFutures Australia

The Rural Industries Research and Development Corporation (RIRDC) was set up by the Australian Government in 1990 to work with Australian rural industries on the organisation and funding of their research and development needs, in particular for new and emerging industries and for national rural issues. AgriFutures Australia is the new trading name for Rural Industries Research & Development Corporation (RIRDC).

AgriFutures aims to *grow the long-term prosperity of Australian rural industries*. This includes investment in:

- Initiatives that attract capable people into careers in agriculture, build the capability of future rural leaders, and support change makers and thought leaders;
- Research and analysis to understand and address important issues on the horizon for Australian agriculture;
- Research and development for established industries that do not have their own Research & Development Corporation (RDC), and
- Research and development to accelerate the establishment and expansion of new rural industries.

RIRDC has been active in supporting research and development of both native foods, and development of Indigenous enterprises based on native foods. Two examples of research RIRDC has funded that relates to 'Building the Traditional Owner-led bush products sector':

1. Small scale commercial Plant Harvests by Indigenous Communities, RIRDC (Gorman and Whitehead, 2006; Whitehead et al., 2006): (Sourced at: https://riel.cdu.edu.au/sites/default/files/managed/downloads/rirdc_report_summary.pdf)
2. The New Crop Industries Handbook: Native Foods (Australian Government, 2008): (Sourced at: <https://www.agrifutures.com.au/wp-content/uploads/publications/08-021.pdf>)

Several other research providers have contributed to the development of the Traditional Owner-led bush products sector including consultancies (e.g. Social Ventures Australia, and Price Waterhouse Coopers); research agencies (e.g. CSIRO) and Universities (e.g. Charles Darwin University, and the Australian National University).

5.7 The role of the Media in the sector

The media, predominantly radio and newspaper, have played a positive and supportive role in messaging Indigenous inclusion in the emerging native foods industry. The following online news articles and radio interview transcripts provide a snapshot of the type of information that is being messaged and of relevance to Building the Traditional Owner-led bush products sector.

- Indigenous custodians call for protections on native food with Rayleen Brown (The Sydney Morning Herald; Sourced from: <https://www.smh.com.au/national/bush-tucker-trend-indigenous-custodians-call-for-protections-on-native-foods-20151218-glrcb2.html>).
- Favourite Kimberley bush foods and medicine targeted by bio-pirates with Daniel Robinson (The ABC; Sourced from <http://www.abc.net.au/local/stories/2015/02/05/4174920.htm>).
- Experts hopeful about emerging bushfoods industry (The ABC; Sourced from: <https://www.abc.net.au/news/rural/2015-08-17/experts-hopeful-about-emerging-bush-foods-industry/6702730>).
- Protecting the Kakadu in Kakadu plums: selling bush foods to the world (The Guardian; Sourced from: <https://www.theguardian.com/sustainable-business/2017/may/26/protecting-the-kakadu-in-kakadu-plums-selling-bush-foods-to-the-world>).
- The native chefs using local bush tucker (The Australian; Sourced from: <https://www.theaustralian.com.au/life/food-wine/the-native-chefs-using-local-bush-tucker/news-story/7b8fa97e0ebb4e4f95dc51edcdbc75d>).

- Growth abounds in regional value chains (The Australian; Sourced from: <https://www.theaustralian.com.au/business/opinion/aussie-firms-must-embed-themselves-in-asian-value-chains/news-story/8385db2e5815925bdd0b6a8f6af74834>).
- Native bush food demand outstripping supply says industry as more growers encouraged (The ABC; Sourced from: <https://www.abc.net.au/news/rural/2017-08-30/native-bush-food-demand-outstripping-supply-says-industry/8855058>).

Part II Literature Review

6 Introduction

This Part of the Report presents the systematic review of the Australian literature on the Indigenous Bush Products sector in northern Australia. It presents the challenges, co-benefits and trade-offs related to Indigenous bush product enterprises. It includes a discussion regarding access and benefit sharing and intellectual property rights. It ends by identifying possible ways forward for this industry. The Report ends with a list of recommendations for potential investment opportunities to support the development of Traditional Owner-led bush product enterprises, including research to support the development of the sector as a whole.

7 Snapshot review of 'Challenges'

This section of the Report is focussed upon what the literature reviewed for this study highlighted as the main challenges faced by Indigenous people to develop business and enterprises and/or become self-employed are noted in both the published and grey literature. We categorise these challenges as relating to:

- formal politics and governance structures,
- social and economic issues,
- land rights, access to traditional country and resources,
- cross cultural difference,
- geography and remoteness, and
- business development

Although we separate these challenges into specific categories, it is important to remember that the challenges are inter-related and connected.

Figure 2 created by Woods and Davidson (2011) shows a model of motivators and potential barriers in Australian self-employed entrepreneurs. It is a useful reference point as it includes most of the challenges (apart from 'political and structural challenges') presented in this section of the snapshot literature review.

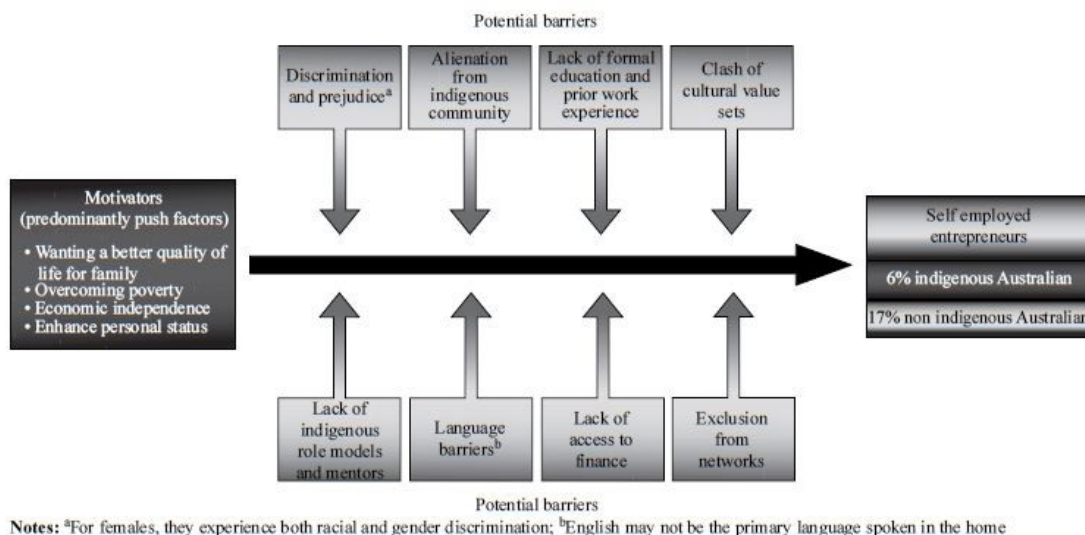


Figure 2 Potential barriers to Indigenous entrepreneurship (Woods and Davidson, 2011 p 313)

7.1 Political and structural challenges

The role of government to support Indigenous participation in appropriate economic activity is well documented in the literature (e.g. Fleming, 2015; Brueckner et al., 2014). The Australian

Government, together with the States and Territories have demonstrated enthusiasm for Indigenous Australians to establish small businesses and thus increase their economic independence (Pearson and Helms, 2013). The Australian Government has committed to develop employment programs and strengthen workforce participation to foster businesses owned, managed and operated by Indigenous Australians. The key policies and initiatives are outlined in the Scoping Study. However, historic economic marginalisation, low intergeneration wealth transfer, ongoing impacts of inadequate education, unemployment and poor health outcomes mean that Indigenous Australians require additional business support, access to information and access to capital to establish and grow their business (Commonwealth of Australia, 2017). As some scholars suggest, the challenges faced by Indigenous Australians are not only about providing additional support and improved access to resources, but also understanding why Indigenous people continue to bear the burden of historical policies and governments (e.g. Altman, 2001; 2009; Banerjee and Tedmanson, 2010; Brueckner et al., 2014).

It is advocated by some that Australian Government policies seek to overcome persistent Indigenous disadvantage via economic mainstreaming (Spencer et al., 2016). Many scholars highlight that this presumes that Indigenous Australians will migrate from home communities, because of the lack of employment opportunities in remote and regional Australia, to regional centres to obtain employment. They also argue that such a stance fails to appreciate the strength of Indigenous worldviews, cultures and heritage by perpetuating dichotomies of economic development vs. culture. An underlying tension reported in various ways within the literature, and this review, is that which exists between the maintenance of Indigenous culture and the notion of Indigenous socio-economic 'equity' with non-Indigenous Australians. Dockery (2010 cited in Bodle et al., 2018:36) posits this tension as a function of "self-determination" versus "assimilation".

Bodle et al. (2018) asserts that Indigenous knowledge culture and heritage should be viewed as part of the solution to Indigenous disadvantage in Australia, not as a barrier. They argue that as long as Indigenous world views are kept outside of mainstream social and economic structures, these same structures will continue to perpetuate inequalities, maintain the status quo and restrict Indigenous self-determination. Others, such as McRae-Williams et al. (2016), argue that a shift in discourse from one of 'disadvantage' to one of remote advantage would be more supportive of education, employment and enterprise outcomes for Indigenous Australians living in remote localities.

The Indigenous political economy

Some scholars (e.g. Altman, 2001; Banerjee and Tedmanson, 2010) advocate that a focus on the Indigenous political economy⁵ provides a way to understand the unique challenges and barriers that Aboriginal and Torres Strait Islander Australians face to develop enterprises. In particular, it highlights how Indigenous Australians continue to be subject to (post) colonial regimes of 'representation' and 'governance' that privilege western notions of economic development above alternative notions of development. Brueckner et al. (2014) discuss how the push for normalisation

⁵ The Indigenous political economy can be understood as the power relations that exist between Indigenous communities, decision makers, institutions and governance arrangements.

advocated by the *Closing the Gap*⁶ policy framework has the potential to disrupt the efforts of people living in remote Australia to build economically sustainable and culturally appropriate livelihoods. They highlight how the push for economic mainstreaming is criticised by many Indigenous leaders as an attempt to homogenise cultural diversity by the creation of economic sameness, that leaves no room for alternative approaches to Indigenous economic participation (Brueckner et al., 2014; see also Altman, 2009; Altman and Hinkson, 2010). Further, related policies deny alternative models of ‘development’ and thereby render invisible the economic, social, cultural and environmental value of the Indigenous customary economy and perpetuate historical inequalities (Banerjee and Tedmanson, 2010). The potential result is that Indigenous enterprise development may be hindered by the very structures and policies that are aimed at supporting and enabling it (e.g. Frederick and Foley, 2006; Banerjee and Tedmanson, 2010).

A pertinent example here is Yates’ (2009) analysis of the role of the bush products industry in central Australia for poverty alleviation. Yates (2009) highlights that the ‘poverty alleviation’ that can be realised through the commercialising of natural bush products is bound up with the local *cultural* economy of remote Aboriginal settlements, the position of these settlements within the dominant culture, and the Australian economy. Indeed, he argues that poverty alleviation is about more than simple increases in income, but is also determined by how production is undertaken (and by whom), and whether these modes of production deliver benefits (and what kind of benefits) to the Aboriginal people involved (such benefits are outlined in Section 8).

7.2 Socio-economic challenges

Inter-linked socio-economic challenges outlined in the literature relate to education, access to technical knowledge and skills, employment and related wealth creation necessary to establish a business.

Education

Many Indigenous Australians are reported as having lower education levels and/or lower access to adequate education opportunities. This has ramifications for those individuals or communities who wish to develop enterprises. The literature records that inadequate market economy knowledge, technical skills, work experience and/or capability can determine whether a business can be created, let alone sustained (e.g. Schaper, 2007; Venn, 2007; Bodle et al., 2018). This also relates to the knowledge about how Indigenous people can have “greater access to and control over the use of government and other funding, and over report requirements” (Lombardi and Cooper, 2015, cited in Bodle et al., 2018:36). Not surprisingly, the literature also reports that many Indigenous people have little awareness of the importance of business networks, and/or lack the expertise needed to create and maintain such networks (Shoebridge et al., 2012; Fuller et al., 2003; Cunningham et al., 2009). This has a flow-on effect for the sharing and development of enterprise development knowledge.

⁶ The Closing the Gap policy framework is aimed at achieving statistical equality between Indigenous and non-Indigenous Australians regarding health, life expectancy and education (see PMC, n.d - <https://www.pmc.gov.au/indigenous-affairs/closing-gap>)

Employment and financial capital

Indigenous people and communities often suffer from higher unemployment levels. They have been historically excluded from the cash economy and thus many people have found it more difficult to create, build, generate and share the wealth necessary to create and build enterprises (see Schaper, 2007; Commonwealth of Australia, 2017). A further challenge for many Indigenous people is the disincentive to engage in paid employment due to the welfare system (e.g. Frederick and Foley, 2006). Indigenous employment participation in remote and rural locations remains low but welfare dependence continues to be high (Brueckner et al., 2014).

Given past limited land title, lower rates of home ownership and other kinds of amassed wealth, many Indigenous people have not had access to the financial capital needed to establish a business (Commonwealth of Australia, 2017). They are considered higher risk customers and therefore are more likely to not receive finance from banks (see Shoebridge et al., 2012; Commonwealth of Australia, 2017). The result is that many Indigenous enterprises are often under-capitalised from the start, which can hamper business growth and have other flow-on effects (Commonwealth of Australia, 2017; Pearson and Helms, 2013). For other entrepreneurial individuals who have persisted in pursuing business development, the lack of access to financial capital may have resulted in an over-reliance on government start-up funding which can mean that enterprises are more likely to remain unsustainable over the longer term (e.g. Shoebridge et al., 2012; Pearson and Helms, 2013). Some research highlights that such enterprises often fail after the government seed funding stage due to a failure to gain traction and inability to master business acumen to fulfil corporate governance and commercial requirements (Pearson and Helms, 2013). This reason for failure is not unique to Indigenous owned enterprises, and like other enterprises, failure may also be attributed to other reasons including limited essential business skills including case flow management.

7.3 Challenges related to land rights, access to traditional country and resources

Limited land rights and/or restricted access to traditional country is a major inhibitor of Indigenous entrepreneurship as it limits self-determination, maintenance of cultural strength, law and pride, and confidence and esteem, not to mention having access to an asset to leverage capital necessary to start a business (Schaper, 2007; Shoebridge et al., 2012). This includes having little or no rights to commercially utilise valuable natural resources on traditional lands (e.g. Venn, 2007).

The Australian Government's *White Paper on Developing Northern Australia* (the White Paper), identifies complex land tenure system across northern Australia as a key barrier to potential investment in development of the region. Some Indigenous organisations have expressed caution at such statements, believing they point toward a 're-negotiation' of Indigenous land entitlement, and 'land reform' which may impact on Indigenous rights to that land which has been rightfully returned to them through long Native Title processes. The following statements in the White Paper supports this idea:

- Native Title recognises Indigenous Australians as the first inhabitants of Australia and their continuing cultural attachment to the land. However, both Indigenous and non-Indigenous stakeholders highlight the complexity, time and uncertainty that the native title process can

create. Innovation, investment and industry development can be stifled.

- Native Title should be seen as a source of Indigenous economic opportunity. By requiring the engagement of native title holders, native title rights ensure development occurs in ways that enhance the quality of life for Indigenous Australians.
- To provide greater certainty and opportunity for Indigenous Australians and potential investors, the Government will improve capabilities of native title bodies so that they can more efficiently negotiate with business. Land surveys will be completed for northern communities to provide the basic building blocks for secure tenure. More township leases will be rolled out in the Northern Territory to provide more certainty for Indigenous and non-Indigenous investors and more economic opportunities for Indigenous communities.
- The Government will explore mechanisms to support long term leasehold arrangements for exclusive Native Title. These actions will drive more economic activity on Indigenous and pastoral land and ensure that Indigenous and native title land can be an economic asset as well as a cultural and spiritual one (Australian Government, 2005).

At the same time, other Indigenous corporations welcome support to negotiate business partnerships with external investors to drive economic development on their lands (for example Mowanjum Aboriginal Corporation; Gooniyandi Aboriginal Corporation). Water resource assessments undertaken in northern Australia river catchments have provided additional information to State and Territory jurisdictions to support agricultural development, which may in turn support the development of some Indigenous-led bush products enterprises (see for example Petheram et al., 2018).

7.4 Challenges associated with cross-cultural difference

The literature highlights the reality that any enterprise that includes non-indigenous elements in the supply chain will face cross-cultural challenges that reflect entirely different world views, associated values and languages (e.g. Venn, 2007; Davies et al., 2008; Yates, 2009).

Yates (2009) eloquently explains cross-cultural challenges integral to the bush foods industry in central Australia, he notes (p50):

The bushfoods industry is inherently a cross-cultural enterprise. It might be a surprise to many participants, however, just how deep are those cultural divides. For Aboriginal people, the idea that their traditional foods could be a mere commodity is almost beyond comprehension. To them, these are not just foods: they are bound up in stories of creation, in kinship, and in multiple layers of personal and collective memory, recalling people, places, times and Tjukurpa (Dreaming). For Aboriginal people, it is as though bushfoods are an inseparable part of themselves. For the 'whitefellas', further down the value chain, such understandings – if they are held at all – are at best thought quaint, and viewed as potential marketing tools. For the processors, who have invested large amounts of time and money to develop supply lines, facilities, products, labels and markets, the bottom line consideration can only be continuity of supply, to appease a

marketplace that cannot forgive the vagaries of nature (let alone of culture)
(Yates, 2009 p50).

Some authors, not cognisant of the depth of difference between Indigenous and non-Indigenous cultures, contest that attachment to culture and tradition *hinders* the achievement of mainstream economic goals, and that there is need for [...] *some explicit treatment of the way in which heritage matters influence (an Indigenous corporation's) management and growth* (The Office of the Registrar of Indigenous Corporations report quoted in Bodle et al., 2018 p36). Other researchers point to the important role that culture, associated worldviews and related values can have for *successful* entrepreneurship and engagement in economic activity (see Nikolakis, 2008; Fleming et al., 2015; Fleming, 2015). Fleming (2015) highlights how success has occurred where culture and market align and effort is focused on small business creation. She provides examples of the (state supported) Indigenous land management initiatives (including Indigenous Rangers, Indigenous Protected Areas) and the Indigenous visual arts sector and 'stand-alone' Indigenous-run enterprises such as those in the cultural tourism sector and some wildlife harvest enterprises. She also points to the success of some wildlife harvest enterprises (see Zander et al., 2014).

Western notions of market values do not support Indigenous cultural and social values

Challenges associated with culture that are discussed in the literature relate directly to the reality that the dominant western notions of market value and business development tend not to accommodate the cultural and social interests, needs and aspirations of Indigenous communities (e.g. Banerjee and Tedmanson, 2010). This plays out in the ways in which individual and groups are able to reconcile culture and family needs with private enterprise development (e.g. Schaper, 2007; Fernando et al., 2011). The literature reports how entrepreneurs are faced with challenges to navigate their role as a member of a wider kinship and community group, at the same time as seeking/gaining business success and recognition in the mainstream non-indigenous sector where the focus is on the individual and not the community or society as a whole (e.g. Foley, 2006; Schaper, 2007; Fernando et al., 2011). Other challenges are noted as including: cultural obligations and customary management responsibilities on country with the daily and weekly work requirements of being involved in the mainstream economy (e.g. Venn, 2007; Fernando et al., 2011; Shoebridge et al., 2012; Bodle et al., 2018); and maintaining community cohesion at the same time as building networks with the non-indigenous sector and learning to operate with non-indigenous cultures (e.g. Foley, 2006). Finally, Indigenous people may continue to face institutional racism which can restrict their business opportunities (e.g. Banerjee and Tedmanson, 2010).

Indigenous knowledge, cultural heritage and Indigenous cultural intellectual property

At present there are limited mechanisms within existing government structures to account for the role of Indigenous cultural heritage (ICH) and Indigenous cultural and intellectual property (ICIP) in enterprise development (Bodle et al., 2018). More attention is given to this issue in section 9. Challenges related to the accounting and recording of ICH and ICIP are integral to Indigenous enterprise development and should be considered as 'assets' within the Australian regulatory environment (Bodle et al., 2018).

7.5 Geography and remoteness

Although the majority of Indigenous Australians live in urban centres, many Indigenous people in northern Australia continue to live in remote or regional locations. The literature notes that the Indigenous business sector is not able to effectively or efficiently connect with the broader Australian business community, or networks of corporate Australia to build knowledge and connections (Venn, 2007; Cunningham et al., 2009a, 2009b; Shoebridge et al., 2012; Commonwealth of Australia, 2017). This is noted as a particular challenge for businesses in remote and regional Australia, and for female entrepreneurs (Commonwealth of Australia, 2017) who have the additional challenge of being at a distance from training and mentoring options. Enterprises based in remote or regional have further challenges of having a limited local customer base (e.g. Schaper, 2007); lack of access to a potentially skilled work force, as well as supplies and provisions; and related high service delivery costs and likely poor or inadequate infrastructure – including telecommunications (Flamsteed and Golding, 2005; Cunningham et al., 2009a, b; Shoebridge et al., 2012). Remote or regional businesses are also likely to be at a geographic distance to markets, which poses additional challenges for perishable bush products (Cunningham et al., 2009a).

McGregor and James (2011) provide an overview of the challenges for the development of livelihood options in desert Australia (see Figure 3 – source Stafford Smith, 2008b cited in McGregor and James, 2011 pii). Although this framing may not be completely relevant for Indigenous entrepreneurs and enterprises in other parts of Australia, it does provide a useful way to conceptualise the challenges that exist in remote communities: sparse population, scarce financial, physical and human capitals and resources (e.g. in desert Australia this includes widespread low soil fertility and patchy natural resources), cultural differences, social variability and, importantly the centrality of local and traditional knowledge.

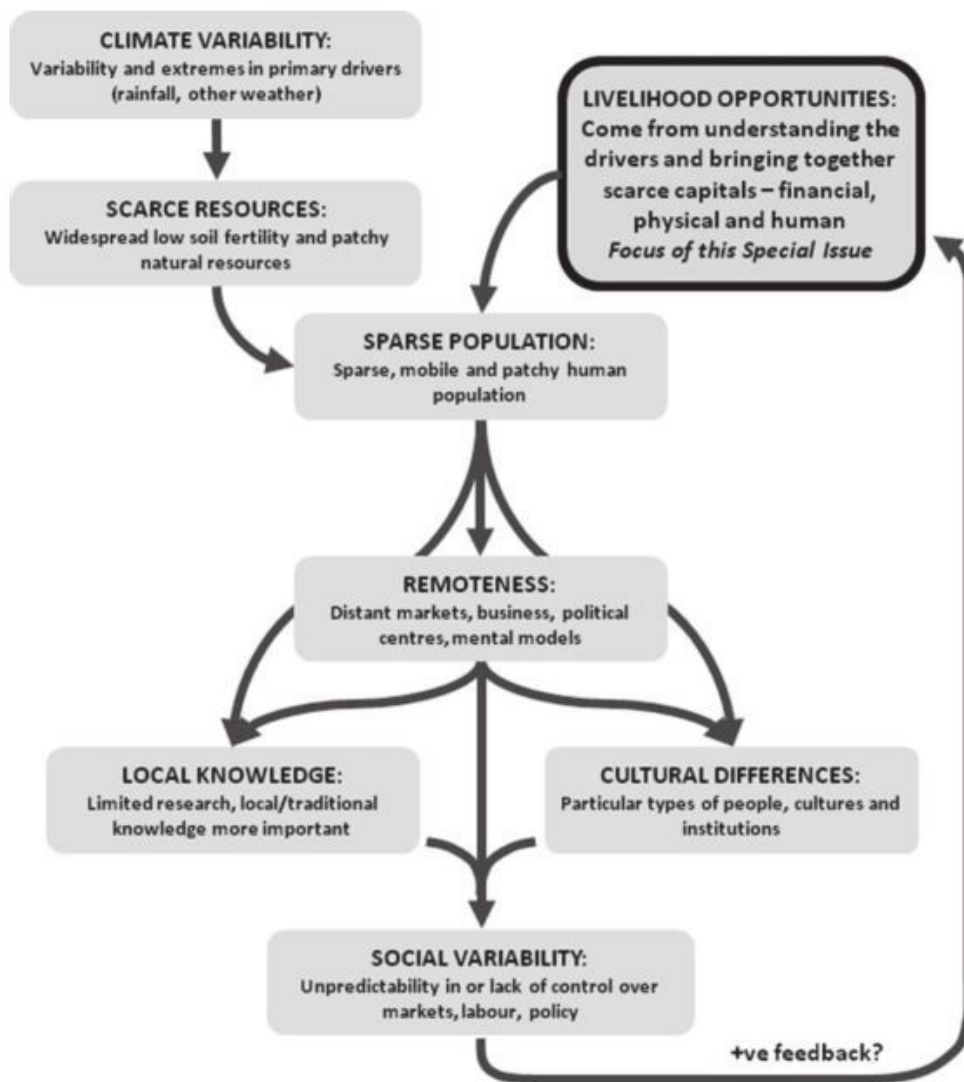


Figure 3 Stafford Smith's (2008) framework for the hypothetical syndrome of linked 'desert drivers' with linkages to livelihoods

7.6 Business development challenges

The literature reports 'business development challenges' as including: access to appropriate advice, information and support; lack of clarity on what constitutes an 'Indigenous business/enterprise'; identifying a market and related challenges of production and commercialisation (Pearson and Helms, 2013).

In *The Contribution of the Indigenous Business Sector to Australia's Economy* report (see Price Waterhouse Cooper, 2018), the government and the private sector are identified as having enabling and facilitating roles in addressing the business development challenges faced by the Indigenous business sector. They also have identified as key in supporting its continued growth.

Four points were advocated in the report to foster the conditions for Indigenous businesses to thrive and be sustainable:

- *A co-ordinated approach to drive the Indigenous business sector.* All Australian governments should develop and implement an Indigenous business strategy and State Governments should introduce Indigenous procurement targets for all of their contracts.

- *Assistance to enable legitimate Indigenous businesses to capitalise on opportunities by instituting measures to mitigate 'black cladding'*. This refers to the practice of larger corporations entering into disingenuous partnership with Indigenous businesses and over-representing the involvement and control Indigenous businesses have in order to appear more attractive in tender selection processes. Regulatory mechanisms need to be developed to protect Indigenous businesses. Such mechanisms focus effort on developing certification processes for joint ventures to ensure that Indigenous businesses perform the work and realise the economic benefits of doing so (PWC, 2018). Further, there should be significant sanctions for non-compliance and in some cases potentially action on fraud. Additionally, government tender panels should be supported to preference commercially viable joint venture partnerships to mitigate the risk of 'black cladding' (Price Waterhouse Cooper, 2018).
- *Strengthen the profile of the Indigenous business sector*. Although there is a significant appetite from the public and private sectors to engage Indigenous businesses, a commonly cited barrier by prospective purchasers is a lack of awareness of the Indigenous businesses who can provide the goods or services they are seeking.
- *Build the supply of Indigenous businesses in Australia*. Despite the existence of a range of organisations and programs that provide support services for the start-up phase of the business lifecycle, there are significant gaps in start-up support services for Indigenous businesses. Indigenous specific start-up hubs and Indigenous-specific incubators for a range of industries has been recommended as a starting point for building the supply of Indigenous Businesses (Price Waterhouse Cooper, 2018).

Access to adequate support

The literature highlights that Indigenous businesses struggle to access the advice they need, when they need it, especially for the early stages of the business life-cycle (pre-start-up and start-up), and for businesses in remote areas (e.g. Commonwealth of Australia, 2017). This is due to both the limited availability of financial services (Flamsteed and Golding, 2005; Bodle et al., 2018) as well as what is reported as limited knowledge about the services available to them or how to tap into them (Commonwealth of Australia, 2017). Others also highlight that limited access may be directly connected to low levels of awareness of the importance of business networks, and/or lack of expertise to create and maintain such networks (e.g. Shoebridge et al., 2012; Fuller et al., 2003; Cunningham et al., 2009a, 2009b; Pearson and Helms, 2013). An inability to access government assistance, particularly if the funding body has a preference to fund large, community-driven co-operatives in urban areas rather than individuals to run private or micro enterprises (Shoebridge et al., 2012), can be a challenge for Indigenous enterprise development.

Fernando et al. (2011 p2) state that one of the challenges faced by Aboriginal people and communities living in desert Australia is the lack of a critical mass, whereby 'critical mass' denotes "the smallest number of people or things required to make something happen". This is a challenge that is likely experienced by communities in other parts of remote and regional Australia. A related inhibitor to Indigenous business success is the lack of high profile Indigenous role models and mentors (e.g. Schaper, 2007; Wood and Davidson, 2011).

Foley and Hunter (2013) suggest that the lack of a clear definition of what constitutes an 'Indigenous business' means that policy may only provide support to a sub-set of the Indigenous enterprise

sector and/or public reporting and accountability may render some Indigenous enterprises/entrepreneurs (and their business development motivations) invisible, compared with other more typical enterprise models (and motivators) (Foley, 2006).

Development of business acumen

As already noted above, there is evidence that Indigenous people, particularly those living in remote and regional localities, face extra challenges in building market economy knowledge and obtaining the technical skills, work experience and/or capability to create and maintain a business or enterprise (e.g. Flamsted and Golding, 2005; Schaper, 2007; Venn, 2007; Bodle et al., 2018). Challenges include limited knowledge of how to build and consolidate business networks, and potentially the value of such networks to enterprise creation and success (e.g. Shoebridge et al., 2012; Fuller et al., 2003; Cunningham et al., 2009a). Other constraints to enterprise success include limited financial and commercial literacy levels, including knowledge about mechanisms to value the *'intangible'* Indigenous cultural heritage and Indigenous cultural and intellectual property.

Governance

Bodle et al., (2018:36) highlight how the Office of the Registrar of Indigenous Corporations identified “poor management, poor governance and poor financial accounting as key characteristics of failing [Indigenous] corporations”. More detail is provided in sections 10.2 and 10.3.

Market, production and commercialisation

Researchers highlight the challenges of identifying a potential market. They highlight that domestic market opportunities may be limited given the size of the Australian population. But developing and competing in international markets can be costly, time consuming and uncompetitive given the lower labour costs of other countries (Cunningham et al., 2009a, 2009b). The production and commercialisations challenges that face all enterprises is especially acute in remote or regional locations focussed on perishable bush products. Challenges include being able to deliver sufficient quantity and quality to meet market demand, as well as continuity of supply of product; being able to establish a longer shelf-life to assist bulk transport, high enough ‘farm-gate’ price to make production worthwhile, and the options of value-adding that can generate local employment and other local benefits (Cunningham et al., 2009a, 2009b).

However, as Yates (2009) discussed, it could well be that the more successful the bush product enterprise becomes, the less relevant it *may* be for local Aboriginal people who may consider income generation as only one of a suite of potential benefits generated from the enterprise (see also Cunningham et al., 2009a, 2009b). Yates explains how increased demand for bush tomatoes grown and harvested in central Australia, would likely dictate a move from the culturally and socially rewarding practice of wild-harvest that can be done by Aboriginal people, to a larger scale ‘horticulture’ enterprise that would likely require “well-resourced and highly skilled (i.e. white) farmers” (p49). Although he also noted that wild harvest and horticulture could *potentially* co-exist.

Plant products for commerce in remote Aboriginal communities of northern Australia

In their analysis of the use of plant products for commerce in remote Aboriginal communities of northern Australia, Gorman et al. (2006) discussed the variables associated with wild harvest in relation to economic and environmental viability. Although buyers of certain raw products only grown in Australia (e.g. *Terminalia ferdinandiana*/Gubinge/Kakadu plum) will pay a good price for the product, often they request large quantities of other raw products for relatively low price. Unless the plant occurs in high density, these requirements makes wild-harvest of some plants economically, environmentally and culturally unviable. Wild-harvest requires good knowledge and skills, can be time-consuming and intensive local harvest can impact subsistence harvest (Gorman et al., 2006). Gorman et al. (2006) point out that if the market is sufficiently valuable and the land tenure is secure, then manager/owner may choose to intensify management of a naturally regenerating plant or via cultivation/horticulture which could render wild-harvest less competitive⁷.

⁷ Lee and Courtenay (2016) propose that 'enrichment planting' that involves the establishment of high density plantings of bush food and medicinal plants (e.g. *Terminalia ferdinandiana*/Gubinge/Kakadu Plum) from propagated seedlings, in bushland settings could complement wild-harvest, be an alternative to horticulture yet could support social and cultural benefits derived by Aboriginal people to collect wild plants, and also generate a source of income.

8 Co-benefits and trade-offs related to Indigenous bush product enterprises

Research has established that programs that combine providing work and access to country for Indigenous people can generate an extensive range of non-commercial social, cultural and environmental benefits. These ‘co-benefits’ are accrued in addition to the direct wages, profits and royalties earned by those involved. For example, land management programs (such as Indigenous Ranger programs, Indigenous cultural fire management activities) have been found to generate social, health and wellbeing, cultural, environmental and, in some cases political/self-determination co-benefits (Barber and Jackson, 2017; Garnett et al., 2009; Larson et al., 2019; Maclean et al., 2018) in addition to wider economic benefits for the local community or region (Jarvis et al., 2018a; Jarvis et al., 2018b).

As the bush products industry shares many similarities to land management programs – particularly in offering opportunities for Indigenous people to work on country performing culturally appropriate tasks – it seems likely that the bush products industry also provides a range of co-benefits in addition to the economic/commercial benefits generated. For example, Cleary (2012) observed that the total benefits from bush products can stretch far wider than the immediate supply chain, and produce far greater value than the direct economic value generated. A review of the literature did indeed reveal an extensive list of co-benefits, described below.

8.1 Economic benefits

There is increasing evidence that the commercial and sustainable use of wildlife can and should be a means for improving rural livelihoods, contributing to both sustainable economic development and conservation (Corey et al., 2018). Equally, it can contribute significant financial benefits to regions with limited opportunities for development, ensuring local ownership and management of wildlife resources (Corey et al., 2018). Bush product enterprises can also increase the self-sufficiency of the community involved (Fleming et al., 2015).

Bush products businesses can generate income for Traditional Owners in the form of generating profits (Austin and Garnett, 2011; Wood and Davidson, 2011). Furthermore, bush product businesses may pay royalties to the Traditional Owners of the land from which the product is harvested, for example based on number of buffalo taken from each of their lands each year (Austin and Garnett, 2011). Alternately, Indigenous harvesters may be paid directly in cash in return for the volume of produce they collect (Holcombe et al., 2011; Merne Altyerre-ipenhe (Food from the Creation time) Reference Group et al., 2011; White, 2012).

Bush product businesses also provide direct economic benefits by providing jobs (Fleming et al., 2015) and paying wages to their (frequently local Indigenous) employees (Austin and Garnett, 2011; Fleming et al., 2015; Gill, 2005; White, 2012) and providing employment opportunities that utilize local people’s skills in wildlife harvesting (Corey et al., 2018; Merne Altyerre-ipenhe (Food from the Creation time) Reference Group et al., 2011). However, it has been noted that businesses may

provide only limited opportunities for employment and profit, in part because they may even be managed by employees from outside the local community (Davies et al., 2008).

Bush product businesses may also provide financial capital to the wider Indigenous communities by offering low (or no) interest loans (Collier et al., 2011).

Financial benefits generated from bush products may also be able to subsidise other related business opportunities. For example, mustering and selling wild buffalo has been found to subsidise other buffalo-related activities of tourism and hunting (Collier et al., 2011).

Harvesting/mustering bush products may provide economic benefits to other industries. For example, wild buffalo are a major threat to Australia's livestock industry as hosts and vectors for diseases and from competing with cattle for pasture during the dry season, thus reducing the buffalo numbers by mustering provides benefits to the pastoral industry in the region (Collier et al., 2011).

Successful bush product enterprises may provide a further economic benefit to the country as a whole by reducing the cost of welfare programmes (Wood and Davidson, 2011), with the increase in incomes of Indigenous people from the bush product enterprises reducing their dependency on welfare (Lee, 2012).

8.2 Human capital and wellbeing co-benefits

Bush products enterprises can provide human capital benefits from on the job training in practical skills (Austin and Garnett, 2011; White, 2012), offering opportunities for the transfer of knowledge and skills (Collier et al., 2011; Fleming et al., 2015), and facilitating the refining and passing on of knowledge to younger generations (Cleary, 2012; Lingard and Martin, 2016). Such enterprises often specifically seek to strengthen and utilize Indigenous knowledge and skills (Corey et al., 2018; Holcombe et al., 2011), facilitate capacity development of employees (Fleming, 2015; Spencer et al., 2017), and build community capacity for natural resource management (Corey et al., 2018). Participants gain technical and 'job ready' skills from relevant 'on-the-job' training that can prepare them for work elsewhere (Spencer et al., 2017). Customary knowledge (of plant species, etc.) can be shared (Davies et al., 2008; McDonald et al., 2006), particularly with younger generations (Evans et al., 2010), with intergenerational knowledge sharing occurring during the activities relating to the bush products enterprise (Gill, 2005; Holcombe et al., 2011; Merne Altyerre-ipenhe (Food from the Creation time) Reference Group et al., 2011; Walsh and Douglas, 2011; White, 2012; Yates, 2009).

Indigenous entrepreneurs are often motivated by providing employment opportunities for young people, seeing bush enterprises as a way of breaking out of poverty and also providing experiences for their youth and their children that were denied to them essentially because of their Aboriginality (Flamsteed and Golding, 2005). That is, providing them with the same opportunities as those available to non-Indigenous children (Wood and Davidson, 2011). However it is important to note that participants aspire to retain ownership of the knowledge that has been passed to them from their parents and grandparents as a human and social capital asset and to share it on their own terms (Davies et al., 2008); this is discussed further in section 9 below.

Participants within a bush products industry can also learn new non-traditional skills (Davies et al., 2008), including seed collection and storage techniques (Spencer et al., 2017), plant specimen collection, documentation and storage, plant propagation and cultivation skills, and photography

and other multimedia skills (Evans et al., 2010). The development of key business skills such as strategic planning can also be developed (Fleming, 2015).

Research has also noted that employees claim health & wellbeing benefits from the healthy lifestyle experienced while involved in wild or bush harvest activities (Austin and Garnett, 2011; White, 2012). This can contribute to an improved diet (Collier et al., 2011; Holcombe et al., 2011; Lee, 2012; McDonald et al., 2006; White, 2012; Yates, 2009), increased exercise (Collier et al., 2011; Holcombe et al., 2011; Lee, 2012; Walsh and Douglas, 2011; Yates, 2009) and has also been linked to health and wellbeing outcomes for harvester's families (Hassall and Associates Pty Ltd., 2007) (reported within (Cleary, 2012)). Indeed, such enterprises may specifically seek to improve people's physical and mental health (Corey et al., 2018). For example, a key objective of an aquaculture based business was to improve diets and nutrition, particularly for the participant's own family groups and or the elderly (Fleming, 2015) by improving access to fresh foods (Fleming et al., 2015; Hume et al., 2013). Furthermore, being able to participate in harvesting trips with kin out on country is perceived to be physically, mentally and emotionally healthy (Fleming et al., 2015), and is associated with deeply spiritual well-being (Fleming et al., 2015) as well as being a pleasurable task in itself (Holcombe et al., 2011; Walsh and Douglas, 2011). The health benefits from participating in such enterprises may also reduce the costs of healthcare on society by reducing the need for health interventions (Zander et al., 2014).

Employees within an enterprise can take pride from using natural resources for commercial purposes, allowing them to demonstrate their capacity to engage in the wider economy (Collier et al., 2011). Involvement with an industry can increase respect, support, and acknowledgment within participants' own families and among both Aboriginal and non-Aboriginal community members (Davies et al., 2008), bringing recognition of Aboriginal knowledge, skills and practices (Merne Altyerre-ipenhe (Food from the Creation time) Reference Group et al., 2011). Sharing and displaying traditional knowledge is also an important contributor to increasing the sense of pride, self-esteem and self-worth of participants (Davies et al., 2008; Evans et al., 2010; White, 2012). Individuals and groups may also feel empowered through the validation of their traditional knowledge (for example about the medicinal uses of local plants resulting from the laboratory analyses) (Evans et al., 2010), with increasing knowledge about the nutritional/medicinal value of selected local plants creating opportunities for commercialising research findings (Evans et al., 2010).

Participants within bush product enterprises also value the freedom and flexibility that they have over their own lives when they are their own bosses, running their own businesses (Holcombe et al., 2011), being able to choose their own roles and responsibilities (Merne Altyerre-ipenhe (Food from the Creation time) Reference Group et al., 2011), thus contributing to their personal independence and autonomy (Holcombe et al., 2011). The result being that this economic independence contributes to their opportunity for self-determination (Wood and Davidson, 2011).

Furthermore, wildlife-based enterprise is more closely aligned with and relevant to the livelihoods that are seen as valuable by many remote and rural Indigenous Australians compared to many other opportunities (Collier et al., 2011), encouraging activities such as harvesting to be embraced enthusiastically (Holcombe et al., 2011).

Offering opportunities within a bush products enterprise can also assist with overcoming the apparently overwhelming boredom experienced by many living within remote Indigenous communities (Collier et al., 2011), helping in particular to keep the younger people occupied (Fleming et al., 2015). Indeed, older participants of one (sea fisheries) enterprise expressed worries

that without such opportunities, the younger generation would become unhealthy, lose traditional knowledge and respect for country, and as a consequence lose “direction” in their lives (Fleming et al., 2015).

8.3 Social and cultural capital co-benefits

Bush harvesting is both a social and cultural activity, associated with spending time on (Collier et al., 2011; McDonald et al., 2006), and caring for, country (Cleary, 2012). For example, establishing an aquaculture based business could strengthen links and improve access to traditional sea country (Fleming, 2015). Indeed one study observed that the highest ranked benefit from an Indigenous enterprise was that of keeping culture strong (Gill, 2005) by reducing the risk of loss of language, culture and identity (Simpson et al., 2013; White, 2012). Furthermore, Indigenous food has been described as a manifestation of culture, regarding acts of harvesting and consumption (Logue et al., 2018).

Bush product businesses can generate cultural co-benefits by offering work on country (Austin and Garnett, 2011; Walsh and Douglas, 2011) and help to keep people on country (i.e. enabling them to continue to live on their traditional estates) (Corey et al., 2018). Bush enterprises can facilitate people accessing their land for cultural purposes, allowing access to specific places where they produce and maintain a set of cultural practices and traditions (Davies et al., 2008; Merne Altyerripenhe (Food from the Creation time) Reference Group et al., 2011), enabling them to follow the ‘dreaming’ or the lore of their ancestors (Holcombe et al., 2011). For example, the motivations for setting up fisheries (and other) businesses by one community was to achieve a degree of economic independence through engaging in culture-aligned employment, enabling them to achieve autonomy over their lives and futures and to maintain their cultural heritage (Fleming, 2015). Indeed such enterprises can facilitate ‘freedom’ (Sen, 1999) for Indigenous communities by enabling them to choose the activities they wish to pursue rather than having choices imposed by others (Holcombe et al., 2011), creating community independence, autonomy and empowerment (Fleming et al., 2015). Furthermore, being able to look after their own interests and demonstrate entrepreneurship facilitates self-determination (Janke, 2018; Wood and Davidson, 2011), as can leveraging traditional ecological and cultural knowledge (Robinson et al., 2018). It has been noted that “strengths-based approaches to social entrepreneurship can assuage disempowering effects of the “welfare economy” through shifting the focus onto productive activities generated on people’s own terms” (Tedmanson and Guerin, 2011). Such culturally aligned business opportunities can give a community renewed optimism for their future (Fleming, 2015).

Activities such as harvesting bush products are also valued for the social benefits arising from family units working together (Holcombe et al., 2011), which can strengthen social groupings through cooperation and shared activities (Holcombe et al., 2011; Lee, 2012) in addition to providing opportunities to interact socially (Lingard and Martin, 2016; McDonald et al., 2006) and strengthen kin networks (Walsh and Douglas, 2011). Staff involved in bush product enterprises can also act as role models for those of the younger generations (Spencer et al., 2017). Harvesting on country also provides an opportunity for people to travel outside of the often dysfunctional communities or settlements where they are required to live (Walsh and Douglas, 2011). Bush enterprises are also seen as opportunities to engage young people on country, reducing their risk of involvement with violence, alcohol issues, and physical and mental health issues (Gill, 2005).

Social capital benefits are derived from the empowerment of individuals and community groups through their interactions with other project participants and by encouraging networking with members of other Aboriginal communities (Evans et al., 2010). They also come from developing relationships between local community leaders & the relevant Land Councils (Austin and Garnett, 2011), with local, state and federal government departments (Austin and Garnett, 2011) and with those with business experience/skills (Austin and Garnett, 2011). Employees can accrue social capital by creating wealth for the community (Collier et al., 2011), and by creating a sustainable business for the future (Spencer et al., 2017).

Mustering of feral species in the bush for profit can also provide social benefits by reducing dangers to human safety, especially for indigenous Australians in rural and remote areas (Collier et al., 2011).

8.4 Natural capital and environmental co-benefits

Bush products enterprises may also provide environmental benefits, helping conserve natural assets and control weeds and feral species. Indigenous bush products enterprises seek to make sustainable use of their natural marine assets (Fleming et al., 2015), carrying out natural resource management activities (Lingard and Martin, 2016) and focusing on environmental stewardship (Spencer et al., 2017). Indeed, one motivation for establishing a business over and above developing economic benefits may be to stimulate neglected land management practices (Yates, 2009). For example, wild buffalo have been described as an ecological and biosecurity menace (Collier et al., 2011); thus reducing their numbers by mustering is beneficial for natural resource management, biodiversity conservation and reducing environmental degradation (Collier et al., 2011).

Ecological benefits that can result from Indigenous bush products enterprises include the ongoing monitoring of environmental resources, management of the environment by traditional methods such as burning, and the sharing of traditional ecological knowledge (Holcombe et al., 2011). Bush products enterprises may assist with restoring country, ecology, ecosystems and bush food species through encouraging appropriate natural and cultural resource management and care of the land and country (Merne Altyerre-ipenhe (Food from the Creation time) Reference Group et al., 2011). Facilitating wider use of Indigenous traditional land management practices also helps conserve biodiversity (Simpson et al., 2013).

Evidence so far suggests that wild bush harvesting for bush products enterprises is unlikely to result in overharvesting; obviously any enterprise that depletes critical environmental resources is unsustainable over the longer term (Holcombe et al., 2011). As an example, research focused on a crocodile egg harvesting business found that crocodile abundance has been increasing despite 26 years of egg harvests, confirming that egg harvests are well within sustainable levels (Corey et al., 2018).

At a larger scale, it has been noted that concerns have been raised about the impact that agriculture may have on climate, accordingly the wider use of Indigenous resource management methods provide a key to a more sustainable future for Australia (Logue et al., 2018).

8.5 Physical capital

The development of successful bush products enterprises can also contribute to improvements to the physical capital within rural and remote regions. This could include the improvement or

development of roads used to access outstations and more remote locations (Collier et al., 2011). Equipment, tools and facilities invested in by Aboriginal Corporations and other entities, in order to develop an initial enterprise, may also create opportunity and support for the development of further enterprises (Collier et al., 2011).

8.6 Trade-offs

Whilst numerous co-benefits arise, there is also the potential in some circumstances where by a benefit in one area has to be balanced (or traded off) against a loss of benefit in another dimension. Trade-offs have been noted within social enterprises which seek to achieve social and/or cultural benefits alongside the economic benefits that can accrue from running a commercial business. For example, tensions arise between trying to achieve social impact whilst maintaining a financially viable business (Logue et al., 2018). Additionally, social enterprises have been identified as providing poor training opportunities for Indigenous people who wish to learn how to run a commercial business (Flamsteed and Golding, 2005). Tensions can also arise if the community lacks the capacity to fulfil their aspirations (Fleming et al., 2015).

Such enterprises can also result in social tensions arising between those working within the enterprise and the wider community, with differing and perhaps unrealistic expectations arising between the benefits that can accrue to the community, and the benefits that accrue to those people responsible for operating the businesses (Flamsteed and Golding, 2005). Tensions may also arise if some of the community feel that resources are being expended on a business development that should instead be used to meet other community needs (Gill, 2005).

Furthermore, if such businesses are operated primarily through non-Indigenous management then they present a risk of exacerbating Indigenous welfare dependency, particularly in the most remote and socioeconomically disadvantaged locations (Flamsteed and Golding, 2005). Also, if non-Indigenous people are engaged in assisting the development of the business it must be ensured that features important to maintaining the culture of the community are not sacrificed in return for increasing economic returns (Fleming et al., 2015). This may result in low technology developments with simple infrastructures being preferred to more complex and technologically advanced alternatives, if such developments are seen by the local community to be more culturally appropriate (Fleming et al., 2015). It has been noted that there is a significant likelihood that advances within the production of a wild bush product may result in a largely mechanised horticulture industry dominated by commercial farmers and reducing opportunities for Indigenous wild harvesters within the production process (Holcombe et al., 2011; Merne Altierre-ipenhe (Food from the Creation time) Reference Group et al., 2011; Yates, 2009). Likewise, increases in scale may be required to build a sustainable supply chain, but expansion may conflict with an aim to maintain usage of traditional techniques (Logue et al., 2018; Yates, 2009). Thus, there exists an important trade-off between the social and cultural motivations of the Indigenous peoples, and the financial motivations of those (mainly non-Indigenous) people involved in manufacturing and marketing the bush products (Lee, 2012; Yates, 2009). There is also a risk that increased commercialisation of a product, particularly through cultivation, may lead to monopolisation of supply (White, 2012).

A further risk of developing a successful bush product business that embraces plant breeding and commercial horticulture skills, beyond squeezing out Indigenous people from the supply chain, is that such developments could reduce or remove the opportunities for the intergenerational transfer

of traditional knowledge and skills (Walsh and Douglas, 2011). A decline in species specific traditional knowledge could itself reduce the long term sustainability of the bush products industry (Walsh and Douglas, 2011).

Compliance with cultural and customary laws may also prevent certain species from being harvested and/or sold, which may also result in tensions between those wishing to maintain the customs and those wishing to exploit the species for economic gain (Merne Altyerre-ipenhe (Food from the Creation time) Reference Group et al., 2011; Walsh and Douglas, 2011; White, 2012; Yates, 2009).

A further trade off could be that increasing supply of bush food products through commercial markets reduces the availability of such products for consumption by the local Indigenous community, having adverse diet, nutrition and health impacts (White, 2012).

There may also be environmental trade-offs, with wild harvesting jeopardising the wild populations of the plant being harvested (Walsh and Douglas, 2011; White, 2012). However, whilst research has found declining wild populations of bush products that are subject to wild harvest, the decline has been attributed to factors such as cattle and horses trampling plants, and reductions in traditional practices such as burnings rather than being due to the wild harvesting (Walsh and Douglas, 2011).

8.7 Value chain and supply chain analysis

Within any industry, a chain of different people/businesses will be involved, each contributing to different steps that culminate in the final customer acquiring the product. These industry chains can be analysed in different ways, including utilising the differing perspectives of supply chain and value chain analysis. The supply chain generally considers the physical flow of goods and information that are required for raw materials to be transformed into finished products, with supply chain management seeking to make this flow as efficient and risk free as possible (Bryceson, 2008b; Cleary, 2012). The value chain focuses on the chain of activities that each add value to a product, throughout the production and distribution processes, with the objective of maximising value for the end user at the least possible cost; this maximises profit for the business(es) involved, and encourages each business along the chain to differentiate how they add value to maintain their competitive advantage (Bryceson, 2008b).

Businesses involved in the Indigenous bush foods industry chains include wild/bush harvesters, nursery operators, commercial producers of raw produce, processors/manufacturers of raw produce, distributors, retailers, food service operators, including restaurants, and tourism and hospitality organisations, and include a mix of businesses operating as single-purpose enterprises, as networks, and as vertically integrated operations (Bryceson, 2008b). However, beyond the initial collection of wild produce, Indigenous people do not tend to be involved in the other roles within the value chain (Davies et al., 2008).

A number of challenges regarding the supply/value chains for bush products have been identified; significant benefits could accrue to those businesses that successfully resolve these issues. In terms of wild harvesting, the following challenges have been identified through previous research:

Weather and seasonal variation

The supply of any 'wild' product may be dependent on the weather, resulting in erratic availability, which can impact on demand and be reflected in the prices customers are willing to pay (Bryceson, 2008b; Cleary et al., 2008; Holcombe et al., 2011)

Labour availability

The supply of labour from wild harvesters may be subject to some seasonality or lack of continuity of supply (Holcombe et al., 2011).

Geography

When developing the chain, consideration must always be given to location, with remote areas offering considerable challenges (Flamsteed and Golding, 2005), including some need for improved transport and telecommunications (Lingard, 2016).

Governance arrangements

There may be a requirement to address governance issues, including best practice management, and requiring the building up of trust along the chain (Bryceson, 2008b; Cleary et al., 2008). It has been noted that there is generally a low level of representation of Indigenous peoples within governance roles in bush foods value chains (Merne Altyerre-ipenhe (Food from the Creation time) Reference Group et al., 2011). It has also been recommended that governance roles for Indigenous people within all stages of the bush foods economic chain and wider industry should be improved (Merne Altyerre-ipenhe (Food from the Creation time) Reference Group et al., 2011).

Scaling-up

Regarding the sourcing of raw materials, consideration should be given to the questions:

- Is commercial-scale bush harvesting a possibility? If so, is this something the Aboriginal communities wish to do? (Bryceson, 2008b).
- Growing domestic and international demand for bush products offers opportunities to expand production, but sourcing the product, staff and financing required to develop a larger scale sustainable chain may present challenges (Cunningham et al., 2009b; Logue et al., 2018).
- What is the long-term viability of bush harvest versus cultivation? And, do the aboriginal communities have desire or skills or capital needed to do this? (Bryceson, 2008b).
- Industry chain structures – as industries expand there may be a need for businesses to cooperate rather than operating through separate competing chains (Bryceson, 2008b).

Permits and Licensing at different stages of the value chain

- Wild harvesting may involve complex licensing requirements (Lingard and Perry, 2018); permits may be required even when harvesting on Indigenous lands (Davis et al., 2009).

- Poor business information flows (equated to information hoarding) throughout the bush food chains generally is a serious underlying issue preventing the different businesses along the chain optimising their offering to meet the consumer demands (Bryceson, 2008b; Cleary et al., 2008).
- There may be a need for formal accreditation in relation to implementing food safety and traceability requirements for domestic and for overseas markets (Bryceson, 2008b), and to comply with food production and handling laws (McDonald et al., 2006).

New and appropriate models and value chains

- In some cases bush food value chains are dominated by non-Indigenous people (including growers, traders, business people, researchers, and sales and marketing people), who may have limited knowledge of the values inherent in bush foods for Indigenous people (Merne Altyerripenhe (Food from the Creation time) Reference Group et al., 2011), and thus give insufficient regard to these. Indeed, non-Indigenous peoples may view the cultural connections as little more than marketing tools (Yates, 2009).
- Increasing the involvement of Indigenous people and businesses within the value chain beyond the initial provision of the raw resource by wild harvest could increase the returns to Indigenous people (Cleary et al., 2008; Lee, 2012). For example, where their current involvement is largely the acceptance of royalties for harvesting activities undertaken by others on their lands (Corey et al., 2018).
- An example provided in (Cleary et al., 2009) notes how this is done in Broome with Gubinge used for locally hand-made sauces, fruit preserves and fruit-based cordials. Indigenous peoples may be able to add additional value to a bush food product by adopting additional activities at the collection, drying, grinding or milling, and storage stages that better retain the nutritional benefits of the raw foods, such as better retaining vitamin C or antioxidants such as lycopene (McDonald et al., 2006). Where Indigenous involvement in a bush products enterprise is limited to harvesting, such additional activities could significantly value add to the end product, both improving quality and consistency of the bush food product (McDonald et al., 2006).
- An appropriate model for the bush products value chain needs to recognise the full suite of co-benefits that can arise, including social and cultural benefits, training benefits, health, nutrition and emotional wellbeing benefits in addition to economic benefits (Lee, 2012). As the social, cultural and environmental co-benefits are frequently substantial (as discussed above) these should also be included within the analysis to ensure all opportunities are optimised.
- The adoption of both Indigenous and western knowledge, using a two way knowledge exchange process, can bring benefits to Indigenous and non-Indigenous people involved along the value chain, encouraging cross-cultural collaboration and opening economic opportunities for sustainable natural resource management, biodiversity conservation, fire control, plant harvesting etc (Simpson et al., 2013).

Research and Development

- The involvement of Indigenous peoples in the development of bush products may be limited due to the focus of non-Indigenous businesses on scientific and legalistic issues, resulting in excessive focus on horticulture and scientific research, to the detriment of the full engagement

of the Indigenous peoples (White, 2012). The act of researching and documenting traditional knowledge of plants however has been shown in a number of examples to lead to the development of Indigenous enterprises participating with a supply chain based around utilising such knowledge (Evans et al., 2010).

Marketing

- There needs to be increased support for the role of intermediaries in promoting understanding and communication between buyers and producers who are often culturally and geographically distant, enabling and encouraging local leadership and involvement (White, 2012).
- The development of a differentiated product with attributes which are valued by discerning consumers in particular niche market sectors by developing branding and marketing strategies which reflect the positives for wild harvested supply e.g. product which can be marketed as clean, green, organic, hand-picked, regionally provenanced and 'authentic' will be heavily dependent on access to market knowledge and information for the positioning of such strategies (Cleary et al., 2008; Davies et al., 2008). An example of this was provided in (Cleary et al., 2009) where a community is using stories associated with bush-harvested Gubinge/Kakadu plum as part of the branding strategies they use to sell their products. Another example of this relates to opportunities for using cultural branding and marketing to sell products made from Gubinge/Kakadu Plum (Cunningham et al., 2009a).
- The development of certification related to authenticity enabling consumers to confidently purchase product on the basis of genuine benefit to Aboriginal industry participants and regional authenticity (Cleary et al., 2008; Lingard, 2016). An example of this is the harvesting of Gubinge/Kakadu plum, where the handling process is managed to maximise commercial return and meet increasingly rigorous postharvest quality and food safety standards (Cleary et al., 2009).

9 Legislation regarding Access and Benefit Sharing and Intellectual Property rights

Indigenous or traditional Knowledge refers to ... *the beliefs and understandings that Indigenous Australians have acquired and nurtured through long-term association with a place ... based on the social, cultural, physical and spiritual understandings which have informed Indigenous people's survival ... [and] have been transmitted from generation to generation* (Janke, 2018 p3).

As discussed above within section 8.2 it is important for Indigenous people to retain their ownership of their traditional knowledge, cultural and ecological, that has been passed to them from previous generations (Davies et al., 2008). The importance of preserving cultural practices and knowledge is now widely recognised (White, 2012). Furthermore, Indigenous people wish to share the benefits when their knowledge is utilised, whether by Indigenous or non-Indigenous owned enterprises. Opportunities to achieve this exist within both the intellectual property (IP) legislation and within international agreements relating to access and benefit sharing (ABS); significant research has been conducted into the most appropriate mechanisms for use by Indigenous people to ensure they benefit whenever their traditional knowledge is used within the bush products sector. However, a number of sources note this inadequacy of IP laws to protect the interests of Indigenous peoples (Lingard and Martin, 2016; Logue et al., 2018). Whilst some components of traditional knowledge relate to scientific research subjects (and thus may have the potential for protection under IP laws), other traditional knowledge doesn't have strong scientific equivalents (such as songlines, ceremonial rituals, totemic associations, songs, dance etc) and thus far more difficult to protect (Merne Altyerre-ipenhe (Food from the Creation time) Reference Group et al., 2011).

It has also been noted that efforts should be made to place a monetary value on Indigenous knowledge and intellectual property within financial accounting as placing a value on any asset can increase the likelihood of that asset being respected by others (Bodle et al., 2018).

9.1 Intellectual property legislation within Australia

Intellectual property laws include the use of trademarks, patents and copyright laws, each of which may be relevant according to the specific type of IP under consideration, although they can have limited capacity to protect IP of Indigenous peoples in many circumstances (Davis et al., 2009; Simpson et al., 2013). Davies et al. (2008) provide a relevant analysis of the role of, and risks to Indigenous cultural and intellectual property (ICIP), in the emerging bush foods industry in central Australia. This example highlights the challenge of both protecting ICIP as well as recognition of the importance of practice of ICIP by Elders and respect for that knowledge by younger generations within developing economies. Davies et al. (2008) highlight how involvement in the local wild-harvest bush foods industry had resulted in increased respect, support and acknowledgement of the important work by done by participants by their families and other community members. In this research, participants had also reported benefits from sharing their customary knowledge of plant species and discussed their desire to retain ownership of this knowledge, and to share it on their own terms. However, they also reported involvement in the industry posed a continuing risk

to their knowledge and ICIP in plants as the industry developed. This was due to the establishment of horticultural enterprises, compared with bush harvest, horticulture down-plays the role of knowledgeable elders and may result in the de-valuing of harvesting trips to traditional country as deemed no longer necessary or important by young people (see Davies et al., 2008 for more detail). The different types of IP legislation, and important limitations of each, are set out below.

Copyright

An idea itself cannot be copyrighted, instead ideas have to be written down or recorded with the copyright then being owned by the person who does this recording (Davis et al., 2009); accordingly Indigenous people need to ensure their rights in ownership are included in any copyright agreement by using shared, or jointly owned, copyright (Davis et al., 2009).

One limitation of using copyright to protect traditional knowledge is that the copyright only lasts for a certain period of time, for example, 70 years after the death of the author of a book that has been copyrighted (Janke, 2018).

Patents

For an idea to be patented it is required to be novel, and include some specific invention, with the patent seeking to provide the inventor with exclusive rights to benefit from their invention (Janke, 2018). This frequently prevents patents being applicable for Indigenous knowledge which has been passed down by word of mouth from those holding the knowledge over a long, slow, and often informal process (Davis et al., 2009). Furthermore, patent law only recognises economic or commercial value and does not cover non-market spiritual, cultural, environmental, social or political values (Marinova and Raven, 2006), and thus are not generally applicable as a means of protecting Indigenous knowledge (Morse and Janke, 2010). However, it can be important to develop a database or register (which can be public or private) as a record of the Indigenous ecological and cultural traditional knowledge to ensure that others who may subsequently use this knowledge cannot take out patents themselves (Davis et al., 2009). It has also been argued that patent applications should include details regarding the region of origin but this isn't currently a legal requirement (Robinson and Raven, 2017).

Opportunities may exist for utilising patents to protect technologies used to process bush products (Cunningham et al., 2009a). An example of this relates to a consortium including an Indigenous community patenting the use of an analgesic compound extracted from a bush product and used within the production of medicines (Drahos, 2011; Janke, 2018). However, patents have not been widely used by Indigenous people to protect and benefit from their knowledge, a review of more than 150 patent applications relating to species endemic to Australia revealed only three where the benefits of the patent were being shared with Indigenous peoples (Robinson et al., 2018).

Another limitation is that patent protection only lasts for 25 years, and after this period anyone can make use of the information, thus the method cannot protect Indigenous knowledge in perpetuity (Janke, 2018; Marinova and Raven, 2006). Additionally, patent rights can be costly to acquire (Morse and Janke, 2010).

Trademarks and geographic indicators

There are some applications where Indigenous peoples can use trademarks to protect their traditional knowledge (Davis et al., 2009). An example is 'Indigiearth', used to protect a specific range of bushfood products made by one Indigenous entrepreneur (Janke, 2018). Trade marks can be used to promote the authenticity and source of Indigenous products (Morse and Janke, 2010).

Whilst trademarks can be used to promote and protect a commercial product that Indigenous people have developed using their traditional knowledge, they cannot protect knowledge that is not in the form of a business product (Robinson and Raven, 2017), and can't protect the knowledge itself.

It has been noted that there is an opportunity to use a geographical indication (GI) on bush products to show the particular place the product comes from, indicating that a product has certain features or qualities, due to its geographic origin. Thus, promoting the region, or locality where the traditional knowledge is based (Morse and Janke, 2010) and providing a more general protection for that Indigenous knowledge (Lee, 2012; Simpson et al., 2013). Examples of use of GI include labels such as 'Champagne' and 'Roquefort' which protects the term from being used for products that have not been made in the traditional manner (Janke, 2018). Thus, GIs may be able to provide some protection for premium foods and other Indigenous products (Robinson, 2010). However, currently there is generally very limited acknowledgement of the contribution of Indigenous people, and geographic sources of bush foods, on product labelling (Merne Altyerre-ipenhe (Food from the Creation time) Reference Group et al., 2011). Whilst certification and labelling may be useful tools, the connections between traditional ecological and cultural knowledge and various forms of certification and labelling need to be well understood to avoid commodification and/or any divisive effects within and between communities (White, 2012).

The use of trademarks, certifications and identification systems require a high level of administration and marketing, and these complexities can be a barrier to their use (Janke, 2018). However, it has been noted that the use of trademarks probably has broader application to the products and services resulting from the use of Indigenous knowledge than patents (Drahos, 2011). Furthermore, the cost of protection via trademark is lower than the cost of applying for a patent over an invention (Drahos, 2011).

Plant breeders rights act 1994

This legislation is designed to provide rights to people (or organisations) who use special breeding techniques to develop a new plant variety, and is thus unlikely to be relevant to the protection of traditional ecological or cultural knowledge (Davis et al., 2009). As with patents, these are relevant for commercial applications only rather than providing general protection for Indigenous knowledge (Morse and Janke, 2010).

Voluntary certification systems

Whilst not a form of IP legislation, the use of voluntary certification systems may be better able to play a role in supporting indigenous business enterprises that produce services and products through methods of traditional innovation (Drahos, 2011). These can be designed to take account of a wide range of different scale and situations, and may offer a pathway to markets where

shoppers are prepared to pay a premium for products that demonstrably represent particular values and practices (Drahos, 2011). Such a certification may take the form of an accepted label of authenticity (Davis et al., 2009).

Protocols

A 'protocol' is a rule, or a guide to proper behaviour which can be developed to guide how traditional knowledge is used within a project or enterprise (Davis et al., 2009), and are gaining recognition as a good way of protecting Indigenous knowledge (Janke and Sentina, 2018; Morse and Janke, 2010). The development of protocols can support protection of Aboriginal cultural property in native plant species, ensuring that benefits from non-Indigenous horticultural enterprises are shared with the Indigenous owners of the traditional knowledge that is being utilised (Davies et al., 2008).

Appropriate protocols, in some instances referred to as research agreements, can help ensure that Indigenous knowledge and cultural practices are acknowledged and respected (Janke and Sentina, 2018), and can include that the Indigenous community receives royalties and/or share of benefits that result from any commercial activity that results from their knowledge or practices (Evans et al., 2010). Such research agreements or protocols can be specifically developed for each separate project, recognising the traditional knowledge contributed, and ensuring that any subsequent benefits from the use of that knowledge are shared equitably between all participants in the project (Evans et al., 2009). Collaborative research agreements can ensure all parties participate and benefit (Simpson et al., 2013). The protocol could be developed to include licenses for use and distribution of the product for example (Davis et al., 2009), and can include payment of a fee to the Indigenous community in recognition for having used their knowledge and/or land within a commercial enterprise (Marinova and Raven, 2006).

Protocols can be used to increase awareness of issues, clarify understanding of consultation and consent concepts, and set minimum benchmarks for acceptable behaviour when dealing with traditional knowledge (Janke and Sentina, 2018). Free, prior and informed consent is required as a fundamental requirement of any such agreement (Janke and Sentina, 2018).

Whilst there have been a number of traditional ecological and cultural knowledge protocols or guidelines developed by different organisations, there are no nationally accepted industry guidelines or codes of conduct for researchers, entrepreneurs or organisations involved in the bush foods or bush harvest industry (Merne Altyerre-ipenhe (Food from the Creation time) Reference Group et al., 2011). One project tried to rectify this by developing guidelines that could be adopted by others, and aim to:

- Recognise Indigenous peoples' rights and interests relating to seeds, fruits and plants and their associated knowledge, traditions and practices;
- Encourage equitable opportunities for negotiating commercial outcomes and benefit sharing in the production of bush foods; and
- Guide the proper management of intellectual property relating to Aboriginal knowledge of bush foods management, harvest, preparation and trade (Merne Altyerre-ipenhe (Food from the Creation time) Reference Group et al., 2011).

9.2 International agreements and conventions

A body of research investigating bush product businesses based around Indigenous ecological and cultural traditional knowledge have considered the rights of Indigenous people with regard to their knowledge and resources, particularly considering the UN Declaration on the Rights of Indigenous Peoples (2007), and the UN Convention on Biological Diversity (1992) (supported by the Nagoya Protocol (2010)). Literature suggests that this legislation, particularly with regard to access and benefit sharing can contribute to the development of Indigenous bush product enterprises (Cunningham et al., 2009a).

As part of the UN Declaration on the Rights of Indigenous Peoples, under Article 11,

Indigenous peoples have the right to practise and revitalize their cultural traditions and customs. This includes the right to maintain, protect and develop the past, present and future manifestations of their cultures, such as archaeological and historical sites, artefacts, designs, ceremonies, technologies and visual and performing arts and literature (Davis et al., 2009).

Further, under Article 31, Indigenous peoples

... have the right to maintain, control, protect and develop their cultural heritage, traditional knowledge and traditional cultural expressions, as well as the manifestations of their sciences, technologies and cultures, including human and genetic resources, seeds, medicines, knowledge of the properties of fauna and flora, oral traditions, literatures, designs, sports and traditional games and visual and performing arts. They also have the right to maintain, control, protect and develop their intellectual property over such cultural heritage, traditional knowledge, and traditional cultural expressions (Davis et al., 2009).

Indigenous people own their Indigenous Ecological Knowledge and their cultural heritage, and it is important that they take steps to ensure others are aware of, and respect, this ownership; intellectual property laws can assist with this (Davis et al., 2009). The term Indigenous Cultural and Intellectual Property (ICIP) refers to all those parts of Aboriginal cultural heritage for which you want recognition and protection, can have both tangible and intangible aspects, and may refer to knowledge that is likely to refer to several things at once, be they objects, activities or practices such as fishing, hunting, and food preparation (Davis et al., 2009).

Another relevant legal framework is the Nagoya Protocol on Access and Benefit sharing (ABS), which forms part of the UN Convention on Biological Diversity. The Nagoya Protocol set "... standards for access to and benefit sharing with Indigenous peoples when accessing resources from Aboriginal lands" (Janke, 2018), seeking to ensure that those wishing to use genetic resources are able to gain access to these, whilst also ensuring that the owners of those resources receive an equitable share of the benefits derived from their use. This approach is underpinned by the principles of prior informed consent (PIC) and mutually agreed terms (MAT (Greiber et al., 2012; Robinson and Raven, 2017). Free, prior and informed consent is an integral requirement, and is fundamental to enabling Indigenous peoples their right to self-determination (Janke and Sentina, 2018). The Nagoya Protocol is relevant to Indigenous cultural and ecological knowledge, as Article 8(j) of the Convention on Biological Diversity requires that:

- Knowledge, innovations, and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity be respected, preserved, and maintained;
- The wider application of such knowledge, innovations and practices be promoted with the approval and involvement of the knowledge holders; and
- Equitable sharing of benefits derived from their utilization be encouraged (Greiber et al., 2012).

Article 5 of the Nagoya Protocol specifically requires that each Party shall take legislative, administrative or policy measures, as appropriate, in order that the benefits arising from the utilization of traditional knowledge associated with genetic resources are shared in a fair and equitable way with indigenous and local communities holding such knowledge. Such sharing shall be upon mutually agreed terms (Greiber et al., 2012). It also specifies that the benefits can be monetary or non-monetary in nature, and a list of examples of different benefits are provided, and set out below (Greiber et al., 2012).

These various international agreements have been endorsed by the Australia government, but have not generally been incorporated into the Australian national framework of laws and regulations (Lingard, 2016). Currently the legal protections vary across the country, dependent on a mix of State, Territory and Federal laws (Robinson and Raven, 2017). Furthermore, it has been noted that the use of ABS agreements for commercialisation of bush food products may be rare, as genetic research is infrequent and researchers are frequently able to obtain specimens from herbariums and seed banks where they do not need to negotiate access with Indigenous peoples (Lingard and Martin, 2016). For example, despite the Forestry Products Commission having acknowledged that Indigenous knowledge had been crucial in locating wild sandalwood plants, there is no obligation to share benefits from commercially grown sandalwood plantations with the Indigenous people (Lingard and Perry, 2018).

Legislation and requirements related to ensuring ABS for traditional knowledge associated with genetic resources is inevitable linked to intellectual property rights related to this knowledge, and differs substantially across different jurisdictions around the world. Thus, developing benefit-sharing agreements can be used instead of or in conjunction with the various IP options discussed earlier (Davis et al., 2009). Benefit sharing agreements are usually contracts signed between the Indigenous peoples who own the traditional ecological and/or cultural knowledge and those who wish to make use of this knowledge, and provide that the Indigenous peoples receive benefits in the form of royalties, share of income/profits, etc. as appropriate; such an agreement can be useful where Aboriginal people wish to develop plants, and/or animals, and their knowledge of these, into a product for commercial use (Davis et al., 2009). The benefits shared may include monetary benefits, but also other benefits such as employment and the transfer of technological skills (Morse and Janke, 2010). For such an agreement, it is vital that the Indigenous people fully understand their rights and obligations under the agreement, and give prior informed consent.

Ensuring compliance with the ABS regulations can provide a challenge to anyone seeking to develop a business based on bush products, that is based on using genetic resources found within the bush in a way informed by traditional Indigenous cultural and ecological knowledge. However reaching appropriate and equitable ABS agreements can provide opportunities for local Indigenous communities to receive financial returns and other benefits as a result of sharing access to their traditional resources and traditional knowledge.

10 Ways forward for Indigenous enterprise development

This section of the report examines what the published literature presents as ‘ways forward’ for Indigenous enterprise development and related research. Where appropriate it presents frameworks, categories and strategies outlined in the literature, and uses examples of lessons learned from bush product enterprises in northern Australia. In particular, it considers ‘ways forward’ via alternative models of economic development; ways to address some of the identified business development challenges (see section 7.6); frameworks to support enterprise development within existing government structures; the role of co-research partnerships; and finally highlights some examples of potential investment opportunities (research and bush products) for this sector.

10.1 Alternative models of economic development

Alternative models and conceptualisations of economic development, provide a way for Indigenous people, policy makers and practitioners to support locally derived innovation, capitalises on the cultural and environmental advantage (rather than disadvantage) of Indigenous communities (McRae-Williams et al., 2016), and builds on customary law to strengthen local communities and protect local environments (see Armstrong, 2005; Flamsteed and Golding, 2005; Kerins, 2013). The ‘hybrid economy model’ (Altman, 2001) and the notion of ‘capacity development’ (e.g. Lavergne and Saxby, 2001 as cited by Spencer et al., 2017) provide a way for policy makers to reconceptualise Indigenous enterprise development to celebrate the customary economy, the social and cultural aspects of Indigenous world views and related ‘capitals’ (McRae-Williams et al., 2016), and enable opportunities for empowerment, particularly in northern Australia, that are linked to mixed market opportunities (see Lovell et al., 2015). This is important, because as Brueckner et al. (2014 p19) highlight:

The ‘real’ economy and its ‘real’ jobs have proven elusive in many of Australia’s rural and remote areas, despite long-running attempts at mainstreaming communities in these parts of the country [...] there is a need to recognise the diverse range of values hybrid models [...] offer beyond economic returns.

Hybrid economy model

The well-known and oft-cited ‘hybrid economy model’ (Altman, 2001, 2005) can provide insights into the economy of remote Indigenous Australia. It posits that remote Aboriginal economies are likely comprised of the public/state sector (e.g. welfare income support), the non-market/customary sector (e.g. returns from hunting, fishing, gathering) and the private/market sector (income from market returns could include bush product enterprises, and payment for environmental services). Important are the interlinkages between these three sectors, for example activities associated with the customary and the market sectors (e.g. wild harvest of bush products)

may provide income but also meaning (Yates, 2009) in the form of knowledge sharing, being on country and caring for country, which may in turn generate diverse benefits.

A culture-based economy [for northern Australia]

Armstrong et al. (2005) call for an innovative approach to economic development in northern Australia that can support greater social, cultural, economic and environmental sustainability, and can lead to positive change for Indigenous people. They state that the evolving idea of a 'culture based economy' articulates an approach that builds on contemporary Indigenous culture, knowledge, and connection to country as the foundations for creating genuine opportunities for employment, income and business development – (see Figure 4, source Armstrong et al., 2005:4).

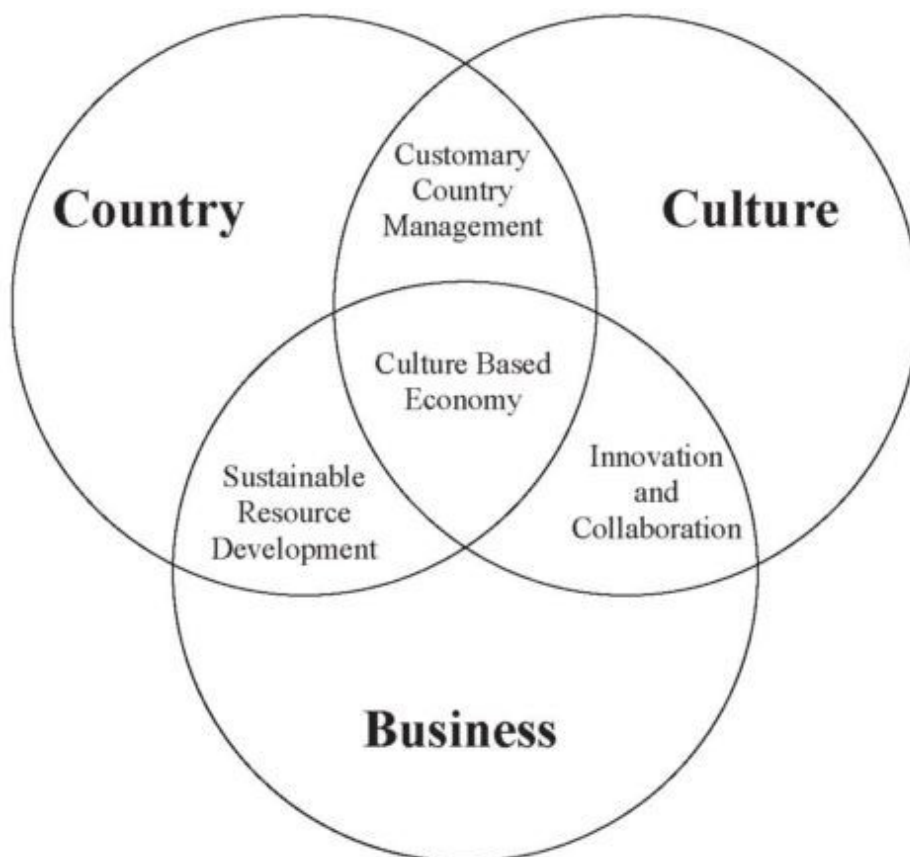


Figure 4 Diagram of a culture based economy, from Armstrong et al. (2005).

Capacity development

A focus on 'capacity development' represents a discursive shift from 'development' as being about skills and resource transfer from the 'donor' to the 'recipient' (e.g. a welfare model), to developing the existing local knowledge and skills for market-oriented development (a business-led model) (see also McRae-Williams et al., 2016; Spencer et al., 2017). This discourse moves the focus from 'development' as being about the 'hard capacities' need to overcome 'disadvantage' (including economic growth, infrastructure, technical assistance, resource, equipment and financial capital), to 'development' as also recognising local 'advantage', including the 'soft capacities' including trust, networks, shared values and knowledge. These capacities are often intangible and hard to measure

(see Spencer et al., 2017). Lavergne and Saxby (2001, as cited by Spencer et al., 2017 p843) identified six underlying principles and values of capacity development and highlighted that it is a process that emphasises the intangible elements of development – the improved capability to use and increase *existing* resources sustainably. The six underlying principles include: local participation, ownership and control; use of local capacities; an understanding of local conditions; a coaching, supportive role for technical assistance; a flexible approach; and a systemic, long-term perspective (Lavergne and Saxby (2001, as cited by Spencer et al., 2017 p843).

Mixed market model

Lovell et al. (2015) draw on Altman’s hybrid economy model and state that northern Australia offers opportunities to remote Australians to engage through nuanced mixed-markets, and to consider economic empowerment pathways as defined by remote advantage, capacity and aspiration. Mixed-markets are those which combine the opportunity and investment of both market and non-markets such as government or philanthropy. In remote Australia the ‘mixed-market’ industries are subject to market and non-market forces – e.g. non-market forces may include the customary economy that signified the breadth of activities including trade, exchange and obligation that underpin the everyday negotiations and trade-offs at play in the lives of remote Indigenous communities (including systems of law and custom by which Aboriginal people have inherited and provided custody and management of their custodial lands/homelands for thousands of years) (see Altman and Martin, 2009).

An example of an Indigenous-led enterprise development approach

The hybrid economy model is cited often in examples of alternative models of development in northern Australian contexts. The main characteristic that links these examples is that they are pursued by Indigenous people *on their terms* (e.g. Yates, 2009; Pearson and Helms, 2013; Brueckner et al., 2014; Ratten and Dana, 2015; Spencer et al., 2016, 2017). We draw on one bush product enterprise example to highlight how an ‘Indigenous way’ approach, grounded in the local world view has resulted in (1) empowerment, skills and knowledge generation (see Brueckner et al., 2014) and (2) local capacity development (e.g. business skills, inter-personal skills) (Spencer et al., 2017). We also draw on research conducted by Spencer et al. (2016) with the same Indigenous enterprise to test a framework to measure the performance of the non-profit organisation.

Nuwul Environmental Services (trading as Dundungurr Nursery prior to 2012)

Nuwul Environmental Services is a not for profit enterprise overseen by the Rirratjingu Aboriginal Corporation, in the town of Yirrkala, East Arnhem Land, NT (Brueckner et al., 2014; see also Spencer et al., 2016; 2017). It is guided by a non-indigenous ethnobotanist (invited by the community to re-establish the nursery), is community-owned and staffed by local community members. Key activities include collection, storage, propagation of native seeds and plants used for landscaping and revegetation works. It provides a platform for the community to become involved in semi-formal economic activities that also service social, cultural, environmental goals.

The enterprise is run on ‘Indigenous time’, whereby workers are provided flexibility to attend to their other cultural obligations, and eliminates the 9 to 5 work routine. The work at the nursery is also a form of cultural expression – as it is aligned to their sense of custodianship for their traditional

country. It also provides a source of income and helps staff acquire technical skills that include numeracy, literacy, project, and time management, thereby improving local opportunities for mainstream employment. The non-indigenous management of the nursery enables staff to “traverse cultural norms thereby exposing them to non-indigenous ways of working in a culturally safe place” and creates space for mutual learning (Brueckner et al., 2014:14).

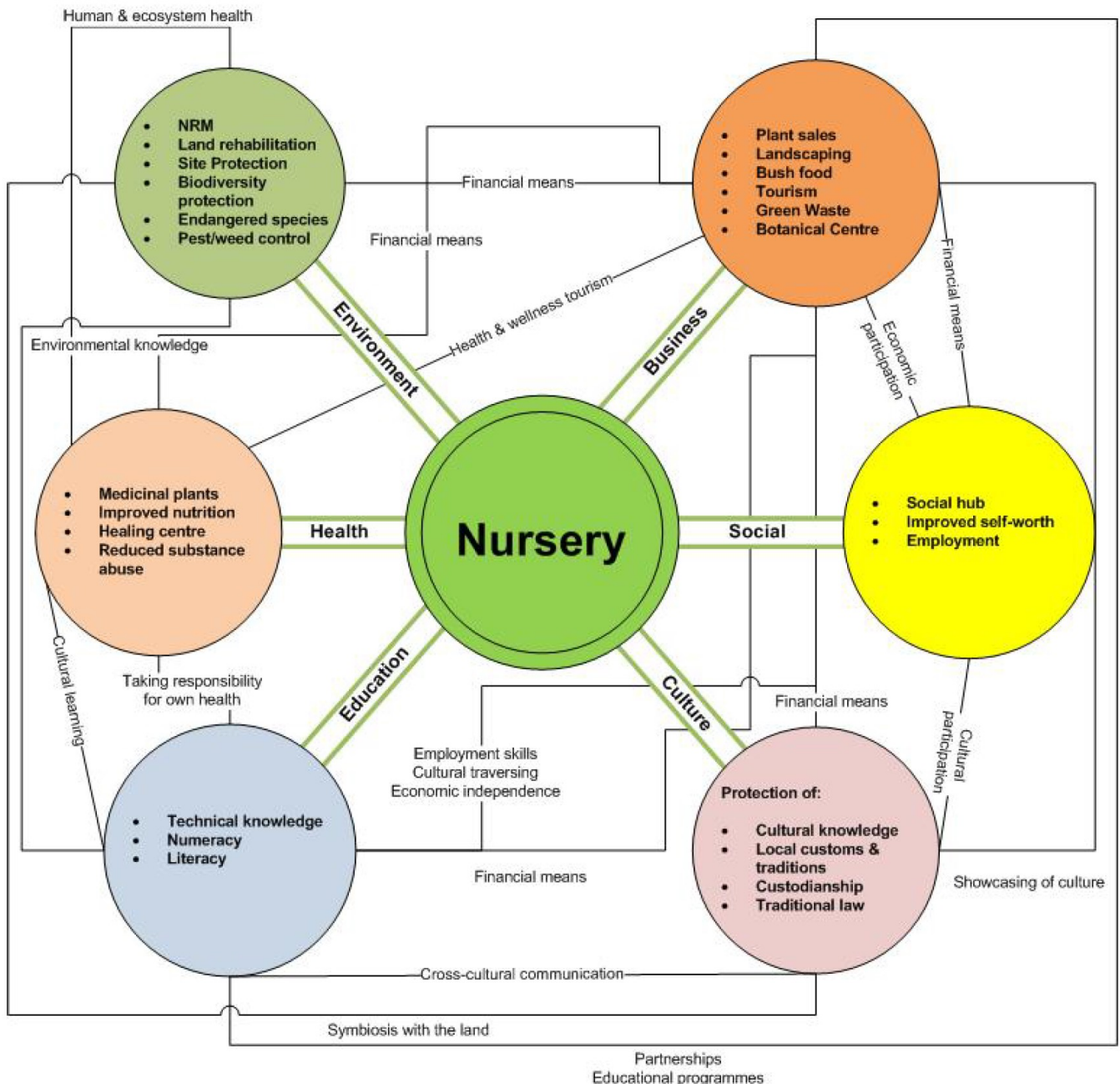


Figure 5 Nuwul Environmental Services Model from Brueckner et al., (2014:15). This model demonstrates how the enterprise is clearly located within the local hybrid economy.

Capacity development provided by Nuwul Environmental Services

Spencer et al., (2017) also worked with members of *Nuwul Environmental Services* to consider their work in relation to the previously mentioned principles of ‘capacity development’ (see Lavergne and Saxby, 2001, as cited by Spencer et al., 2017:843). They noted that these principles sit well with the notion of *Nuwul Environmental Services* as a social enterprise as it is the nexus of community and

socioeconomic wellbeing. They illustrated how Nuwul, whose work includes range of services, activities and training for the local community, was providing capacity development activities outside the economic mainstream in remote Australia. It offers a culturally safe and appropriate pathway to support “Indigenous agency and self-determination that provides avenue for economic and cultural participation” (Spencer et al., 2017:852). As such taking a ‘capacity development’ approach (rather than a purely market driven development approach) enables a hybrid economy that privileges cultural maintenance, environmental stewardship alongside economic participation, and results in co-benefits (Spencer et al., 2017).

Performance measurement: a framework to measure the performance of an Indigenous non-profit organisation

Spencer et al. (2017) draw on Lee and Nowell’s (2015) framework of the core factors associated with the performance of non-profit organisations (see Figure 6– source Lee and Nowell, 2015 as cited by Spencer et al., 2017), to develop an understanding of how the *Nuwul Environmental Services* is fairing as an Indigenous *social enterprise*. The framework reveals the complexity of measuring effectiveness of the processes and outcomes of an Indigenous-owned enterprise given the multitude of elements to consider in a sensitive cultural environment. It reveals the non-economic variables such as social and community goals; it highlights how *Nuwul Environmental Services* has effectively mobilised available resources by building strong relationships with key local stakeholders who have supported them to build their own capacity to operate as a successful bush products, and environmental care enterprise. It also showcases clever innovations to harness social capital but allow flexibility for staff to meet their cultural obligations (see also Brueckner et al., 2014). The framework demonstrates how activities have contributed to the wellbeing of beneficiaries and community-wide goals. *Nuwul Environmental Services* activities have further increased employment and training opportunities for community members, providing a lever away from the ‘sit down money’ (welfare payments) mentality, to improved levels of economic participation.

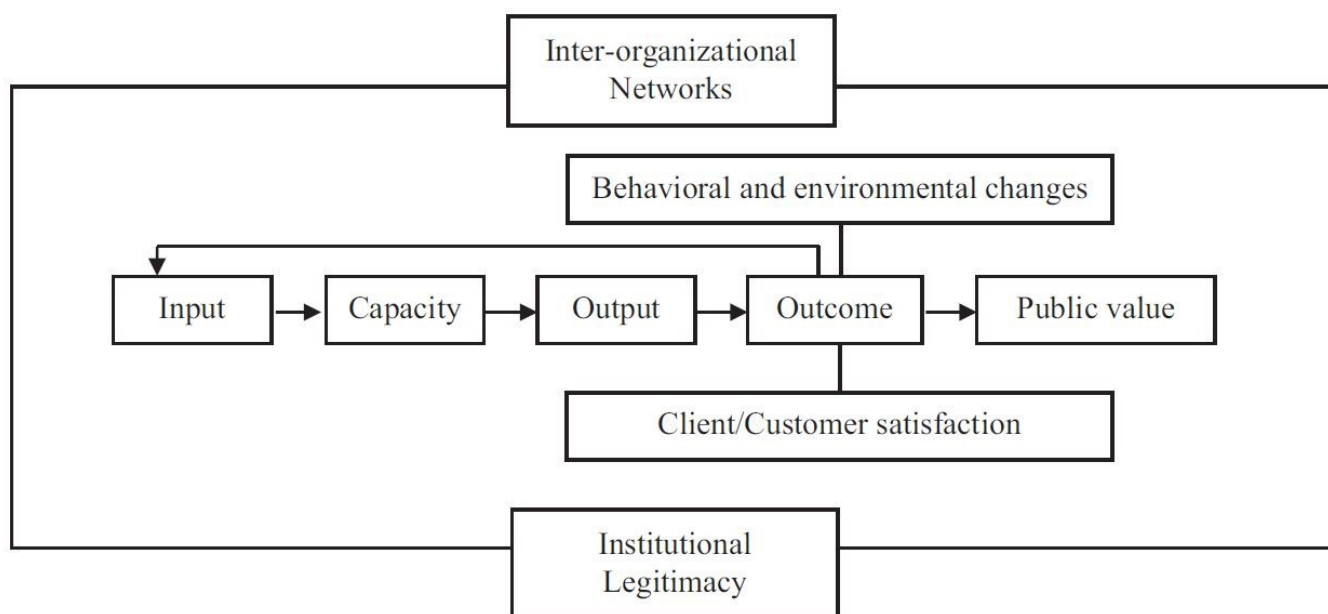


Figure 6 Lee and Nowell's (2015) framework showing the core factors associated with the performance of non-profit organisations

10.2 Business development

Several scholars advocate ways to address the challenges to maintain and develop benefit from Aboriginal people living in remote areas. They include frameworks to best support Aboriginal livelihood development to enhance the cultural and natural resource needs of Aboriginal people via profit and non-profit activities (e.g. Rea and Messner, 2008); factors that contribute to the success of Indigenous enterprises on communal lands (e.g. Nikolakis, 2008); steps to address potential challenges of market, production and commercialisation of bush product enterprises in northern Australia (Cunningham et al., 2009a); lessons learnt about network development to support Indigenous bush products enterprises (e.g. Fernando et al., 2011); and suggestions to improve and build business acumen (e.g. Flamsteed and Golding, 2005; Wallace et al., 2008). This section draws on these examples to highlight what the literature considers are ways forward to address some of the identified challenges associated with business development.

Derived categories that contribute to success for Indigenous enterprises

Earlier in the review, we highlighted some of the internal organisational challenges that Indigenous organisations and enterprises face to govern enterprises that are located on communally owned lands. These exist at the nexus of local Indigenous hybrid economies yet are positioned to develop capital by involvement in the mainstream market economy. Nikolakis (2008) identified four categories of factors that contribute toward success of Indigenous enterprises on communal lands in the Northern Territory. A summary of these are included here (see Nikolakis (2008) for more detail):

- *Separating business from community politics* whereby group cohesion is central to communal business success, and managers have the role to 'shelter' business decisions from political

interference. This is not an easy task for Managers who may sit in various commercial, social and political roles in their region.

- *Integrating culture* is important to the success and sustainability of the enterprise. This includes, for example, only adopting operational 'western values' of professionalism and reliability that are required to run a successful enterprise; and using strategies such as the use of 'job pools' whereby individuals can attend to their cultural responsibilities without ramifications (see also Breuchner et al., 2014).
- *Building Business Acumen* including development of business plans and financial statements, is important to reduce dependency on non-indigenous agents (also see Spencer et al., 2016; Bodle et al., 2018; Brueckner et al., 2018).
- *Greater Independence from Government funding* as government-led Indigenous business support programs: are constrained by red tape; are risk adverse; do not encourage innovation or adaptation to meet the challenging economic, and social conditions of the hybrid economy, and lead to frustration and low morale among Indigenous applicants.

Vocational education and training to improve business acumen

Earlier, this review highlighted that a lack of business acumen and business experience was a major challenge for Indigenous entrepreneurs and those interested in enterprise development. Any program aimed at improving the personal and commercial business acumen and financial literacy of Indigenous people should be tailored to the needs and interests of local people (see Flamsteed and Golding, 2005; Wallace et al., 2008; McRae-Williams et al., 2016; Bodle et al., 2018). Research shows that vocational education and training (VET) is most effective when learning is done *through* business (e.g. Wallace et al., 2008; Brueckner et al., 2018; Spencer et al., 2016). In particular, Indigenous businesses that are tied to earning and customised to the local context. VET should be developed parallel to real work and be able to be applied in practice through employment in commercial businesses (Flamsteed and Golding, 2005; Wallace et al., 2008).

Researchers suggested such VET must be flexible in its content and delivery to be effective (including developed in local languages, including stories of other Indigenous entrepreneurs). Such training should include both financial knowledge (literacy, numeracy and digital literacy) as well as supporting 'behavioural elements' of confidence and motivation to apply learnt knowledge (Flamsteed and Golding, 2005; Bodle et al., 2018). Importantly, Bodle et al. (2018) highlight how a focus on measures of *collective* wellbeing and how financial decision making affects *communities*, rather than the conventional financial literacy education that focus on *individual* wealth accumulation, is likely to support and enable Indigenous values and aspirations. They also highlight the important role of Elders in developing appropriate local financial reporting approaches to recognise and protect collectively held intangible (e.g. knowledge about medicinal qualities of native plants) and tangible cultural heritage 'assets'. Bodle et al. (2018) emphasised the role of Elders to define expectations of the related benefits and returns from cultural heritage, to the local community of any particular enterprise development.

Interestingly, and potentially counter to what other researchers *might* argue (e.g. Brueckner et al., 2018; Spencer et al., 2016), Flamsteed and Golding (2005) state that businesses operated primarily for social and community benefits are not ideal training grounds for Indigenous people who wish to learn how to run a commercial business. See Wallace et al. (2008) for a comprehensive overview of

practices that trainers should consider when developing and delivering enterprise training to Indigenous groups.

Nine steps to address the challenges facing viable bush product enterprise (including market, production and commercialisation)

Cunningham et al. (2009a) state that realising the potential of bush products as a natural resource based enterprise activity by Indigenous people of remote Australia requires a suite of activities from improved access to communication technologies to bushfoods certification.

Their nine steps include:

1. Improve access to communication technologies to boost capacity for enterprises to develop partnership with producers and other enterprises.
2. Involve those in the enterprise, when defining what constitutes 'success' (e.g. cultural and social benefits and/or economic benefits)? (see also Nikolakis, 2008)
3. Mentor and develop business skills, tailored for bush product enterprises, developed in partnership with industry (based on skills for success, not failure).
4. Increase reliability of bush product supply. This is important to retain the role of bush harvest in Aboriginal livelihoods and the place of bush harvest as part of Australian plant industries.
5. Develop independent (third party) certification and branding. Certification of Aboriginal involvement and Australia origin of product could play a vital role in national and export markets. This would protect the product, the knowledge related to its production, and conservation of habitat (four steps for bush food certification are also specified, p436).
6. Develop functional producer associations and deal with land tenure and resource tenure. For example, effective social controls need to be taken into account in the establishment of natural resource based enterprises (see also Smyth, et al., 2007).
7. Adapt 'people's biodiversity registers' to Australian conditions. Such registers include records of local people's knowledge about the uses, population biology and ecology of plants, how they should be managed. This has implications for commercialization, access and benefit sharing (p437).
8. Reduce risks from germ plasm exports to competitor countries.
9. Consider interim protection for incipient Aboriginal plant-based industries. This could include development of Fair Trade agreements, or interim statutory protection from competition for establishing enterprises, particularly from larger scale, intensive production by non-aboriginal producers.

Lessons learned from the West Coast Aboriginal Network (WestCAN)

The inability to create, develop and maintain networks within and across the Indigenous business sector was identified earlier in the review as a challenge for Indigenous people involved in or interested in enterprise and business development. The work of Fernando et al., (2011) reports on lessons learnt from an action research case study that aimed to understand the challenges faced by aspiring Aboriginal entrepreneurs in desert areas in relation to start-up, role of external facilitation, forming a network and impacts on individuals and the group as a whole. Lessons learnt include:

- The importance of businesses operating 'in harmony' with the desert country, the community and the lifestyle;
- The importance of businesses being supported by a network of people as this approach aligns with Aboriginal culture: group encouragement, family support, sharing ideas and labour (similar to a large corporation). In turn, members of a network need to participate and support each other for the network to be a success;
- The enterprise should be self-driven and desired by the community or individual to guarantee long-term motivation;
- To ensure business grow and longer term survival, those individuals who are involved in the development of the business should maintain ownership of the ideas and the process;
- The importance of celebrating small successes in order to build momentum;
- The use of current knowledge, including traditional knowledge, can be a source of enterprise and can also provide a comfort zone. Working under the guidance of the Elders to retain the cultural context and pass the knowledge to the young people is also important as they will be responsible for developing future enterprises;
- The ability to access opportunities to access start-up funding is important when starting a business, while the ability to earn money is important for the sustainability of the business;
- The ability to promote the business through marketing is important in growing a business. This first requires an understanding of market for your product;
- Understanding that timing plays a key role and the ability to quickly take up opportunities; and
- To be listened to and heard by key stakeholders.

In terms of obtaining external input to support enterprise development:

- A small amount of external facilitation is often all that is needed to develop a viable business (support to assist the entrepreneurs to build the confidence and co-ordination needed to initiate the business in a way that would enable them to sustain their cultural lifestyle);
- A field based co-ordinator was vital to help start up the Network, to facilitate meetings, focus group research, organise capacity building workshops, encourage feeling of empowerment;
- The TAFE provided training and confidence building;
- Funding from government agencies provided essential support for the workshops (see Fernando et al., 2011 for more details); and
- Researchers used Indigenist research methodologies.

However, in acknowledging the role of external supporting actors, it was also noted that Aboriginal groups have a suite of special techniques and resources to assist them to work through barriers, including the input of Elders; problem-solving techniques; encouragement; confidence building, and positive reinforcement).

10.3 Frameworks to support Indigenous enterprise development within existing systems of government

Section 10.1 highlighted how alternative models and conceptualisations of economic development, provide a way for Indigenous people, policy makers and practitioners to support locally derived innovation. However, there is also scope for the development of frameworks and measures to support Indigenous people, organisations and partners to develop enterprises within existing systems of government. In this section of the review we highlight two frameworks that were discovered by our literature review. The first is a framework derived by Fleming (2015) that posits key success factors that can guide policies and programs to support culture-aligned economies in remote Indigenous Australia. The second framework focusses on ways to include social, economic and cultural measures to value Indigenous knowledge, cultural heritage and cultural intellectual property (Bodle et al., 2018).

An implementation framework for critical success factors for Indigenous enterprise development

Fleming's (2015) research into the key success factors for viable community-based enterprise development (aquaculture) and Indigenous engagement resulted in a framework to highlight the critical success factors for Indigenous enterprise development. She advocates this framework as a way for existing systems and processes of governmental organisation in Australia to support culture-aligned economies in remote Indigenous Australia (see Figure 7). Importantly, this framework identifies three success factors, each having three related key determining factors. This gives a total of nine success factors that she argues can guide the design of policies and programs to support culture-aligned economies. The themes include: cultural engagement, business development and market drivers. The main determinants of each, summarised in Figure 7, include:

- Cultural engagement: determinants of Indigenous participation in business development programs
 - Effective cross-cultural communication and relationship building;
 - Effectively clarifying community aspirations and goals; and
 - Valuing both traditional and Western knowledge as an important way to engage Indigenous people in enterprise development processes.
- Business development: determinants of economic viability
 - Provision of research and development (R&D) that improves entrepreneurial opportunity, and economic viability and certainty;
 - Capacity building both of individuals employed by the enterprise and of community organisations responsible for community governance, and business planning and management;
 - Ensuring access to physical infrastructure, land tenure, and availability of adequate financial resources over realistic timeframes.
- Market driver: key elements for success
 - Identifying viable internal (community-based) and external (mainstream) markets;

- Recognising the impact of government policy on program viability and the ability of communities to focus on planning and development; and
- Deeply appreciating that cultural primacy and the goal of self-determination and economic independence are the foundations that underpin all development aspirations for Indigenous people.

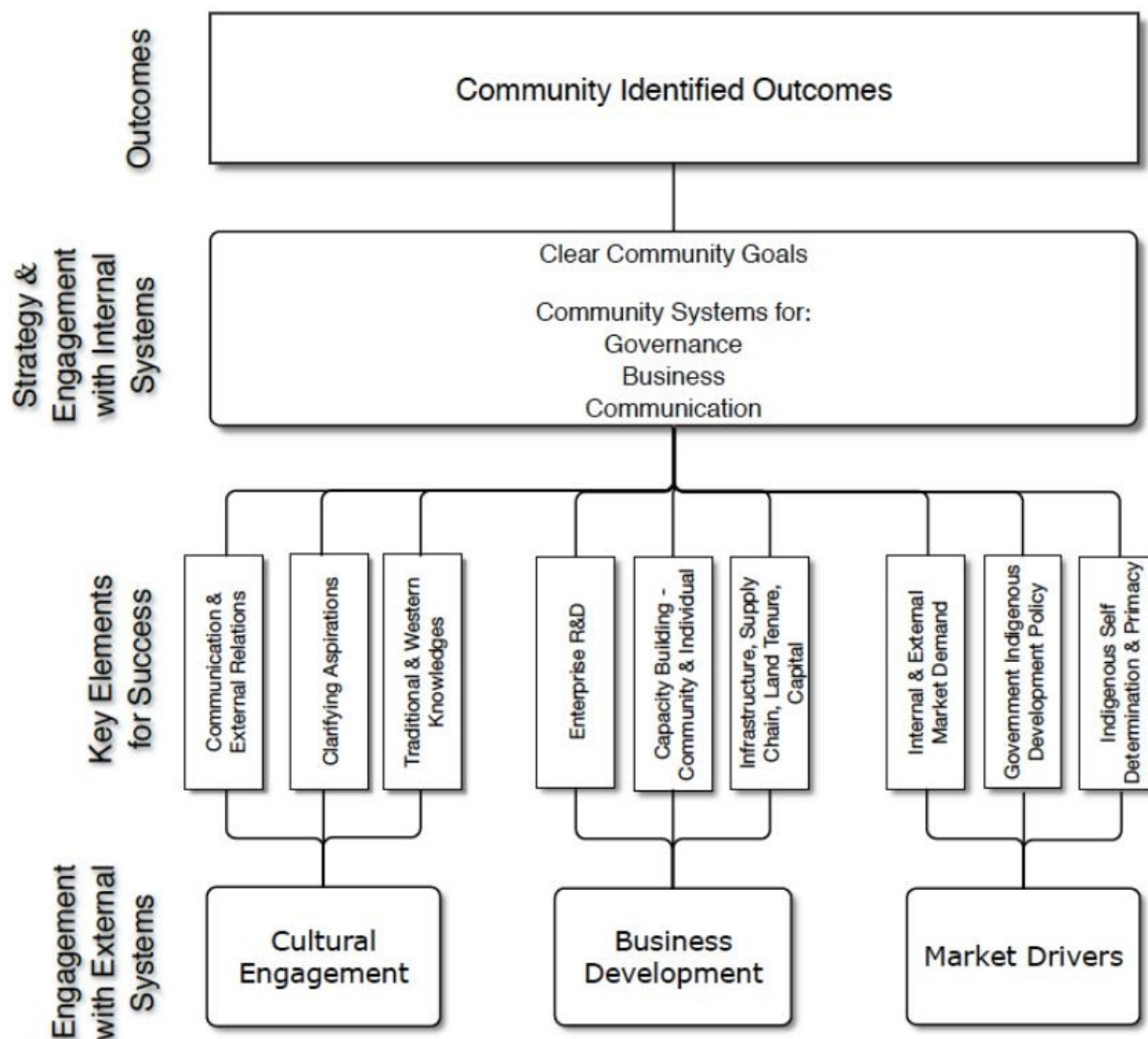


Figure 7 Fleming's (2015) implementation framework for critical success factors for Indigenous enterprise development

A framework to include social and economic measures to value Indigenous knowledge, ICH and ICIP in business contexts

Bodle et al. (2018) assert that current accounting, accountability and auditing of Indigenous enterprises and businesses fail to provide a way to value the 'intangible' Indigenous knowledge, cultural heritage and Indigenous cultural intellectual property. As such, they provide a framework to include social and economic measures into accounting frameworks to ensure that Indigenous knowledge, Indigenous cultural heritage and Indigenous cultural intellectual property are both

recognised and realised as 'assets' within business contexts (see Bodle et al., 2018, p 43-46 for more detail). They argue that the values of First Nation (Indigenous) people can be embedded in financial reporting through the following mechanisms:

- Indigenist methodological approaches (that is methodological approaches that acknowledge Indigenous knowledge and world views and, as appropriate, empower them to define, design and conduct research, analyse the research data and write up the research learnings and insights)
- Tailored financial literacy education
- A case study approach
- Recognising intangible heritage – cultural, economic, environmental and sustainability values
- The social responsibility element of corporate performance
- Environmental management accounting.

10.4 Co-research partnerships

Many Indigenous organisations and people are keen to develop partnerships with researchers as they explore options for enterprise development. Participatory and action research approaches have supported Indigenous led and/or co-developed research in natural and cultural resource management (e.g. Maclean and Cullen, 2009; Maclean and Woodward, 2013; Robinson et al., 2016; Woodward and Marrfurra, 2016). These approaches include a focus on the development of boundary objects and boundary work to facilitate problem definition, research approach and research outcomes (e.g. Maclean and Bana Yarralji Bubu Inc, 2015; Zurba et al., in press). 'Boundary objects' are items that are either created through the research process or used as a point of discussion whereby researchers work with Indigenous co-researchers to 'cross the boundary' between different world views (e.g. western research and Indigenous), and derived solutions to the identified issues. They may include photographs, art, video, written reports and so on. 'Boundary work' is the work that occurs between the researchers and co-researchers to develop the boundary object, and to 'cross the boundary' between different world views (and knowledge) to come to the possible solution. Such approaches have been extended to include a focus on enterprise development.

In this section we provide short summaries of three research projects that were conducted with Indigenous groups involved in bush products research and/or enterprise development. This includes a specific example of an Indigenous community working collaboratively with researchers to identify a potential plant-based medicinal product (see Simpson et al., 2013); the development of a framework to highlight the worldview and values ascribed to bushfoods by one Aboriginal group from central Australia (see Walsh et al., 2013); and insights drawn by Davies et al. (2008) on the relevance of the 'sustainable livelihoods approach' as a conceptual model to guide participatory and collaborative research approaches between Indigenous groups and researchers for sustainable livelihood development. These projects provide concrete examples of both research, research practice and research co-design for bush products and enterprise development research.

We also note, but do not go into detail here, the work of other researchers focused on the role of web-based marketing for Indigenous enterprise development (e.g. Cardmone et al., 2006) and using GIS to predict locations for wild harvest of bush products (Gorman et al., 2008).

Aboriginal medicinal plant research between the University of South Australia and Chuulangun Aboriginal Corporation

Simpson et al. (2013) argue that research that is initiated and driven by Indigenous Traditional Owners who themselves work as researchers in collaboration with western scientists has significant potential to develop new plant-based medicinal products with commercial value. They provide the example of research conducted by the University of South Australia and Chuulangun Aboriginal Corporation that has led to patent filing for protection of intellectual property associated with novel compounds and extras with the potential for development through cosmetic, complementary medicine and pharmaceutical routes. They note how efforts were made to protect existing and new IP via provisional patent applications in 2009 and subsequent Patent Co-operation Treaty applications led to national Phase Filing in 2012, was a landmark achievement in the history of the research as it recognised and protected the traditional knowledge involved, including acknowledgment of TOs as inventors (including a deceased focal Kuuku l'yu ancestor), and the Chuulangun Aboriginal Corporation and the University of South Australia are joint applicants of the patent (see Simpson et al., 2013 for more details). They note that in the event of a saleable product, raw material would likely be bush harvested (rather than via controlled cultivation) by appropriate people to ensure the medicine would have the proper effect (according to Indigenous governance and law) and to create employment opportunities and delivering other co-benefits. Future consideration to IP will likely relate to trade marking (see Simpson et al., 2013 for more details).

Co-research to develop the *Anpernrrentye* framework

Walsh et al. (2013 p18) worked together to develop a conceptual framework to show the many and complex values that *Arrernte* people from central Australia have for bushfood plants (see Figure 8). The *Anpernrrentye* framework provides a schematic synthesis of an *Arrernte* ecological knowledge system whereby the three major domains of an *Arrernte* worldview provide the structure: *Apmere* (country), *Tyerrtye* (people) and *Altyerre* (dreaming, creation time). Walsh et al. (2013) explain how *Merne* (bushfood plants) are placed centrally, at the hub of the framework, but the relationships between these domains could be conceptualised using other significant resources as the hub, for example bush medicine species. They highlight that this framework potentially provides for greater understanding by researchers and managers to understand and therefore engage with the *Arrernte* worldview. The application of the framework might enable a more balanced attention to the relationships that might and can exist between different knowledge systems. Although this framework is unique to *Arrernte* people, a similar conceptual tool could be developed with other Indigenous groups who are keen to work with researchers to develop research to support bush product enterprise development.

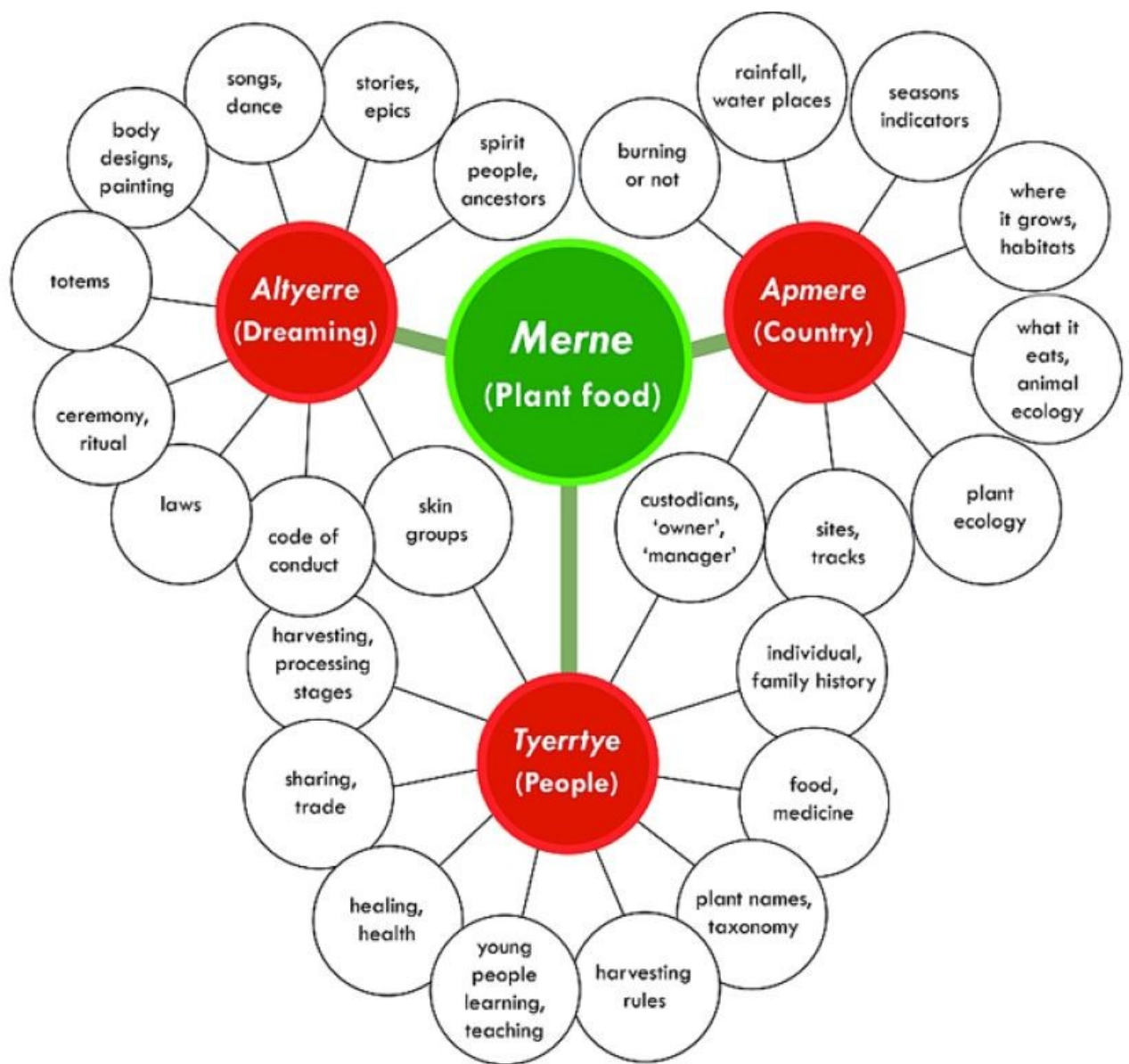


Figure 8 The Anpernrrentye Framework from Walsh et al. (2013)

Sustainable livelihoods approach to guide participatory collaborative research

Davies et al. (2008) used the sustainable livelihoods approach, widely used to guide rural development research (poverty reduction, environmental management) in developing countries (e.g. Bebbington, 1999) to illuminate opportunities for new livelihood systems in desert Australia (including bush food livelihood strategies). They found the sustainable livelihoods approach (see Figure 9 - source: Centre for Appropriate Technology, n.d. cited in Davies et al., 2008 p57) had value as a conceptual model to develop a shared understanding and engagement with participatory and collaborative research approaches between researchers, local people, and other stakeholders about vulnerabilities, assets and strategies that impact on livelihood outcomes. However, they note, it should be applied with flexibility as determined by context. For example, in the desert Australian context, 'culture' should be included as an additional class of capital asset as it is often used to generate income and other outcomes (e.g. emphasis of cultural attachment to and knowledge of bush plants in local marketing of products and services). They suggest that, used in conjunction with

other tools including institutional analysis and socio-ecological systems modelling, it has promise for supporting improved understandings of regional systems dynamics and directions for institutional change to generate more sustainable livelihoods for desert Aboriginal people.

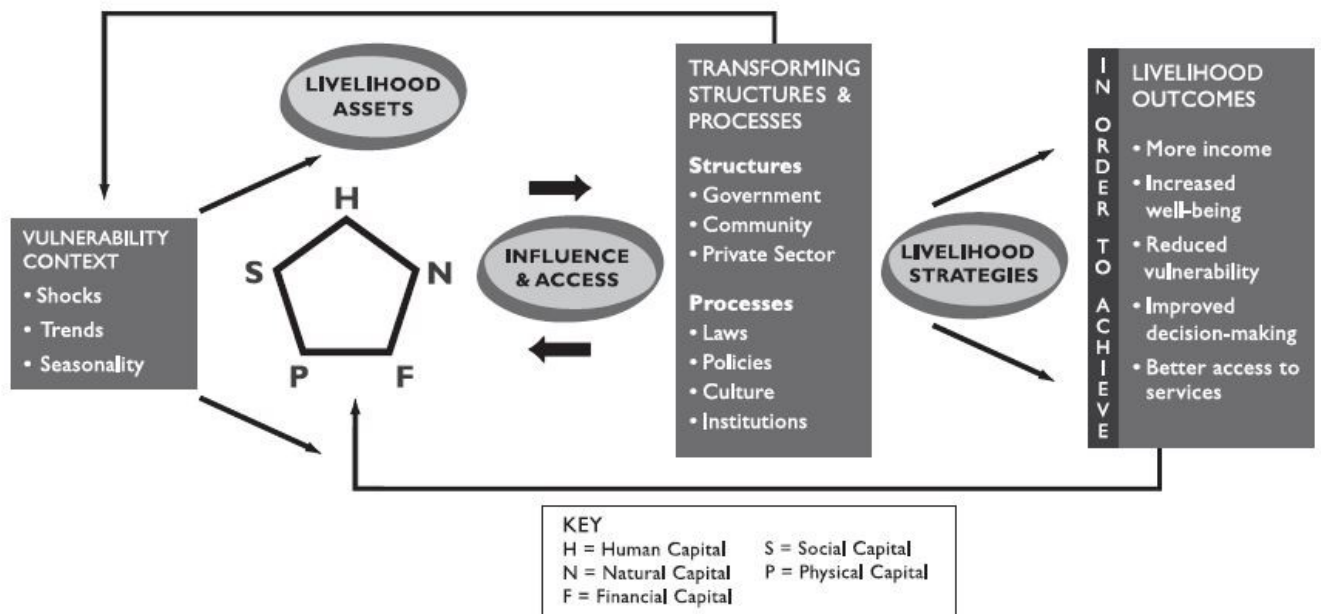


Figure 9 The Centre for Appropriate Technology's Sustainable Livelihoods Approach cited in Davies et al., 2008 p57

11 Potential future research investment to support development of the Sector

The final chapter of the review presents focus points for potential future investment in the sector. In particular, it outlines potential research investment opportunities to support the development of bush product enterprises, and other key areas of focus for investing in the development of the Indigenous-led bush products sector.

Despite growing interest in, and academic focus on Indigenous enterprise development and entrepreneurship as a distinct area of inquiry in Australia, there is great scope for further research to support development of the Traditional Owner-led bush products sector (Schaper, 2007; Foley, 2008a; Hindle and Moroz, 2010; Simpson et al., 2013; Brueckner et al., 2014). This is especially so, given that Indigenous people largely view enterprising activities as a means of overcoming economic disadvantage and social exclusion (Hindle and Moroz, 2010), and as a means of self-determination (Foley, 2003). Importantly, Foley (2008a) points out that, to date, much of the research into Indigenous entrepreneurship and enterprise development has been conducted by non-Indigenous researchers. He calls for non-Indigenous researchers to become ‘participants’ in Indigenous enterprises, rather than ‘well-meaning voyeurs’, and for more Indigenous-led and co-developed research (Foley, 2008a). As such, there is an ethical and practical imperative for researchers to support Indigenous-led and co-developed research agendas, innovation and projects (e.g. Simpson et al., 2013; Walsh et al., 2013; Brueckner et al., 2014; Maclean and Bana Yarralji Bubu Inc., 2015; Woodward and Marrfurra, 2016; Zurba et al., in press).

The reviewed literature identified some specific opportunities for the development of Indigenous bush product enterprises, utilising diverse Indigenous Ecological Knowledge regarding land and sea country. Such enterprises are likely to be successful if there is sufficient market demand for the product (Austin and Garnett, 2011) along with a strong alignment between the local culture and the activities of the enterprise (Austin and Garnett, 2011). Thurstan et al. (2018) noted that Indigenous knowledge regarding seaweed has been little researched and largely lost, but recommended that an empowered community making successful efforts to record and conserve such knowledge could inform and contribute to a future sustainable seaweed industry in Australia. Research also noted that those Indigenous peoples who have already experienced working with plants and animals, perhaps within natural resource management roles such as ranger programmes, aspire to continue working in plant and animal based industries, and thus may provide support, and a workforce, for bush product enterprises (Zander et al., 2014).

Future areas of research enquiry identified via a snapshot review of Indigenous enterprise development in the bush products sector include (but are not limited to):

- Determining the institutional and sociological impediments to Traditional Owner-led enterprise development (e.g. Nikolakis, 2008).
- Identifying appropriate support mechanisms for Indigenous ecological and cultural knowledge (including Intellectual and Cultural Property rights), and place-specific governance arrangements for the use or commercialisation of community-held/communal knowledge. Of primary concern at the national scale is the bushfood industry’s failure to satisfactorily deal with

the fundamental role of traditional Aboriginal knowledge and with opportunities for Aboriginal participants (Desert Knowledge CRC 2005).

- Greater investigation of business models for Indigenous community-based enterprise. This could usefully include a review of current opportunities and recommendations as to the most effective and efficient models for cooperative ventures between Indigenous entrepreneurs (including Aboriginal communities/Corporations) for the purposes of upscaling production; reaching markets; and/or sharing business costs (including R&D).
- Identifying alternative models of 'development' to document approaches that already exist or to consider the development of culturally appropriate approaches that can be adapted to the unique place-based circumstances. The development and delivery of place-based vocational, education and training to support knowledge and skills development appropriate to local circumstances and hybrid economies (e.g. Wallace et al., 2009).
- Identifying and evaluating the relative importance and interconnectedness of co-benefits of bush product enterprises and the Traditional Owner-led bush products sector (c.f. Maclean et al., 2018; Jarvis et al., 2018a, Jarvis et al., 2018b, Larson et al., 2019).
- Co-designing measures for success with Indigenous entrepreneurs, and identifying factors that contribute to successful enterprises, including on communal lands (e.g. Nikolakis, 2008).
- Identifying the role of 'boundary agents' (e.g. Nikolakis, 2008; Brueckner et al., 2014; Maclean and Bana Yarralji Bubu Inc. 2015) and 'boundary objects' (e.g. Zurba et al., in press) in supporting Indigenous entrepreneurship and enterprise development. Including supporting Indigenous researchers and/or organisations/enterprises to take a research leadership role in this space (e.g. Zurba et al., in press). Boundary work can involve the support and legitimization of marginalized knowledge systems and as such can be thought of as a central component of genuine co-led research. Boundary work includes methodologies to support knowledge sharing and co-creation between research partners as well as work that can translate research outcomes into on-ground action (Zurba et al., in press).
- Investigating appropriate governance arrangements to support Indigenous participation and engagement in industry decision-making processes and address current power imbalances.
- Reviewing options for the development of a certifying body or similar that could lead to premium pricing of Indigenous wild-harvested products. This may require an increase in the supply of plantation produced products. The industry could also use the wild harvesting aspect as an additional branding and marketing opportunity generally, increasing the media coverage and cost of the product for the future (Price Waterhouse Cooper, 2017).
- Seeking opportunities for the bush product sector that could result from better leveraging traditional ecological and cultural knowledge by increased use of trademarks, geographic indicators and voluntary certification schemes, and by better exploiting the opportunities offered by the Nagoya Protocol on ABS.
- Related to the previous point, revealing opportunities for certification of Indigenous bush products as sustainably sourced products, potentially partnering with organisations such as the World Wildlife Fund. This certification system could help certify that the end product was sustainably picked was part of a sustainable wild harvest, in line with Indigenous knowledge and industry best practice, potentially adopting block Chain technology to provide transparency along the value chain (Price Waterhouse Cooper, 2017).

- Research and market analysis into global markets for products that Aboriginal groups might develop and fill (e.g. botanical medicines). These are emerging markets and could be better understood. Investment is potentially risky until the necessary research has been completed (Whitehead et al., 2006). Case study research could usefully analyse one or more of the following areas, which are still relevant and outstanding twelve years after being recommended by Whitehead et al. (2006):
 1. Market analysis of current demand for botanical medicines in Asia, Europe and the US.
 2. Potential market value of a direct, demonstrable and authenticated connection of Aboriginal people with the harvest and processing of native plant products.
 3. The commercial value of Aboriginal knowledge (of long-standing customary use) of botanical medicines, foods and food additives.
 4. Regulatory requirements at the Federal and State/Territory levels, and how they can be better matched to the scale of use of bush products (and implications for sustainability).

In conclusion, there is a great diversity within the focus and scale of enterprises contributing to the emerging Traditional-Owner led bush products sector, which will expand as the sector grows. It is important to remember that these enterprises seek a range of benefits via business models that may not be deemed profitable or successful by Western standards of business efficiency, yet may meet community expectations and needs through non-economic benefits (often termed co-benefits) that are hard to evaluate in dollar terms: providing immense value in building the social and cultural capital of communities (Gorman et al. 2008).

The unique cultural knowledge held by different Indigenous groups, together with the immense opportunity associated with the use of Indigenous-owned and controlled lands, provides a unique and significant set of conditions, which with the right support, can be leveraged to contribute to commercial success (Price Waterhouse Cooper, 2018). It is critical that this sector is built with Indigenous leadership, and that the business models and range of benefits sought via engagement in the development of the Indigenous-led bush products sector are determined by the participants themselves.

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CONTACT US

t 1300 363 400

+61 3 9545 2176

e csiroenquiries@csiro.au

w www.csiro.au

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FOR FURTHER INFORMATION

Land and Water

Emma Woodward

t +61 8 9333 6255

e emma.woodward@csiro.au

w www.csiro.au/landandwater

Land and Water

Kirsten Maclean

t +61 7 3833 5746

e kirsten.maclean@csiro.au

w www.csiro.au/landandwater

CSIRO Land and Water and James Cook University

Diane Jarvis

t +61 7 4781 6023

e diane.jarvis1@jcu.edu.au

w www.csiro.au/landandwater

w www.jcu.edu.au