

A Strategic Sector Development and Research Priority Framework for the Traditional Owner-led Bush Products Sector in northern Australia

CRCNA Project AT.2.1718054: Building the Traditional Owner-led Bush Products Sector in northern Australia.

Kirsten Maclean¹, Emma Woodward¹, Diane Jarvis^{1,2}, Dwayne Rowland³, Phil Rist⁴, Gerry Turpin⁵, Phoebe Martin⁶, and Russel Glover⁷

¹CSIRO Land and Water ²James Cook University ³In-Group Investments ⁴Girringun Aboriginal Corporation
⁵Tropical Indigenous Ethnobotany Centre ⁶Kimberley Land Council ⁷Australian Native Foods and Botanicals.

Submitted 27 June 2019, Finalised 20 August 2019.



Australian Native
Food & Botanicals



Queensland Government

Citation

Maclean, K., Woodward, E., Jarvis, D., Rowland, D., Rist, P., Turpin, G., Martin, P. and Glover, R. 2019. A Strategic Sector Development and Research Priority Framework for the Traditional Owner-led Bush Products Sector in northern Australia CSIRO, Australia.

Copyright

© Commonwealth Scientific and Industrial Research Organisation 2019. To the extent permitted by law, all rights are reserved and no part of this publication covered by copyright may be reproduced or copied in any form or by any means except with the written permission of CSIRO.

Important disclaimer

CSIRO advises that the information contained in this publication comprises general statements based on scientific research. The reader is advised and needs to be aware that such information may be incomplete or unable to be used in any specific situation. No reliance or actions must therefore be made on that information without seeking prior expert professional, scientific and technical advice. To the extent permitted by law, CSIRO (including its employees and consultants) excludes all liability to any person for any consequences, including but not limited to all losses, damages, costs, expenses and any other compensation, arising directly or indirectly from using this publication (in part or in whole) and any information or material contained in it.

CSIRO is committed to providing web accessible content wherever possible. If you are having difficulties with accessing this document please contact csiroenquiries@csiro.au

Contents

Acknowledgments.....	6
1 Introduction	8
Framework derivation	9
Report structure	10
2 Priority needs and opportunities for the development of the Traditional Owner-led Bush Products Sector in northern Australia	11
3 Aboriginal Supply Chain	22
4 Sector Development Investment Plan and Research Concept.....	27
Investment Plan	27
Research Concept	27
5 References	30
Appendix A Key Findings of Scoping Study	36
Appendix B Key Findings of Literature Review	47
Appendix C Key Findings from the Workshop	61

Figures

Figure 1.1: The research approach and methods used in this project	9
Figure 3.1 One possible Aboriginal Supply Chain	23

Tables

Table 1: Investment in Indigenous Leadership for sector development	12
Table 2: Support for Indigenous business development models	13
Table 3: Strengthen and diversify supply chains	14
Table 4: Investment in Product Development	16
Table 5: Define the unique profile of the Indigenous-led Bush Products Sector	16
Table 6: Develop a 'tool kit' of pathways to protect ICIP and ensure benefit sharing when knowledge is utilised.....	18
Table 7: Pathways to support Traditional Owners to navigate legislation to be able to access bush products on their country	19
Table 8: Programs to support young Indigenous people to develop business acumen via direct involvement in enterprise development	20
Table 9: Network development for business acumen (training, mentoring and so on).	21
Table 10: Industry Strategies and Implementation Pathways.....	29

Acknowledgments

This Report outlines the major findings and recommendations from the one-year project AT.2.1718054 'Building the Traditional Owner-led Bush Products Sector' funded by the Cooperative Research Centre for Developing Northern Australia (CRCNA), the CSIRO and James Cook University. The project received critical in-kind support from James Cook University, the Kimberley Land Council, the Tropical Indigenous Ethnobotany Centre, Girringun Aboriginal Corporation, IN-Group Investments and Australian Native Foods and Botanicals, without which the project could not have proceeded.

The project team was led by an Indigenous Steering Committee with representatives from the Kimberley Land Council (Phoebe Martin), the Tropical Indigenous Ethnobotany Centre (Gerry Turpin), Girringun Aboriginal Corporation (Phil Rist) and IN-Group Investments (Dwayne Rowland). The project received additional guidance from industry and government representatives including Australian Native Foods and Botanicals (Russel Glover).

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.

We acknowledge that much of this work could not have been possible without the contribution and commitment of the twenty-four workshop participants who shared their enterprise-related experiences and insights at the northern Australia Indigenous-led Bush Products Sector workshop held in Darwin on the 26 February 2019. The following workshop participants gave their permission to be acknowledged here (in alphabetical order):

Serena Bara (Bush Medijina), Louise Beames (Environs Kimberley), Pat Channing (member of NAAKPA), Cathryn Clarke (Tully Highschool, Girringun Aboriginal Corporation), Noni Eather (Aboriginal Bush Traders, Darwin), Frances Hartley (Bush Medijina), Phoebe Martin (Kimberley Land Council), Abraham Muriata (Girringun Aboriginal Corporation), Lenny O'Meara (Kimberley Wild Gubinge), Phil Rist (Girringun Aboriginal Corporation), Dwayne Rowland (In Group Investments), Daniel Robinson (University of NSW), Nathaniel Sands (Batavia Traditional Owner Aboriginal Corporation), Mollie Sellars (Batavia Traditional Owner Aboriginal Corporation), Jacko Shovellor (Yiriman Women Bush Enterprises, Yiriman Project), Debbie Sibosado (Kimberley Land Council), Suzanne Thompson (Australian Native Food and Botanicals), Gerry Turpin (Tropical Indigenous Ethnobotany Centre, Australian Tropical Herbarium), Lorraine Williams (Larrakia Nation), Robyn Wells (Yiriman Women Bush Enterprises, Yiriman Project), Stuart Yelland (independent).

We thank Stephanie von Gavel (CSIRO), Catherine Moran (CSIRO) and Melissa Bentivoglio (Thamarrurr Development Corporation) for their insights and review comments that resulted in a much improved document.

The CRCNA acknowledges the support of our government partners.



**Queensland
Government**



Proudly sponsored by
**NORTHERN
TERRITORY
GOVERNMENT**



Department of
**Primary Industries and
Regional Development**



Australian Government
**Department of Industry,
Innovation and Science**

Business
Cooperative Research
Centres Program

1 Introduction

The Traditional Owner-led Bush Products Sector continues to grow across northern Australia. It is largely comprised of enterprises that are underpinned by a cultural ethic and which are locally embedded (Maclean et al, 2019). These enterprises include those that engage in the development and sale of products that can be broadly defined as bush foods; native plant derived industries (seed harvesting, nurseries, cut flowers); and those involved in the development of botanicals-based products (e.g. bush medicines, essential oils, health and beauty products) (Woodward et al, 2019). Each of these types of enterprises develop products from the wild harvest, cultivation and/or enrichment planting of select native plants.

As this research project has documented (see Woodward et al, 2019; Maclean et al, 2019) there is significant opportunity for investment in the development of this sector. This report constitutes the final deliverable for the CRCNA and CSIRO funded project 'Building the Traditional Owner-led Bush Products Sector' in northern Australia: The Strategic Sector Development and Research Priority Framework (including an Aboriginal supply chain, investment plan and research concept note to guide future research to support Sector growth). The Framework identifies key investment priorities and associated research requirements to support development of the Traditional Owner-led Bush Products Sector.

Research approach and methodology

The *Building the Traditional Owner-led Bush Products Sector* project was designed and conducted using a participatory action research approach. This approach supports two-way learning, knowledge, capacity and on-ground skills development and acquisition (Maclean et al, 2018; also see Zurba et al, 2018). In this project, the chosen methodology ensured the research focus was directed by the project partners to ensure maximum benefit to Indigenous Australians involved in the development of the Traditional Owner-led Bush Products Sector. The research and project management team (Maclean, Woodward, Jarvis) used collaborative approaches to support and work with the Indigenous project partners (Rowland, Turpin, Rist, Martin) and the industry advisor (Glover) to co-design the research focus, methodology and in some instances, the research conduct and write up.

The project team advocates that *any* research developed in this field use similar participatory action research approaches to ensure that the research is co-developed, co-conducted (as appropriate) and co-reported in partnership with the relevant Indigenous organisation, enterprise or representatives. Such an approach will ensure that culturally appropriate research methods are used throughout the research process, and that the research delivers impactful outcomes to benefit Indigenous people.

Important to note, and as outlined in the Project and Communications Plan (see Maclean et al., 2018), this project received clearance from the CSIRO Social Science and Human Research Ethics Committee on 29 Aug 2018. It was guided by free, prior informed consent whereby all project partners and workshop participants were informed of their rights to anonymity in the research

process and reporting, as well as their rights to withdraw at any time during the research process. Importantly, this process acknowledges that the IP brought to the research by those who choose to be involved in the research (background IP) is owned by them, and the IP generated through the research is jointly owned by all those involved.

Fig. 2.1 provides a visual representation of the research approach and methods used in this research project.

The methods used to develop the Scoping Study and Literature Review are outlined in Woodward et al, 2019. The methods used to co-design and co-conduct the Workshop are outlined in Maclean et al, 2019.

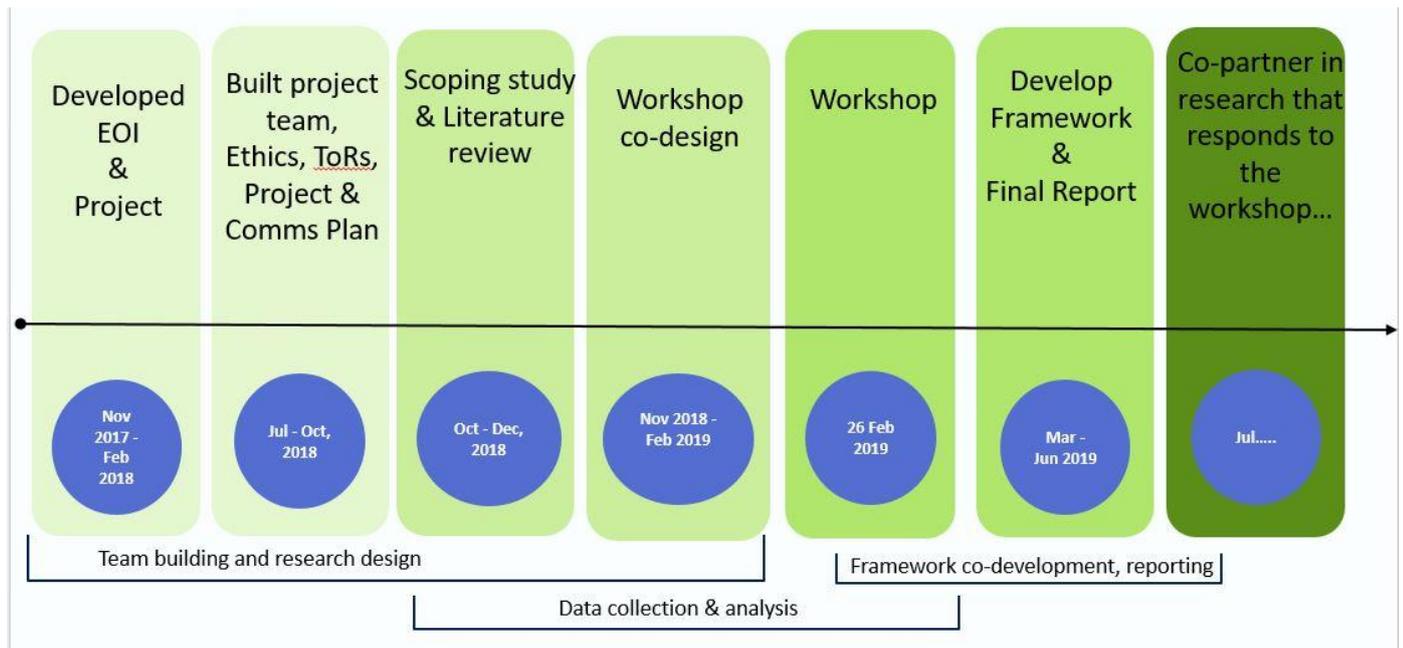


Figure 1.1: The research approach and methods used in this project

Framework derivation

The Strategic Sector Development and Research Priority Framework includes Tables 1-9 presented in Section 2 and supporting explanatory text; the Aboriginal Supply Chain presented in Section 3, an investment plan (see Table 10) and research concept note presented in Section 4.

Tables 1 to 9 and the supporting text presented in Section 2 summarise the research priorities, opportunity pathways and critical needs to support the development of the TO-led Bush Product Sector in northern Australia. This was derived from the workshop discussions (and key outcomes) that focussed on possible solutions to the challenges and barriers that were identified by all workshop participants (see Maclean et al, 2019); and the key messages from the Scoping Study and Literature Review (see Woodward et al, 2019). All project partners provided critical review and input to the development of Tables 1-9, as did three reviewers.

Important to note is the overlap between the ideas, perspectives and aspirations shared by the workshop participants, and the key lessons derived from the Scoping Study and Literature Review. The material for the Scoping Study and Literature Review was combined via critical review of 104 papers selected from a total of 278 papers (see Woodward et al, 2019 for specific details of the

critical data review process) from a systematic review of the relevant *Australian* academic, practitioner and grey literature. Although we did not set out to confirm or refute such an overlap, on reflection, this is not surprising given that the systematic review focussed only on published and grey literature from *Australia* that was easily accessible via Google Scholar, the Web of Science and provided by Project Partners, and dated from 2005. Further, many of these publications and/or websites either included Indigenous co-authors or result from relatively recent, in-depth analysis of place-based or sub-regional northern Australian Indigenous experiences and perspectives.

However, despite this overlap, it is important to highlight that this project brought together a unique combination of Indigenous leaders, entrepreneurs, organisational representatives, researchers and industry representatives interested in the development of the Traditional Owner-led Bush Products Sector, and the Framework that has been derived from this research is unique, timely and original.

The Aboriginal Supply Chain presented in Section 3 was derived from ideas shared at the workshop and the knowledge and experiences of members of the Project Team, with the introductory text drawing on some key learnings from the Literature Review. The original concept for the Supply Chain was led by Dwayne Rowland (in partnership with workshop participant Stewart Yelland) and further developed by Woodward, Maclean, Jarvis and von Gavel (the latter being a CSIRO Business Development manager who provided a review of this report).

The Investment Plan presented in Section 4 includes Table 10 and supporting text to provide the research outputs into a specific strategic investment format requested by the CRCNA (see CRCNA Style Guide, 2019). The Research Concept Note provides suggestions for how future research in this important area of work may be best supported.

Report structure

The Report is structured as follows:

Section 2 details the potential opportunities, development pathways and research needs to build the current Traditional Owner-led Bush Products Sector in northern Australia.

Section 3 presents the Aboriginal supply chain.

Section 4 concludes the report with a suggested investment plan and research concept.

Summaries of the key findings from the Scoping Study and Literature Review (see Woodward et al, 2019 for full review) are presented in Appendices A and B, and the Workshop (see Maclean et al, 2019 for full report) is presented in Appendix C.

2 Priority needs and opportunities for the development of the Traditional Owner-led Bush Products Sector in northern Australia

This section of the report outlines the 9 Research Priorities for the development of the Traditional Owner-led Bush Products Sector in northern Australia. As outlined in Section 1, these priorities were derived from the workshop discussions (and key outcomes) that focussed on possible solutions to the challenges and barriers that were identified by all workshop participants (see Maclean et al, 2019); the key messages from the Scoping Study and Literature Review (see Woodward et al, 2019), and result from critical review and input from the Project Team. Each Research priority presented below is first contextualised with a comprehensive explanation that draws on a summary of the key lessons derived from the Scoping Study and Literature Review (see Woodward et al, 2019) and the workshop (see Maclean et al, 2019); and specific detail about the potential opportunity pathway(s) and research needs for each priority is outlined in an accompanying Table (see Tables 1-9). Other than the first research priority listed here, and recognised as being the top priority for Sector development, each of the subsequent eight identified priorities are listed in no particular order.

1. Investment in Indigenous leadership for sector development

Explanation and summary

Contributions made by workshop participants and the Scoping Study and the Literature Review, each highlighted that Indigenous leadership, ownership and control of the growth and development of the Indigenous-led Bush Products Sector is the top priority for the sector.

Investment in building Indigenous leadership of the Sector might be realised through support from Australian governments, industry, research and philanthropic sectors. This includes leadership of planning and strategy for the sector; the development of bush product enterprises, including owning or sharing majority equity in enterprises; development of enterprises run by Indigenous people for Indigenous people; and ownership and capacity building in all aspects of value and supply chains. Such leadership needs to be guided by a *cultural ethic*. In this context a *cultural ethic* might relate to decision-making based on respect for: local Indigenous governance structures/arrangements; Indigenous Knowledge; and development of locally developed cultural protocols to ensure that proposed enterprises, development of bush products and adoption of related value chains are culturally and ethically appropriate. Workshop participants explained that this approach to leadership should include:

- Support for governance and decision-making by Indigenous people, aligned to a Cultural Ethic and expertise;
- Recognition of the significant role for Indigenous women leaders in sector development;
- Mechanisms for individuals and families involved in the sector to be included in policy development at a regional scale;

- Establishment of a Traditional Owner bush product network(s) across Australia (potentially at regional and national scale);
- Indigenous involvement in future research and development to support Sector growth, via project co-design and highly engaged research approaches.

Research investment options to support this key priority area are outlined in Table 1.

Table 1: Investment in Indigenous Leadership for sector development

Opportunity	Research needs
Invest in the Indigenous-led Bush Products Sector as a smart and innovative agricultural sector for the development of northern Australia.	Consideration of an appropriate government-Industry fund to support the sector to further build capacity, knowledge and expertise for the development of innovative and smart agricultural options for northern Australia.
Develop an Indigenous-led industry body to support the Sector.	Review of options and governance models for the development of an Indigenous-led regional body to support the Sector.
Invest in partnership models (potentially across sectors) that support Indigenous-led development of the Sector, including agreements that recognise and protect Indigenous Intellectual and Cultural Property and benefit sharing (e.g. employment, royalties, etc).	Review of existing partnership models between multiple sectors that support Indigenous leadership (including the active recognition of plant-related Indigenous Cultural and Intellectual Property).
Invest in and promote governance models that support Indigenous leadership.	Researchers partner with self-selected Indigenous organisations/enterprises to develop appropriate governance models that will ensure governance is informed by local and place-based cultural ethics.

2. Support for Indigenous business development models

Explanation and summary

The research highlighted the need to support business development models that are derived from alternate models and conceptualisations of economic development. Alternate models and conceptualisations of development provide a way for Indigenous people, policy makers and practitioners to support: locally derived innovation; place-based enterprise development; Traditional Owners living on Country; capitalising on cultural and environmental advantage; building on customary law, and generating and sustaining health and wellbeing of the community (cultural, social, individual, family) and of Country.

In terms of measuring impact and success of Indigenous business development models, the literature reveals a diversity of benefits beyond economic return. These include:

- Social and cultural capital benefits, e.g. improved access and links with country strengthens kinship; keeps culture strong; meaningful employment on country enables practice of ceremony, knowledge transfer;
- Political/self-determination benefits, e.g. degree of economic independence; autonomy and future choices; empowerment;

- Human capital, health and wellbeing benefits, e.g. employment opportunities and capacity development for young people; knowledge transfer between generations; improved physical, mental, emotional, spiritual health;
- Physical capital benefits, e.g. improvement/development of roads to access remote locations; equipment, tools, facilities, communications infrastructure, that may create opportunities for development of other enterprises;
- Natural capital and environmental benefits, e.g. restore country, ecology, ecosystems; conservation of biodiversity; sustainable land use based on Indigenous methods of wild harvesting); and
- Economic benefits, e.g. generation of income via profits, benefit sharing payments, and payment for raw product; job creation and wages).

Workshop participants and the Literature Review also highlighted the reality that a benefit in one area requires balancing or trading off against a loss of benefit in another area. Such trade-offs may result in tensions related to a variety of issues. Trade-offs include issues to do with:

- The generation of social and/or cultural benefits while maintaining a financially viable business;
- The fulfilment of community enterprise aspirations given potential low capacity levels of the community;
- The balancing of benefits accrued to the wider community with those accrued by those responsible of operating the business;
- The role of non-Indigenous people within an enterprise;
- The role of technology versus traditional methods;
- The potential need to scale up to ensure a sustainable supply chain and business, with a desire to stay local and maintain traditional techniques;
- Compliance with cultural and customary laws about certain plant species versus enterprise development;
- Communally held IP and the potential of co-benefits of using that IP being accrued by some but not all.

Research investment options to support this key priority area are outlined in Table 2.

Table 2: Support for Indigenous business development models

Opportunity:	Research needs
<p>Development of business models that:</p> <p>... suit local innovation of diverse enterprises at different stages of development.</p> <p>...provide support for locally-derived innovation.</p> <p>... build on customary law to strengthen local communities and protect local environments</p>	<p>Review of how different and/or alternative business development models define ‘success’ and the extent to which the identified ‘co-benefits’ are included in monitoring and evaluation reporting for relevant businesses. This might include a comparative review of existing Indigenous bush product business development models in Australia and other countries with First Nation Peoples (e.g. New Zealand, Canada, USA, Sweden etc.)</p> <p>Design of business development models to suit specific place-based enterprises at different stages of development; including integration of co-benefits as key to enterprise success.</p> <p>Comparative research to understand the co-benefits and trade-</p>

<p>... capitalise on the cultural and environmental advantage (rather than disadvantage) of Indigenous communities.</p> <p>... that aim to generate social, cultural, political, human, health and wellbeing, and economic benefits and outcomes.</p>	<p>offs derived from the Indigenous-led Bush Products Sector and the non-indigenous-led Bush Products Sector.</p> <p>Research to understand the benefits and trade-offs of a hybrid Bush Products Sector (i.e. including both Indigenous-led and non-indigenous led enterprises/business as part of the same sector).</p> <p>Develop measures of 'enterprise success' for Indigenous business models that seek multiple co-benefits including health and wellbeing.</p>
---	---

3. Strengthen and diversify supply chains

Explanation and summary

Workshop participants and the Scoping Study highlighted that the supply chains of interest to those involved in the Indigenous-led Bush Products Sector are largely different from standard (economic-driven) business value and supply-chains. In particular, workshop participants discussed an *Indigenous cultural ethic* as being essential to ensure proposed enterprises, bush products and related value and supply chains are culturally and ethically appropriate (also see Priority 1 above).

Workshop participants reflected how some people, either active or interested in becoming active in the Sector, wish to be involved in all stages of enterprise supply chains. There was discussion about how they could derive benefit and add value in doing so. They highlighted that different organisations and groups may have different drivers for this approach including maintaining control of the product quality; ensuring cultural ethics are accounted for at each stage of the supply chain, and maximising benefit to the community, for example through employment and skills development, and optimising social/cultural benefits.

Participants further highlighted the importance of Indigenous people being employed across all aspects of a supply chain, including at the growth, harvesting, processing, buying and selling stages. However they also stated that some Indigenous groups may be happy to supply only the raw product to an Indigenous or non-indigenous buyer, including potentially licencing the rights to harvest product to other (Indigenous or non-Indigenous) parties.

Within this context, challenges related to the growth/harvest and development of bush products, given weather variability, remoteness and challenges of getting product to market and variable market demand, were discussed. Workshop participants further identified resilience strategies for enterprises including building stocks of key ingredients, and developing a network of customers and markets rather than being dependant on a single key buyer.

Research investment options to support this key priority area are outlined in Table 3.

Table 3: Strengthen and diversify supply chains

Opportunity	Research needs
<p>Government and Industry support for the development of new and diverse supply chains.</p>	<p>Investigate the role of Government and Industry to support the development of new non-domestic supply chains including, for example, negotiating technical market access protocols and undertaking export certification services to ensure Australian</p>

	commodities meet importing country requirements (these kinds of activities are currently undertaken by the Department of Agriculture and Water Resources).
<p>Develop and strengthen unique supply chains to suit local innovation of diverse enterprises at different stages of enterprise development.</p>	<p>Comparative review of existing supply chains including those developed by Indigenous bush product enterprises, and/or in partnership with non-indigenous bush product enterprises. What value do Indigenous enterprises provide and derive from each stage of the supply chain?</p> <p>Review of supply chain models (e.g. sole entity; country to consumer; partnership approach; co-operatives; Indigenous-owned; Indigenous and non-indigenous owned) in Australia and other countries with First Nation Peoples.</p> <p>Review of existing strategies used by Indigenous enterprises to cope with issues to do with remoteness, variation in the supply of raw products and variable market demand.</p> <p>Identification of opportunities to incorporate components of bush products into other supply chains (e.g. as botanicals, essences, oils).</p> <p>Value chain analysis: what options are identified by value chain actors to improve organisational capacity; innovation; take advantage of new market opportunities?</p>

4. Investment in Product Development

Explanation and summary

The Scoping Study reported a range of native species that have been preliminarily explored for their economic development, within the context of opportunities for Indigenous entrepreneurs to develop new plant-derived enterprises. It was revealed at the workshop that there is great diversity in the motivations of Indigenous entrepreneurs to engage in bush products development, and this extends to the choice of species that individuals want to explore for future development opportunities. For example, some participants highlighted that the strong cultural connection and value of some species precluded their use in product development, while other discussed the importance of having the right people (senior Traditional Owners) involved in making decisions about which plants species were culturally safe to engage with.

Workshop participants discussed the need for product development support including:

- The need to understand local, national and potentially international market demand;
- Processes to support market creation;
- Opportunity mapping and feasibility studies for potential products, and
- Chemical analysis to identify active compounds, which requires access to resources to pay for laboratory time and specialist expertise.

Research investment options to support this key priority area are outlined in Table 4.

Table 4: Investment in Product Development

Opportunity	Research needs
A government funded industry body to support Indigenous groups and enterprises with bush product development.	
Product development models and marketing strategies.	<p>Co-investigate potential Australian native plant materials for Bush Products targeted by Traditional Owner-led enterprises:</p> <ul style="list-style-type: none"> • Chemical analysis to identify active compounds, and nutritional assessments of specific species. • Feasibility studies into potential product development of species and active compounds. <p>Market analysis of different potential products:</p> <ul style="list-style-type: none"> • Identification of the market gaps, opportunities; • Identification of different markets for different products – domestic and international - who is going to purchase and at what price? • How to create demand for a new product? • What are the limitations, barriers, opportunities?

5. Define the unique profile of the Indigenous-led Bush Products Sector

Explanation and summary

There are significant unique opportunities in the defining and marketing of the Indigenous-led Bush Products Sector. There are many drivers of this opportunity including consumers seeking green and organic products whose supply chain can be traced to determine if the product adheres to socially and environmentally aware practices.

In creating a marketable umbrella brand the Indigenous-led Bush Products Sector has many strengths to draw from including an Indigenous Knowledge system grounded in extensive ecological and cultural knowledge; a strong narrative based on Indigenous sustainable practice that is attuned to cultural ethics and socially-inclusive practice, and the ability to demonstrate provenance and a clear path from bush to table.

Research investment options to support this key priority area are outlined in Table 5.

Table 5: Define the unique profile of the Indigenous-led Bush Products Sector

Opportunity	Research needs
Develop (and recognise) alternative product development models and marketing strategies.	<p>Determine marketing strategies most appropriate for different markets (local, domestic, international). E.g. how important is provenance (the story behind the product), organic products etc., in different markets?</p> <p>Determine savvy marketing opportunities for promoting/building awareness and engagement within the sector.</p> <p>Market research to identify ideas for appropriate packaging: identifying what packaging works for different markets; what customers/markets respond to different packaging. The same product might meet the needs and</p>

	<p>expectations of different markets with different packaging, marketing, through different market chains.</p> <p>Enterprise-specific research into the different options for Point of Sale (who is selling your product); appropriate contracts and agreements for sale and distribution.</p>
<p>Reveal opportunities for defining (and maintaining) the sectors competitive edge via market analysis and research.</p>	<p>Determine the main competitors, and strengths and weaknesses in relation to them.</p> <p>How to build a competitive edge through (defining and) branding the sector (organic; sustainable; socially-aware; ethical)?</p> <p>What is the competitive edge over non-Indigenous bush products? E.g. pursuing unique native plants, the way the products are marketed, or targeting niche markets?</p> <p>Investigate opportunities for certification of Indigenous-led bush products to maintain sector strength and premium branding.</p>

6. Develop a ‘took kit’ of pathways to protect Indigenous Cultural and Intellectual Property and ensure benefits are shared when knowledge is utilised

Explanation and summary

Workshop participants strongly identified with the need to protect Indigenous Cultural and Intellectual Property (ICIP) as a key challenge in the development of the Indigenous Bush Products Sector. The Literature Review also highlighted consistent reports of Indigenous people holding concerns for the public release of their ICIP.

Further, Indigenous knowledge holders wish to share in the benefits when their knowledge is utilised, whether by Indigenous or non-Indigenous owned enterprises. Options exist within both the intellectual property (IP) legislation and within international agreements, including through the Nagoya Protocol on Access and Benefit Sharing (ABS) (Adhikari and Lawson, 2018), however the best process to go about ensuring protection of traditional knowledge and ABS arrangements is neither clear nor straight-forward nor well-embedded within the Australian legislative system (Robinson, Raven and Hunter, 2018).

Questions and issues raised by workshop participants included:

- How do we capture and maintain traditional knowledge?
- How do we navigate IP/patent laws?
- Can working with western science help protect traditional knowledge?
- Can traditional knowledge be commercialised without losing control or adversely affecting culture – how to avoid ‘selling out’?
- How do we balance protecting traditional knowledge against the risk that the knowledge could be lost if it is not shared and used?
- The need for an easy to navigate/plain English set of fact sheets, pointing to relevant legislation, key resources, and contacts, was identified by workshop participants as an important enabler in

accessing information and options for the protection of ICIP in the development of bush-products related enterprises.

Research investment options to support this key priority area are outlined in Table 6.

Table 6: Develop a 'tool kit' of pathways to protect ICIP and ensure benefit sharing when knowledge is utilised

Opportunity	Research needs
<p>Develop a plain English toolkit to guide people in decision-making around Access and Benefit Sharing (as per the Nagoya Protocol) and Indigenous Cultural and Intellectual and Property (ICIP) Rights considerations.</p>	<p>Review of challenges, solutions and options developed by existing Indigenous bush product enterprises.</p> <p>Consideration of what would be included in the toolkit.</p> <p>Develop a guiding framework for ABS and knowledge protection.</p> <p>Develop templates, best practice guidelines and factsheets for Indigenous communities who wish to establish and/or expand bush product enterprises, or to conduct research activities into potential new bush products.</p>
<p>Develop an independent third party and non-political body to hold IP, Trademarks and related legal documents in Trust on behalf of multiple Traditional Owner groups.</p>	<p>Consider whether it would be appropriate to develop an independent third party and non-political body that can hold in trust IP, Trademarks etc. Would this be a potential opportunity to manage ICIP that belongs to more than one Traditional Owner group?</p>

7. Pathways to support Traditional Owners to navigate legislation and access bush products resources on their Country

Explanation and summary

Workshop participants highlighted how a lack of security over land tenure, including the right or authority to use their country as they choose, was a significant challenge for groups whose native title has not been recognised. 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. Participants also spoke about competing land uses interests (including mining and pastoralism) that continue to restrict the kind of activities they can carry out on Country, irrespective of whether native title has been determined.

Within this context, participants spoke about the challenges they face in dealing with government including a perception that government doesn't listen to the solutions they present to them. Challenges included those related to legislative requirements to obtain permits and approvals prior to accessing land and/or wild harvesting the resources from that land (including in national parks and heritage areas), and issues related to what they described as disconnected legislation and government policies (see Robinson, Raven and Hunter, 2018).

The Literature Review revealed two frameworks that support Indigenous enterprise development within existing systems of government including an implementation framework to guide policies and programs to support culture-aligned economies in remote Australia. However, the Review did

not reveal research on pathways to support Indigenous people to navigate legislation to enable them to have access and use bush product resources on their Country.

Research investment options to support this key priority area are outlined in Table 7.

Table 7: Pathways to support Traditional Owners to navigate legislation to be able to access bush products on their country

Opportunity	Research needs
<p>Facilitate access to relevant text within complex legislative, regulatory, and policy documents and frameworks which currently informs Indigenous access to, and use of, native species for enterprise development.</p>	<p>Create a State/Territory focussed plain English toolbox of relevant land tenure and regulatory frameworks to guide enterprise development decision making.</p>
<p>Change current legislation and regulation that prevents Indigenous engagement in bush-products based enterprises based on land tenure and access to Country.</p>	<p>Assess current legislation and regulation that hinders Indigenous-led development of bush products enterprises, and identify options to inform policy changes.</p>

8. Programs to support young Indigenous people to develop business acumen and be involved in enterprise development

Explanation and summary

Workshop participants emphasised the central importance of involving young Indigenous people in place-based enterprise development. This was articulated as important for two main reasons. First, young Indigenous people are the future community leaders and thus it is important to provide opportunities for them to grow as individuals and as contributing community members. Second, as there is often limited employment and career development pathways for young people in communities, their involvement in enterprise development (bush products related and other enterprises) could be an avenue to build employment opportunities via the creation of meaningful jobs in the community. Active involvement in bush products enterprises can also provide a positive alternative for young people who may otherwise move to urban areas to seek opportunities, or remain within the community where lack of opportunity presents social and welfare risks. Further, young people may develop a sense of pride, feel empowered, gain health and wellbeing benefits and political/self-determination benefits by being involved in enterprises based on the knowledge and experience of their Elders and community and which deliver products to markets at local, regional, national and international scales. The Literature Review revealed that, in comparison to young non-indigenous Australians, young Indigenous people are confronted by a variety of socio-economic challenges including limited:

- Access to appropriate education opportunities;
- Access to technical knowledge and skills to do with enterprise development (market economy, business acumen, knowledge of how to access and use government funding opportunities);
- Knowledge about the importance of business networks, and/or lack of expertise needed to create and maintain such networks, and
- Opportunities to obtain work experience, and reduced employment options.

The Literature Review also highlighted that vocational education and training is most effective when the learning is done through an actual business or enterprise.

Research investment options to support this key priority area are outlined in Table 8.

Table 8: Programs to support young Indigenous people to develop business acumen via direct involvement in enterprise development

Opportunity	Research needs
<p>Provision of appropriate vocational training and education for Indigenous youth to obtain skills necessary for enterprise development (e.g. business acumen, network development, how to find government funding opportunities, how to respond to funding opportunities, knowledge about ‘market, production, commercialisation’).</p>	<p>Review of existing vocational education and training (business acumen, entrepreneurial skill development, etc.) packages already developed for Indigenous communities. Successes? Challenges? Lessons learnt?</p> <p>Develop training packages to match the self-identified training needs of specific Indigenous communities.</p> <p>Consider the reach and influence of enterprise role models to support others with entrepreneurial flare. Develop ideas for improving visibility and maximising impact of successful entrepreneurs, to build motivation and self-belief in young people.</p> <p>Develop primary and secondary school curriculum to include focus on real time business development, strengthening and encouraging entrepreneurial skills and supporting the development of young entrepreneurs.</p>

9. Network development to develop business acumen via training, mentoring and advice appropriate for different stages of enterprise development

Explanation and summary

Workshop participants highlighted that a main challenge to the development of place-based Indigenous enterprises is the lack of knowledge in Indigenous communities of how to seek the right expert advice to guide enterprise development. Further, it was identified that there was inadequate knowledge about how to build and establish networks, how to develop appropriate and supportive partnerships and how to access appropriate training. Participants identified that although there were different needs at different stages of enterprise development, there was always a need for training, mentoring and business development advice. Such mentoring and advice might include but not be limited to information about:

- Government, industry and philanthropic business development opportunities;
- Principles for success;
- Managing an enterprise without compromising cultural ethics and community needs;
- Finding and/or creating a niche market;
- Promoting Indigenous-led sector products;
- Locating information about (potential) competitors;
- The potential sustainability of a product (supply and demand);

- Rules, processes and protocols to protect IP within such networks (although it is important to share knowledge with others, it is also important to be mindful of just how much to share), and
- Determining the sustainability of both product supply and demand when identifying opportunities:
 - Is it a worthwhile opportunity now?
 - Will young people want to continue the opportunity on in the future?
 - Will customers wish to buy the product into the future?

The Literature Review also identified that some business development challenges relate directly to limited access to adequate business development support to match the different stage of enterprise development. This includes the need for access to advice at all stages of development, particularly in remote regions, as well as access to business networks, role models and mentors. This point relates closely to one made above in relation to development of business acumen including knowledge of how to build, consolidate business networks and the value of such networks for enterprise creation and success.

Research investment options to support this key priority area are outlined in Table 9.

Table 9: Network development for business acumen (training, mentoring and so on).

Opportunity	Research needs
<p>Develop a network or a series of networks or bodies between Indigenous bush product enterprises, industry bodies, government representatives, business development mentors and others for training, mentoring and advice at different stages of enterprise development.</p>	<p>Review existing networks and identify key lessons learnt, what worked and what didn't.</p> <p>Review the Australia Government Indigenous Business Sector Strategy Roadmap to determine if the planned action of: Indigenous Business Hubs, Project Specific Support Hubs and Indigenous Entrepreneurs Capital Scheme, will deliver on the specific challenges posed by workshop participants in regards to obtaining support for the developing of Indigenous-led bush products enterprises. Identify what additional support may be required.</p> <p>Identification of the information needs of Indigenous groups at different stages of enterprise development.</p> <p>Consider the processes needed to support, enable, build and consolidate business support networks.</p> <p>Consider the focus for specific networks (geographic location, plants/products, stage of enterprise development and so on).</p>

3 Aboriginal Supply Chain

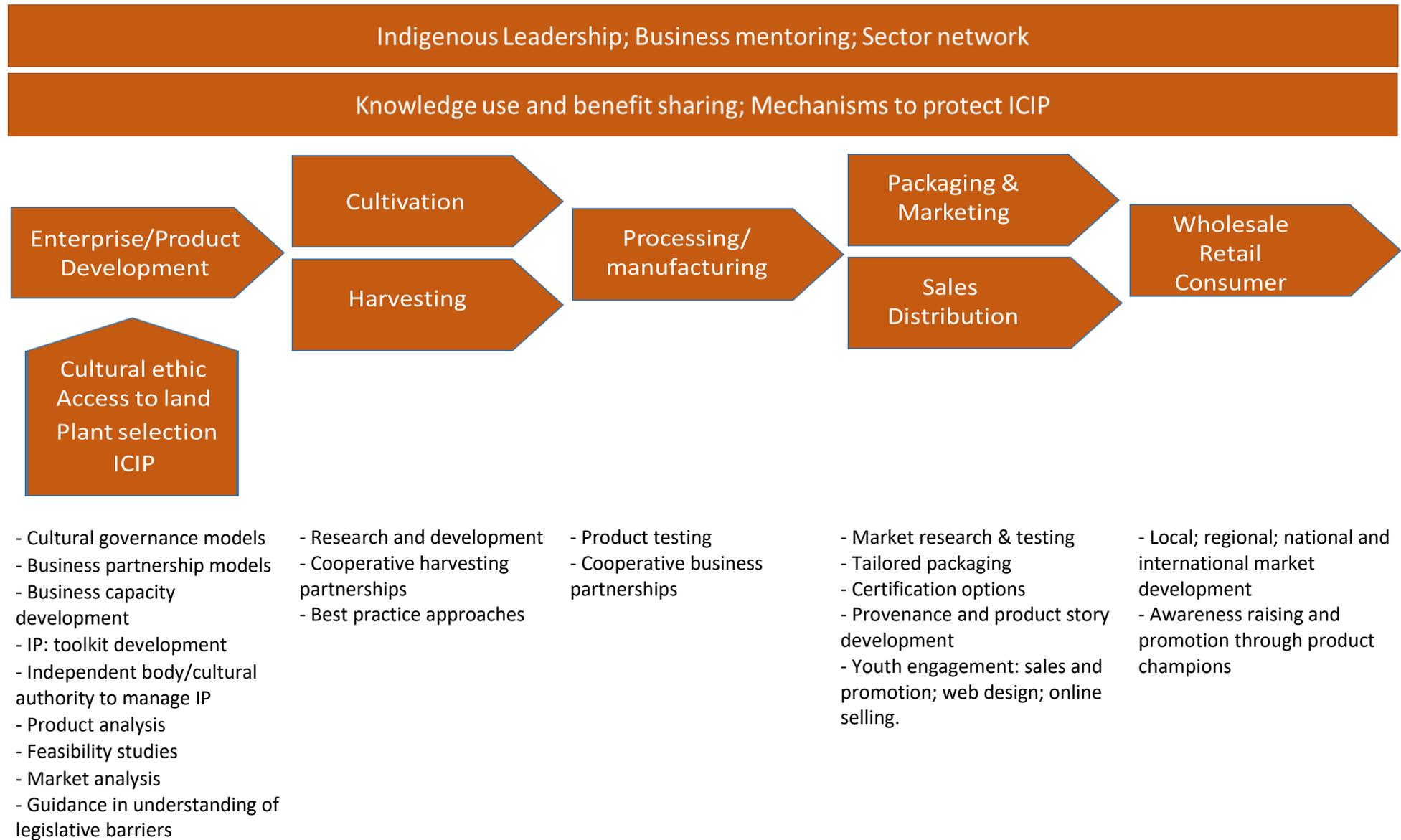
The Aboriginal Supply Chain presented in this Section was derived from ideas shared at the workshop, the knowledge and experiences of members of the Project Team and learnings from the Scoping Study and Literature Review. The original concept for the Supply Chain was led by Dwayne Rowland (in partnership with workshop participant Steward Yelland) and further developed by Woodward, Maclean, Jarvis and von Gavel (the latter being a CSIRO Business Development manager who provided review of this report).

First, it is important to note that there is unlikely to be an 'ideal' model that best meets the needs of all Indigenous organisations or enterprises in all instances. The diversity of goals and objectives of Indigenous people and Indigenous entities requires that the specific Indigenous people involved should select the appropriate model to best fit their particular objectives. That is, each community should have the opportunity to choose for themselves rather than having the choice imposed on them by others (Holcombe et al., 2011), ensuring the economic development is empowering and facilitates freedom (Sen, 1999; Addison et al, 2019). This issue is discussed further within the Literature Review, and was explored within the workshop, where the workshop participants discussed their diverse range of Indigenous business development interests. It is important to note not all Indigenous groups are interested in being involved in all stages of a supply chain.

Examples of diverse interests expressed at the workshop include:

- Enterprises focused on one stage of the supply chain, e.g. interested in harvesting product which would then be sold to Indigenous and/or non-Indigenous enterprises, who in turn process and create a product for market;
- Enterprises interested in being involved at several stages within a locally based supply chain, e.g. engaging in a family-owned and run approach to business development whereby harvesting, processing and product development is conducted and managed within a specific region, and
- Other enterprises investigating how their enterprise might fit within an Indigenous owned supply chain aimed at creating products for national and international export.

Figure 3.1 One possible Aboriginal Supply Chain



Building on discussions at the Workshop, Figure 3.1 shows a model that links together the research priorities with an Aboriginal owned supply chain whereby one or more Aboriginal organisations/enterprises cooperates on delivering at different stages of the supply chain. This model incorporates all stages of the supply chain: identifying enterprises opportunities; progressing research and development; engaging in growing, cultivating and point of harvest at one or more locations; processing of raw product; manufacture and production of final products; designing and producing packaging; marketing and distribution; and point of sale (local, regional, national, international). This supply chain could occur within: a specific geographic region; span various geographic regions; extend across the nation, or even extend internationally. As each step along the chain may involve the same and/or different Indigenous enterprises/organisations, with each step adding value, participants at each stage receive benefit in recognition of the value that they have added to the product. Such a model could offer a range of direct and indirect benefits to the Indigenous communities involved.

The aim of this supply chain model is to maximise Indigenous leadership, employment and business outcomes at each phase of the chain. Such a model would accord with the wishes expressed by some participants at the workshop seeking:

- Wider distribution of Traditional Owner-led bush products both within communities and across Australia;
- Establishment of a strong regional organisation that supports each community/enterprise to be steady and develop their own products;
- Diverse products on the market involving Indigenous actors at various parts of the supply chain, including management, and
- A well-established network between Traditional Owners across the country to grow the Sector into something profound.

This Aboriginal supply chain could also offer significant opportunities for Indigenous people to capture benefits along the length of the chain. The key factor influencing a choice between owning or controlling the whole supply chain (scenario 1) versus owning and/or controlling one or more parts of the whole chain (scenario 2) might depend on the specific aims/goals of the communities involved.

Advantages of owning/controlling the whole supply chain (scenario 1) versus one or more parts of the chain (scenario 2) may include:

- Reduced potential for issues relating to the exchange and use of Indigenous Knowledge; a consequence of one community retaining control over the chain is that they also retain control over their ICIP;
- With scenario 2 there may be a requirement to develop protocols to ensure the protection of Indigenous Knowledge held by each of the different Indigenous organisations involved, ensuring that benefits derived from the use of ICIP flow to the appropriate communities, and appropriate people within those communities. Knowledge sharing can be problematic within and between Indigenous communities, as well as between Indigenous and non-Indigenous communities;
- Possible increased potential for use of geographical or cultural labels/indicators on bush products as part of the branding and marketing of the bush product, to provide clear

identification of specific community/clan/language group involvement in development of the product. Scenario 2 may also offer potential for the use of such indicators, provided the product can be strongly linked to one Indigenous group or location/region. Such certification systems can stimulate product demand by enabling consumers to confidently purchase product on the basis of genuine benefit to Indigenous participants and regional authenticity (Cleary et al., 2008; Lingard, 2016); growing demand can improve the returns to all participants along the chain. Example of the successful cultural branding/marketing to sell products include products made from Gubinge/Kakadu Plum (Cleary et al., 2009; Cunningham et al., 2009a).

Both scenarios offer opportunities to generate an extensive range of economic and social co-benefits for Indigenous peoples, stretching far wider than the immediate supply chain (Cleary, 2012), as revealed in the Literature Review and Scoping Study. In addition to the health, wellbeing, social and cultural benefits that can arise from developing the Indigenous Bush Products Sector in a number of forms, this model would particularly stimulate economic co-benefits for Indigenous people, and for both Indigenous and non-Indigenous peoples within regional Australia and across Australia as a whole. Such benefits include:

- a positive impact on regional economic growth – by facilitating economic activities within remote and regional Australia such enterprises create a ‘multiplier effect’ that fosters further economic development and wealth creation for all (Jarvis et al., 2018a).
- a positive contribution towards the Federal governments ‘closing the gap’ initiative – by facilitating greater Indigenous involvement in economic activity throughout the supply/value chain, the model should contribute towards growth within Indigenous incomes that can help close the gap in incomes between Indigenous and non-Indigenous households (Jarvis et al., 2018a).
- a positive impact on the development of further Indigenous owned enterprises, both within the Bush Products Sector itself and across the economy more widely - Indigenous businesses use other Indigenous businesses within their supply chain, invest back into their communities, and contribute to developing human and social capital; these factors can trigger endogenous self-sustaining growth within the Indigenous enterprise sector (Jarvis et al., 2018b).

Both scenarios accord well with the objectives and solutions identified by workshop participants; the development of such models in practice would assist communities to meet their identified goals and objectives.

A further supply chain scenario is one where Indigenous organisations/enterprises provide the raw product to buyers who may be a sole non-indigenous entity, or partnered with an Indigenous entity, who in turn provide the processed product to another sole non-indigenous entity, or partnered with an Indigenous entity along the chain. This supply chain scenario provides a good comparison to the other two scenarios. It is the option currently used by some Indigenous organisations/collectors, who supply raw product to buyers and have no control over how the product is processed, packaged, marketed or to whom the final product is sold. Indigenous people have little involvement in the supply chain beyond the initial collection of wild produce (Davies et al., 2008), and thus this model can result in a bush food value chain that is dominated by non-Indigenous people who may have limited knowledge of the values inherent in bush foods for Indigenous people (Yates, 2009; Merne Altyerre-ipenhe (Food from the Creation time) Reference Group et al., 2011), and thus give insufficient regard to these important cultural connections.

One example of such a supply chain model is that supported by the Coles Indigenous Food Fund, which focuses on establishing and supporting Indigenous growers to develop an economically sustainable supply of native bush food ingredients, which become part of a range of mainly non-Indigenous produced products (such as the Outback Spirit range), that are then stocked by Coles.

Although this is the approach chosen by some Indigenous organisations/collectors, in this model opportunity and potential value is lost to the Indigenous communities at each stage of the supply chain (e.g. skills development, employment, control over provenance story, how the product is treated including its use, and financial gains).

Further, such supply chains will face a range of cross-cultural challenges and opportunities in attempting to integrate the differing world views, associated values and languages of the Indigenous and non-Indigenous communities (e.g. Venn, 2007; Davies et al., 2008; Yates, 2009). For example, the successful weaving together of Indigenous and western knowledge, using a two way knowledge exchange process, can bring benefits to Indigenous and non-Indigenous people involved along the chain. However, such knowledge exchange can also be highly problematic for Indigenous peoples unless issues relating to ICIP rights, and benefit sharing, are appropriately dealt with at all stages along the chain, perhaps by negotiating and adopting appropriate protocols (such as those that have been recommended and developed by a range of research projects (for example, Merne Altyerre-ipenhe (Food from the Creation time) Reference Group et al., 2011). A further risk that may arise with a mixed supply chain is that production advances and increases in scale may result in a largely mechanised horticulture industry dominated by commercial farmers, reducing opportunities for Indigenous wild harvesters within the production process (Holcombe et al., 2011; Merne Altyerre-ipenhe (Food from the Creation time) Reference Group et al., 2011; Yates, 2009), and decreasing the usage of traditional techniques (Logue et al., 2018; Yates, 2009). Over time such developments could squeeze traditional Indigenous organisations from the supply chain.

4 Sector Development Investment Plan and Research Concept

Investment Plan

Regarding future investment to support the strategic growth of the Indigenous-led Bush Products Sector in northern Australia, we recommend:

- Investment to address the Sector development and research priorities identified in this research and outlined in this Report; and
- Investment in case studies as both the means for Indigenous leadership and co-development of research to support the Sector, and as an avenue to test the practicality of the suggested ideas, solutions and recommendations in the real world.

We use Table 10 (below) to present the suggested future investments recommendations (in summarised form) to the CRCNA and others involved in supporting the Traditional-owner led Bush Products Sector to flourish.

Research Concept

This research concept provides avenues to provide research to support future sector-led growth to support place-based and relatively nascent Tradition Owner-led Bush Products enterprise development including strengthening market access capabilities.

Sector development priorities

Key priorities to support Sector development, as outlined in detail in Section 2 (see also Tables 1-9), are:

- Investment in Indigenous leadership for sector development
- Support for Indigenous business development models
- Strengthening and diversifying supply chains
- Investment in product development
- Defining the unique profile of the Indigenous-led Bush Products Sector
- Development of 'took kit' of pathways to protect ICIP and ensure benefits are shared when knowledge is utilised
- Pathways to support TOs to navigate legislation to access options to use bush products resources on their traditional country
- Programs to support young Indigenous people to develop business acumen and be involved in enterprise development
- Network development to develop business acumen via training, mentoring and advice appropriate for different stages of enterprise development

Research needs

As detailed in Section 2 each of these priority areas includes suggested opportunity development pathways with specific identified research needs (see Tables 1-9). These research needs are too many to cover in detail in this research concept note, however we can make suggestions for approaches that meet the specific research priority needs of Indigenous leaders involved with the Bush Products Sector in northern Australia.

Participatory action research methodologies

Future research should be developed in partnership with Indigenous leaders with a focus on their specific research priorities and use similar approaches to ensure the research delivers maximum benefits including solutions to the Indigenous partners and, by association, the sector as a whole.

Case study approach

Future research in this space could usefully be conducted via case studies developed with Indigenous organisations and enterprises keen for research support to further develop their bush products enterprise. As per a previous EOI developed by this project team and shared with the CRCNA, a case study approach would ideally investigate how project partners' needs and interests play out at the local place-based scale. Potential solutions could be developed at this case study scale for each of the project partners. Scalable lessons and insights to support growth and development of the Traditional Owner-led Bush Products Sector could be drawn from a set of detailed case studies.

Potential research partners

Most individuals involved in this research project, both as project partners and as workshop participants, indicated they would be interested in partnering in future research designed to meet their specific needs and priorities. Such partnerships would need to ensure they were designed to support Indigenous-led and co-developed research approaches, including engagement with research funding models that fully support participation of Indigenous partners.

Potential partners *may* include but are not limited to: CSIRO, JCU, TIEC, In-Group Investments, KLC, ANFAB, Girringun Aboriginal Corporation, UNSW, Kimberley Wild Gubinge, Bush Medijina, Environs Kimberley (who currently support the sector through the Kimberley Community Seedbank and related work – see Environs Kimberley, 2019), Aboriginal Bush Traders, and Yiriman Women Bush Enterprises (part of the Yiriman Project).

Table 10: Industry Strategies and Implementation Pathways¹

Key (research) priority actions for sector development²	Potential investors	Intended industry impacts
Investment in Indigenous leadership for sector development	DAWR;; PM&C; DoEE; Indigenous Business Australia; Relevant departments within Governments of Western Australia, Northern Territory and Queensland.	<ul style="list-style-type: none"> Improved capabilities and wellbeing of the Northern Australian Indigenous community. Traditional Owners and Indigenous people empowered with knowledge and support networks to engage in bush products enterprises. Create opportunities for the development of new enterprises and greater engagement with investors.
Support for Indigenous business development models	Indigenous Business Australia; PM&C	<ul style="list-style-type: none"> Increased Gross Domestic Product (GDP) in Northern Australia.
Strengthen and diversify supply chains	PM&C; Dept of Industry, Innovation & Science; DFAT; Supply Nation; Relevant departments within Governments of Western Australia, Northern Territory and Queensland.	<ul style="list-style-type: none"> Existing and new Indigenous-led enterprise(s) are engaging with supply chains (domestic and international). Increased Gross Domestic Product (GDP) in Northern Australia. Improved (supply chain) efficiencies in Northern Australia. Improved capabilities and wellbeing of the Northern Australian Indigenous community.
Investment in product development	PM&C; Indigenous Business Australia	<ul style="list-style-type: none"> Improved capabilities and wellbeing of the Northern Australian Indigenous community.
Define unique profile of the TO -led Bush Products Sector	PM&C; Indigenous Business Australia	<ul style="list-style-type: none"> Increased Gross Domestic Product (GDP) in Northern Australia.
Develop Tool-kit of pathways to protect ICIP and ensure benefit sharing	DoEE; PM&C; Relevant departments within Governments of Western Australia, Northern Territory and Queensland.	<ul style="list-style-type: none"> Improved capabilities and wellbeing of the Northern Australian Indigenous community. Traditional Owners and Indigenous people empowered with knowledge and support networks to engage in bush products enterprises.
Support Traditional Owners to navigate legislation and access bush product resource on their Country	PM&C; DoEE; Indigenous Business Australia; Relevant departments within Governments of Western Australia, Northern Territory and Queensland.	<ul style="list-style-type: none"> Improved capabilities and wellbeing of the Northern Australian Indigenous community. Traditional Owners and Indigenous people empowered with knowledge and support networks to engage in bush products enterprises.
Programs to support young Indigenous people to develop business acumen via enterprise development	Indigenous Business Australia; PM&C; Department of Education & Training Relevant departments within Governments of Western Australia, Northern Territory, and Queensland.	<ul style="list-style-type: none"> Improved capabilities and wellbeing of the Northern Australian Indigenous community. Traditional Owners and Indigenous people empowered with knowledge and support networks to engage in bush products enterprises.
Network development to support Indigenous people to build business acumen.	PM&C; Indigenous Business Australia.	<ul style="list-style-type: none"> Support future development of sustainable, healthy and prosperous Indigenous communities.

¹ We have adapted this from table 4.3, CRCNA Style Guide June 2019 p 16. As our project was not a situational analysis, we have not provided information on 'action owner and key partners' nor specific or agreed 'pathways to implementation and timeline'. Rather, we use this table, as requested by the CRCNA, to outline potential investors for each of the 'key priority actions' (the 9 research priority areas) with a note on potential/intended industry impacts.

² Please see Chapter 2 and tables 1-9 for more details of each key (research) priority action area for sector development as determined by this 1 year scoping project.

5 References

- Addison, J., Stoeckl, N., Larson, S., Jarvis, D., Bidan Aboriginal Corporation RNTBC, Bunuba Dawangarri Aboriginal Corporation RNTBC.
- Adhikari, K., and Lawson, C. (Eds.) 2018. Biodiversity, Genetic Resources and Intellectual Property: Developments in Access and Benefit Sharing. Routledge, New York.
- Altman, J.C. 2001. *Exploring sustainable development options on Aboriginal land: the hybrid economy in the twenty-first century*. CAEPR Discussion Paper no. 226 (Centre for Aboriginal Economic Policy Research, The Australian National University: Canberra).
- Armstrong, R, J Morrison, and P Yu. 2005. Indigenous land and sea management and sustainable business development in northern Australia, North Australian Indigenous Land and Sea Management Alliance (NAILSMA)
- Austin, B.J., and Garnett, S.T., 2011. Indigenous wildlife enterprise: Mustering swamp buffalo (*Bubalus bubalis*) in Northern Australia. *Journal of Enterprising Communities*, 5, 309-323.
- Australian Government, 2015. *Our North, Our Future: White paper on developing northern Australia*. Canberra.
- Banerjee, S., and Tedmanson, D. 2010. Grass burning under our feet: Indigenous enterprise development in a political economy of whiteness. *Management Learning* 41(2):147-165.
- Barber, M., and Jackson, S., 2017. Identifying and categorizing co-benefits in state-supported Australian indigenous environmental management programs: international research implications. *Ecology and Society*, 22: 11.
- Bodle, K., Brimble, M., Weaven, S., Frazer, L., and Blue, L., 2018. Critical success factors in managing sustainable indigenous businesses in Australia. *Pacific Accounting Review*, 30, 35-51.
- Brueckner, M., R. Spencer, G. Wise, and B. Marika. 2014. Indigenous entrepreneurship: Closing the gap on local terms. *Journal of Australian Indigenous issues* 17(2):2-24.
- Bryceson, K.P., 2008b. Value chain analysis of bush tomato and wattle seed products, Desert Knowledge CRC, Alice Springs.
- Cleary, J., 2012. Business exchanges in the Australian Desert: It's about more than the money. *Journal of Rural and Community Development*, 7, 1-15.
- Collier, N., Austin, B.J., Bradshaw, C.J.A., and McMahon, C.R., 2011. Turning Pests into Profits: Introduced Buffalo Provide Multiple Benefits to Indigenous People of Northern Australia. *Human Ecology*, 39, 155-164.
- Commonwealth of Australia. (2017). Consultation paper: *Indigenous Business Sector Strategy Supercharging Indigenous Business Start-up and Growth*. Department of Prime Minister and Cabinet, Canberra.
- Corey, B., Webb, G.J.W., Manolis, S.C., Fordham, A., Austin, B.J., Fukuda, Y., Nicholls, D., and Saalfeld, K., 2018. Commercial harvests of saltwater crocodile *Crocodylus porosus* eggs by

- Indigenous people in northern Australia: lessons for long-term viability and management. *Oryx*, 52, 697-708.
- Cunningham, A.B., Garnett, S., Gorman, J., Courtenay, K., and Boehme, D., 2009a. Eco-Enterprises and *Terminalia ferdinandiana*: "Best Laid Plans" and Australian Policy Lessons. *Economic Botany*, 63, 16-28.
- Cunningham, A.B., Garnett, S.T., and Gorman, J., 2009b. Policy lessons from practice: Australian bush products for commercial markets. *GeoJournal*, 74, 429-440.
- Davies, J., White, J., Wright, A., Maru, Y., and LaFlamme, M., 2008. Applying the sustainable livelihoods approach in Australian desert Aboriginal development. *The Rangeland Journal*, 30, 55-65.
- Davis, M., Holcombe, S., and Janke, T., 2009. Maintain & Strengthen your Culture: Handbook for Working with Indigenous Ecological Knowledge and Intellectual Property: A Report Commissioned by the Natural Resources Management Board (NT) Component 2 (of 3).
- Drahos, P., 2011: When cosmology meets property: indigenous people's innovation and intellectual property. *Prometheus*, 29, 233-252.
- Environs Kimberley. 2019. Building a Kimberley Community Seedbank, accessed from https://www.environskimberley.org.au/seedbank_project, 20/08/19
- Esparon, M. (2019). The ability of community based natural resource management to contribute to development as freedom and the role of access. *World Development*.
- Evans, L., Cheers, B., Fernando, D., Gibbs, J., Miller, P., Muir, K., Ridley, P., Scott, H., Singleton, G., Sparrow, S., and Briscoe, J., 2010. Plants for people: case study. Alice Springs, DKCRC
- Fernando, D., Wyld, F., Gibbs, J., & Rola-Rubzen, M. F. (2011). Networking for Critical Mass: The West Coast Aboriginal Network (WestCAN) Case Study.
- Flamsteed, K., and Golding, B., 2005. Learning through Indigenous Business: The Role of Vocational Education and Training in Indigenous Enterprise and Community Development. National Centre for Vocational Education Research (NCVER)
- Fleming, A.E., 2015. Improving Business Investment Confidence in Culture-Aligned Indigenous Economies in Remote Australian Communities: A Business Support Framework to Better Inform Government Programs. *International Indigenous Policy Journal*, 6, 5.
- Fleming, A.E., Petheram, L., and Stacey, N. 2015. Australian indigenous women's seafood harvesting practices and prospects for integrating aquaculture. *Journal of Enterprising Communities: People and Places in the Global Economy*, 9, 156-181
- Foley, D. 2003. An examination of Indigenous Australian entrepreneurs. *Journal of Developmental Entrepreneurship*, 8(2), 133.
- Foley, D. 2006. Does business success make you any less Indigenous? In Unpublished, Swinburne University of Technology. Retrieved from http://www.swinburne.edu.au/lib/ir/onlineconferences/agse2006/foley_p241.Pdf
- Foley, D. 2008a. Indigenous (Australian) entrepreneurship? *International Journal of Business and Globalisation* 2(4):419-436.
- Frederick, H. H., & Foley, D. (2006). Indigenous populations as disadvantaged entrepreneurs in Australia and New Zealand. *International Indigenous Journal of Entrepreneurship, Advancement, Strategy and Education*, 2(2), 34.

- Fuller, D., Howard, M. and Cummings, E. 2002. Indigenous Micro-enterprise Development in Northern Australia - Implications for Economic and Social Policy. *Journal of Economic and Social Policy* 7 (2): Article 2.
- Garnett, S.T., Sithole, B., Whitehead, P.J., Burgess, C.P., Johnston, F.H., and Lea, T., 2009. Healthy Country, Healthy People: Policy Implications of Links between Indigenous Human Health and Environmental Condition in Tropical Australia. *Australian Journal of Public Administration*, 68, 53-66.
- Gill, N., 2005. Aboriginal Pastoralism, Social Embeddedness, and Cultural Continuity in Central Australia. *Society & Natural Resources*, 18, 699-714.
- Gorman, J.T., Griffiths, A.D., and Whitehead, P.J., 2006. An Analysis of the Use of Plant Products for Commerce in Remote Aboriginal Communities of Northern Australia. *Economic Botany*, 60, 362-373.
- Greiber, T., Moreno, S.P., Åhrén, M., Carrasco, J.N., Kamau, E.C., Medaglia, J.C., Oliva, M.J., Perron Welch, F., Ali, N., and Williams, C., 2012. An Explanatory Guide to the Nagoya Protocol on Access and Benefit-sharing. IUCN, Gland, Switzerland.
- Higgins, J., 2011. Cochrane handbook for systematic reviews of interventions. Version 5.1. , The Cochrane Collaboration.
- Hindle, K. and Moroz, P. 2010. Indigenous entrepreneurship as a research field: Developing a definitional framework from the emerging canon. *International Land Management Journal* 6(4):357-385,doi: 10.1007/s11365-0090111-x.
- Holcombe, S., Yates, P., and Walsh, F., 2011. Reinforcing alternative economies: Self-motivated work by central Anmatyerr people to sell Katyerr (Desert raisin, Bush tomato) in central Australia. *Rangeland Journal*, 33, 255-265.
- Janke, T., 2018. From smokebush to spinifex: Towards recognition of Indigenous knowledge in the commercialisation of plants. *International Journal of Rural Law and Policy*.
- Janke, T., and Sentina, M., 2018. Indigenous Knowledge: Issues for Protection and Management. IP Australia, Commonwealth of Australia.
- Jarvis, D., Stoeckl, N., Addison, J., Larson, S., Hill, R., Pert, P., and Lui, F.W., 2018a. Are Indigenous land and sea management programs a pathway to Indigenous economic independence? *The Rangeland Journal*, 40, 415-429.
- Jarvis, D., Stoeckl, N., Hill, R., and Pert, P., 2018b. Indigenous Land And Sea Management Programmes: Can They Promote Regional Development And Help 'Close The (Income) Gap'? *Australian Journal of Social Issues*.
- Larson, S., Stoeckl, N., Jarvis, D., Addison, J., Prior, S., and Esparon, M., 2019. Using measures of wellbeing for impact evaluation: proof of concept developed with an Indigenous community undertaking land management programs in northern Australia. *Ambio*. 48(1):89-98.
- Lee, L.S., 2012. Horticultural development of bush food plants and rights of Indigenous people as traditional custodians - the Australian Bush Tomato (*Solanum centrale*) example: A review. *Rangeland Journal*, 34, 359-373.
- Lee, L.S., and Courtenay, K., 2016. Enrichment plantings as a means of enhanced bush food and bush medicine plant production in remote arid regions - a review and status report. *Learning Communities-International Journal of Learning in Social Contexts*, 64-75.

- Lingard, K., 2016. The potential of current legal structures to support Aboriginal and Torres Strait Islander interests in the Australian bush food industry. *International Journal of Sustainable Development & World Ecology*, 23, 174-185.
- Lingard, K., and Martin, P., 2016. Strategies to Support the Interests of Aboriginal and Torres Strait Islander Peoples in the Commercial Development of Gourmet Bush Food Products. *International Journal of Cultural Property*, 23, 33-70.
- Lingard, K., and Perry, M., 2018. An assessment of the regulatory framework of the Western Australian sandalwood industry. *Australian Forestry*, 81, 89-101.
- Logue, D., Pitsis, A., Pearce, S., and Chelliah, J., 2018. Social enterprise to social value chain: Indigenous entrepreneurship transforming the native food industry in Australia. *Journal of Management & Organization*, 24, 312-328.
- Lovell, J., Guenther, J. and Zoellner, D., 2015. Now you see it; now you don't. Looking for the 'remote advantage' in the development of Northern Australia. In, pp.41-63.
- Maclean, K., and Bana Yarralji Bubu Inc. 2015. Crossing cultural boundaries: Integrating Indigenous water knowledge into water governance through co-research in the Queensland Wet Tropics, Australia. *Geoforum* 59(0):142-152.
- Maclean, K., Robinson, C.J., and Costello, O., 2018. A national framework to report on the benefits of Indigenous cultural fire management, CSIRO, Australia
- Maclean, K., Woodward, E., Jarvis, D., Rowland, D., Rist, P., Turpin, G., Martin, P., Glover, R., 2018 Action co-research project plan: Building the Traditional Owner-led Bush Products Sector, Report to the Co-operative Research Centre for developing northern Australia.
- Maclean, K., Woodward, E., Jarvis, D., Martin, P., Rist, P., Rowland, D., Turpin, G., Martin, P. Rist, P. Bara, S., Beames, L., Channing, P., Clarke, C., Eather, N., Hartley, F., Muriata, A., O'Meara, L., Robinson, D., Sands, N., Sellars, M., Shovellor, J., Sibosado, D., Thompson, S., Williams, L., Wells, R. and Yelland S., 2019. Building the Traditional Owner-led Bush Products Sector: Workshop report. CSIRO, Australia.
- McDonald, J.K., Caffin, N.A., Sommano, S., and Cocksedge, R., 2006: The effects of post-harvest handling on selected native food plants In Rural Industries and Research and Development Corporation (Ed) Canberra, Rural Industries Research and Development Corporation.
- McRae-Williams, E., and Guenther, J. 2014. *Learning pathways for economic enterprise in remote Aboriginal communities: are Certificate IIIs the ticket*. Paper read at 17th AVETRA International Conference: Informing changes in VET policy and practice: The central role of research, Surfers Paradise.
- Merne Altyerre-ipenhe (Food from the Creation time) Reference Group, Douglas, J., and Walsh, F., 2011. *Aboriginal people, bush foods knowledge and products from central Australia: Ethical guidelines for commercial bush food research, industry and enterprises*. DKCRC Report 71. Ninti One Limited, Alice Springs.
- Morse, J., and Janke, T., 2010. Know your rights to your Aboriginal plant knowledge: A guide for Aboriginal knowledge holders on recording and commercialising Aboriginal plant knowledge prepared for Aboriginal Bush Traders.
- Nikolakis, William Daniel. 2008. Determinants of success among Indigenous enterprise in the Northern Territory of Australia, University of South Australia Adelaide.

- Pearson, Cecil AL, and Klaus Helms. 2013. Indigenous social entrepreneurship: The Gumatj clan enterprise in east Arnhem Land. *The Journal of Entrepreneurship* 22(1):43-70.
- Rea, N. and Messner, J. 2008. Constructing Aboriginal NRM livelihoods: Anmatyerr employment in water management. *The Rangeland Journal* 30(1):85-93.
- Robinson, D., and Raven, M., 2017. Identifying and Preventing Biopiracy in Australia: patent landscapes and legal geographies for plants with Indigenous Australian uses. *Australian Geographer*, 48, 311-331.
- Robinson, D., Raven, M., and Hunter, J., 2018. The limits of ABS laws: why Gumbi Gumbi and other bush foods and medicines needs specific Indigenous knowledge protections. In Adhikari, K. & Lawson, C. (eds) *Biodiversity, Genetic Resources and Intellectual Property*. Routledge, New York.
- Schaper, Michael. 2007. Aboriginal and Torres Strait Islander entrepreneurship in Australia: looking forward, looking back. In *International Handbook of Research on Indigenous Entrepreneurship*, eds. Leo Paul Dana and Robert B. Anderson. Cheltenham, UK, Northampton, MA, USA: Edward Elgar Publishing.
- Sen, A., 1999. *Development as freedom*, Oxford University Press, Oxford; New York.
- Shoebridge, A., Buultjens, J., & Peterson, L. S. 2012. Indigenous entrepreneurship in northern NSW, Australia. *Journal of Developmental Entrepreneurship*, 17(03), 1250017.
- Simpson, B., Claudie, D., and Smith, N., 2013. Learning from both sides: experiences and opportunities in the investigation of Austrrlaia Aboriginal medicinal plants. *Journal of Pharmacy and Pharmaceutical Sciences*, 16.
- Spencer, R., Brueckner, M. Wise, G. and Marika, B. 2016. Australian Indigenous social enterprise: measuring performance. *Journal of Enterprising Communities: People and Places in the Global Economy* 10(4):397-424.
- Spencer, R., Brueckner, M., Wise, G., and Marika, B., 2017. Capacity development and Indigenous social enterprise: The case of the Rirratjingu Clan in northeast Arnhem Land. *Journal of Management & Organization*, 23, 839-856.
- Tedmanson, D., and Guerin, P., 2011. Enterprising Social Wellbeing: Social Entrepreneurial and Strengths Based Approaches to Mental Health and Wellbeing in "Remote" Indigenous Community Contexts. *Australasian Psychiatry*, 19, S30-S33.
- Venn, T.J. 2007. Economic implications of inalienable and communal native title: The case of Wik forestry in Australia. *Ecological Economics* 64(1):131-142.
- Wallace, R. M., Manado, M. Agar, R. and Curry, C. 2009. Working from our strengths: Indigenous community engagement through enterprise development and training. *Learning Communities: International Journal of Learning in Social Contexts*, (December):104-122.
- Walsh, F., and Douglas, J., 2011. No bush foods without people: The essential human dimension to the sustainability of trade in native plant products from desert Australia. *Rangeland Journal*, 33, 395-416.
- Walsh, Fiona J., Perrurle V. Dobson, and Josie C. Douglas. 2013. Anpernrrentye: A Framework for Enhanced Application of Indigenous Ecological Knowledge in Natural Resource Management. *Ecology and Society* 18(3):18, doi: 10.5751/ES-05501-180318.

- White, J., 2012. Indigenous Peoples' Livelihoods and Emerging Bush Produce Industries – Recent Experiences from Australia's Arid Zone. Unpublished PhD by Research, Centre for Rural Health and Community Development and School of Psychology, Social Work and Social Policy, University of South Australia.
- Wood, G.J., and Davidson, M.J., 2011. A review of male and female Australian indigenous entrepreneurs: Disadvantaged past–promising future? *Gender in Management: An International Journal*, 26, 311-326
- Woodward, E, Jarvis D, and Maclean K 2019. The Traditional Owner-led Bush Products Sector: An Overview. CSIRO, Australia.
- Woodward, E, and P. Marrfurra McTaggart. 2016. Transforming cross-cultural water research through trust, participation and place. *Geographical Research* 54(2):129-142
- Yates, P., 2009. The bush foods industry and poverty alleviation in central Australia [Paper in: The Heartland: Voices from Central Australia: Part 1. Job, Peg (ed.)] *Dialogue (Academy of the social sciences in Australia)*, 28, 47-56.
- Zander, K.K., Austin, B.J., and Garnett, S.T., 2014. Indigenous Peoples' Interest in Wildlife-Based Enterprises in the Northern Territory, Australia. *Human Ecology*, 42, 115-126.
- Zurba, M., K. Maclean, E. Woodward, and Islam, D. 2018. Amplifying Indigenous community participation in place-based research through boundary work. *Progress in Human Geography*, <https://doi.org/10.1177/0309132518807758>.

Appendix A Key Findings of Scoping Study

Indigenous enterprise development

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 for Closing the Gap (Price Waterhouse Cooper, 2018). One 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).

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.

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.

Current state of the Indigenous-led Bush Products Sector

The Indigenous bush products industry incorporates a wide range of different sectors, including bush foods (derived from plants and animals); native seeds and plants (propagated in nurseries or wild harvested); botanicals, medicines and other health and beauty-related products, and artistic and creative industries (barks for painting; wood for carving, including boutique furniture; fibre-producing plants for weaving etc.). There is complexity and diversity in the broad sector. For example, the University of Queensland's Australian Institute for Bioengineering and Nanotechnology (AIBN), has recently worked in partnership with the Indjalandji-Dhidhanu People

to develop a method of extracting nanocellulose from spinifex that could be used as an additive in latex products.

This project specifically focused on bush products for consumption, health and beauty (non-medicinal) and as they contribute to the native plant industry.

Global interest in alternative approaches to the maintenance of human health and treatment of minor ailments is driving market demand for natural products and styles of treatment (Gorman et al., 2006). Some Indigenous-led enterprises have been successful in creating products based on their unique knowledge (including the medicinal uses of plants) to answer to this market demand (Gorman et al., 2006). The goal of other enterprises is focused on delivering to a very local (and Indigenous) market. For example, Traditional knowledge has inspired the creation of a range of Bush Balm products made from wild harvested medicinal plants 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).

Native plant harvesting and production occurs at diverse scales and can be based upon wild harvesting, enrichment plantings and horticultural developments, and can take place at varying scales. 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). 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). Three examples of bush products that are being planted on increasingly larger horticultural scales are the Kakadu Plum/Gubinge (*Terminalia ferdinandiana*), the Macadamia nut, and Sandalwood.

The industry is largely based on a small number of small to medium businesses, which are not able to make large investments in research and development. Growth of the Indigenous-led bush products industry is challenged by 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. Further, the industry tends to be fragmented, although some industry participants favour cooperative approaches (De Sousa Majer et al., 2009; p8).

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 eggs (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, 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). For example, Bush Medijina is an Aboriginal owned and run enterprise that harvests local bush produce 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, and 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.

Business models for sector development

There are multiple diverse business models that might support development of the Indigenous-led Bush Products Sector. These include:

Cooperative farming and marketing models

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.

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.

Social enterprise models

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).

For example, 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.

Partnership approaches

Such approaches involve joint development of enterprise ideas, drawing on the skills of two or more partners in the business venture. 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.

Sector support

Significant support for the development of Indigenous-led bush products enterprises is already provided 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. For example:

The Tropical Indigenous Ethnobotany Centre (TIEC) seeks to empower Indigenous people to renew and strengthen their cultural knowledge and practices about plants, with a principal aim of the Centre to record, document and research cultural plant use knowledge, which could be of mutual benefit to traditional Owners and their partners.

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.

The Loop Program is a social venture developed by In-Balance Australia, an 100% Aboriginal owned enterprise. 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.

Government Support

State and Federal Government policy was also considered in the Scoping Study in terms of its direct or indirect support of the sector development. The following initiatives were thought to support sector development:

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.

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 aims to deliver through 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 6.1).

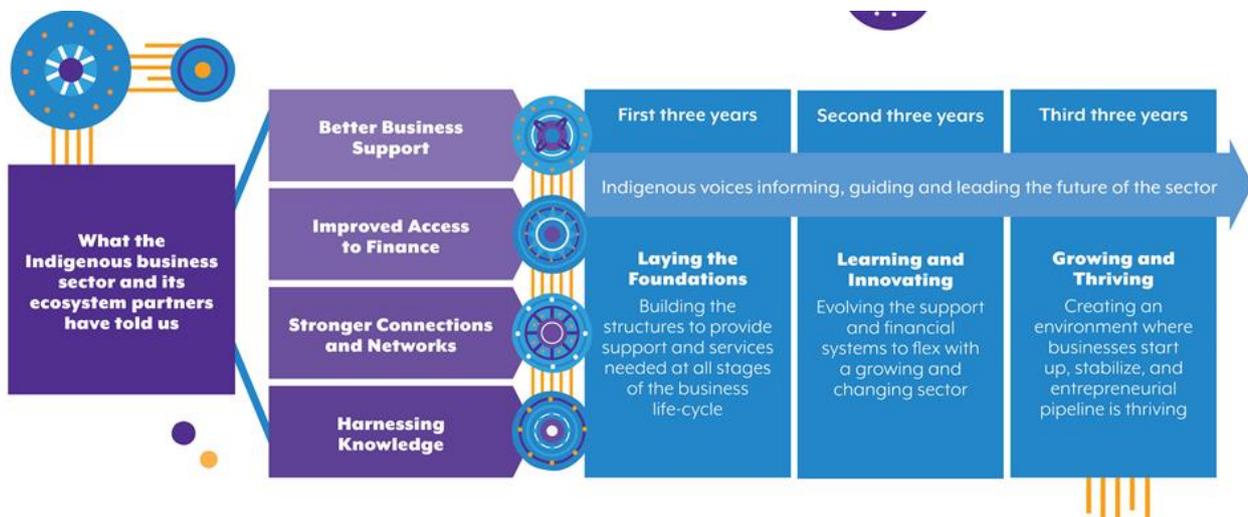


Figure 5.1. The Indigenous Business Sector Strategy Roadmap (Price, Waterhouse and Coopers 2018).

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).

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. One example is the:

- 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://www.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).

Industry Support

The Scoping Study further sought to determine current industry-specific sector support. Some current Industry bodies that might provide support and advice in the growth and development of the Traditional Owner-led Bush Products Sector includes the following:

- **Australian Native Foods and Botanicals (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/>).

It has been reported that a current lack of Indigenous representation in Industry bodies, both in directorship and membership, is preventing growth and development of an Indigenous-led sector. For example, 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).

Business support

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.

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.

Not-for-profit industry support

Two examples of not-for-profit industry support mechanism include:

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/>).

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 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).

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).

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://riec.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).

Appendix B Key Findings of Literature Review

Introduction

The aim of the Literature Review (Woodward et al. 2019) is to get a better understanding of the development priorities (including R&D) for the Traditional Owner led Bush Products Sector, to ensure its appropriate and sustainable growth. The Literature Review is a systematic review of the Australian literature, and presents the challenges, co-benefits and trade-offs related to Indigenous bush product enterprises, and includes a discussion regarding access and benefit sharing and intellectual property rights. The Literature Review concludes by identifying possible ways forward for this industry.

Methodology

The Literature Review draws on relevant Australian academic, practitioner and grey literature relevant to the Traditional Owner led Bush Products Sector. The 'systematic review' methodology was adopted; this methodology 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, as follows:

- (1) Identification of literature 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 and were as follows:
 - a) Literature must include all of these terms:
 - i) Indigenous and/or Aboriginal
 - ii) Enterprises and/or business
 - iii) Australia
 - b) Additionally literature must include 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
- (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.

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.

Challenges

In this section the Review focussed upon the main challenges and barriers faced by Indigenous people, to develop business and enterprises and/or become self-employed, as highlighted in both the published and grey literature. We grouped these challenges into six categories, although we note that, in reality, these challenges are inter-related and connected.

(1) Political and structural challenges

Whilst the role of Federal, State and Territory governments in supporting Indigenous economic participation and encouraging business development is documented in the literature, this support can itself provide challenges. It is argued by some that the government policies seek to promote economic mainstreaming (Spencer et al., 2016) which presumes that Indigenous Australians will move from their home communities, and fails to appreciate the value of Indigenous worldviews, cultures and heritage, posing a tension between 'self-determination' and 'assimilation' (Dockery (2010 cited in Bodle et al., 2018)). A shift in discourse from one of 'disadvantage' to one of remote advantage may be more supportive for Indigenous peoples living within remote communities (McRae-Williams et al., 2016). Some researchers (e.g. Altman, 2001; Banerjee and Tedmanson, 2010) advocate that a focus on the Indigenous political economy assists understanding of the challenges faced by Indigenous people seeking to develop business enterprises; the focus on mainstreaming leaves no room for alternative models of development and renders invisible the economic, social, cultural and environmental value of the Indigenous customary economy. Consequently, Indigenous enterprise development may be hindered by the very policy that seek to support and enable it (e.g. Banerjee and Tedmanson, 2010). Bush product enterprise development can assist with alleviating poverty by working within the local culture, whilst recognising the relationship between this culture and the dominant culture and Australian economy (Yates, 2009).

(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. Lower education levels and/or lower access to education opportunities has ramifications for enterprise development. These include inadequate market economy knowledge, technical skills, work experience and/or capability (e.g. Schaper, 2007; Venn, 2007; Bodle et al., 2018), lack of knowledge about access to and control over the use of government and other funding (Lombardi and Cooper, 2015, cited in Bodle et al., 2018), and little awareness of the importance of business networks, and/or lack the expertise needed to create and maintain such networks (Shoebri et al., 2012; Fuller et al., 2003).

Furthermore, Indigenous people/communities often suffer from higher unemployment levels, have been historically excluded from the cash economy, and are impacted by past limited land title, lower rates of home ownership and other kinds of amassed wealth (see Schaper, 2007; Commonwealth of Australia, 2017). These factors make it difficult to create, build, generate and share the wealth and access the financial capital necessary to create and build enterprises. Thus,

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), whilst for others, 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).

A further challenge 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).

(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; whilst some organisations express concern that this may result in renegotiation of native title rights, others welcome support for negotiating business partnerships with external investors on their lands.

(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). Whilst some authors see attachment to culture as a hindrance, others note this can contribute to successful entrepreneurship (e.g. Fleming, 2015).

The literature has argued that Western notions of market values do not support Indigenous cultural and social values. Entrepreneurs are required to reconcile culture and family needs, and navigate their role as a member of a wider kinship and community group, whilst seeking success in the mainstream non-Indigenous business sector (e.g. Foley, 2006; Schaper, 2007). Other challenges of this type include reconciling entrepreneurial activities with cultural obligations and customary management responsibilities on country (e.g. Venn, 2007; Shoebridge et al., 2012), maintaining community cohesion whilst building networks outside community (e.g. Foley, 2006), and encountering institutional racism (e.g. Banerjee and Tedmanson, 2010).

Indigenous knowledge, cultural heritage and Indigenous cultural intellectual property present additional challenges, which are discussed further in the section headed 'Legislation regarding Access and Benefit Sharing and Intellectual Property rights' below.

(5) Geography and remoteness

Businesses in remote and regional Australia face challenges regarding: being able to effectively or efficiently connect with the broader Australian business community, or networks of corporate Australia to build knowledge and connections (e.g. Venn, 2007; Commonwealth of Australia, 2017); 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 tele-communications (e.g. Cunningham et al., 2009a; 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).

(6) Business development challenges

These challenges can be further subdivided as follows:

- a) Access to adequate support – includes the need for access to advice at all stages of development and in remote areas (Commonwealth of Australia, 2017), and access to business networks, role models and mentors.
- b) Development of business acumen – includes 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), also includes limited financial and commercial literacy levels.
- c) Governance - poor management, poor governance and poor financial accounting have been highlighted as key characteristics of failing Indigenous corporations (Bodle et al., 2018).
- d) Market, production and commercialisation - 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). Production and commercialisations challenges are especially acute in remote or regional locations focussed on perishable bush products, and 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).
- e) Plant products for commerce in remote Indigenous communities of northern Australia – buyers often request large quantities of raw products for relatively low price, which may 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).

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

In this section the Review focussed upon the extensive range of non-commercial social, cultural and environmental benefits that can arise when Indigenous people are offered the opportunity to work on country performing culturally appropriate tasks. 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 is likely that similar co-benefits would arise from Traditional owner led Bush products enterprises. These 'co-benefits' are accrued in addition to the direct economic/commercial benefits (including wages, profits, royalties) and include social, health and wellbeing, cultural, environmental and, in some cases political/self-determination co-benefits. However, whilst numerous co-benefits arise, the literature also notes that there is 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. It is also noted that benefits and trade-offs can arise along the entire value/supply chain.

- (1) Economic benefits - commercial and sustainable use of wildlife and bush products can improve rural livelihoods, contributing to sustainable economic development and bringing significant financial benefits to regions (Corey et al., 2018). Such businesses can generate income in the form of profits and/or royalties (Austin and Garnett, 2011). Other direct economic benefits include providing jobs (Fleming et al., 2015) and paying wages to their (frequently local Indigenous) employees (e.g. Austin and Garnett, 2011; Fleming et al., 2015) 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). They can also subsidise or provide other economic benefits, including financial capital, to other related business (Collier et al., 2011). Further economic benefit may be provided to the country as a whole by reducing the cost of welfare programmes (Wood and Davidson, 2011) and reducing Indigenous dependence on welfare (Lee, 2012).
- (2) Human capital and wellbeing co-benefits - Human capital benefits include: on the job training in practical and/or job ready skills (Austin and Garnett, 2011; White, 2012; Spencer et al., 2017), opportunities for the transfer of knowledge and skills (Collier et al., 2011; Fleming et al., 2015), facilitating the refining and passing on of knowledge to younger generations (Cleary, 2012; Lingard and Martin, 2016); strengthening and utilising Indigenous knowledge and skills (Corey et al., 2018; Holcombe et al., 2011), facilitating capacity development of employees (Fleming, 2015; Spencer et al., 2017), and building community capacity for natural resource management (Corey et al., 2018). Customary knowledge (of plant species, etc.) can be shared (Davies et al., 2008), particularly with younger generations (Evans et al., 2010), with intergenerational knowledge sharing occurring during the activities relating to the bush products enterprise (Holcombe et al., 2011; Merne Altyerre-ipenhe (Food from the Creation time) Reference Group et al., 2011; White, 2012; Yates, 2009). Participants can also learn new non-traditional skills (Davies et al., 2008), including seed and plant related skills (Spencer et al., 2017; Evans et al., 2010) and 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), which can contribute to an improved diet and/or increased exercise (e.g. Collier et al., 2011; Holcombe et al., 2011; Lee, 2012; Yates, 2009). Furthermore, participating in harvesting trips with kin out on country is perceived to be physically, mentally and emotionally healthy and is associated with deeply spiritual well-being (Fleming et al., 2015). These health benefits may also reduce the costs of healthcare on society by reducing the need for health interventions (Zander et al., 2014). Other wellbeing benefits include: taking pride from demonstrating skills (Collier et al., 2011), increased respect, support, and acknowledgment from others (Davies et al., 2008), bringing recognition of Indigenous knowledge, skills and practices

(Merne Altyerre-ipenhe (Food from the Creation time) Reference Group et al., 2011), increased sense of pride, self-esteem and self-worth from sharing/displaying traditional knowledge (Davies et al., 2008; Evans et al., 2010; White, 2012); increased feelings of empowerment through the validation of their traditional knowledge (Evans et al., 2010) and increased personal independence and autonomy (Holcombe et al., 2011), contributing to their opportunity for self-determination (Wood and Davidson, 2011). Finally, opportunities within a bush products enterprise can assist overcoming the apparently overwhelming boredom experienced by many living within remote Indigenous communities (Collier et al., 2011), helping to keep younger people occupied and reducing the risk that they lose “direction” in their lives (Fleming et al., 2015).

- (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).

Cultural co-benefits include: offering work on country (Austin and Garnett, 2011); helping to keep people on country (i.e. enabling them to continue to live on their traditional estates) (Corey et al., 2018); facilitating access to specific places where they produce and maintain a set of cultural practices and traditions (Davies et al., 2008; Merne Altyerre-ipenhe (Food from the Creation time) Reference Group et al., 2011); and enabling people to follow the ‘dreaming’ or the lore of their ancestors (Holcombe et al., 2011). Bush 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). 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). Shifting the focus onto productive activities generated on people’s own terms can assuage the disempowering effects of the welfare economy (Tedmanson and Guerin, 2011), and such culturally aligned business opportunities can give a community renewed optimism for their future (Fleming, 2015).

Social co-benefits include: strengthened family and social groupings through cooperation and shared activities (Holcombe et al., 2011; Lee, 2012); providing opportunities to interact socially (Lingard and Martin, 2016; McDonald et al., 2006) and strengthen kin networks (Walsh and Douglas, 2011); providing role models for those of the younger generations (Spencer et al., 2017); providing opportunities to travel outside of the often dysfunctional communities or settlements where they are required to live (Walsh and Douglas, 2011); providing 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 also derived encouraging networking and developing relationships with members of other Indigenous communities (Evans et al., 2010), and between local community leaders & the relevant Land Councils, local, state and federal government departments, and with those with business experience/skills (Austin and Garnett, 2011).

- (4) Natural capital and environmental co-benefits - Indigenous bush products enterprises seek to make sustainable use of their natural assets (Fleming et al., 2015), carrying out natural resource management activities (Lingard and Martin, 2016) and focusing on environmental stewardship (Spencer et al., 2017). Ecological benefits that can result 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). At a larger scale, the wider use of Indigenous resource management methods provide a key to a more sustainable future for Australia (Logue et al., 2018).

- (5) Physical capital co-benefits – these can include the improvement or development of roads used to access outstations and more remote locations, and equipment, tools and facilities required to develop an initial enterprise, which may also create opportunity and support for the development of further enterprises (Collier et al., 2011).
- (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. Tensions may arise between trying to achieve social impact whilst maintaining a financially viable business (Logue et al., 2018), or if the community lacks the capacity to fulfil their aspirations (Fleming et al., 2015). Social tensions can arise 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), or 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). Also increasing supply of bush food products through commercial markets may reduce the availability of such products for consumption by the local Indigenous community, having adverse diet, nutrition and health impacts (White, 2012).

If businesses are operated primarily through non-Indigenous management 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). An important trade-off may exist 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). Beyond squeezing out Indigenous people from the supply chain, commercial business developments could reduce or remove the opportunities for the intergenerational transfer of traditional knowledge and skills, with the consequential 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).

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).

- (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. 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 whilst 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). Various challenges have been identified as inhibiting the development of bush products supply/value chain; significant benefits could arise to businesses that resolve these challenges which include:

- a) Weather and seasonal variations impacting demand and prices (Bryceson, 2008b; Cleary et al., 2008; Holcombe et al., 2011)
- b) Labour availability (Holcombe et al., 2011)
- c) Geography (Flamsteed and Golding, 2005)
- d) Governance arrangements need to be addressed, including the need to develop trust along the chain (Bryceson, 2008b; Cleary et al., 2008)
- e) Scaling-up issues require consideration (Bryceson, 2008b)
- f) Permits and licencing and information flows at different stages of the value chain - licencing requirements can be complex (Lingard and Perry, 2018); poor business information flows along the chain can reduce the opportunities for optimising the consumer offering (Bryceson, 2008b; Cleary et al., 2008); and there may be a need for 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).
- g) New and appropriate models and value chains - 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). 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 co-benefits are frequently substantial these need to 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 further 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).

- h) Research and development – for example, researching and documenting traditional knowledge of plants can lead to the development of Indigenous enterprises participating with a supply chain based around utilising such knowledge (Evans et al., 2010).
- i) Marketing – developments could include: increased support for 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); development of differentiated products with attributes 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); and the development of certification related to authenticity enabling consumers to confidently purchase product on the basis of genuine benefit to Indigenous industry participants and regional authenticity (Cleary et al., 2008; Lingard, 2016).

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).

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), and to preserve their cultural practices and knowledge (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).

(1) Protecting Indigenous knowledge utilising intellectual property legislation within Australia

Trademarks have limited applicability, they can only protect knowledge in the form of a business product (Robinson & Raven, 2017) rather than protecting the knowledge itself. Patents seek to provide the inventor with exclusive rights to benefit from their invention (Janke, 2018), thus the idea must be both novel and include some specific invention, excluding much Indigenous knowledge, which has been passed down through the generations by word of mouth by a long, slow, and often informal process (Davis, Holcombe, & Janke, 2009). Copyright cannot be used

for an idea itself, ideas have to be written down or recorded with the copyright being owned by the person who does this recording (who may not be the traditional owner of this knowledge) (Davis et al., 2009); further copyright protection is limited to a certain period of time (Janke, 2018). The 'Plant breeders rights act 1994' 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).

(2) Protecting knowledge using geographic indicators, voluntary certification systems and protocols

There may be an opportunity to use a geographical indication 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). 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).

The use of voluntary certification systems may be relevant for 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).

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).

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 Indigenous 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).

(3) International agreements and conventions for accessing traditional knowledge and for sharing the benefits arising from the use of traditional knowledge

Beyond national IP laws, various international agreements relate to the rights to protect ownership of, and receive benefits from the use of, traditional ecological and cultural knowledge, and cultural heritage, including the UN Declaration on the Rights of Indigenous Peoples (2007) (Davis et al., 2009). Also highly relevant is the UN Convention on Biological Diversity (1992), supported by the Nagoya Protocol (2010), which provides "... 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 resources, including knowledge, are able to gain access, whilst also ensuring that the owners of those resources receive an equitable share of the benefits derived from their use (Greiber et al., 2012; Robinson

& Raven, 2017). The approach is underpinned by the principles of prior informed consent and mutually agreed terms (Greiber et al., 2012; Robinson and Raven, 2017).

However, whilst the Australian government has endorsed various international agreements relating to the sharing of Indigenous-generated knowledge, the national framework of laws and regulations governing IP and KE do not fully incorporate these requirements (Lingard, 2016), with federal, state and territory laws offering different protections (Robinson & Raven, 2017). Accordingly 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 Indigenous 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).

Ways forward for Indigenous enterprise development

This section of the Review examined the 'ways forward' for Indigenous enterprise development and related research presented within the published literature. This included consideration of 'ways forward' via alternative models of economic development; ways to address some of the identified business development challenges; frameworks to support enterprise development within existing government structures; the role of co-research partnerships; and highlighted some examples of potential investment opportunities (research and bush products) for the sector.

- (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). 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). Thus alternate models include:
 - a) A hybrid economy model;
 - b) A culture-based economy [for northern Australia];
 - c) Capacity development, and
 - d) Mixed market model.
- (2) Business development - Several scholars have advocated ways to address the challenges to maintain and develop benefit from Indigenous people living in remote areas, which have included frameworks to best support Indigenous livelihood development to enhance the cultural

and natural resource needs of Indigenous 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., 2009). A very brief summary of these follows:

- a) Derived categories that contribute to success for Indigenous enterprises – such categories include: Separating business from community politics; Integrating culture; Building Business Acumen; and Greater Independence from Government funding
 - b) Vocational education and training to improve business acumen - 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., 2009; 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., 2009; Spencer et al., 2016). 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).
 - c) Nine steps to address the challenges facing viable bush product enterprise (including market, production and commercialisation) - The 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’ (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. (5) Develop independent (third party) certification and branding. (6) Develop functional producer associations and deal with land tenure and resource tenure. (7) Adapt ‘people’s biodiversity registers’ to Australian conditions (8) Reduce risks from germ plasm exports to competitor countries. (9) Consider interim protection for incipient Indigenous plant-based industries.
- (3) Frameworks to support Indigenous enterprise development within existing systems of government – further to the alternative models and conceptualisations of economic development (which can provide a way for Indigenous people, policy makers and practitioners to support locally derived innovation), 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. Two such frameworks were highlighted.
- a) An implementation framework for critical success factors for Indigenous enterprise development - derived by Fleming (2015) - posits key success factors that can guide policies and programs to support culture-aligned economies in remote Indigenous Australia. The main determinants of success within the framework are: (i) Cultural engagement: encompassing determinants of Indigenous participation in business development programs

- (ii) Business development: encompassing determinants of economic viability and (iii) Market driver: encompassing key elements for success.
 - b) A framework to include social and economic measures to value Indigenous knowledge, ICH and ICIP in business contexts - focusses on ways to include social, economic and cultural measures into accounting frameworks to value Indigenous knowledge, cultural heritage and cultural intellectual property (Bodle et al., 2018).
- (4) Co-research partnerships - Many Indigenous organisations and people are keen to develop partnerships with researchers as they explore options for enterprise development. We provided short summaries of three research projects that were conducted with Indigenous groups involved in bush products research and/or enterprise development, which are summarised as follows.
- a) Aboriginal medicinal plant research between the University of South Australia and Chuulangun Aboriginal Corporation - 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 authors 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.
 - b) Co-research to develop the Anpernrrentye framework - developed to highlight the worldview and values ascribed to bushfoods by one Aboriginal group from central Australia (see Walsh et al., 2013). The application of the framework might enable a more balanced attention to the relationships that might and can exist between different knowledge systems, and 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.
 - c) Sustainable livelihoods approach to guide participatory collaborative research - 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. The authors 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.

Potential future research investment to support development of the Sector

In this section the Review focussed upon potential future investment in the sector. It outlined 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.

The review found that despite growing interest in, and academic focus on Indigenous enterprise development and entrepreneurship as a distinct area of inquiry in Australia, there remains 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). Furthermore, as identified by Foley (2008a), much of the research into Indigenous entrepreneurship and enterprise development has been conducted by non-Indigenous researchers, thus prompting a need 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).

Appendix C Key Findings from the Workshop

Introduction

Twenty Indigenous leaders and/or their representatives attended the workshop held in Darwin on 26 February 2019. The aim of the workshop was to bring together Indigenous entrepreneurs and leaders within the Indigenous-led Bush Products Sector (identified and selected by the Steering Committee) to consider sector-wide opportunities, challenges, barriers (and possible solutions), and priorities to support sector-wide development. This section of the final report presents the key findings from the many discussions had at the workshop. These key findings draw on discussion around what constitutes an Indigenous-led Bush Products Sector; characteristics of 'success' within the sector; the main challenges and barriers to the development of the sector; and potential solutions to those challenges.

The key findings from the workshop have been used with the key findings from the scoping study and literature review to inform the design of a Strategic Sector Development and Research Priority Framework to guide future growth and investment in the Indigenous-led Bush Products Sector.

Identified challenges to the development of a successful Indigenous-led Bush Products Sector in northern Australia

1. Lack of adequate and sustained funding to enable access to capital needed to build and retain control of an enterprise.
2. Limited knowledge about and processes/protocols to protect Traditional cultural and ecology knowledge/IP and prevent 'copycat' products, for example:
 - How to capture and maintain traditional knowledge?
 - How to navigate IP/patent laws?
 - Can working with western science help protect traditional knowledge?
 - Can traditional knowledge be commercialised without losing control or adversely affecting culture – how to avoid 'selling out'?
 - How to balance protecting traditional knowledge against the risk that the knowledge could be lost if it is not shared and used?
3. Limited knowledge about and processes/protocols to ensure benefits are returned and/or shared with the traditional owners and wider community when Traditional cultural and ecology knowledge/IP is utilised, for example:
 - Who to ensure the benefits are experienced by the wider community rather than just to the PBC or particular individuals?

- How to navigate processes of establishing an appropriate business model and IP protection, that enables the sharing of traditional knowledge (with younger people, advisers etc.) that is required for business start-up, without losing control of the knowledge or the benefits that flow from use of that knowledge?
4. Lack of security of tenure over land, including the right or authority to use traditional country as they choose.
 - Land ownership (as opposed to native title) can be important for improving control over how the land is used, reducing dependency on particularly government support schemes which carry the risk that they may change over time, and for assisting access to capital by acting as security for loans.
 - Land ownership can also offer the opportunity of developing plantations in addition to wild harvesting, thus reducing some of the supply challenges (discussed further below).
 - The requirement to comply with various requirements and regulations regarding obtaining permits and approvals prior to accessing land and/or wild harvesting the resources from that land (e.g. national parks, heritage areas).
 - Other competing land use interests (e.g. mining, pastoralism) that restrict the kind of activities that can be carried out on that land.
 5. Challenges related to issues of governance within an Indigenous enterprise including
 - Lack of adherence to cultural protocols and the observation of cultural restrictions.
 - Appropriate internal governance, involving different family and language groups as required, including a focus on the maintenance of a good reputation and goodwill through ups and downs.
 - The relationship between PBCs and Indigenous enterprises can also present challenges.
 6. Challenges related to issues of Government and related Legislation
 - Disconnected legislation, and government policies
 - A perception that Government that doesn't listen to solutions presented to them.
 - Need for IP/ABS legislation (or industry guidelines for Indigenous engagement)
 - Clearer/improved legislation regarding matters such as the provision of therapeutic goods, wild harvesting etc.
 7. Social problems, such as domestic violence and substance abuse, can threaten the stability of enterprises, whilst enterprise stability can be enhanced by building & maintaining good relationships and networks within and outside the local community. Involving young people, and helping all within the community to grow and be involved, was considered to be highly important.

8. Supply challenges and issues including:
 - Deciding on which plants to work with and navigating cultural restrictions relating to these
 - Establishing rights and access needed for collecting plants and ensuring access to ingredients
 - Weather/seasonal issues, which can particularly impact wild harvesting (variability in quantity and quality of products available) and opportunities for value adding
 - Labour force/staffing issues – availability of enough workers with appropriate skills and work ethics, involving young people, developing systems to manage staff and pay equitable wages
 - Requirements for appropriate facilities – work space, technology, plant and equipment
 - Capacity to adjust supply to meet demand – adopting appropriate scale of operations requires understanding of the real costs of production and working efficiently within an appropriate business model/structure
 - Remoteness/geographic isolation – impacts on costs/availability of goods/services
 - Lack of access to required infrastructure
 - Lack of access to, and sufficient expertise with, technology
9. A wide range of demand challenges and issues including a lack of knowledge about available opportunities; whether a product can be sustainable (supply and demand); how to create/find a niche market; how to promote the products of Indigenous-led enterprises/the sector; who are the competitors.
10. Lack of knowledge of how to seek expert advice, and what advice is necessary; how to establish and build networks; how to develop appropriate and supportive partnerships; how to access appropriate training.

Identified characteristics of a successful Indigenous-led Bush Products Sector

“[Indigenous-led] means Aboriginal people leading the industry. This is very important as we have the cultural knowledge. We want our young people coming up behind to lead this industry. We will give them the knowledge and they can carry us forward. They can be a role model for others.”

Annie Milgin, Nyikina woman, Yiriman Women Bush Enterprises

1. Indigenous people leading the development of the industry and processes to ensure younger people can see the benefits of involvement in the industry.
2. Indigenous cultural ethics guides the development of the sector. This cultural ethics draws on traditional knowledge, cultural protocols and local governance structures to ensure that proposed enterprises, bush products and related value chains are culturally and ethically appropriate.

3. An Indigenous owned and controlled sector that includes:
 - Full ownership or majority ownership of products and enterprises.
 - Ownership of the planning implementation of specific bush foods enterprises to build a Bush Products Sector.
 - Enterprises that are developed by Indigenous people for Indigenous people.
 - Involvement in and control of all parts of the value-chain.
 - Involvement in determining appropriate the research and development, and in the research process.
 - Partnerships are guided by protocols and processes to protect cultural and intellectual property.

4. A sector that supports diverse business development models that support living on country, family, social and cultural health and wellbeing.
 - There are already many examples of successful Indigenous bush products enterprises, much can be learnt from their example.
 - Most people from the sector are keen for the sector to generate and sustain health and well-being of the community (cultural, social, individual, family) and the country, often more so than economic and financial outcomes.

Identified characteristics of successful Indigenous bush product enterprises

1. Decision making, governance and accountability for the enterprise led by Indigenous people
 - Building enterprises with their foundations strongly set within Indigenous governance arrangements – family and/or community decision making
2. Enterprises that have strong cultural ethics and governance
 - Enterprises that support intergenerational knowledge transfer
 - Decisions about IK and IP involve Elders
3. Supporting/realising a range of social outcomes that benefit the community
 - Building employment opportunities to create 'real' jobs; get away from CDEP
 - Enterprises that support community well-being; happier, healthier communities
 - Ethical decision-making in pursuing enterprises and partners
4. Realising self-sufficiency in economic terms and capability
 - No longer rely on grants or funding
 - Draw on business mentoring to build the skills required at different stages of enterprise development
5. Being leaders in enterprise development
 - Be the best at what we do; create great products that are trusted
 - Know the market and create products that fill niches
 - Not just meeting market demand but shaping demand; Increasing customer knowledge and marketing bush products to a wider audience
6. Building trust-based partnerships
 - Identify what is needed to achieve goals and seek those partners that can best support us

Indigenous-led Bush Product Sector: Solutions

Indigenous leadership of sector development guided by cultural ethics

- Cultural ethics refers to decision making based on respect for traditional knowledge, cultural protocols and local governance structures to ensure that proposed enterprises, bush products and related value chains are culturally and ethically appropriate.
- Cultural ethics can sustain and maintain culture including through relevant ceremony.
- Governance and decision-making led by Indigenous people, aligned to cultural ethics and expertise.
- Women supported to take an active role in leadership.
- Individuals and families active on the ground *and* in policy development for the regional industry.
- Established TO network across Australia.
- Co-ordinated and controlled by Indigenous people

Wellbeing is considered core to sector development

- People have pride in industries that are based on cultural knowledge and being on country.
- Culturally meaningful employment.
- High employment in the sector has impacts on other parts of life including increased on country living.

Indigenous leadership and involvement in all parts of the value chain

- Communities value-adding rather than selling raw material to others.
- Employment across all aspects of an enterprise and related value chain (harvesting, growing, processing, buying, selling).
- Cornerstone to build and establish the 'black market'.

A Regional body or organisation to represent the interests of the industry

- A body that can advocate on behalf of the sector
- Be a virtual centre where enterprises can source different experts for their particular needs (e.g. research, marketing, IP).
- Development a framework for ABS and knowledge protection, supported by a toolkit containing factsheets, templates, best practice guidelines etc. that can provide a guide to Indigenous communities who wish to establish and expand bush product enterprises. The framework and toolkit would draw on relevant expert advice and the experience of existing Indigenous enterprises.

Government actively supports the appropriate development of the Traditional Owner-led Bush Products Sector

- Government prioritise funding to enable development of the Indigenous-led bush product sector as 'smart and innovative technologies' to develop northern Australia (not just focus funding in the agricultural and beef sectors).
- Government actively recognises intellectual property of traditional plant knowledge.

Industry actively supports the Traditional Owner-led Bush Products Sector

- Industries share their expertise to support the development of individual enterprises and the sector as a whole.

Appropriate training and education to support enterprise development

- Increased provision of culturally meaningful education (e.g. to improve business literacy, numeracy) including via enterprise development in schools, support for entrepreneurial initiatives.
- Indigenous mentors to support and train others including in all aspects of BD, the value chain, business skills, guidance on building networks, partnerships, alliances, capacity building in general.

Development of knowledge networks to support enterprise development

- Link 'experts' with Indigenous enterprises to provide advice on issues to do with: IP/ABS; market analysis (e.g. supply, demand, market creation, feasibility studies), enterprise governance, technical expertise (e.g. legal, nutrition, other), access/collection permits etc.
- Appropriate, supportive two-way knowledge sharing networks that respect and value ICIP and knowledge holders.

Private sector actively supports the Traditional Owner-led Bush Products Sector

- Getting the partnerships right
- Can support reconciliation

Local, regional and National and international distribution

- Scale of distribution to suit each enterprise (some wish to sell to community only)
- Bush products stocked in major supermarkets
- International export that positively impacts local economies.

Australian community actively supports the industry

- Bush products used regularly in all Australian households.
- Interest in and use of bush products could equate to acts of reconciliation.

CONTACT US

t 1300 363 400

e csiroenquiries@csiro.au

w www.csiro.au

AT CSIRO, WE DO THE EXTRAORDINARY EVERY DAY

We innovate for tomorrow and help improve today – for our customers, all Australians and the world.

Our innovations contribute billions of dollars to the Australian economy every year. As the largest patent holder in the nation, our vast wealth of intellectual property has led to more than 150 spin-off companies.

With more than 5,000 experts and a burning desire to get things done, we are Australia's catalyst for innovation.

CSIRO. WE IMAGINE. WE COLLABORATE.
WE INNOVATE.

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