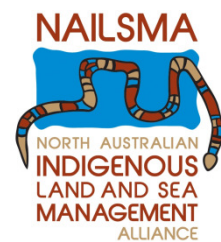
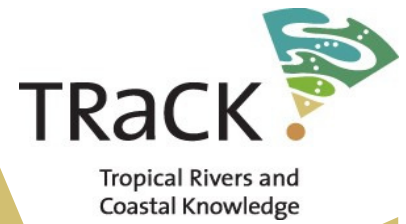


Discussion Paper

Reflections on Researching and Developing Indigenous Livelihoods on Country

Dermot Smyth and Peter Whitehead

April 2012



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The opinions expressed in this paper are those of the authors. We hope this work will contribute to improved, better targeted and more effective Indigenous livelihoods research, as well as better recognition of those researchers who devote, time, effort and skill to high quality engagement with Indigenous communities.

Executive Summary

This brief review of Indigenous livelihoods research and development was commissioned by the North Australian Indigenous Land and Sea Management Alliance (NAILSMA), as part of the Tropical Rivers and Coastal Knowledge (TRaCK) research program. The review, based largely on the experience and reflections of the authors, aims to enhance the design and delivery of future livelihoods research and development projects. Specifically, the review examines:

- the challenges of livelihoods research;
- the roles of participatory and action research methods;
- the obligations of researchers deploying such methods;
- the approaches to ensuring that all participants are clear about all obligations and expectations; and
- the differences between livelihoods research and livelihoods development and the ways both can be delivered by good design and clarity about obligations.

The review focuses on Indigenous livelihoods related to Indigenous people's relationship with country, including enterprises that involve land and sea management, cultural resource management, quarantine and biosecurity services, eco-cultural tourism, and arts and crafts, in addition to other economic activities. For the purposes of this review, livelihoods on country do not include payments for delivery of essential community services, social security payments or royalties or other payments by mining companies or others.

It is our opinion that research funders, research management organisations, researchers and Indigenous partners need to better understand the distinction between projects that are primarily focused on researching the factors contributing to or inhibiting sustainable Indigenous livelihoods and projects that are primarily focused on supporting the development of such livelihoods. Misunderstandings about this distinction leads to disappointments and frustrations: research funders can be disappointed when a project designed to deliver research outcomes with potentially wide applications primarily focuses on localised livelihood development outcomes; Indigenous community partners can be frustrated that a project they had hoped would yield tangible, local livelihoods outcomes prioritises the search for underlying issues with wider application. If, as is common, a project seeks to achieve both research and development outcomes through the use of an action-research methodology, then measures need to be put in place to ensure the expertise and resources are available to achieve this dual purpose.

Suggestions for improving the design and management of Indigenous livelihoods research include the following points.

- Establishing appropriate supervision and review **processes**, such as the appointment of a mentor and/or an advisory group, to provide guidance at regular intervals during the project, rather than a single review **event** at the conclusion of the project.

- Allowing sufficient time during the project design stage to collaboratively develop appropriate methodologies and common understanding about the project goals, outcomes and outputs.
- Addressing the current limitations in livelihood research capability in northern Australia, for example through:
 - reforming the current publication-focused system of measuring research success to acknowledge and formally recognise researchers' participation in Indigenous livelihoods research and development; and
 - encouraging trans-disciplinary collaboration approaches to address Indigenous-identified research and development priorities.
- Addressing constraints imposed by particular research traditions of particular research disciplines and by ideological positions by key organisations along the research delivery chain; both constraints can limit our understanding of factors contributing to sustainable Indigenous livelihoods and to exploring viable livelihood options.
- Addressing the current limited opportunities for Indigenous people to explore, test and develop innovative livelihood options, which can result in Indigenous partners agreeing to participate in research projects (in which they may have limited interest) as the only way to initiate livelihood development.
- Acknowledging that Indigenous livelihood research and development is occurring within the economic context of a welfare safety net, which reduces incentives for communities and individuals to pursue non-congenial livelihood options.
- Pursuing research agendas that will enable a better understanding of factors contributing to existing successful Indigenous livelihoods (“propitious niches”) such as ranger work and arts/crafts.

The issues and propositions raised in the review are consolidated into the following set of suggestions for managing livelihoods research.

Securing benefits for Indigenous participants and their communities.

1. Ensure, by careful and rigorous pre-approval assessment, that only projects with strong community support are selected, noting that support is likely to be strongest when projects are initiated by or designed in collaboration with participating communities.
2. Give preference to projects that are backed by government programs or other opportunities for implementation of options once tested through the research, to increase confidence that good work will lead to real investments.

Securing delivery of funder goals.

3. Promote clear recognition of funder expectations during negotiations on participation and project design.
4. Reject projects that appear to offer community engagement for purposes connected only indirectly to funder goals.
5. Require explicit acknowledgment by all participants of their exposure to and understanding of the expectations of funders.

Managing expectations of all participants.

6. In all agreements, clearly describe all expected research outputs, including standards to be met by those outputs, as well as the nature of outputs other than formal research products.
7. Secure clear statements from partners and Indigenous participants about their expectations of specific research and products or outcomes they seek.
8. Negotiate the form of research products needed to meet all expectations, including papers publishable in relevant peer-reviewed literature where appropriate.
9. Require written agreement among program managers (including senior leadership of participating organisations), researchers and community on clearly specified measures of research performance, prior to finalisation of project design.

Reconciling divergent approaches to research.

10. Go beyond participatory or action research labels to specify methods clearly and show how outputs meeting expectations of funders and other participants and meeting required standards will be achieved.
11. Secure explicit agreement from Indigenous participants that they are prepared to participate in an action research project and understand what that entails for the role of the researcher and other participants and the nature of the research and other products.
12. Provide for staged agreement-making process as community engagement expands to ensure that all participants have genuine understanding of their roles.
13. For proposals requiring indirect or weak interactions with communities show why more direct engagement is not sought and how outputs will be relevant to and suitable for use by communities.
14. Ensure that all projects obtain necessary formal ethics approvals from an appropriate organisation, irrespective of how organisations supervising research view their entitlement to present the views of Indigenous participants.

Understanding context.

15. During project design review information on activities funded from other sources on which projects will depend, including assessment of implications for the type of research outputs realistically achievable in the context they create.

Supervision and review.

16. Implement a process for regular project review rather than a single end-of-project assessment.
17. Conduct reviews with experienced researchers who also understand funder goals.
18. Identify reviewers during project design for all community-based projects to maintain a dialogue with project researchers and undertake more formal reviews at appropriate intervals (between 6 and 12 months apart depending on the duration of the project).
19. Require the project reviewer to identify shifts in direction and either prompt correction or, where appropriate, ensure that funders and program managers understand the reasons for change of direction and the benefits of endorsing change.
20. Submit progress and all other reports to peer review at an appropriate level before formal project completion; if necessary paying reviewers from research budgets to ensure prompt response.
21. Ensure effective communication of the implications of all reviews to all parties.

Maintaining flexibility.

22. Contain project ambition/scope to recognise the probability of delays in design, agreement on, and execution of community-based projects.
23. Provide extended timeframes for development of projects sufficient to search for high quality and appropriately experienced researchers.
24. Provide for carry-over of funding beyond formal program end, subject to satisfactory interim products, or for truncating projects at new endpoints still capable of producing useful outputs.
25. Support decisive cancellation of projects when obstacles are regarded by the project reviewer as incapable of timely resolution.
26. Explore different models for execution of research, including direction of local activity by skilled non-researchers supervised by a competent researcher or panel of researchers.

Securing proper expertise.

27. Assess the capability of the relevant research management organisation and its access to established researchers with experience in community-based research.
28. Ensure that resources are available to secure active participation of Indigenous people with the knowledge and skills needed to optimise outcomes.
29. Where necessary, advertise project availability widely, offering researchers opportunity to shape project details by dialogue with participating communities and funders.
30. If research management capability is clearly inadequate, seek other external supervisory arrangements.
31. If research capability is marginal, supplement local supervisory capacity with strong support and review arrangements, and use the opportunity to build local capability;
32. If significant doubt remains about research management capacity, refuse funding, irrespective of other merits of the proposal.
33. Specify arrangements for providing timely community access to technical expertise on issues raised during community exploration of livelihood options.
34. Encourage multidisciplinary projects that provide assessments under all dimensions of sustainability.
35. Consider the potential benefits of establishing a selection panel and/or technical advisory group to guide the development and management of the project.

The review notes that the challenges facing the development of sustainable Indigenous livelihoods on country are daunting, particularly in the context of the high failure rate of many small business initiatives even in areas without the problems of remoteness, small markets and social disadvantages found across northern Australia. There are, however, emerging opportunities (such as the Carbon Farming Initiative) which, together with the considerable momentum that has already developed through Working on Country ranger employment, Indigenous Protected Area management and carbon abatement fire management programs, provide a degree of optimism that Indigenous livelihoods on country can be developed and sustained. Our hope and intention is that the suggestions developed to manage the issues raised in this review can assist the research community and their Indigenous partners to contribute to understanding and building on this momentum.

1 Introduction

1.1 Genesis of this report

This report was commissioned by the North Australian Indigenous Land and Sea Management Alliance (NAILSMA) as part of the Tropical Rivers and Coastal Knowledge (TRaCK) consortium as an element of its program to improve the knowledge base for use and conservation of north Australian rivers. The particular focus of this report is the role of research for development of sustainable livelihoods among the region's Indigenous communities.

The original intention was to produce a synthesis of the outcomes from a small suite of research projects on a livelihoods theme and to draw lessons from their collective insights. However, procedural issues prevented presentation of that work when it was all but complete¹. Being therefore unable to report on the detail of those projects, we were requested to undertake an alternative task: to reflect on challenges arising in research done with, by or about Indigenous communities and their livelihoods.

In taking on that task, we chose to focus on livelihood research design and management. In carrying out our task, we have also found it helpful to consider the complementing and competing interests of research on livelihoods and support for development of sustainable livelihoods on country.

In offering these reflections, we rely on more than 50 years of collective experience in working with Indigenous people on issues connected with natural resource management and livelihoods. As researchers and managers trained predominantly in the biophysical sciences, we acknowledge our disciplinary baggage, as well as our personal biases and preferences, and accept that people with different disciplinary backgrounds and experiences may offer different interpretations of both the important issues and their solutions.

We draw on our own experience, as well as elements of the published literature, to address the following terms of reference:

Prepare a brief report that synthesises information and ideas from best practice design and delivery of Indigenous livelihoods research and its relationship to Indigenous livelihoods development, including the following issues:

- *the challenges of livelihoods research;*
- *the roles of participatory and action research methods;*
- *the obligations of researchers deploying such methods;*
- *the approaches to ensuring that all participants are clear about all obligations and expectations; and*
- *the differences between livelihoods research and livelihoods development and the ways both can be delivered by good design and clarity about obligations.*

¹Ethics management processes for two of three regional studies did not comply with the standard approach required by the Charles Darwin University's Human Research Ethics Committee.

1.2 What are Indigenous livelihoods on country?

Indigenous livelihoods present a major social challenge for northern Australia, so improved understanding of opportunities and constraints relating to Indigenous livelihoods is, or should be, a dominant research issue. For the purpose of this report we are focusing on Indigenous livelihoods specifically associated with Indigenous country, though some of our deliberations may be more broadly applicable to the many other Indigenous livelihoods that form part of the general economy of northern Australia.

We consider that Indigenous livelihoods on country have the following characteristics:

- they are governed and directed by Traditional Owners of country on which livelihood activities take place, or by other Indigenous people associated with country;
- they are founded on and support Indigenous people's connection to country;
- they are enterprises or activities that provide economic and other social and/or cultural benefits from using, managing, interpreting or researching country;
- they are based on existing Indigenous skills, knowledge and interests, which can be further developed and expanded during livelihood development; and
- they are often protected from competition from non-Indigenous enterprises², through one or more of the following:
 - control of access to Indigenous land and sea country;
 - cultural protocols requiring that only Traditional Owners or their nominees can use, manage, interpret or research country; and
 - requirement for competence in Indigenous language, skills, knowledge and/or practices to deliver livelihood products and services.

This understanding of Indigenous livelihoods on country includes, but is not limited to:

- land and sea management;
- natural resource management;
- cultural resource management;
- Indigenous ranger employment;
- environment and natural resource monitoring and research;
- cultural resource monitoring and management;
- cultural tourism;
- specialist educational services on country;
- environmental, cultural and recreational tourism;
- arts and crafts;
- fire management;
- quarantine and biosecurity services; and
- mixed economies which include using, managing, interpreting and researching resources of country in addition to other livelihoods, including subsistence economies, pastoralism, payment for delivery of environmental services and other commercial uses of natural resources.

² Indigenous enterprises on country may include involvement of non-Indigenous people as partners, advisors, coordinators etc.

Indigenous livelihoods which are not considered here (but are nevertheless valid livelihood options) include:

- mining;
- essential community services (schools, clinics, local government services, law enforcement etc.);
- hospitality services (accommodation and meals etc.);
- social security payments (pensions, single parent payments, family payments etc.); and
- royalties from lease of land or access to resources associated with land.

We acknowledge that this rather narrow definition of livelihoods is problematic. For example, there are some aspects of mining (e.g. cultural heritage surveys or mine-site rehabilitation) and hospitality (e.g. accommodation associated with eco-cultural tourism) which could fit within our definition of Indigenous livelihoods on country. The purpose of the definition is to make clear that we are limiting our consideration of research and development issues to livelihoods closely related to Indigenous connection, knowledge, use and management of country as a subset of the multitudes of livelihoods associated with Indigenous participation in the broader northern Australian economy – all of which occurs on the traditional land or sea country of an Aboriginal or Torres Strait Islander group.

1.3 What is Indigenous livelihoods research?

In the context of this report, Indigenous livelihoods research is the gathering of information and building knowledge of factors associated with considering, establishing, building and maintaining Indigenous livelihoods on country as defined above. Indigenous livelihoods research could therefore include, for example, knowledge about:

- historical, social and cultural factors contributing to livelihood drivers, preferences and priorities;
- capacity and investment thresholds (minimum human, social and financial capital) that enable new livelihoods on country to be established;
- governance, skills and partnerships required to build and maintain livelihoods on country;
- capacity of resources to sustain livelihoods under prevailing or proposed management;
- institutional influences on building or sustaining livelihoods; and
- relationship between livelihoods on country and indicators of Indigenous well-being.

In this report we distinguish between **researching** Indigenous livelihoods on country and **supporting the development** of Indigenous livelihoods on country, while recognising that these two processes are closely linked; in some instances these processes may be distinguished by a difference of emphasis or intent, as much as practice.

An Indigenous livelihoods research project will focus primarily on understanding and rigorously documenting factors associated with livelihoods, while also contributing to the development of those livelihoods as an unplanned or emergent (secondary)

benefit. An Indigenous livelihoods development project will focus primarily on supporting livelihood development that, while also contributing to its participants' understanding of factors associated with those livelihoods, may or may not be systematically reported or analysed.

In our view, understanding these distinctions of emphasis is critical to design of research projects, communication of research objectives to Indigenous participants (individuals and organisations) and others, development of research methodology, selection of researchers and meeting the goals of research funders. This understanding is also critical to productive relationships among all of these actors and Indigenous individuals, groups and organisations.

2 Challenges and Methods in Livelihoods Research

2.1 *The research context - livelihoods and sustainable enterprise*

The term “livelihood” takes many meanings. As used in the community development literature, a livelihood includes the capabilities, assets and activities required for a means of living (Chambers and Conway 1991). Livelihoods defined in this way need not involve participation in the mainstream economy. More narrowly, livelihoods flow from financial reward for work done, and are therefore connected to formal labour and other markets.

Our work is commissioned in a context defined by the TRaCK research program and the federal program that funded it. The title and original descriptions of Theme 6 speak of enterprise, which can also be broadly interpreted, but in context (including associated reference to business models) appears to be aimed primarily at commercial activity.

Accordingly, we have interpreted our brief to require emphasis on activities that connect people to the mainstream economy in one way or another. The work done and products offered may be heterodox, but always involve exchange of money in orthodox commercial transactions taking place within established or emerging markets. This does not mean that activities paid for by the state are not considered as livelihoods, but they will involve obligations on those receiving payments to provide well-specified products or services.

In this interpretation, passive welfare or royalties requiring no additional effort from the recipient are not considered livelihoods, but payment through the Community Development Employment Program, Working on Country Program, Indigenous Protected Area Program and government fee for service contracts are all considered livelihoods. Subsistence livelihoods are not considered directly, although we acknowledge their continued economic and cultural significance (Altman 2003), the need to take account of their importance in considering the plausibility and economic, social and environmental effects of other livelihoods, and their significance as sources of inspiration, innovation and skills for entering commercial markets (Whitehead 2002).

2.2 *Livelihoods Research*

We take research to be the systematic gathering of information and reporting of knowledge on a specified topic. Reviewing other livelihoods research comprehensively and in detail is a daunting task. The encompassing character of the livelihoods concept makes practically anything that contributes to a living a legitimate subject and, within one situation or another, a significant issue for study (Ellis and Freeman 2004).

The community development literature dealing with livelihoods is correspondingly diverse. Several international journals are devoted entirely or mostly to rural development. The issues confronted by marginalised people - struggling to secure livelihoods while confronting difficult social and economic conditions and sometimes intractable biophysical environments - attract the attention of many different disciplines. Hence, many studies deal regularly with such issues from a particular disciplinary perspective. Scale is a further complicating factor: because livelihood success or failure can be determined by factors operating at spatial scales ranging

from the domestic (individuals and households) to the global (markets) and everywhere in between, attention to even a single related issue like governance invites many different treatments and foci.

It follows that our context-setting treatment of livelihoods research is best focused on a few key approaches to the field and issues in implementing those approaches.

2.3 Livelihoods Development Frameworks

Conceptual frames for studying livelihoods are also diverse (Prowse 2008), many being developed to guide delivery of international aid to developing countries experiencing high levels of rural poverty (Hussein 2002). In reaction to criticisms of top-down aid programs of the mid to late 20th Century that paid too little attention to the interests, skills and existing livelihoods of "beneficiaries", many aid organisations have embraced the sustainable livelihoods approach (SLA) and associated framework (DFID 2001). The sustainable livelihoods framework identifies the assets (human, social, natural, physical and financial capital) that people deploy through strategies and actions to produce livelihoods. Their efforts take place within a "vulnerability" context and are mediated by transforming structures and processes, some of which can be accessed and influenced by those seeking livelihoods, while others fall outside their control. Livelihood options are identified by examining assets, strategies and activities against their biophysical, social and economic context as understood and determined by participating individuals and communities (Ellis 2000).

The framework has been criticised as a practical base for design of development interventions on a number of grounds. In seeking comprehensiveness, it invites overwhelming complexity (Prowse 2008). The small scale of analysis inherent in bottom-up approaches may be hard to connect with larger scale realities. Knowledge is viewed as neutral, but the choice of knowledge presented in livelihood assessments may involve many unstated assumptions about the validity of different approaches, and decisions can be influenced by the way knowledge is framed. Weakness in the assumption that good local participation will remove conflict and the risks inherent in picking winning and losing livelihoods (hence winners and losers in the community) is inadequately acknowledged. Political and ideological influences on available choices are often presented as context when they are fundamental to success or failure (Scoones 2009). Sustainability of livelihoods may be confounded with environmental sustainability.

Despite such complications, the sustainable livelihoods framework has been resilient because it provides a working summary of the many moving parts and interactions among them that may need to be considered. The framework is regularly used as the starting point for design of research programs or other conceptual frames, even if only as a point of departure (e.g. LaFlamme 2011). Many researchers deploy the framework mostly as a convenient device to position their work in relation to others and to illustrate how their work differs from or may be relevant to other situations.

We do not seek to place our analysis of issues in livelihoods research explicitly within the detail of the sustainable livelihoods framework. Nonetheless, we have used the sustainable livelihoods framework to provide a "checklist" to ensure that we covered all relevant issues in our consideration of research management process.

2.4 Participatory methods and livelihoods

Chambers (1993) has urged professionals engaged in rural development to adopt simpler, quicker, and strongly participatory methods to determine investment options to alleviate poverty. Rapid rural appraisal (RRA) was developed in recognition of the failures of "top down" technological approaches. An array of field methods was developed and refined, all of which treat the inquirer as learner rather than teacher.

However, approaches can vary along a spectrum between the extractive or elicitive - where the goal is to obtain information from the community for separate analysis outside the site - and facilitating truly participatory work - where analysis, decision-making and implementation are done on site jointly by the external agents (researchers) and the community (Chambers 1994). Participatory rural appraisal (PRA) fully embraces the second approach and is designed to empower local people to take control and, ideally, to institutionalise that control for local decision-making (Ellis 2000). PRA is not associated with the need for speed, but is inherently a gradual and continuing process.

Whilst these methods as summarised here are aimed primarily at community development rather than the accrual of knowledge for knowledge's sake, the ethos and lexicon of participation have been adopted by many researchers working with communities on livelihood issues. There are many variants with different acronyms invoking participation, action and learning through research, but all share a commitment to work at the empowerment end of the well-known ladder of participation (e.g. Pretty et al. 1995). The empowerment process may assume greater importance than other outputs, even if this compromises immediate practical outcomes, policy influence or delivery on the expectations of research funders (Bradbury-Huang 2010; Jacobs 2010).

Recognising tensions between the strong ideological underpinnings of participatory research, however labelled, and more routine interpretations of the role of research as generator of value-free knowledge is, in our view, a critical issue for commissioning, managing and evaluating livelihoods research. We therefore consider carefully the roles and claims of participatory methods in our treatment of good research design and processes for research management.

2.5 Action research and livelihoods

Stringer (2007, p. 1) describes action research as "a systematic approach to investigation that enables people to find effective solutions to problems they confront in their everyday lives". It focuses on localised solutions rather than necessarily seeking generalisations. It is social research fixed on the obligation to make a difference.

This orientation is different from the "traditional" biophysical or economics researcher who will invariably be seeking to apply observations and analysis in a particular situation to understand other situations. An experiment or other study will be designed to permit at least some (specified) level of generalisation and be dismissed as flawed if it fails to provide this capability. Such work may be regarded as highly successful research so long as it adds to knowledge, even if that improved understanding has no

immediate application and some of the participants in the work gain no direct benefit from it.

Assuming an action research orientation places the researcher among other community participants as a significant actor in exploring opportunities and responding to community needs. The researcher acts as much more than a passive observer. But views of how best to be active vary. By definition, all practitioners would see themselves as working to bring about positive social change. Most action researchers would also accept an obligation to engage in critical self-reflection about their practice and its suitability, if only to improve their own performance. The action researcher, in seeking to contribute to resolution of real world problems and as a participant in a "cause" may or may not seek to influence related government or other policy. The extent to which action researchers feel obliged to advance scholarly understanding and contribute to development of theory or new practice is also variable (Stringer 2007).

Differences in the way researchers respond to the challenges of achieving change can be stark. Greenwood (2007), in describing failed attempts to make action research a "sustainable teaching, research and extension strategy" in higher education, bemoans positivism³ in social science as the "vampire" that clings to life strongly enough to inhibit cogeneration of knowledge with communities of interest. Hollander (2009), in contrast, describes scholarly, community-based research as paradox, with researchers frustrated by shifting research questions and pressure to change methods and foci in midstream. He urges the obligation to keep a core theoretical framework and methodology intact.

In our view, trade-offs among the various roles that an action researcher may choose or be capable of delivering are inescapable. Researchers can be challenged to make appropriate choices and maintain focus to satisfy the interests of their various audiences and collaborators (Hollander 2009; Jacobs 2010). A researcher claiming significant local benefits may find it hard to demonstrate the nature and scale of those achievements.

Claims of local contribution to livelihoods development or, less directly, to capabilities that might enhance community uptake of opportunity (like greater knowledge or confidence) are difficult to assess over short time frames. Benefits are inherently hard to measure and are cumulative, making it hard to attribute them to a particular intervention or experience. To compensate for the absence of robust measures of success but nonetheless convince important interests in their work, managers of participatory and/or action research projects may choose to document and analyse in detail the nature of the interactions they fostered, the other participants' responses and (perhaps) implications for other work.

Those who make funds available for such work have other obligations to different audiences. They will often be obliged to weigh and demonstrate contributions to effective and rewarding use of public or other funds. Even if an action research project is thought by community participants to have helped solve a significant local problem,

³ Positivism can be described as the view that science, including social science, necessarily involves a search for general laws based on rigorous scrutiny of observations and measurements.

those interested in solving similar problems in other settings will wish to know whether an equivalent investment elsewhere has a reasonable prospect of success. To make that judgment they may ask questions; examples are given below.

- How much did the result depend on the skills and experience of the particular practitioner? Did the individual researcher(s) play a personally critical role or was their contribution mostly to bring people together and provide for structured interaction that led others in the community to complete the task?
- Was the outcome dependent on the efforts, credibility and skills of one or a few individuals in the community? Are individuals with similar qualities likely to be encountered in other settings?
- How resilient is the apparently successful solution? Does its long-term success depend on additional investments or other follow up?
- Can the approach adopted be applied to different sorts of issues, or groups of different size, history and cultural backgrounds?

If the on-ground problem-solving fails, funders and researchers will be faced with a different but no less valid set of questions about the reasons for failure.

In considering options for design and management of livelihoods research, we will look at the particular issues raised by strong action research orientation for problem-framing and the approaches to research management needed to ensure that questions of the sort important to funders and policy-makers can be answered.

2.6 *Trans-disciplinarity and livelihoods*

Livelihoods research is inescapably multidisciplinary. Dealing effectively with just natural resource management technical issues requires multiple scientific disciplines. For example, failure to understand production, economic or environmental implications of livelihood options raised by community members, and a related inability or unwillingness to react meaningfully to such ideas can damage important aspects of the consultative process: by creating expectations that cannot be realised and failing to support growth in communities' ability to undertake their own analyses. Sustainable development requires much more than a simple aggregation of individual preferences (Roling 2002).

Chambers (1993) challenged professionals engaged in community development to recognise their biases and weaknesses and to be prepared to learn from their clients, the rural poor. Rist et al. (2007) discuss sustainable governance of natural resources (and hence sustainable livelihoods) as a component of rural development in which the science of natural resource management is part of a wider social learning process, drawing on much more than the science disciplines. They argue that science should not dominate the development agenda, but take account of and support resolution of questions raised from a plurality of views and ethical frames. Existing interdisciplinary fields of study like ecological economics, political ecology, and sustainability science do not yet integrate all the issues requiring consideration (Tacconi 2011).

Negotiating the places of biophysical and social sciences in a genuinely trans-disciplinary approach to development requires considerable skill and deep understanding of the strengths and limitations of the particular knowledge and

prevailing methods. Learning will come from well-informed interactions among the different perspectives. Finding ways to bring the necessary mix of expertise to bear and to foster positive and productive interactions are complex and difficult tasks (Mueller et al. 2012).

Success requires that different contributors understand and respect variation in the perspectives, methods and obligations that their colleagues and collaborators will bring to the same problem or research question. Because perspectives can be so different, risks of misunderstanding, confusion and collectively unsatisfactory outcomes cannot responsibly be ignored or their resolution entrusted to individual researchers, particularly in cross-cultural settings. Furthermore, learning about improved modes of interaction among economists, biophysical and social scientists, community development practitioners and community is likely to be lost if there is no-one specifically briefed to observe, analyse and report those interactions and their implications.

In our proposals for improving livelihoods research design and management, we seek to deal directly with issues in achieving high quality and efficient trans-disciplinary research.

2.7 Livelihoods research and livelihoods development

In summarising some of the dominant approaches to livelihoods research we have already touched on what we regard as a key issue: namely the differences between “livelihoods research” and “livelihoods development”. As summarised above, livelihoods research focuses on developing an understanding of the multiple factors contributing to or inhibiting livelihoods. Livelihood development, on the other hand, is about trialling, supporting and achieving livelihoods.

We suggest that **livelihoods research** requires:

- an understanding of, and capacity to apply, research methodology;
- knowledge of relevant research literature, findings and discourses;
- interest/motivation to explore underlying and contextual social, cultural, economic and environmental issues that impact on actual or potential livelihoods; and
- capacity/objectivity to reflect, analyse and report on research findings in a way that can enhance the discipline, including by contributing to livelihoods development in the case study area and elsewhere.

We suggest that **livelihoods development** requires:

- individuals or groups motivated to develop livelihoods;
- an understanding of aspirations, motivations and capacities of the people concerned;
- capacity to establish appropriate governance and administrative arrangements;
- capacity to secure investment and expertise to trial livelihood options; and
- human and other resources to initiate, maintain and learn from livelihood trials.

While there is overlap between these sets of requirements, there are also clear differences of substance and emphasis: livelihoods research **primarily** focuses on contributing to the body of knowledge and understanding about livelihoods (with some possible benefits to livelihoods now or in the future); livelihoods development **primarily** focuses on immediate support to local livelihoods (with some possible contribution to enhancing livelihoods more generally).

These differences in substance and emphasis also require different skills and experience that are unlikely to be found within one person or one organisation. Community groups motivated to explore options for livelihoods development may have little or no interest or expertise in research outcomes and their utility for others.

Under the rubric of participatory action research, Indigenous livelihood research projects typically set out to contribute to both livelihood research and livelihood development. In practice, however, our experience indicates that, depending on the relative influence of many factors, Indigenous livelihood research projects tend to become focussed primarily **either** on livelihood research **or** on livelihood development. We conclude that factors contributing to this outcome include:

- difficulties in finding the skills and experience required for both approaches within one person or one organisation; and
- devolution of the project either to a research institution (which will favour a research focus, perhaps to the exclusion of development outcomes) or to a community-based organisation (that will favour development outcomes, perhaps to the exclusion of research outcomes).

Failure to deal explicitly with the differences of method and emphasis, availability of skills and resources that will flow from choice of institutional setting invites suboptimal outcomes. We consider that all of these issues and influences need to be carefully considered during project design and systematically re-visited during project execution.

3 Managing Livelihoods Research

Participants in Indigenous livelihoods research need to devise project management and monitoring arrangements that address the challenges, disciplinary issues and competing interests alluded to above. Our observation and analyses of the significant, inter-related influences on the "quality" of research outcomes in the area of Indigenous livelihoods research are summarised below.

3.1 *Divergent expectations*

Many different parties will have legitimate roles in identifying the need for improved knowledge to support Indigenous aspirations and their expectations will vary considerably. Divergent expectations regarding the purpose and the products required of research programs and projects can be anticipated among:

- **research funders**, who understandably believe they can prescribe the research objectives they are funding, notwithstanding the limitations imposed by the pool of available researchers, the time available for the project and the aspirations/capacities of Indigenous partners or other stakeholders;
- **administering organisations**, who will be guided both by their contractual obligations to funders and to their own corporate goals and responsibilities – which will inevitably be broader than the specific focus of the research project;
- **other participating organisations**, which may include government agencies, non-government conservation organisations, business enterprises (e.g. mining companies, tourism enterprises, etc.) with their own motivations for engagement, notwithstanding their overall support for the project;
- **researchers**, who will have their own unique set of skills, interests and priorities, notwithstanding their agreement to pursue the research objectives prescribed by the funders;
- **local or regional Indigenous partner organisations**, who are likely to be primarily motivated to meet the immediate needs of their constituent groups, notwithstanding their agreement to participate in a research project with multiple objectives, only some of which may relate to meeting immediate community needs; and
- **other participating individuals and their communities**, who will have their unique, unpredictable and changing interests and priorities, notwithstanding their apparent support for the goals of the project, about which they may have limited understanding at commencement.

Diversity of views and expectations is not in itself necessarily destructive or unwelcome, but may become so if not actively analysed and managed. Weighting given to various expectations will be variable from project to project. But where active participation of Indigenous people is sought on questions relating to their livelihoods, it will be critical to ensure that their expectations are well understood and informed agreement obtained on all of the objectives, methods and deliverables. If the task of achieving and communicating clarity is seen as too onerous, then it is improbable that the research itself will be competent.

Options for managing divergent goals and expectations include:

- more active promotion of funder expectations during negotiations about participation and project design;
- explicit acknowledgment by participants regarding their exposure to and understanding of the expectations of funders;
- full participation of would-be Indigenous participants in project design, including support to ensure genuine collaboration in framing of research questions and project design, despite language and other barriers;
- clear statements from Indigenous participants and their partners regarding their expectations of the research and the products they expect to see delivered;
- specific description of all outputs expected from the project, including standards to be met by those outputs (while allowing for a degree of flexibility and re-negotiation of outputs during the project);
- projects claiming participatory or action research methods to go beyond use of these labels to specify clearly how research or other acceptable outputs of the relevance and standards required will be achieved;
- exploration during project design of related activities on which projects will depend, including assessment of implications for the type of research outputs realistically achievable given other demands and priorities;
- conduct of during-project reviews by experienced researchers with an understanding of funder goals: that is, a review **process** rather than an end-of-project review **event**; and
- written agreements that effectively capture all of the above and are endorsed by all participating groups and their organisations.

3.2 *Livelihoods research or livelihoods development?*

Projects can be irreparably compromised from the outset if inadequate attention has been given to assessing whether the task at hand is likely to benefit from and contribute to livelihood research or whether it would be better addressed by a project designed explicitly to support livelihood development. Only when such an assessment is made can realistic decisions be made about selection of project personnel, partners, timeframes, community engagement processes and management arrangements. If, as is common, the project goal includes both research and development objectives, then the project team, partners and management arrangements should reflect these multiple objectives and have mechanisms in place to track progress towards them all.

The need for identified personnel to pursue the separate research and development objectives is not based solely on the different expertise required for each role. Even when researchers have the personal capacity to provide practical support to livelihood development, their obligations to their discipline, employment institution and future career prospects are likely to limit the time and effort they can realistically devote to pursuing livelihood development objectives. These constraints need to be acknowledged and dealt with.

Based on experience, it is our view that:

- livelihoods research may be better directed at understanding factors associated with existing, developing or failed livelihood enterprises than being the catalyst

for foundational governance or eliciting and documenting aspirations, because these catalytic benefits are less likely to predictably produce publishable research outcomes;

- there is a great demand and need for flexible funding to support foundational, exploratory livelihoods development projects, with sufficient time and resources to facilitate trial enterprises, distinct from research programs; and
- if both sets of objectives - research **and** development - are sought then both sources of funding need to be available.

3.3 Goal drift

Even when explicit research and development objectives have been identified and agreed to at the outset, the multi-stakeholder and multi-disciplinary nature of Indigenous livelihood projects makes them vulnerable to “goal drift”; that is, a deviation from the agreed goal and objectives over time (Hollander 2007; Jacobs 2010). Some of this drift may be dictated by the needs and aspirations of participating communities, some by decisions and predilections of individual researchers and in other cases by efforts of a research or other participating institutions to “bend” project goals to fit available expertise.

In addition to processes dealing with drift, there is also the countervailing need to permit sufficient flexibility to respond to outcomes and changing priorities during the life of the project: to enable goals and objectives to be modified in response to changing circumstances and project achievements.

Whether the need is to keep the project on track or to enable it to take appropriate new paths, addressing the challenge of goal drift requires robust project monitoring, review and management process – all of which are complicated by the diversity of interests typically engaged with a livelihoods project.

3.4 Supervision and review

To address the issue of goal drift and overall prudent project management, research projects require appropriate forms of supervision and review, while allowing appropriate levels of professional independence for researchers and their community partners.

Options for a supervision and review process for Indigenous livelihood projects include the identification of a reviewer/mentor, who maintains a dialogue with project researchers and community participants, and who undertakes a more formal review at appropriate intervals (e.g. 6 or 12 months). The role of the project reviewer/mentor would be to:

- identify early shifts in direction and either prompt correction; or
- where appropriate, ensure that funders and program managers understand the reasons for change of direction and the benefits of endorsing change; and
- identify the most productive areas of re-focus and reporting.

For some projects it may also be appropriate to establish a formal advisory committee or reference group that can provide feedback and guidance on the progress of the project at regular intervals. Such groups could be integral to the formal review

process, but also provide informal advice to research managers to help keep the project on track. These review processes need to be negotiated and agreed to at the commencement of the project, and linked to project payments and/or other incentives to ensure that agreed processes are followed.

3.5 Scope and timeframes

Considerable pressures are exerted on researchers to include ambitious objectives during the development of livelihood research project proposals: funders look for significant research outcomes for their investment; research institutions expect their staff to attract high levels of research funding, deliver high quality publishable results and collaborate productively with community partners; Indigenous groups and organisations seek to address pressing community needs in return for accessing Indigenous land and collaborating with researchers.

Collectively these pressures can lead to an over-ambitious scope of objectives which in reality would be difficult to meet in the best of circumstances in the time typically available. Unavoidable delays and disruptions caused by collaboration across disciplines and engagement with community partners in remote locations means that the best of circumstances is unlikely to occur, resulting in apparent under-achievement of the project and disappointment for all parties involved.

Perhaps as a result of funding and other institutional pressures, researchers in all disciplines may incline towards over-optimism about potential outcomes. However, livelihood project proposals are potentially subject to more than usual pressures to celebrate their significance because of the diversity of stakeholders involved. These can, in turn, also generate more sources of disruptions and delays, making inflated objectives even harder to achieve.

An alternative approach would be to be more transparent about anticipated delays and disruptions as integral to project design, and develop more achievable project objectives. This could involve negotiating a set of core objectives that all project participants agree are reasonable within the time, funding, and disciplinary and community constraints. Added to these core objectives could be supplementary objectives which could be pursued if circumstances permitted.

Related responses to inadequate timeframes and management of other risks inherent in community-based research livelihood projects include:

- flexibility to carry over funding beyond the formal end of a program, subject to submission of satisfactory interim (core) products to pursue supplementary outputs, perhaps by attaching them to ongoing programs administered by the same or other compatible agencies;
- timely truncation of projects at new endpoints that the project reviewer or advisory group identifies as still capable of producing valuable outputs, with or without adjustment of funding; and
- decisive cancellation of projects when obstacles are regarded by the project reviewer or advisory group as incapable of resolution in the time available, subject to a transparent process that allows project participants to adequately respond to reviewers' recommendations.

3.6 Research capability in north Australia

Research capability in north Australia has long been recognised as inadequate for meeting management and policy obligations (ASTECC 1993). This situation has been ameliorated to some extent by the growth of capacity in Charles Darwin University (previously Northern Territory University), the Australian Institute of Marine Science (AIMS) in Darwin, James Cook University in Townsville and Cairns, and the Edith Cowan University in Broome; but concurrently, state and territory governments have run down their research capability. The north continues to depend on researchers from southern centres, many mobilised through research collaborations like TRaCK or, in the past, the Tropical Savannas Management Cooperative Research Centre. Some southern-based researchers have long-established collaborative relationships with Indigenous communities in north Australia.

Difficulties in obtaining the services of well-credentialed researchers are exacerbated when they are required to subordinate their own research interests to undertake projects which require:

- **collaboration across disciplines**, which limits opportunities for researchers to achieve particularly valued outcomes and publications in their specialist field;
- **responding to the needs or preferences of particular communities**, which requires time, effort, outcomes and accountability relating to community engagement – activities which are generally not given appropriate recognition by the employing research institutions;
- **implementation of research projects designed by others**, which places the researcher into the role of quasi consultant with limited flexibility to influence the direction of the project; and
- **limited research management experience of Indigenous organisations**, which constrains their access to the required network of research expertise and their capacity to oversee the activities of researchers engaged on livelihood projects.

The consequence of these constraints is that researchers may choose not to engage in collaborative projects with Indigenous communities, or those who do must reconcile competing priorities and expectations from their community partners and their employing institutions. These difficulties for individuals, the limited pool of researchers familiar with north Australia, the particular shortages in some critical disciplines (e.g. economics), and the additional time and effort required for good community engagement, all combine to make assembling a high quality team extraordinarily difficult. These weaknesses in the research capital needed to make meaningful contributions to livelihood development among north Australia's most disadvantaged populations is a serious shortcoming of our current research industry and culture.

Even research institutions that sign up to collaborative, trans-disciplinary, community-based livelihood research projects have difficulty adequately recognising and rewarding the effort, expertise and commitment of researchers who undertake the engagement and community support activities that are essential to enable the research component of projects to succeed. Criteria for assessing research excellence give no weight to compensate for the greater complexity of inter-

disciplinary and trans-disciplinary studies (ARC 2011) or costs of operating outside familiar disciplinary terrains, but continue to emphasise tallies of publications in high impact journals rather than the spectrum of high-demand activities that make productive livelihoods research possible. Acceptable evidence of application of research outcomes is confined to indicators like patents rather than (admittedly difficult to measure) indicators like increased human or social capital.

Options for dealing with lack of research depth and the particular demands of livelihoods work in the north are to:

- extend timeframes for development and execution of projects to provide sufficient time to search for and engage with high calibre researchers who understand and accept the challenges;
- explore different models for execution of research, including direction of local activity by skilled non-researchers with support from a highly experienced researcher/mentor or panel of researchers (this option connects with proposals for regular review of community-based projects);
- ensure full access to Indigenous knowledge and perspectives by securing involvement of Indigenous people with knowledge and skills particularly relevant to the particular project;
- advertise project availability early and widely, offering opportunities for interested researchers to shape project design to facilitate their involvement by dialogue with participating communities and funders;
- re-assess criteria for measuring researchers' achievements, including formal recognition of community engagement and support as a legitimate (and essential) component of professional research practice; and
- where scoping studies are undertaken prior to commencement of livelihoods research projects, wherever possible ensure continuity of involvement of researchers and others who undertook the scoping study throughout the project's span.

3.7 Research Traditions

Biophysical and social researchers arguably inhabit different worlds (e.g. Shapiro 2005). Most biophysical researchers embrace their discipline's present dominant paradigm within which normal enquiry proceeds by puzzle solving drawing on accumulated knowledge (Kuhn 1970), to which they seek to add. Some social researchers regard this orientation as flawed when applied to human systems and especially problem solving in social life (Shapiro 2005). The action research analogue of hypothesis-testing in physical sciences is "some form of development that is tested by its ability to enhance the lives of the people with whom it is engaged" (Stringer 2007, p. 12). Capacity to generalise is accordingly de-emphasised.

Integrating divergent views of the role of researchers into a single coherent program is obviously difficult. Reconciling different approaches and expectations requires considerable intellectual flexibility on the part of the program managers, as well as an acceptance of potentially very different ways of measuring success, operating to different timeframes. It is difficult if not impossible to test whether an interaction has genuinely enhanced lives in the relatively short time available in most research

programs; working out how changes in well-being of Indigenous participants might best be measured in itself would require a major research program.

Working effectively across research traditions first requires acknowledgment that genuine, strongly held and intellectually and ideologically robust differences exist that need to be managed. Once past that basic difficulty, other options for management include:

- negotiation regarding the form of research products, including papers publishable in peer-reviewed literature;
- agreement among program managers, researchers and community on other clearly specified measures of research performance, prior to finalisation of, and integral to, project design;
- agreement on the benefits sought by and for the community through their participation in the research program, which may extend beyond formal research products;
- explicit agreement among Indigenous participants that they are prepared to participate in an action research project and all that this entails for the role of the researcher and the nature of the research products; this is a large task in itself and one which may need a staged process of agreement-making as the project proceeds and as more community engagement occurs;
- encouragement of multidisciplinary projects that encourage interactions among researchers from different traditions for accumulation of mutual understanding and respect to facilitate increasingly productive interactions; and
- whole-of-research-management-chain agreements in which the senior leadership of researcher institutions (e.g. Deputy Vice Chancellors for research) formally acknowledge the community engagement and support expertise and efforts of researchers and their significance for individual projects and sets of projects.

3.8 Ideological influences

Appropriate roles for the state in securing Indigenous socio-economic development are contested. For example, those who consider that the state has an essential ongoing role in supporting regional and Indigenous livelihoods development (e.g. APONT 2011) obviously have a different view of the value of government programs from those who regard a strong state role in maintaining on-country programs as "green welfare" and as inherently debilitating (e.g. Hughes and Warin 2005). There are obvious risks of ideologically driven decisions to (i) omit some options from consideration and/or (ii) skew assessments of the value of some options.

Government has for some time been active in the Indigenous livelihood arena through an array of land and sea management and conservation programs. The scope of opportunities is in flux as government policies change and new livelihood opportunities emerge. Recent examples of these changes with respect to livelihoods on country include:

- the evolution of the Working on Country (WoC) Program to include funding for Indigenous rangers working on government-owned land, when previously WoC funding was only allocated for rangers working on Indigenous-owned land;

- the recent expansion of the Indigenous Protected Area (IPA) concept to include multiple tenures, whereas previously IPAs were only established on Indigenous-owned land; and
- the carbon farming, fire abatement and other emerging forms of environmental service enterprises that were not available until very recently and that increasingly accommodated Indigenous perspectives during their development.

The evolution of such programs illustrate risks of discouraging engagement with livelihood options based on extraneous criteria such as organisational preferences for private over public funding (e.g. Winer et al. 2011), despite the potential of these livelihoods being of interest to Indigenous people. Positive social change is arguably best achieved through community access to, and unbiased consideration of all available options.

Unless Indigenous communities and groups have unfettered access to the full range of livelihood options on country and the unbiased advice necessary to realise them they will continue to struggle to gain a foothold in the contemporary Australian economy. As well as being inconsistent with the notion of community empowerment, it appears to us antithetical to the goals of independent research, as a generator of knowledge of social values, to actively exclude some important options from consideration by Indigenous landowners, whatever the motivation for exclusion.

At the level of individual researchers, it may be possible to do action research without bringing to bear particular ideological positions, beyond a belief that the role is to bring about positive change for the community in which the work is done. A fundamental tenet is that the people living with a problem or opportunity are best equipped to determine an optimal response, if they are offered the right support. Judgments about what constitutes the right support are therefore critical. Those judgments will often be made by the researcher and informed by his or her experience and preferences. However, unless and until accounts and results of interactions are properly documented and carefully reviewed by other participants and independent observers with knowledge of the issues under consideration, it is impossible to know whether the right support was in fact offered to foster optimal decisions, or whether it was skewed, omitted much of significance or was deficient in other ways.

Action research in the contexts reported here will almost always involve strong asymmetry in the power to interpret, articulate and present conclusions. Power is vested mostly in the facilitator/researcher. In the absence of comprehensive and detailed analysis and reporting, of community-based case studies, much has to be taken on trust – hence the need for monitoring and review processes (Section 4 below). Such processes will not be infallible, but they may reduce the possibility that some potentially viable livelihood options are not seriously explored due to preferences, experiences or ideological positions held by participating researchers or management organisations.

Operating in politically difficult situations increases the obligation on program/project managers to ensure that research design and, ultimately, research products accepted by them will withstand the most rigorous scrutiny and uphold standards that are most simply applied through peer review. Options for bringing this scrutiny to bear include:

- processes of within-project review being assiduously followed in projects applying action research methodologies with review wherever necessary involving multidisciplinary teams;
- early submission of progress and all other reports to peer review; if necessary making payments to reviewers from research budgets to ensure response quickly enough to inform adjustments; and
- arrangements for providing timely community access to technical expertise on issues raised during community exploration of livelihood options.

3.9 Community valuation of research

Many would-be participants in the community-based livelihood studies would have had little or no prior involvement in or knowledge of formal research. They certainly could not be expected to identify strongly with the obligations of the researchers to produce high quality research products. Consistent with the action research model, most participants in relatively disadvantaged communities could, understandably, be expected to be motivated by expectation of benefits to their families or the community more broadly.

No or limited interest in the formal research component of livelihood projects makes robust community scrutiny of research achievements and outputs unlikely. A corollary of this situation is that the project achievements of importance to community participants, such as the establishment of foundational governance arrangements, the collating of community aspirations and the first practical, tentative steps towards establishing an enterprise on country may not qualify as a significant research outcome, even though these may be watershed, catalytic events for community members.

These competing perspectives increase the significance of peer review and other project monitoring and communication processes to ensure that the contributions of projects are fully understood.

Options for ensuring that all perspectives and achievements are adequately reflected and properly recognised in project outputs include:

- negotiating output products, formats and audiences as part of initial and/or ongoing research agreement processes;
- preparing plain English summaries of livelihood research and development outcomes in whatever formats are best suited to the various audiences;
- developing a communication strategy that ensures that all links in the project chain (funders, research institutions, researchers, Indigenous organisations, community members etc.) are adequately informed of all project progress, problems and achievements at regular intervals through its life;
- withholding final contract payments until satisfactory materials, including comprehensive and high quality communications, are provided; and
- agreeing on processes for submission of material that can be treated as endorsed by participants as part of initial contract negotiations.

3.10 Incentives to examine and take up livelihood opportunities

The sustainable livelihoods framework was refined within international government programs (DFID 2001) that had an attached capacity to deliver sizable resources to realise at least some of the plausible aspirations of community participants. However, livelihoods research in Australia is typically not linked directly to investment and implementation opportunities. For Indigenous livelihood research partners a degree of faith is required that the effort and “humbug” of engaging in livelihoods research will be rewarded in some way. For Indigenous participants, faith is required that research outcomes will lead to new, implementable livelihood options; for researchers dependent for their livelihoods on publishable research, faith is required that that research outcomes will lead to professionally credible and publishable findings. Given their current level of social and economic disadvantage, stakes for Indigenous participants are arguably greater, as are the rewards if research findings do lead to livelihood outcomes.

Despite the disjuncture between Indigenous livelihood research and investment in Indigenous livelihood development, it should be noted that opportunities for investment and partnerships to support Indigenous livelihoods on country are probably greater now than any time in the past. There are many examples of on-country research and planning projects (e.g. country-based planning, Smyth 2007, 2012; Indigenous Protected Area planning, Hill et al. 2011; fire management in savannas, Whitehead et al. 2008, Russell-Smith et al. 2009) that have led to successful and sustainable Indigenous livelihoods. There have also been many research and planning projects that have produced no tangible outcomes, other than cynicism or wariness about collaborating with researchers or planners. The lack of strategic policy and investment support for livelihood development on country remains a barrier to Indigenous participation in research that could facilitate additional sustainable livelihoods.

A further disincentive to collaborating in research projects with no guaranteed follow-up for implementation is that Australia offers its citizens welfare safety nets that support those who fail to find a rewarding livelihood. These safety nets are withdrawn only if there is evidence of prolonged and systematic abuse. It follows that individuals, families, and communities resident in remote areas where formal employment is very limited are rarely forced by necessity to take up uncongenial livelihoods. They will continue to receive basic support indefinitely and so retain an element of choice about acceptable livelihood options. This obviously reduces incentives to search assiduously for livelihoods that will, in most remote situations and for people with limited formal education, require hard physical and/or monotonous work in difficult conditions that challenge even those in good physical health.

Many Indigenous people in remote Australia have shown that they regard livelihoods that involve working on their country to manage lands, seas and renewable resources as especially congenial (e.g. NLC 2006); indeed, caring for country has been termed a “propitious niche” in the contemporary Australian economy for many Indigenous people (Greiner 2010). Even where better paid and physically less demanding alternatives (e.g. in mines) may be available after formal training, many Indigenous people make the choice to undertake land and sea management work. This is hardly surprising given Indigenous cosmology and the powerful and enduring obligations to country that are fundamental to it. But these are the very livelihoods that depend on

programs about which there is institutional antipathy in some locations, based on contested visions of economic development for Indigenous communities in remote Australia: the countervailing view to Indigenous environmental management as an economic propitious niche is to dismiss this livelihood option as “green welfare” (Pearson 2010, citing ACIL Tasman). In part this disquiet probably originates in concerns about elites from outside the region seeking to constrain freedom to use local resources (Korten 1987; Whitehead and Storrs 2003; Winer et al. 2011).

All of these factors can work against enthusiastic engagement in an open and comprehensive search for livelihood options. Options for increasing relevance of and participation in future research programs for livelihoods development include:

- arrangements to expose community participants to a wide array of relevant options agreed as part of project design;
- arrangements to provide the expertise and other resources to fully "test" technically the most favoured options identified by communities;
- explicit linkage to implementation programs for actions to secure the most plausible options once tested, so that there can be confidence that good work will lead to real investments in rewarding livelihoods; and
- careful and rigorous assessment processes ensuring only projects that have strong community support are selected and tendency of individuals or organisations to engage for other unrelated purposes is overcome.

4 Suggestions for Managing Livelihoods Research

We have shown that the significance of the issues and the nature of livelihoods research are sufficiently different from more routine biophysical research, particularly in the level of participation required from communities and the additional complexity this brings, to require additional processes for project selection, design and management.

Based on the considerations outlined in the preceding section, we recommend that the following suggestions be considered by all parties involved in design and delivery of livelihoods research and development, including funders, program managers, Indigenous organisations, individual researchers and community members.

Securing benefits for Indigenous participants and their communities.

1. Ensure, by careful and rigorous pre-approval assessment, that only projects with strong community support are selected, noting that support is likely to be strongest when projects are initiated by or designed in collaboration with participating communities.
2. Give preference to projects that are backed by government programs or other opportunities for implementation of options once tested through the research, to increase confidence that good work will lead to real investments.

Securing delivery of funder goals.

3. Promote clear recognition of funder expectations during negotiations on participation and project design.
4. Reject projects that appear to offer community engagement for purposes connected only indirectly to funder goals.
5. Require explicit acknowledgment by all participants of their exposure to and understanding of the expectations of funders.

Managing expectations of all participants.

6. In all agreements, clearly describe all expected research outputs, including standards to be met by those outputs, as well as the nature of outputs other than formal research products.
7. Secure clear statements from partners and Indigenous participants about their expectations of specific research and products or outcomes they seek.
8. Negotiate the form of research products needed to meet all expectations, including papers publishable in relevant peer-reviewed literature where appropriate.
9. Require written agreement among program managers (including senior leadership of participating organisations), researchers and community on clearly specified measures of research performance, prior to finalisation of project design.

Reconciling divergent approaches to research.

10. Go beyond participatory or action research labels to specify methods clearly and show how outputs meeting expectations of funders and other participants and meeting required standards will be achieved.
11. Secure explicit agreement from Indigenous participants that they are prepared to participate in an action research project and understand what that entails for the

role of the researcher and other participants and the nature of the research and other products.

12. Provide for staged agreement-making process as community engagement expands to ensure that all participants have genuine understanding of their roles.
13. For proposals requiring indirect or weak interactions with communities show why more direct engagement is not sought and how outputs will be relevant to and suitable for use by communities.
14. Ensure that all projects obtain necessary formal ethics approvals from an appropriate organisation, irrespective of how organisations supervising research view their entitlement to present the views of Indigenous participants.

Understanding context.

15. During project design review information on activities funded from other sources on which projects will depend, including assessment of implications for the type of research outputs realistically achievable in the context they create.

Supervision and review.

16. Implement a process for regular project review rather than a single end-of-project assessment.
17. Conduct reviews with experienced researchers who also understand funder goals.
18. Identify reviewers during project design for all community-based projects to maintain a dialogue with project researchers and undertake more formal reviews at appropriate intervals (between 6 and 12 months apart depending on the duration of the project).
19. Require the project reviewer to identify shifts in direction and either prompt correction or, where appropriate, ensure that funders and program managers understand the reasons for change of direction and the benefits of endorsing change.
20. Submit progress and all other reports to peer review at an appropriate level before formal project completion; if necessary paying reviewers from research budgets to ensure prompt response.
21. Ensure effective communication of the implications of all reviews to all parties.

Maintaining flexibility.

22. Contain project ambition/scope to recognise the probability of delays in design, agreement on, and execution of community-based projects.
23. Provide extended timeframes for development of projects sufficient to search for high quality and appropriately experienced researchers.
24. Provide for carry-over of funding beyond formal program end, subject to satisfactory interim products, or for truncating projects at new endpoints still capable of producing useful outputs.
25. Support decisive cancellation of projects when obstacles are regarded by the project reviewer as incapable of timely resolution.
26. Explore different models for execution of research, including direction of local activity by skilled non-researchers supervised by a competent researcher or panel of researchers.

Securing proper expertise.

27. Assess the capability of the relevant research management organisation and its access to established researchers with experience in community-based research.

28. Ensure that resources are available to secure active participation of Indigenous people with the knowledge and skills needed to optimise outcomes.
29. Where necessary, advertise project availability widely, offering researchers opportunity to shape project details by dialogue with participating communities and funders.
30. If research management capability is clearly inadequate, seek other external supervisory arrangements.
31. If research capability is marginal, supplement local supervisory capacity with strong support and review arrangements, and use the opportunity to build local capability;
32. If significant doubt remains about research management capacity, refuse funding, irrespective of other merits of the proposal.
33. Specify arrangements for providing timely community access to technical expertise on issues raised during community exploration of livelihood options.
34. Encourage multidisciplinary projects that provide assessments under all dimensions of sustainability.
35. Consider the potential benefits of establishing a selection panel and/or technical advisory group to guide the development and management of the project.

Program managers should ensure that written agreements effectively capture all of the above. In particular, they should assure themselves that the projects will have access to a full, "balanced" team needed to secure outcomes. Effective teams will usually include a local champion who has credibility with the community engaged in the research, cross-cultural (including language) skills, and a personal interest in livelihoods development. Securing the services of such an individual (or small group) should be a condition of project approvals.

5 Conclusions

The multi-disciplinary arena of livelihoods research should be of interest to all those committed to seeing improvements in the well-being of north Australia's Indigenous people. Good livelihoods research can help realise economic, social and cultural benefits from land ownership and rights in resources associated with lands and seas. However, we do not under-estimate the difficulties involved in work of this sort, especially for Indigenous participants who until recently have had no serious opportunity to consider how to go about asserting control over their assets and financial futures.

Many small businesses started in the mainstream economy fail within a short time, even though they do not face the geographic, logistical and climatic disadvantages of remote north Australia. Mining companies offering generous wages and conditions experience difficulty attracting people to work in these environments. Expertise-driven, well-financed efforts to develop large-scale agriculture have mostly failed across north Australia. Smaller, family-based pastoral businesses in Cape York Peninsula and more marginal parts of the Northern Territory sometimes return incomes not much better than welfare. It is clearly unreasonable to expect Indigenous people to support large family groups, clans or communities from the environments and resources on areas of land equivalent in size to some pastoral properties or to imply that this might be possible. Rather than justifying withdrawal, these challenges require that all efforts to find solutions are based on the best possible research and analysis, approached in ways that add to total capacity to take up opportunity.

In north Australia, recent major interventions aiming to improve socio-economic conditions in remote communities have not been directed primarily at searches for livelihood options, but to improve delivery of basic services and address symptoms of social dysfunction. We are aware of no significant ongoing programs for investments for developing remote Indigenous livelihoods that would warrant the time, money and "humbug" that serious application of a process such as the sustainable livelihoods approach as precursor could require. There could be no confidence that such effort would result in investment in opportunities identified by communities, no matter how sound the proposal and its assessments.

Organisations like the Indigenous Land Corporation and Indigenous Business Australia will invest in ventures (livelihoods) that meet criteria for commercial viability, but appear to have limited discretion to engage in the riskier development of ideas and capability that depend on combination with other incomes or might contribute to successes over the longer term. There remain large gaps between good ideas and viable businesses with few bridging options. These are seen in all research and development processes, but the gaps are likely to be substantially wider in cross-cultural and remote settings.

Further, incentives to seek out new livelihoods - that on any historical analysis will be have a high probability of failure - are weaker than in many developing countries, where escape from extreme poverty is the primary goal. Even though many Indigenous Australians are disadvantaged economically and in many other ways compared with non-Indigenous people, welfare safety nets, subsidised housing and health services ensure that basic needs are met.

In north Australia, emphasis on orthodox enterprise development may have more to do with top-down delivery of political ideology and concerns about the effects of passive welfare on society than poverty *per se*. All sides of Australian politics make regular calls for Indigenous people to seek and take up paid employment or develop businesses. Many Indigenous people wish to escape welfare "poison" and the social breakdown that is believed to flow from it (Pearson 1999). However, the "price" they are willing and able to pay for the livelihoods options available to poorly educated people in remote locations can be expected to vary, just as it does in non-Indigenous communities. It is unrealistic to expect uniformly enthusiastic, bottom-up exploration of the often unappealing livelihood options that may be all that is available, especially if accessing them weakens discharge of responsibilities to lands recently returned to them through land claims.

In acknowledgement of variation in incentives, it is imperative that both livelihoods research and livelihoods development work have the unambiguous support of identified individuals and groups within the community, before embarking on what is inherently challenging work that represents only the beginning of a process requiring determined long-term effort from all participants. Enthusiastic government support for all or even a significant subset of apparently favourable options should not be assumed. The same neo-liberal ideology that seeks withdrawal or reduction of welfare also works in opposition to government subsidy or other intervention to "pick winners" in enterprises or create subsidised work schemes, in remote regions or elsewhere (Duff and Tonts 2000), except perhaps where the political benefits are obvious and immediate. There are no grounds to believe that new purpose-built programs designed explicitly to support enterprise development in remote areas are contemplated by present state, territory or national governments.

This is not to say that substantial new opportunities are unavailable to residents of remote areas. The Carbon Farming Initiative (CFI) creates an array of options for Indigenous landowners and land managers (e.g. Russell-Smith et al. 2009) to engage with voluntary and regulatory markets. More generally, policies for biodiversity and other offsets for residual environmental damage caused by major developments may also see the emergence of new markets that remote Indigenous people are well placed to access. Market recognition of the contribution of good land management to water resources accessed by others may ultimately be among these opportunities.

These could be fertile grounds for future livelihood research projects; a related research objective would be to gain a better understanding of the factors contributing to the strong uptake (propitiousness) of Indigenous land and sea management opportunities in comparison to other economic options when available. There are instances where research can support and better understand existing momentum in Indigenous livelihood development, rather than beginning with "greenfield" aspirations with no history of initiative or momentum.

This brief review has identified the current system of professional recognition and reward for researchers as a key structural weakness in the Australian research culture which militates against best practice Indigenous livelihoods research. A system that does not adequately "account" for the skills, time and commitment devoted to community engagement and support activities that are essential to achieve best

practice research outcomes will continue to result in inadequate delivery of research services to address Indigenous livelihood needs.

This has led some Indigenous communities (e.g. Kowanyama on Cape York Peninsula) to commission their own independent research, thereby to an extent liberating the researcher interested in community development from the narrow measures of performance currently applied by the academy (e.g. ARC 2011). While this approach places the research agenda firmly in the hands of Indigenous people themselves, it can access only a relatively small pool of independent researchers. We would urge the research community to undertake sufficient reform of the professional recognition and reward system to enable maximum access for Indigenous people to the research expertise that Australia has available, whether they be located at universities, CSIRO, other institutions or operating as private consultants; the challenges of Indigenous livelihoods and well-being are too great and too pressing to limit the pool of researchers available to respond.

The challenges facing Indigenous entrepreneurs in north Australia are daunting. It is foolish and patronising to expect quick and enduring successes. Real progress will require extraordinary innovation, stamina, and supportive policies. We hope that our brief review will be interpreted as it is intended: as a contribution to better targeted and managed investments in developing the knowledge and skills needed to underpin sensible and supportive policies and programs in Indigenous livelihoods.

The suggestions we have made will have costs and, if implemented in full, will consume an appreciable portion of the modest allocations presently available for Indigenous livelihoods research. However, continuation of present approaches to livelihoods research and development could ultimately cost much more through recurring failure. Potentially worse, flawed processes may discourage further investment in both livelihoods research and livelihoods development. The socio-economic plight of many Indigenous people and the enhanced contributions they can make to their own well-being demand better.

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