

NEW DIRECTIONS FOR FACILITATING QUALITY AGRICULTURAL DEVELOPMENT IN NORTHERN QUEENSLAND

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ABSTRACT: There are major opportunities for growing the value of agriculture in northern Queensland. The agricultural development industry, agricultural investors and the wider community, however, have communicated their frustration with the processes for the prioritising, planning, assessing and approval of new development. For agricultural developers, a clear and low-risk pipeline of new and sustainable agricultural opportunity progressing towards investment is not readily accessible. Equally, a recent audit and review of the operation of the Commonwealth's *Environment Protection and Biodiversity Conservation Act* suggests that current regulatory arrangements also might not be adequately protecting environmental values. Both development and community interests have raised specific concerns about impediments to new investment and the achievement of sustainable agricultural development in northern Queensland. This research project explores these known but complex problems, but finds that the overall system of prioritising, planning, assessing, approving and monitoring compliance in northern Queensland can't be described as fundamentally broken. The research does, however, find that to achieve investment and sustainable agricultural outcomes, significant effort is needed to address key dilemmas. While water development only represents a part of the agricultural development story, the research optimistically suggests that the visionary development of sustainable agriculture in northern Queensland will contribute to national water security. Water security will also be crucial to building economic resilience post-pandemic and in the wake of structural change in the state's resources sector. With innovative approaches, agricultural, environmental and Indigenous interests in development can be reconciled. Without the resolution of these issues, however, further investment in positive, private sector-led agricultural development will continue to face procedural inefficiencies, conflict and investment uncertainty.

KEYWORDS: Agricultural development, de-risking, investment, northern Queensland.

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1. INTRODUCTION

There are strong local, state and Australian Government, industry and community aspirations for agricultural development in northern Queensland. Indeed, the development of Northern Australia has long been a national aspiration with a recent resurgence of focus (Dale *et al.*, 2020). At the highest level, these aspirations are made clear in the *White Paper on Developing Northern Australia* (Australian Government, 2015). After three years of active implementation, it remains clear that the northern development agenda is critical to a more prosperous and secure future for many regions and all Australians (Association for Sustainability in Business, 2019). At the same time, the nation and all jurisdictions expect a high standard of protection of key environmental and cultural values in Northern Australian landscapes and catchments. Progress on facilitating sustainable agricultural development, however, has faced many challenges. Significant risks and barriers still inhibit the successful journey from agricultural development concepts to investment and sustainable operation.

In this context, *agricultural development* is a general term related to a variety of agricultural and aquacultural expansion processes and practices that create entirely new production systems and/or increase the value of current production systems. Examples include the development of new irrigated and dryland cropping systems, horticulture, the emergence of new agricultural services, and the intensification of cattle production. Such developments might involve public or private investment and traverse a range of planning, assessment and approval processes. In all cases, agricultural development in Northern Australia, and in northern Queensland in particular, needs to occur in an economic, socially and environmentally beneficial way. It must also contribute to an increasingly diverse, integrated and value-rich agricultural processing and services economy. Further in this context, the term *de-risking* refers to the way that policies, regulations and operational planning, assessment and approval processes (of both governments and agricultural development investors)

aid or enable sustainable and legitimate investment in agricultural development.

Governments at all levels have a facilitative role in setting the policy frameworks for, and actively attracting investment for agricultural development in, existing agricultural estate and greenfield districts. Healthy governance and policy frameworks are vital in supporting regional, rural and agricultural development. Consistent with a renewed governmental focus on “regions” and “place” in reframing quality policy making, it is important for Commonwealth, state and local governments to empower rural communities to guide, facilitate and monitor progress towards their agricultural development priorities. This need to improve the interface between policy, regulation and investment decisions in regional Australia was explicitly recognised in the recent Productivity Commission report into regional development (Productivity Commission, 2017). While few solutions were proffered, this finding was reinforced by a key thought-piece by AgriFutures which identified “unresponsive regulation” as a risk to growing agriculture nationally (ACIL Allen, 2019). In considering this, it is necessary to keep Queensland’s regions and rural communities both investing locally while also drawing investment from the rest of the nation and the world. This requires investment certainty provided by bilaterally agreed policy frameworks and stronger regional self-determinism.

Over the last three decades, Queensland has undertaken significant policy and regulatory reform to improve decision making that might deliver strategic direction and improved security for agricultural investors (e.g. establishing statutory approaches to the allocation of water rights, improved mechanisms to resolve tenure insecurities, etc.). Many regulations have also been established to protect and better manage environmental values and natural resources. In many cases, these reforms have emerged from the need to meet international, Commonwealth and state policy and strategic obligations (e.g. reform required under COAG’s National Water Initiative (NWI) or the Commonwealth’s *Environmental Protection and Biodiversity Conservation Act*). While governments accept these global and bilateral obligations, there is evidence that the processes and approaches for de-risking landscapes for agricultural investment and environmental protection remain quite problematic within the regions (Cobcroft *et al.*, 2020; Chilcott *et al.*, 2020; ST Strategic Services and Pivotal Point Strategic Directions, 2020).

Importantly, there is considerable evidence, however, that this wider range of policy and regulatory settings might also not be effectively and adequately delivering protection of the north’s environmental and cultural values. In respect to Commonwealth responsibilities in this field, this

problem has been most recently recognised through the recent Commonwealth Auditor General's report relating to referrals, assessments and approvals of controlled actions under the Environment Protection and Biodiversity Conservation Act (EPBC Act). In an unambiguous statement, the report states that "despite being subject to multiple reviews, audits and parliamentary inquiries since the commencement of the Act, the Department of Agriculture, Water and the Environment's administration of referrals, assessments and approvals of controlled actions under the EPBC Act is not effective" (Australian National Audit Office, 2020, p. 8). Particular concerns related to the application of risk analysis, approval conditioning, compliance, conflicts of interest, and general procedural governance have been raised. While the report seeks to address quite specific procedural requirements under the Act, there are broader and more strategic tensions within the wider context in which the Act is administered, leading to the current and similarly critical independent review of the Act (Samuel, 2020). These tensions, which often relate to the landscape scale resolution of development/environment interactions, suggest more could be done to resolve incongruence between agricultural, Indigenous and environmental values (Dale, 2014).

As a consequence, this study explores how effectively our current processes (from national to local scales) for prioritising and facilitating agricultural development planning, assessment, approval and investment are working in and for northern Queensland. It also analyses the consequent governance, policy and delivery frameworks for attracting investment in sustainable agricultural development. The study is based on a literature review, context mapping, workshops, interviews, and surveys with relevant government, industry and community stakeholders. The research also explores how other jurisdictions (globally and nationally) are tackling this problem. This leads to a series of recommendations to improve the wider system of derisking places for agricultural investment. In doing so, the project aims to assist local, state and Commonwealth governments, investors and other stakeholders to work together more effectively to attract agricultural development.

2. CONCEPTUAL FRAMEWORK AND METHODS

This research is one of three studies commissioned by the Collaborative Research Centre for Northern Australia (CRCNA) to investigate de-risking for agricultural development in Northern Australia. The Western Australia study has been undertaken by the Western Australian Government. In the Northern Territory, the CRCNA and Northern Territory Government

jointly appointed a consultant (NAJA Business Consulting Services) to complete the work. In Queensland, James Cook University and the Queensland University of Technology have undertaken the work on behalf of CRCNA in close consultation with Queensland Government, industry and the community sector. Clear and open lines of communication were maintained between the CRCNA, James Cook University (JCU), Queensland University of Technology (QUT) and Queensland Government throughout the process. This included consultation about the scope of the research, the targeting of key participants, and interview and survey questions. The project plan was assessed by JCU's Ethics Committee and the research was carried out with a commitment to confidentiality and rigor.

Data collection and analysis was undertaken in three phases:

- **Phase 1: Literature Review** - A thorough review of the academic and grey literature (policy, legislation, industry reports, feasibility studies, etc.) was undertaken about existing and proposed agricultural water developments in catchments across northern Queensland. The review canvassed the contextual challenges and opportunities for such developments, and sought to explore (where possible) the potential agricultural areas that could be made available under specific schemes;
- **Phase 2: Data Collection** - Data collection was undertaken through interviews and a survey. Interviews with targeted representatives from industries, communities and governments, across sectors and roles, were undertaken via video/phone and lasted approximately 45 minutes each. The survey was distributed to representatives from industry and the community using professional networks and social media (see Tables 1 & 2);
- **Phase 3: Data Analysis** - Data were analysed using theoretical coding techniques (Flick, 2006). This involved manually sorting the data (interview summaries and survey responses) into initial themes drawn from the questions asked of participants. Themes for the 'barriers' and 'enablers' for agricultural development, for example, were established based on participant responses. During a recurrent process of visiting and revisiting the data, impressions, associations, questions and ideas were noted and thematically

grouped. This process of abstraction led to robust insights that form the basis of our findings.

The findings are presented along key themes and priorities emerging from the data collection and analysis (Flick, 2006). A draft of these findings was shared with all participants as well as key stakeholders from the Queensland and Commonwealth governments.

Table 1. Interview Participants, n=41. Source: the Authors.

Sector	Number of interviewees	Characteristics
Primary producers	5	Range of industries including aquaculture, horticulture, sugar and beef.
Industry and non-government	12	Range of organisations including State and Commonwealth advocacy and peak bodies representing agriculture, aquaculture, water, the environment and Indigenous interests.
Financial and consulting institutions	5	Range of local and national service providers including major banks and small agricultural consultancies.
State Government agencies	8	Dept. of Natural Resources Mines and Energy (DNRME), Dept. of State Development Manufacturing, Infrastructure and Planning (DSDMIP), Dept. Agriculture and Fisheries (DAF).
Commonwealth agencies and agricultural finance bodies	11	North Queensland Water Infrastructure Authority (NQWIA), Northern Australia Infrastructure Facility (NAIF), Regional Investment Corporation (RIC), Clean Energy Finance Corporation (CEFC), Dept. Agriculture Water and the Environment (DAWE)

Table 2. Survey Participants, n = 35. Source: the Authors.

Sector	Number of respondents	Range of roles and occupations
Agricultural processing	1	<ul style="list-style-type: none"> - Business owner (9) - Consultant (7) - Industry development officer (5) - Employee/contractor (4) - Industry/sector advocate (4) - Industry supplier (1) - Other (5)
Agricultural logistics	1	
Aquaculture	1	
Broadacre cropping	2	
Horticulture	8	
Forestry	2	
Livestock	1	
Environmental or social impact management	8	
Other	11 (Planning, development, marketing, supply chains)	

3. RISKS AND OPPORTUNITIES THAT INVESTORS NEED TO MANAGE TO PROGRESS AGRICULTURAL DEVELOPMENT

PricewaterhouseCoopers (PWC) (2020) has undertaken a significant amount of work exploring the potential agricultural development investment interest in Northern Australia and the key risk-based issues that various types of investors consider to be important in the context of that investment. PWC (2020) explains that investors require various types of information to make informed decisions. PWC considers that the type of investor has an impact on the importance of each type of information, however, the information required is generally similar across most agricultural investor types. Information requirements are also based on the relative importance of the current barriers to investment, consultations with key stakeholders, and general investment requirements. Some of the key generic information or knowledge requirements are shown in Figure 1.

With these knowledge-based requirements having been clearly established through the PWC work, the following unpacks some of these key thematic investment risks and priorities identified from the wider community and investor viewpoint. Detailed outcomes from the review of the literature are provided in Dale and Marshall (2020). Here, based mainly

on the interviews and surveys, we first outline the key risks or impediments to investment in sustainable agriculture, inclusive of some of the issues that were raised during the interviews and surveys.

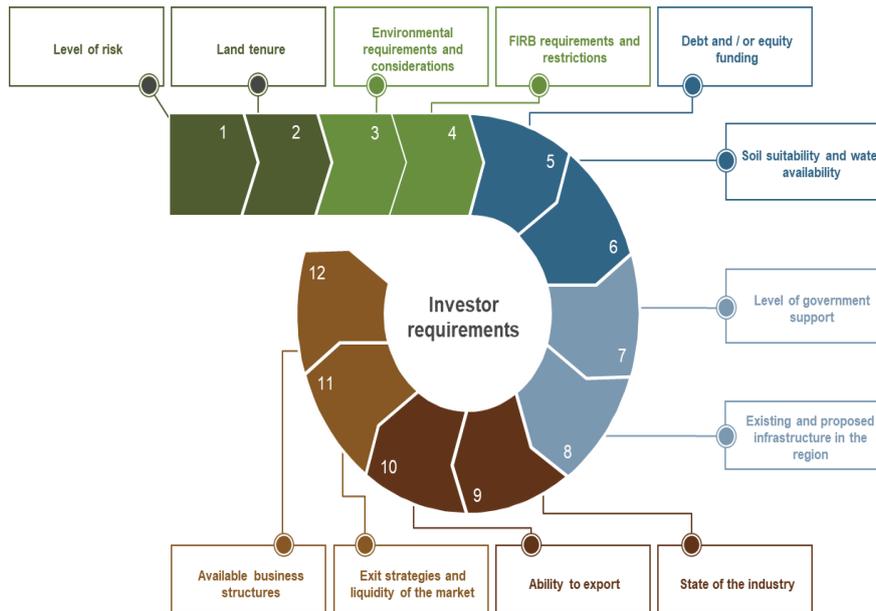


Figure 1. Agricultural Development Investor Information Requirements.
Source: PWC (2020).

Overview of Survey Responses

Our research confirmed that each of the risk areas identified by PWC and the literature overviewed by Dale and Marshall (2020) are relevant to the northern Queensland context. Survey data provided more nuanced insights into the specific risks to agricultural investment in northern Queensland. Several of these impediments were identified in the literature review and preliminary discussions with the Queensland Government and other stakeholders. Then, survey respondents were asked to rate the severity of potential impediments to agricultural development. Figure 2 shows that logistics and supply chains, vegetation management, and water allocation are the top three impediments, with approximately 50% respondents saying these impediments were either 'significant' or 'extreme'. Labour supply and access to markets were also notable risks to agricultural development investment, with 40% of respondents rating these as either 'significant' or

‘extreme’. Figure 2 further shows that all listed risks were considered to be an impediment of some sort. For all items, at least 60% of respondents said the risk was at least a moderate impediment. Conversely, responses suggesting some risks are ‘not an impediment’ were limited (i.e. no more than 10% of responses suggested there was no associated impediment).

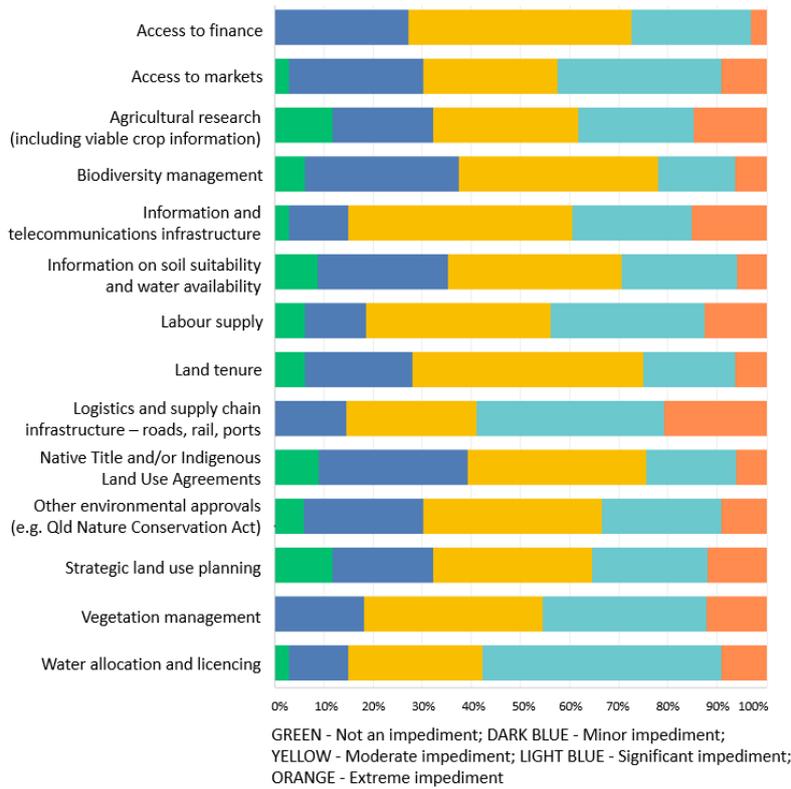


Figure 2. Survey Responses Rating Severity of Risk/Impediment to Agricultural Development. Source: the Authors.

The survey also sought feedback from respondents about experiences in engaging with the necessary processes to negotiate risks and impediments to development. Again, from a pre-determined list, survey respondents rated their experiences with different processes from ‘very good’ to ‘very poor’. Figure 3 shows that respondents often felt ambivalent about their experiences (neither good nor bad). In the face of this ambivalence, it can be difficult to identify where the greatest issues exist in the system. On the other hand, we can also deduce that processes for agricultural development

in Queensland *can* be navigated to achieve development goals. In the context of the interviews and literature review, we interpret these results as being indicative of proponents lacking clear pathways to development. As will be discussed further below, research participants said they can often feel lost and frustrated because mechanisms for strategic planning, resource allocation and prioritisation are inaccessible or absent from the development coordination process. There is often a lack of active facilitation by governments to assist proponents to navigate the legislation, regulation and policies across departments that must be involved. Notably, polarised experiences (indicated by a higher number of both good and bad experiences) relate to water planning and licencing. We suggest this is because of the binary experiences of those with and those without access to existing water and water distribution infrastructure.

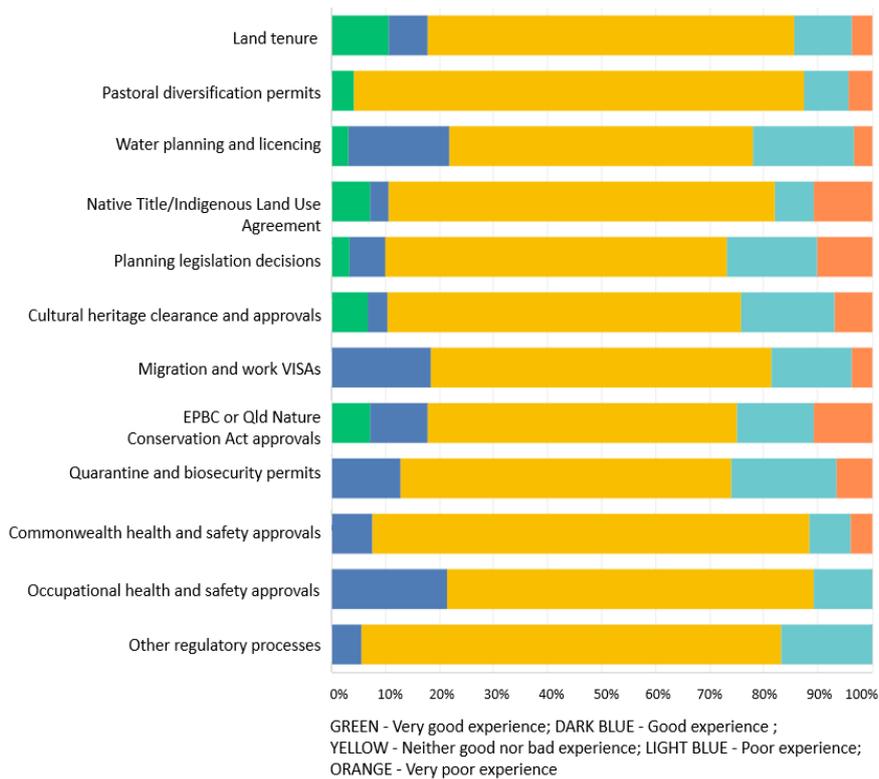


Figure 3. Survey Responses Rating Experiences Dealing with Regulation. Source: the Authors.

Overall, the survey results suggest that investors and proponents face several risks and significant challenges to their sustainable agricultural development ambitions, often in parallel. By drawing on some comments made by survey respondents, we now provide some more specific insights into various aspects of the development processes that can present challenges for proponents:

- *Planning context* - Governments must navigate a complex line between guiding sustainable agriculture planning and administering competitive assessments in an unbiased and transparent manner. This can lead to a nexus where proponents seek guidance from governments that governments can be unwilling to provide for various reasons. Some respondents said that they struggle to understand government priorities, which could help strategically guide their investments. Others suggested that the planning context (in which governments have a role to help set the appropriate conditions for investment) would benefit from planning and coordination across the value-chain. While some respondents felt that “synergies and lateral strategic opportunities are not always obvious”, the goal should be to achieve the most optimal outcome for the greatest number of stakeholders possible (even though not everyone can be satisfied with the outcome in all cases). This is highly applicable to water allocation and security strategies;
- *Government interface and processing* - Respondents observed that working with several state and local governments, and across different departments, can present challenges. Approvals processes can be lengthy and expensive. As one respondent said, “red tape strangles projects”. Faster-track options such use of the Coordinator General can be effective, but proponents of projects going through regular approval processes can become confused and disillusioned. Other respondents commented that some junior staff who deal directly with proponents may not have the skills, knowledge or inter/cross-departmental influence to progress applications effectively;
- *Environmental management* - At the Commonwealth level, several respondents cited the *EPBC Act* as being problematic for several reasons, such as lack of enforcement. Others noted inconsistencies and duplication between Commonwealth and State environmental management policies, namely the *EPBC Act*, *Vegetation Management Act (Qld)*, and the *Nature Conservation Act (Qld)*.

The lack of timely decisions on environmental matters were also cited as an area of frustration. In particular, legislation and regulation in relation to the Great Barrier Reef were considered to be highly contested, with some sectors arguing for tighter controls and compliance, and others suggesting that the current regulations (i.e. zero net emissions) are too prohibitive;

- *Indigenous land and cultural interests* - Some respondents reported positive experiences in relation to policy developments that relate to Indigenous interests in land. Others noted tenure-related complications. One Indigenous-related respondent, for example, noted that Aboriginal freehold land provides opportunities for secure and certain development, yet transferring land into investable tenure forms can be an unnecessarily lengthy process. Also, Indigenous development interests considered that Traditional Owner institutions can lack the capacities and resources needed in preparing for the assessment of their developments (as is often also the case in the pastoral sector) and;
- *Knowledge supporting decision making* - Respondents noted that limited agronomic knowledge and skills on-farm can be an impediment to sustainable agricultural development. Moreover, it is not always cost-effective to access these resources externally, especially in remote areas. While continued research and development (R&D) is important, respondents said a greater challenge is the uptake of R&D.

4. PERCEPTIONS OF OUR CURRENT SYSTEM OF INVESTMENT ATTRACTION AND APPROVAL

Perceptions and experiences of investment attraction and approval in northern Queensland were garnered through the literature review, surveys and interviews. Here we mainly draw on interview data to share our findings regarding four key questions:

1. Where do you think the top three priority places for agricultural development in northern Queensland are?;
2. What factors are getting in the way of attracting new investment in agriculture in northern Queensland?;

3. What factors are supporting new investment in agriculture in northern Queensland?; and
4. How might the system or process of de-risking or supporting agricultural investment be improved?

We conclude this section by considering who is responsible for instituting changes, and the possible role of governments in de-risking agricultural investment in northern Queensland.

Priority Regions and Sectors

In response to the question of where agricultural/aquacultural investment would be most strategically directed, two key themes emerged: (i) building on existing infrastructure to expand operations; and (ii) undertaking new development in well-resourced and supportive contexts. First, respondents almost universally said that investment should be focused on building on and making better use of existing infrastructure to expand production. This is primarily about using existing infrastructure to its full capacity and leveraging nearby resources and services to intensify production. This could include:

- Making use of the substantial amount of existing unallocated bulk water (i.e. the cost-benefit estimates of existing systems is usually based on 100% water use);
- Improving efficiency of existing irrigation systems through, for example, on-farm water-recycling;
- Adopting new technologies (e.g. sensors, drones, etc.) and big data to support decision making;
- Diversifying crops using mixed/mosaic cropping methods (e.g. beef/sorghum);
- Adopting circular farming methodologies (e.g. aquaculture/algae; sugar/biofuel);
- Bolstering production in less risky/impactful sectors (e.g. horticulture/aquaculture have fewer inherent environmental risks than dryland agriculture); and
- Leveraging/expanding existing supply chains, including labour, land tenure and markets.

Respondents said that, in many cases, it can be more productive and cost-effective to develop brownfield rather than greenfield sites. They also considered that incremental growth can be less risky and more sustainable and lucrative than servicing major upfront capital costs in new areas. Respondents also made suggestions about where *not* to develop, such as

where there is high risk to the Great Barrier Reef. Second, respondents said that new developments should occur in places that sequence well with existing agricultural supports and should rely on the development of genuine, strong business cases. Key considerations for establishing greenfield water/agricultural developments include:

- Ensuring access to established supply chains and markets/exports;
- Minimised or reduced environmental impact;
- Establishment of a strong social license to operate;
- Ensuring there is equity of water resource distribution;
- Ensuring access to labour/skills/knowledge; and
- Catering for the need to provide tenure security.

Respondents specifically suggested that well developed mapping overlays (e.g. soils, rainfall, vegetation and biodiversity) could be used to prioritise where new development is possible, viable and desirable. Moreover, many respondents considered that new developments should be more locally and farmer-led, with end-user demand established in the early planning phases. Others considered that agricultural developments should also be targeted towards economic and social outcomes, such as bolstering Indigenous-led enterprise and developing new markets (e.g. cotton).

What Parts of the System are Working Well?

Despite the various barriers and challenges, agricultural development is occurring across northern Queensland. In response to the question about factors that are supporting agricultural investment in northern Queensland, insights emerged under four themes: innovation, research and development; organisational and financial supports; policy, planning and regulatory reforms; and development building on existing infrastructural foundations. First, respondents said that there are several agricultural entrepreneurs who are adapting to contextual challenges and opportunities, including becoming early adopters of new technologies. Southern farmers are moving north in search of more secure water, and they are establishing crops that have not before been grown at scale in the region. New aquacultural enterprises are also thriving in the north, and farmers are adopting mosaic farming techniques to diversify and to intensify their production. Many of these innovations are underpinned by world-leading research being undertaken in the north and across Australia in institutions such as the Commonwealth Scientific and Industrial Research Organisation (CSIRO), Central Queensland University (CQU) and JCU. Under ideal conditions, research also informs on-farm decision-making for

existing and expanding operations. Furthermore, expertise relating to water and agricultural development is potentially an international export in itself. Some respondents said, however, that knowledge is not easily attained by or distributed to producers in a timely fashion.

Second, some organisational, financial and regulatory supports are becoming increasingly available from a range of commercial or financial entities. Some finance institutions, for example, have developed a diversity of products that cater to the agricultural sector and they are incorporating sustainability criteria into their products. Government-funded relief packages for farmers and concessional loans (not enjoyed by other industries) are appreciated and are effective in many instances, however respondents felt that they need to be administered more flexibly. Low returns from agriculture remains a key constraint to finance access.

Thirdly, respondents noted some welcome reforms to policy, planning and regulation. It is generally strongly agreed that the development of water resource plans and associated strategies provide direction to investors. Recently instated rolling leases on pastoral land also provide certainty for proponents. More broadly, there appears to be inter-governmental support for Queensland having established a stronger agricultural development policy and planning framework relative to the other jurisdictions (NT and WA). Finally, some developments are leveraging existing infrastructural foundations, such as roads and facilities, that have been built up over recent decades. There have also been important improvements to livability, skills development and social/health infrastructure that support economic development, including in agriculture. Respondents said there is an appetite for developing pastoral assets and consolidation, and incremental growth in several segments and markets. Infrastructure development to support agriculture and aquaculture should remain a priority in northern Queensland, such as sealing the Peninsula Development Road (in progress), and there are opportunities to further work with Infrastructure Australia to fill gaps.

What Parts of the System are Not Working Well?

In response to the question about what the barriers are to sustainable agricultural development, different insights emerged in four key areas: finance and investors; legislation and regulation; governance and planning; and context and culture of farming. First, respondents considered that it can be difficult for farmers to access the necessary finance to establish or expand their enterprise. Contributing factors include:

- Expensive operating costs;
- Financial strain owing to external factors (e.g. water price, drought);
- Inherent risk in expanding;
- Under-developed financial literacy (e.g. pricing of outputs, strategic vision); and
- Costly planning and approval processes.

The research also identified a gap in financial support in the finance system for small-medium agricultural enterprises. Northern Australia Infrastructure Facility (NAIF), for example, is levered to larger developments. Moreover, banks and other institutions that do lend to individuals need to meet responsible lending rules and may not in a position to loan. It can also be difficult for investors (both domestic and international) to navigate northern Queensland's development, commercial and regulatory landscape to make informed investments. Respondents said that in the absence of centralised information, investors struggle to assess opportunities, risks, and the comparative advantage of options. This is leading some investors to focus their attention on less complex interstate or overseas contexts (e.g. Association of Southeast Asian Nations (ASEAN) countries). Also, international investors can struggle to understand contextual issues specific to Northern Australia (roads, telecommunications, long distances, etc.).

Second, proponents can struggle to navigate complex Commonwealth and State-level legislation and regulation. At the Commonwealth level, several respondents said the *EPBC Act* is problematic (also see Dane *et al.*, 2020). While there is bilateral support for the legislation, there are governance issues (which are addressed in the recent review), including misalignment with State and Territory legislation, which creates the duplication of approvals. There are also non-compliance issues, perhaps owing to a lack of enforcement. At the state-level, many respondents suggested that the *Vegetation Management Act* is too prohibitive. Overall, respondents expressed frustration with conflicts, unresponsiveness and duplication between the Commonwealth and Queensland governments, especially in relation to land use classifications, environmental regulations, and cultural heritage rules. Several considered that the interpretation and application of regulations can vary across sectors, making it difficult for proponents to understand their responsibilities. On the other hand, government agencies noted that proponents often submit (knowingly and unknowingly) non-compliant applications, which causes unnecessary backlogs in the approvals process.

Third, respondents suggested that current governance and planning frameworks for sustainable agricultural development in the north are ineffective. At the strategic level, respondents said that political agendas tend to motivate decision-making about infrastructure investment rather than prioritised efforts based on science and consultation. Unlike the mining and gas industries, several considered that there does not seem to be a unified approach to agricultural development at Commonwealth or state levels. Others commented that feasibility studies are expensive, ad hoc, and take years to complete. In relation to effective investment prioritisation, several respondents discussed ad hoc applications from independent proponents, undermining all-of-catchment planning and resource management. Composing robust business cases can be complex, costly and lengthy, and engaging consultants to assist can be expensive. Moreover, respondents said that when approval applications are submitted, the outcomes can often be quite doubtful, which deters investors from committing capital in the founding stages of the development process.

Fourth, the context and culture of farming in northern Queensland present challenges to sustainable agricultural investment and development. Environmental factors include climate variability and unpredictability (e.g. water, soils), threats to the Great Barrier Reef and legacy environmental degradation. Conversely, the drought in southern Australia is driving farmers to invest in Northern Australia, which has greater rainfall and water security, presenting strategic opportunities for Queensland industry and government. Respondents suggested that these opportunities may be stifled by cultural factors, including siloed industries; emphasis on competition over collaboration and coordination; traditions of farming one product/reluctance to diversify; and deficiency in end-to-end farm business skills for modern contexts.

Priorities for System Improvement

The key areas for improvement identified by respondents were: ‘big picture’ policy settings; regional coordination; streamlining policy and legislation and incentivising innovation and sustainable practices. First, respondents said that a high-level vision and strategy for agricultural development in northern Queensland would greatly assist proponents to assess opportunities and risks associated with various investments. Moreover, a development strategy would help ensure that investments are made in the most viable and lucrative locations, while protecting environmental and cultural values. This strategy should explicitly support agricultural development across governments and jurisdictions by setting,

delivering and monitoring targets. Respondents considered that such a strategy, and associated policy, legislation and regulation, could be a first step to centralising information for investors by gathering and re-packaging development requirements for explicit industries and development project types. This could be supported by an investor chaperoning/brokering capacity to explicitly service potential investors in northern Queensland. Second, respondents advocated for industry-led, government supported approaches to regional or sub-catchment coordination of agricultural and water developments. Creating mechanisms by which cooperatives of proponents can organise to articulate and execute developments together would help relieve risk from individual proponents and contribute to more effective use of resources. Respondents stressed that government involvement (both state and Commonwealth) is essential, but such processes could be more independently facilitated to ensure that the strategic directions set to meet the shared needs of different interests. Mechanisms to facilitate this strategy could build upon existing place-based approaches to planning for a whole-of-catchment resource management strategies with a commitment to triple bottom line outcomes. This more community-led development approach would enable regions/catchments to leverage strengths and mitigate risks and promote cooperation rather than competition between local farmers.

Third, respondents suggested that streamlining policy and legislation could best be achieved by setting a visible and strategic vision for water and agricultural development in northern Queensland, as described above. Governments should work together to define desired outcomes and priorities (for water, development, environmental, conservation, social/cultural values) and then formulate policy and legislative refinements that supports the achievement of long term targets. This should include clear delineation between the roles of the Commonwealth (e.g. oversight and benchmark setting) and states (e.g. administration and processing). More specifically, respondents called for governments to link planning and resource approval systems into broader land use planning and to set clear ecological ambitions and constraints. Moreover, respondents observed that, currently, developments are assessed as feasible (or not) according to a very narrow economic logic (i.e. cost-benefit ratio). This could be improved by incorporating genuine triple bottom line factors into the initial assessment. In relation to specific mechanisms to support proponents to meet their obligations, several respondents advocated for management practice accreditation to be collated for each sector/industry. This would enable specific and appropriate expectations to be set for

different types of development and clearer guidelines to proponents. Other respondents suggested that government-employed case managers could guide proponents through all applications, ensuring consistency and compliance across departments.

Fourth and finally, respondents suggested that industry could benefit from the strategic integration of innovative products and markets into new and existing industry and agricultural operations. Proponents, for example, could be offered education and support to leverage biodiversity and carbon markets into agricultural supply chains, and to invest in small scale operations that cater to niche markets. To further promote sustainable development, it was considered that governments could do more to incentivise and/or reward farmers to meet sustainability targets that exceed legislative or duty of care obligations.

Who is Responsible for System Improvement?

Considering the above insights about barriers and enablers of agricultural development and the suggested priorities for improvement, we now consider who is responsible for such system improvement and what should be done. In the online survey, respondents were asked to consider what local, state and Commonwealth governments should do to prioritise, de-risk and broker sustainable agriculture and aquaculture. Figure 4 shows responses for a selection of possible activities that governments could be involved in. Respondents felt most strongly that governments should ‘have a can-do culture within and between governments/departments that process permits and approvals’ (i.e. some 60% of respondents said governments *must* do this). Likewise, the nature of interactions between proponents and bureaucrats and its impact on the smooth flow of processes and outcomes was raised by several interviewees. Figure 4 also suggests that there is an expectation that governments do or could play important roles in: supporting biosecurity and risk management (including cross-border biosecurity with other state/territory governments); investing in improved public infrastructure, such as roads, rail and ports (i.e. some 80% of respondents said governments *must* or *should* do these things). While interviewees strongly agreed that critical infrastructure is an important responsibility of governments, biosecurity did not emerge as a strong theme (perhaps because proponents were more focused on thinking about experiences of planning and establishing developments rather than operating them). Respondents were divided on what governments should *not* be doing. This was particularly evident for ‘investing in improved infrastructure for processing facilities and factories’. This disparity could

have arisen from differing views about the level of financial assistance governments should give to private enterprise.

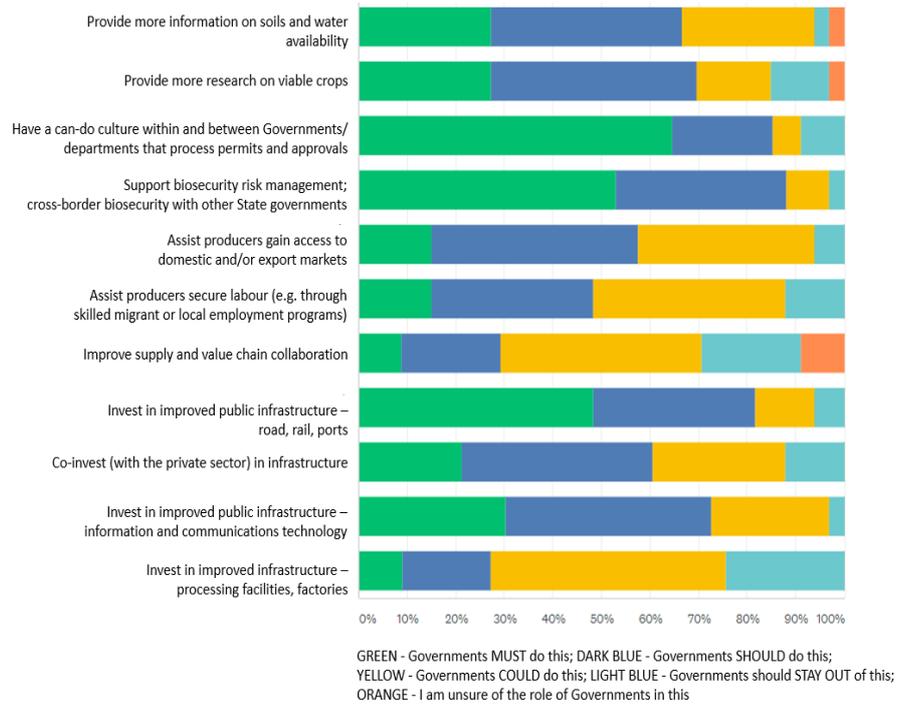


Figure 4. Survey Responses about What Local, State and Commonwealth governments should Do to De-risk and Broker Sustainable Agriculture. Source: the Authors.

The interviews support this thesis, with many respondents seeking greater assistance to access markets and co-investment arrangements, rather than direct or fully subsidised investment by the government in processing.

The survey also asked respondents about what additional things industry could/should do to facilitate sustainable agricultural development. In free-text fields, respondents made their own suggestions. Three key themes emerged from the most frequently appearing words in the free text fields. First, related words such as *market*, *product* and *affordable* reflect a sentiment that industry has a significant role to play in establishing the means to get products to customers through robust, cost-effective supply chains. One respondent observed that “often growers are distant from the actual customer and what they want, and as far as I am aware, every customer wants more traceability on product/company/culture claims.”

Streamlining the processes for getting products to markets, and adding value for customers, could be achieved by more open communication and information sharing across regions and sectors (e.g. sharing supply chains and machinery and/or processing/packing facilities). It was considered that new technologies such as blockchain can also assist. Second, related words such as *sustainable*, *environment* and *change* reflect a sentiment that industry should commit to environmentally sound practices to ensure a bright future for water resources and agricultural development. As one respondent suggested, “invest in regenerative, sustainable agriculture, recognise the threat of climate change on agriculture in Australia and work towards better action by our government on reducing our emissions to reduce the risks Australia faces from climate change in the future.” Several interviewees considered this could be achieved through a variety of mechanisms such as the voluntary practice adoption, third-party certification efforts, and cross-sector knowledge sharing.

Third, related words such as *collaboration*, *commitment* and *genuine* reflect a sentiment that industry needs to work in partnership with all stakeholders, including governments, for agricultural development to be successful in northern Queensland. Collaboration between stakeholders from multiple sectors could extend to co-investment in research and development, infrastructure, and workforce training. There was a further common sentiment that industries should not overly rely on government intervention and funding. As one respondent said, “while there are some market failures that the government should identify and respond to, industries should largely take responsibility for its own future”.

5. CONCLUSIONS AND STRATEGIC DIRECTIONS

This research explores and defines the complex problem facing agricultural development prioritisation, planning, assessment, approval and compliance in northern Queensland. It finds that the overall system cannot be described as being fundamentally broken. The research does find, however, that to achieve investment and sustainable agricultural outcomes real effort is needed to address dilemmas that arise from:

- A lack of clearly articulated agricultural development priorities across northern Queensland;
- Poor frameworks for collaborative planning at the catchment or sub-regional scale between governments, the private sector and the community to progress agricultural development;

- In respect of project assessment and approval, fragmented and sometimes conflicting policy and process settings that are unable to resolve tensions (and opportunities) concerning development, the environment and Indigenous interests in northern Queensland landscapes; and
- A limited focus on raising the capacity of agricultural development interests to develop and prosecute investment-ready proposals that can easily achieve their regulatory obligations.

This research optimistically suggests that agricultural, environmental and Indigenous interests in development can often be reconciled in northern Queensland. Without the resolution of these issues, however, further investment in positive, private sector-led agricultural development will continue to face procedural inefficiencies, conflict and investment uncertainty. While cooperation is now emerging between the CRCNA and the Queensland, Western Australia and Northern Territory governments and industries to support the development of new, but sustainable, agricultural development activity in the north, broad directions from this unfolding work suggest the need to implement and to evaluate some of the following solutions:

- Commonwealth, state and local governments working together with industries, investors and other interests to set targets for and to prioritise key agricultural development in northern Queensland, with a strong focus on sequencing development around existing infrastructure;
- The development of new collaborative planning models in priority agricultural development areas to apply existing legislative frameworks to resolve significant water conflict, vegetation and biodiversity management, native title and tenure resolution, and infrastructure and services planning;
- The development of improved assessment and approval practices and targeted regulatory improvements aimed at de-risking priority landscapes (across environmental, social and infrastructural risks) in ways that can attract suitable investment/development; and
- Lifting the investment readiness of landholders to progress sustainable agricultural development.

Further research is now being developed to explore these themes further.

REFERENCES

- ACIL Allen Consulting (2019). Agriculture: A \$100b sector by 2030? AgriFutures Australia, Wagga Wagga. Online version accessed August 2020, <https://www.agrifutures.com.au/wp-content/uploads/2019/08/19-025.pdf>.
- Association for Sustainability on Business (ASB) (2019). Developing Northern Australia Conference Outcomes – Karratha 2019. Online version accessed August 2020, <https://www.northaust.org.au/post-conference-themes-developing-northern-australia>.
- Australian Government (2015a). Our north, our future: White paper on developing Northern Australia. Canberra. Online version accessed August 2020, <http://northernaustralia.gov.au/files/files/NAWP-FullReport.pdf>.
- Australian National Audit Office (ANAO) (2020). Referrals, assessments and approvals of controlled actions under the Environment Protection and Biodiversity Conservation Act 1999. Auditor-General Report No.47. ANAO, Canberra. Online version accessed August 2020 https://www.anao.gov.au/sites/default/files/Auditor-General_Report_2019-2020_47.pdf.
- Chilcott, C., Ash, A., Lehnert, S., Stokes, G., Charmley, E., Collins, K., Pavey, C., Macintosh, A., Simpson, A., Berglas, R., White, E. and Amity, M. (2020). Northern Australia beef situation analysis: A report to the Cooperative Research Centre for Developing Northern Australia (CRCNA). CSIRO, Darwin, Australia. Online version accessed August 2020, <https://crcna.com.au/resources/publications/northern-australia-beef-situation-analysis-report-cooperative-research-centre-developing-northern-australia>.
- Cobcroft, J., Bell, R., Fitzgerald, J., Dietrich, A. and Jerry, D. (2020). Northern Australia aquaculture industry situational analysis: Stage 1 Report. JCU, Townsville, Australia. Online version accessed August 2020, https://www.crcna.com.au/sites/default/files/2020-01/CRCNA_AISA%20Stage_1_20200107.pdf.
- Dale, A. P. (2014). Cassowaries and chaplains: How to avoid Canberra's conservation overreach. *The Conversation*, 11 August. Online version accessed August 2020],

- <http://theconversation.com/cassowaries-and-chaplains-how-to-avoid-canberras-conservation-overreach-28034>.
- Dale A. P., Keith, C., Matz, J. and MacLean, B. (2020). Securing outcomes and measuring progress: A preliminary report into agricultural development and tropical health servicing in Northern Australia. CRCNA, Townsville. Online version accessed August 2020, <https://crcna.com.au/sites/default/files/2020-02/2Reduced2019%20Securing%20Outcomes%20and%20measuring%20progress%20SoN%20discussion%20paper.pdf>.
- Dale, A. P. and Marshall, A. (2020). Facilitating quality agricultural development in northern Queensland: New Policy Directions. CRCNA, Townsville. Online version accessed August 2020, <https://www.crcna.com.au/resources/publications/facilitating-quality-agricultural-development-northern-queensland>.
- Flick, E. (2006). *Introduction to qualitative research*, 3rd edition, Sage, London.
- PricewaterhouseCoopers (2020). Northern Australia agriculture investor identification. CRCNA, Townsville. Online version accessed August 2020, <https://crcna.com.au/resources/publications/northern-australia-agriculture-investor-identification-and-analysis-report>.
- Productivity Commission (2017). Transitioning regional economies. Productivity Commission, Canberra. Online version accessed [August 2020], <https://www.pc.gov.au/inquiries/completed/transitioning-regions/report/transitioning-regions-report.pdf>.
- Samuel, G. (2020). Independent review of the EPBC Act: Interim report. Online version accessed August 2020, : <https://epbcactreview.environment.gov.au/resources/interim-report>.
- ST Strategic Services and Pivotal Point Strategic Directions (forthcoming). Broadacre cropping situation analysis. CRCNA, Townsville.