

**Public interest assessment of the governance and operation
of the Northern Australian Infrastructure Facility**

**Submission to: Senate Economics References Committee
inquiry into the governance and operation of the Northern
Australia Infrastructure Facility (NAIF)**

John Quiggin, Kristen Lyons, Morgan Brigg

Global Change Institute, University of Queensland

Disclosure: We are making this submission as private individuals. The submission reflects my own views, and not those of the Global Change Institute, the University of Queensland or any other body. The first named author (John Quiggin) has acted as a consultant or adviser to a number of groups concerned with issues of environmental and economic sustainability addressed in this report.

Public interest assessment of the governance and operation of the Northern Australia Infrastructure Facility

Summary

* In assessing the operations and governance of the Northern Australia Infrastructure Facility (NAIF), the central criterion must be the public benefit. The central aim of this submission is to present an analysis of investment strategies and opportunities on the basis of whether they will contribute a net public benefit. This entails an understanding of ways in which Northern Australia differs from, and is similar to, Australia as a whole.

* It is a mistake to think of Northern Australia as a homogeneous region with shared needs and interests, distinctly different to those of Southern Australia. On the contrary, differences within Northern Australia, between urban, rural and remote centres, and between agricultural, mining and service industries are more salient than differences between North and South.

* The main differences between Northern Australia and Southern Australia - and of direct relevance to the public interest assessment of the NAIF - relate to the high prevalence of disadvantage in remote and rural areas, particularly among indigenous populations and to the importance of endangered environments of high significance, including the Great Barrier Reef, Kakadu and Cape York Peninsula. Given the parameters set out by NAIF, the Great Artesian Basin, while lying to the south of the Tropic of Capricorn, should also be considered as part of Northern Australia in this context.

* Much of the rhetoric around the NAIF demonstrates a reversion to the developmentalist model of the 1950s. In this model Northern Australia was seen as a region with substantial untapped resources and poor quality infrastructure, particularly transport infrastructure, relative to the rest of Australia. These perceptions are outdated: in broad terms, most people in Northern Australia have access to transport and communications infrastructure of similar quality to that of Southern Australia.

* There exists a well-established market model for transport infrastructure relating to the mining sector, in which mines bear the costs of the necessary infrastructure, particularly rail,

whether through self-provision or through contracts with rail freight companies. There is no justification for additional public support for investment in particular projects; especially strong evidence that such public support would disadvantage unsubsidised competitors.

* Among proposed investments in the mining sector the Adani Group proposal for a rail line linking the proposed Carmichael mine to the Abbot Point coal terminal stands out for high risks of loss to the public and negative economic and social returns.

* On the other hand, there are substantial market failures leading to inadequate investment in parts of the agricultural sector, most notably relating to research and development and to promoting sustainable growth in environmentally sensitive regions.

* Existing models of development for remote indigenous communities have had limited success, primarily because of an ideological focus on meeting market tests. The creation of the NAIF reflects a broader recognition that such tests are not always appropriate, and offers the opportunity for new models of indigenous development with broader goals. Some aspects of these models may be applicable to remote communities in general.

* In these circumstances, the most valuable use of funds allocated to the Northern Australia Infrastructure Facility will be to promote a new model of sustainable and inclusive growth, focusing on sustainable development of agriculture and on economic inclusion for indigenous Australians.

* Appropriate funding allocations should also consider the developmental constraints of the region in the context of a climate changing world.

Public interest assessment of the governance and operation of the Northern Australian Infrastructure Facility

Introduction

On 14 June 2017 the Senate referred an inquiry into the governance and operation of the Northern Australia Infrastructure Facility (NAIF) to the Senate Economics References Committee for inquiry and report.

Terms of reference

The governance and operation of the Northern Australia Infrastructure Facility (NAIF), with particular reference to:

- a the adequacy and transparency of the NAIF's governance framework, including its project assessment and approval processes;
- b the adequacy of the NAIF's Investment Mandate, risk appetite statement and public interest test in guiding decisions of the NAIF Board;
- c processes used to appoint NAIF Board members, including assessment of potential conflicts of interest;
- d the transparency of the NAIF's policies in managing perceived, actual or potential conflicts of interest of its Board members;
- e the adequacy of the Northern Australia Infrastructure Facility Act 2016 and Investment Mandate to provide for and maintain the independence of decisions of the Board;
- f the status and role of state and territory governments under the NAIF, including any agreements between states and territories and the Federal Government; and
- g any other related matters.

In assessing the operations and governance of the Northern Australia Infrastructure Facility, the central criterion must be the public benefit - given the key role of government funds made available through this Facility to drive social and economic development in the region. The central aim of this submission is to present an analysis of investment strategies and

opportunities on the basis of whether they will contribute a net public benefit. In so doing, this submission identifies the key publics that comprise Northern Australia as including Indigenous Australians, as well as a mix of urban, rural and remote communities; and the key sectors as including tourism, agriculture and mining. This entails an understanding of ways in which Northern Australia differs from, and is similar to, Australia as a whole.

1. Northern Australia and the NAIF

Northern Australia is defined by the Northern Australia Infrastructure Facility Act 2016 as including all of the Northern Territory, and those parts of Queensland and Western Australia above and directly below or intersecting the Tropic of Capricorn. It also includes the regional centres of Gladstone, the Gladstone Hinterland, Carnarvon and Exmouth, as well as the Local Government Areas of Meekatharra and Wiluna in Western Australia. Territorial seas up to twelve nautical miles offshore adjacent to these areas are also included in the definition. Importantly projects financed by the NAIF do not need to be entirely within these boundaries if they produce significant benefits to Northern Australia.

As with Australia as a whole, the population is largely urban and coastal, located primarily in the major urban centres of Darwin, Townsville and Cairns, along with smaller centres including Broome, Mackay and Rockhampton. Again as with Australia as a whole, employment in the region is predominantly provided by the service sector, with tourism as a notable example. However, the relative importance of agriculture and mining is greater in Northern Australia than for the economy as a whole.

Discussion of Northern Australia frequently reflects an assumption that the region is both homogeneous and clearly distinct from Southern Australia. Nothing could be further from the truth. In terms of economic problems and opportunities, Townsville is more similar to Geelong or Whyalla and Cairns more similar to the Sunshine Coast than either is similar to the other. Rural and remote communities in Northern Australia are more like similarly remote communities in Southern Australia than to the urban and coastal centres in which most Northern Australians live. Housing poses particularly acute challenges for indigenous populations.

Infrastructure

In broad terms, Northern Australians have access to key physical infrastructure of similar quality to that of Australia as a whole, with a similar set of unmet needs and demands. Differences, both positive and negative reflect the particular characteristics of the region, including low population densities and a location closer to Asia.

Relatively low population densities imply that the cost of providing land transport, energy and communications infrastructure is higher than for Australia as a whole, though similar to regions of comparable population density in Southern Australia. A location close to Asia implies the desirability of locating international air and sea transport facilities in the region.

These factors are reflected in the actual provision of infrastructure. For example, whereas the National Highway provides a high quality dual carriageway between Sydney and Melbourne and for much of the distance between Sydney and Brisbane, in Northern Australia it is almost entirely a two-lane road, as is also the case for in South Australia and Western Australia.

On the other hand, two of Australia's seven major international airports are located in the region, at Cairns and Darwin, as are six of the sixteen restricted use or alternate airports. This is a reflection of the locational advantages of Northern Australia and an indication that, in general terms, these locational advantages are already reflected in patterns of infrastructure spending.

In terms of communications, the vast majority of residents of Northern Australia have access to high-speed broadband. The quality is variable, but almost uniformly superior to anything available as recently as 15 years ago, and will improve as the National Broadcasting Network is rolled out.

Similar points may be made about social infrastructure. As well as standard services such as schools, police and local government services, the region includes university campuses in all major centres, and major teaching hospitals in Townsville and Darwin. As elsewhere in Australia, though not as acutely as in major centres such as Sydney, there are severe problems of housing affordability

Developmentalism

Particularly in the decades following World War II, public policy discussion of Northern Australia was undertaken within a framework of ‘developmentalism’ or ‘nation building’. The key ideas associated with developmentalism were:

- * Northern Australia is a region of vast untapped potential, particularly in terms of natural resources for mining and agriculture
- * Development of these resources has been held back by inadequate investment in infrastructure, particularly transport infrastructure
- * Australians have a moral and national obligation to develop and exploit these resources
- * If we fail in this obligation, other countries may seek to take these resources for themselves

The most notable expression of this policy approach was the Ord River Scheme, based on the premise that the primary obstacle to agricultural expansion was the lack of water, which could be remedied by large-scale irrigation. Another perennial focus of attention was the perceived need for a rail link between Adelaide and Darwin. Both of these projects were implemented, and both encountered substantial economic difficulties.

Whatever the validity of the developmentalist framework in the 1950s and 1960s, it is now clearly obsolete. The mineral and agricultural potential of Northern Australia has now been thoroughly explored. As will be discussed below, there are some opportunities for incremental expansion, particularly in horticulture, but there is no untapped bonanza awaiting development. On the contrary, it is likely that the expansion of the mining sector has peaked and that a lengthy period of stability or contraction lies ahead.

The developmentalist model is even more clearly obsolete in relation to the perception of inadequate infrastructure. On the contrary, as demonstrated above, Northern Australia is broadly similar to the rest of Australia in terms of the adequacy or otherwise of infrastructure.

Implications for the NAIF and its governance

Based on the analysis above, there is no clear rationale for separate funding for infrastructure in Northern Australia as a whole. Nevertheless, the NAIF has been established and funded,

with a clear expectation that the funds allocated by the government, amounting to \$5 billion will be invested in worthwhile projects.

To ensure expenditure maximizes public industry, appropriate assessment of the social and demographic structure of 'Northern Australia' must be used as a basis for evaluation of project funding. To date, no such analysis has been undertaken. In particular, little attention has been paid to the needs of the relative large proportion of indigenous Australians in the Northern Australian population. An appropriate investment strategy must pay particular attention to the needs of the relative large proportion of indigenous Australians in the Northern Australian population in decision making. It is unclear how the current governance model can ensure this.

The availability of a large pot of public money, in the absence of clearly articulated and defensible policy goals, backed up by comprehensive community profiling and needs assessment, creates grave risks for governance. In this context, there is an obvious temptation to use such funds for projects that serve short-term political goals but that do not yield social benefits commensurate with their costs. An obvious example, discussed in more detail below, is the Adani Group proposal for a loan funding a rail line to the (yet to be constructed) Carmichael coal mine.

Thus far, the processes surrounding the establishment and operation of the NAIF give no grounds for confidence that these risks to governance will be managed appropriately. Among the most important concerns

- * There is little if any transparency regarding the operation of the NAIF, the criteria that will be applied in project selection and the way in which risks to public finances will be managed
- * The NAIF appears severely understaffed, given the need to manage a large sum of public money
- * The responsible Minister has expressed strong views on the desirability of particular projects, which are the subject of applications for funding.

Allocation of funds: transport, energy and communications infrastructure

Statements about the NAIF suggest a focus on transport, energy and communications infrastructure

General principles

The establishment of the NAIF is welcome in at least one respect. It constitutes a rejection of the idea, dominant since the 1970s, that private capital markets are the best judges of the desirability or otherwise of infrastructure investment. However, it is important to avoid the opposite error of funding investment proposals on the basis of superficial political appeal. A number of principles are relevant here

- * Supported investments should be justified by a benefit-cost analysis
- * Where existing arrangements for market-based or public investment are working well, they should not be disrupted by intervention
- * Loans should not be allocated in ways that advantage particular private firms at the expense of competitors
- * Loans to high risk projects should only be allocated with an interest rate premium and a first call on claims, with substantial equity investment

Transport, energy and communications

Application of the principles set out above suggests that some categories of investment should be approached with great caution. The most notable are

- * Rail transport for mineral products. Under long-standing arrangements, miners have either developed their own rail transport (often the case in WA) or borne the cost of public provision (as in Queensland prior to the privatisation of QR freight, now Aurizon). It would be inequitable and inefficient to provide subsidised finance to competing firms.
- * Telecommunications: Although this has been an area of notable market failure, government is already heavily involved through the National Broadband Network. Loans to competing network providers would only complicate the problems here.

* Energy: There is a potential case for financing new investments in electricity transmission, for which the existing market is working poorly. However, it would be highly undesirable to promote public investment in coal-fired power, an idea being proposed largely as a move in culture war politics.

Adani Group Carmichael Rail proposal

The gravest concerns regarding inappropriate allocation of public funds relate to the Adani Group request for a loan of \$900 million to be invested in construction of a rail line linking the proposed Carmichael mine in the Galilee Basin to the Abbot Point coal terminal.

There are strong reasons for regarding the Carmichael project as socially undesirable, even if it were commercially available. If fully developed, the projected mines in the Galilee Basin would constitute a large addition to the global supply of coal. In part, this would displace coal from other sources, notably including existing mines elsewhere in Queensland and in New South Wales. In part, it would contribute to an increase in the amount of coal burned globally, making it difficult if not impossible to reach the climate targets agreed in Paris. NAIF funding priorities should be informed by global regulatory responsibilities.

Adverse effects on indigenous communities associated with the proposed mine are also of critical importance. These effects are described in detail in the report *Unfinished Business: Adani, the State, and the Indigenous Rights Struggle of the Wangan and Jagalingou Traditional Owners Council*, prepared by the authors of this submission, and available in full at <http://earthjustice.org/sites/default/files/files/Unfinished-Business.pdf>.

These impacts, which must be considered as part of the assessment of public interest, include:

- * destruction of Traditional Owners ancestral homelands, thereby irreversibly devastating culture, customs and heritage if the mine was to proceed;
- * Indigenous Land Use Agreement (ILUA) and other negotiations that have divided Traditional Owners, including both within and across families, including severing relationships, and at times sparking what is described by some W&J Traditional Owners Council (W&J) members as irreconcilable conflict. The W&J assert that

Adani have courted individuals, including via direct payments and other inducements, and that this has fueled divisions and mistrust among people.

* Wangan and Jagalingou people carry the costs of these community conflicts and divisions (as do other Aboriginal people caught up in similar conflicts) in deeply personal ways, including in the form of stress, fatigue and a range of health problems. These impacts double down on people already living with the legacies of violent settler-colonialism.

* Those opposing the mine are subject to yet a further set of impacts in the form of the active state disregard of their interests in favour of mining. On a visit to Australia in September 2016, the United Nations Special Rapporteur Human Rights Defender described the lack of protection for free prior and informed consent in Australia as directly constraining effective consultation with Indigenous people. The case of the proposed Adani Carmichael coal mine was singled out as an exemplar in poor consultation. The Special Rapporteur also identified that Indigenous people face the marginalisation of their interests, including by government.

* W&J also argue the Carmichael mine would deliver massive destructive impacts on the environment and water resources, alongside producing huge carbon emissions.

These impositions and costs are all set against what the W&J contend is a lack of any meaningful benefits in return. Employment benefits from the project will not offset these adverse effects. The Adani impact assessment indicates very limited job creation associated with the mine for Aboriginal people, including the conditional provision of some bus driving jobs to a Wangan and Jagalingou “certified” bus company.

On the basis of figures provided by Adani, W&J explain that workers would be paid just \$35,000.00 per year, a figure that barely meets Australia’s minimum wage.

The allocation of a relatively small proportion of the public investment sought for this project from NAIF could deliver substantially greater employment benefits, as is shown below.

These are questions for public policy in general. As regards the NAIF, the primary risk is that the project will fail and that the funds lent by the Australian public will be lost. There are strong reasons for regarding this outcome as a likely one.

Economic analysis suggests that the Carmichael project cannot be profitable, even in cash flow terms at coal prices likely to prevail over its lifetime. We attach a report, recently prepared which makes this case in detail.

From the viewpoint of the NAIF as a prospective lender an even more significant fact is that although the project has been in development for at least seven years, no commercial finance has been secured, and a large number of commercial lenders have taken the unusual step of announcing that they will not fund the project. Current statements from Adani suggest that 'financial close' will be achieved by March 2018, although deadlines of this kind have been missed repeatedly. Even with a March 2018 close, it seems likely that the NAIF will have to reach a decision on lending before the availability of commercial finance is clear.

In these circumstances, the risk is that the project will be abandoned after the investment of substantial public funds in a rail line with no salvage value. Under current arrangements, it appears the company constructing the mine is a subsidiary of the Adani Group, registered in the Cayman Islands. Given the opaque structure of the Adani Group and the finances of the controlling Adani family, there is no guarantee that funds lost in a loan to the Cayman Islands subsidiary could be recovered from Adani Enterprises, other associated companies, or the personal assets of the Adani family.

It is natural to ask why the Adani Group would proceed with an enterprise carrying such a high risk of failure. There are a number of possibilities, but the most obvious is the fact that the Carmichael mine project is carried on the Group's books with a value of several billion dollars. Abandonment of the project would involve writing off this investment leading at best to adverse publicity and at worst to violation of loan covenants. Hence, it would make financial sense to proceed with modest investments in the rail component of the project, as long as the bulk of the outlays were borrowed from the Australian public.

The conduct of Adani Mining, the company responsible for the mining component Carmichael project supports this analysis. Despite announcing the imminent beginning of pre-construction works and the opening of a Regional Headquarters said to be employing up

to 500 people, with applications through an online jobs portal, it appears that little if any action has been undertaken.

According to the ABC, the plan submitted to the Queensland government for the next six months calls for little more than re-establishing signage at the site, recommissioning an existing temporary camp and installing some additional demountable buildings.

The Townsville RHQ has been established in South Townsville, with signage placed prominently on the River Quays building, but it is far from clear that the RHQ is operational. Most notably, there is no listing in the White Pages, and the mailing address for the Carmichael Project, listed on the Adani website, is a GPO Box in Brisbane.

The jobs portal has been highly successful in attracting advertisements from employers unrelated to Adani. However, Adani itself has only advertised 26 jobs, with no new positions advertised since 4 July 2017.

It is hard to see how this is consistent with a stated commitment to begin pre-construction works in the September quarter, which is already well under way.

Given the prominence of the Adani proposal in discussions surrounding the NAIF, and the magnitude of the potential loss to the Australian public, the Committee should investigate this issue as a matter of urgency and seek assurances that any funds lent to the project will be guaranteed by the entire resources of the Adani Group and the personal assets of the Adani family.

Alternative investments

While the Northern Australia Infrastructure Facility has a number of problematic features, its creation represents a recognition that public capital investment has an important role to play in developing our national potential. This marks a shift away from the market dogma that prevailed until relatively recently, under which investment was to be left, as far as possible to the free market. Even where public investment was maintained, market dogma required that it should be assessed on the same commercial criteria as private investments. The result was that many socially valuable areas of public investment were abandoned or scaled back, while public assets were privatised.

The shift away from a dogmatic market approach is reflected in the willingness of NAIF to consider funding the development of infrastructure devoted to serving a limited group of coal mining enterprises. By contrast, in recent years such investments have been left to the firms concerned and publicly owned coal infrastructure such as coal ports. For example, the Abbot Point T1 coal terminal was built by the publicly owned North Queensland Bulk Ports, but sold to Adani Group in 2011.

The creation of the NAIF represents a reversal of this trend, as does the announcement of large scale public funding for the Melbourne to Brisbane Inland Rail line. However, the implications are not confined to transport infrastructure. A wide range of public investments that have been excluded from consideration must now be reconsidered as possible alternatives for funding under the NAIF and other programs. The same is true of programs that have been cut back in response to demands to reduce public expenditure.

Before funding is granted to a high-risk low return project such as the Adani Rail line, proper consideration must be given to alternative investments that might yield greater social returns at lower cost, particularly given the needs of the communities of interest located across urban, rural and remote parts of the region, and including farming communities and indigenous people. As is discussed below, a wide range of investments that might enhance the productivity and sustainability of the agricultural sector in Queensland are currently constrained by the lack of finance. Indigenous Australians face even more severe unmet needs.

Development model

The developmentalist model yielded substantial benefits for much of the 20th century when there were significant areas of under-exploited natural resources. However, this model ceased to be appropriate by the end of the 20th century, as the main problem became one of over-exploitation and unsustainable resource use.

The natural resource problems of the 21st century, including resource degradation, habitat loss, ground water depletion, species extinction and climate change require investment based on models of sustainable development. While substantial progress has been made in many

areas, much remains to be done. The funds allocated to the NAIF could provide the basis for renewed progress in this respect.

Transport infrastructure for agriculture

Recent years have seen huge investment in transport infrastructure for fossil fuels, much of which seems likely to be stranded, while the needs of the agricultural sector have been neglected. The \$2.5 billion proposed for the Carmichael rail line alone, at least \$900 million is to be derived from the NAIF, dwarfs comparable investments in enhancing market access for agricultural products.

In relation to horticultural products, Growcom notes

One of the key impediments to the further development of the horticulture industry in Northern Australia is poor transport infrastructure. High freight costs, unreliable roads and limited alternative options are a real concern for our growers as they need to get a perishable product to market in short timeframes. Additionally some parts of North Queensland do not have any processing facilities, which limits growers options.

and lists as a key priority

The urgent need to invest in road and highway upgrades, in particular to build the resilience on the road system to natural disasters and extreme weather events.

The Department of Transport Accelerated Works Program for northern Queensland, announced in the 2016-17 State budget, has a budget of \$144 million over the three years 2015-16 to 2018-9, implying a 10-year allocation of less than \$500 million, only a fraction of which is allocated to projects that will benefit the agricultural sector.

The 2017-18 Commonwealth Budget included \$55 million for improving cattle supply chains and \$230 million for roads in Queensland as part of the Developing Northern Australia initiative. As with state funding, the road funding initiative covers all roads, and only a fraction will benefit agriculture. Even if this funding, provided over the four-year forward estimates period, were extended over 10 years, the total value would be only \$712 million.

Thus, the value of the public contribution to the Carmichael rail line alone is likely to be comparable to or greater than the entire amount of public investment in transport infrastructure to benefit Queensland agriculture over the next ten years.

An additional allocation of \$150 million, specifically for agricultural market access roads, would yield substantial benefits.

It would also be desirable to consider enhancing rail transport. No agricultural rail projects have been identified in North Queensland at this time. However, Growcom has called for an investigation the potential future role of rail as a viable alternative to road transport in Northern Australia.

More detailed consideration has been given to projects in Southern Queensland, where the desirability of restoring a larger role for rail transport is evident. AgForce has joined with GrainCorp to call on the Queensland Government to invest \$11 million towards a \$52 million project to construct two new grain handling facilities and upgrade the rail freight network in southern and central Queensland. Agforce states:

The project is shovel-ready and would create more than 150 jobs in the construction phase, as well as underpin nearly 150 permanent jobs, and up to 300 seasonal operational jobs into the future in central and southern Queensland.

The broader community will benefit with 20,000 grain trucks a year kept off the roads and out of the ports, reducing the congestion and strain on local roads.

In terms of jobs created, this proposed project compares very favorably with the Adani rail project, yielding an estimated 150 jobs for a public investment of \$900 million. By contrast the proposed rail line yields approximately 350 jobs averaged over a 10-year period, but will require a public investment of \$900 million.

Research, development and extension

The provision of research, development and extension to the agricultural sector has long been an important function of government. Economic analyses have consistently shown that

investment in agricultural research yields social rates of return in excess of those of typical commercial investments.

The Productivity Commission the Productivity Commission (Shanks & Zheng 2006) undertook a comprehensive analysis of the relationship between investment in research, particularly by the business sector, and productivity growth in the Australian economy. They estimated that the the rate of return to public investment in agriculture was 24%. This is similar to other estimates, and is well in excess of standard commercial rates of return.

The Advance Queensland 10-year roadmap for agriculture and food research, development and extension, released in June 2017, describes a number of initiatives to promote agriculture in Queensland. The budget for the entire 10-year Advance Queensland program, is \$405 million, less than half the proposed NAIF loan to the Galilee Basin, and only marginally more than the value of concessions (royalty deferral and a free water license) already granted by the Queensland government. Only a small component of this program (around \$10 million) is allocated specifically to agriculture.

The Advance Queensland initiatives are additional to continuing research undertaken or funded by the state Department of Agriculture and Fisheries (DAF). DAF funding for research, development and extension totalled \$63 million in 2014-15 and leveraged additional investment of \$33 million from organisations such as rural R&D corporations and the Australian Centre for International Agricultural Research. That is, the value of the proposed NAIF line to the Galilee Basin rail line is equal to the total value of state government research, development funding, in Queensland over 10 years, after additional ‘leveraged’ funding is taken into account.

In addition to research, the Commonwealth Scientific and Industrial Research Organization has historically played a central role in agricultural research in Australia. However, decades of budget stringency and changes in policy direction have reduced this contribution to a minimal level. The closure of the Davies Laboratory in 2010 left CSIRO with only a single agriculture focused research facility in North Queensland, the Lansdown Research Station at Woodstock.

NRM Investment Program

In 2013, the Queensland government allocated \$80 million over five years to 14 Natural Resource Management Groups. The projects funded were highly successful. However, the average allocation of funds in the first three years was higher than \$16 million. As a result, funding for 2017 and 2018 was reduced in the 2016-17 Budget. Moreover, no funding has yet been allocated for the period after 2018.

Further, an increasing proportion of funds have been allocated to projects aimed at protecting the Great Barrier Reef. Such projects are necessary and are likely to require further increases in expenditure given the severe damage to the Reef caused by repeated episodes of coral bleaching. The frequency and severity of these episodes has been increased as a result of climate change, and is likely to increase further in the future. Nevertheless, the allocation of funding to protecting the Reef implies that less money is available for other natural resource management projects, including those that improve the sustainability and profitability of agricultural enterprises.

Natural disaster preparedness and response

North Queensland has been subject to repeated natural disasters associated with cyclones and flooding over the past 15 years. It seems likely that this pattern will continue and that the intensity of these events will be exacerbated by climate change. Natural disasters affect the entire community, but have had particularly severe effects on horticulture, including the loss of most of the 2006 banana crop as a result of Cyclone Larry and further severe losses as a result of Cyclone Yasi in 2011.

It is impossible to prevent natural disasters, though action to mitigate climate change might at least forestall the predicted increase in their severity. However, appropriately designed infrastructure investments could enhance our capacity to prepare for and respond to such disasters. Growcom proposes

Investment in a robust and collaborative contingency planning process involving governments and key stakeholders to identify alternative transport systems for use in the event of disruption to normal services such as cyclones and floods

More generally, preparedness for the impact of natural disasters on agriculture should be

integrated into a general preparedness and response strategy. Rather than being unpredictable disasters, cyclones and the associated floods are a regular part of life in North Queensland, likely to get worse rather than better in the future. Instead of making special arrangements every time, we could set up a permanent core workforce to work on disaster preparedness and form the nucleus of a rebuilding effort in the aftermath of cyclones.

Investment in training and human capital

Most attention in the discussion of investment needs for North Queensland has focused on physical infrastructure. However, investment in education and knowledge is equally, if not more important. As Growcom observes

Labour and skill shortages are currently major constraints on horticultural businesses across Queensland, including in the north. Expanded production or an expansion of agricultural enterprises across the north is therefore likely to exacerbate these problems. Access to training opportunities and providers is another important consideration, especially in more remote regions.

In economic theory, investment in education and training is referred to as generating 'human capital'. Studies by the OECD, World Bank and others have consistently found high social and private rates of return to investment in human capital, often exceeding 10 per cent.

The skills shortage faced by agriculture has been exacerbated first by the mining boom, and then by the failure of vocational education policy which has seen the collapse of a number of major private providers and a sharp decline in TAFE enrolments and many categories of apprenticeships. Consideration should be given to a substantial injection of funds into the TAFE sector in North Queensland, with a focus on skills relevant to the agricultural sector. An injection of \$100 million for the sector as a whole appears to be the minimum necessary.

Agricultural finance

Research undertaken in conjunction with the Queensland Agricultural Land Audit identified a number of constraints to improvements in productivity and the expansion of agricultural production in Queensland. Notable among these was the difficulty of realising ever larger

economies of scale in order to remain financially viable.

In order to offset rising costs and static commodity prices, producers perceived a need to produce more outputs, enabling the overall cost per unit of production to decrease, as fixed costs are spread over a larger amount of outputs. Similarly, some producers spoke of an increasing ‘liveable area’ which is essentially the minimum amount of farming land required to service and sustain a family, arguing that it is now substantially larger than in previous decades. However this is becoming an increasing issue for future farm productivity and profitability, as the rising price of agricultural land has prevented many producers from being able to afford to expand.

Access to finance represents a major constraint here. In the past, there were a wide range of public policies aimed at addressing these constraints, including publicly owned financial institutions specialising in agricultural finance. These policies were scrapped or scaled back in favor of reliance on financial markets. The establishment of the NAIF represents a recognition that not all financial needs can be addressed by the ordinary operations of financial markets. However, the design of the NAIF is oriented to large scale projects such as the Adani rail line. Consideration needs to be given to reallocating some funding from NAIF to institutions oriented to the needs of individual farmers.

Social infrastructure

Like Australia as a whole, Northern Australia suffers from a lack of social infrastructure, notably including public housing. Recently released maps of rental affordability have shown that this problem is just as severe in parts of regional Queensland as in many parts of the south-east. Spending money on public housing used to be ruled out by free market dogma, but the willingness to throw money at Adani shows that this dogma is no longer operative. With a focus on low-cost options, a fund of \$1 billion could fund the construction of 500 houses a year for 10 years. And, at the end of the 10 years, the public would own a substantial stock of housing.

Indigenous development

The problem of closing the gap in life outcomes between indigenous Australians and the Australian community as a whole has important economic dimensions. The problems associated with reliance on passive welfare payments have been well documented. However, attempts to move to a more productive model have been hamstrung by a market ideology which places punitive conditions on the receipt of public support and fetishes 'real' jobs, that is, those that meet a market test of economic viability.

Policies based on this ideology have not delivered sustainable economic growth and are unlikely to do so. In part, this is due to the difficulties of communities with multiple social and economic disadvantages. But even where these difficulties can be overcome, the logic of the market runs against locating economic activity in remote locations. This is evident in the relative and often absolute decline of population and employment in similarly located non-indigenous communities.

What is needed here is an indigenous development strategy, supported by infrastructure investment, that takes account of all of the social and cultural benefits of an appropriate development strategy, rather than relying on a dichotomy between social welfare funding and economic activity, defined in terms of commercial market viability.

A submission by Jon Altman and Francis Markham to the 2014 Joint Select Committee on Northern (attached) provides some useful recommendations. The NAIF could play a role in supporting the necessary investment.

While the NAIF identifies the need for an Indigenous Engagement Strategy as one of its mandatory eligibility criteria, the shape and trajectory of such engagement needs further development. Conversations have not been advanced with Indigenous peoples across northern Australia as part of the Northern Australia agenda and, in particular, the proposed high risk Adani rail project is being strongly resisted by Wangan and Jagalingou people as part of overall resistance to the proposed Adani Carmichael coal mine.

Conclusion

The establishment of the Northern Australia Infrastructure Facility offers substantial potential benefits and also substantial dangers. The potential benefits will arise if the NAIF is used to promote infrastructure investments where the social benefits exceed the commercial returns. This would require, as a basis, that infrastructure investments were directly tied to understandings of the social and community needs of those living in Northern Australia, including particularly including indigenous Australians.

The dangers arise first from the possibility of a return to an investment strategy based on an outdated developmentalist strategy and second from the risk that the allocation of funds will be driven by short term political imperatives. In the latter respect, the greatest dangers surround the Adani rail project, a high-risk investment in a project that is both socially damaging and unlikely to be commercially viable in the long run.