Industry Collaboration Opportunities Across Northern Australia

Paper prepared by Kleinhardt-FGI Pty Ltd for the Collaboration Across the North Initiative – an Outcome of the Northern Australia Forum

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1. Introduction

This paper has been prepared as part of the *Collaboration Across the North* initiative arising from the Northern Australia Forum. The steering group is the *Collaboration Across the North* Officers' Group, comprising representatives of the Federal, Western Australian, Northern Territory and Queensland Governments, Local Government in Northern Australia and the Northern Australian Area Consultative Committees' Network. The paper explores opportunities for industry collaboration across northern Australia that will produce commercial benefits, and how that collaboration might be achieved. The scale for potential collaboration was defined as cross regional, or across State borders, as smaller scale efforts at collaboration are already proceeding.

Northern Australia is broadly defined as the area of Queensland north from the Tropic of Capricorn, including the Torres Strait, all the Northern Territory, the Pilbara, Kimberley and Gascoyne regions in Western Australia and the Territories of Cocos (Keeling) and Christmas Islands.

The paper firstly establishes a list of commercial benefits that may flow from collaboration then considers the supporting principles underlying successful collaboration. It makes the point that collaboration occurs within a complex interplay of social, political and economic factors and policy settings. It is not a stand-alone technique.

Possible industry areas for collaboration are considered, without suggesting this is an exhaustive list.

The suggestions for action are illustrations of what may be done. The case studies and industry opportunities across Northern Australia identified in the *Investing In Northern Australia* paper [1] will provide the source of many more initiatives.

The investigation was undertaken in tandem with an investigation of investment opportunities across Northern Australia, which resulted in production of the paper referred to above. [1] This paper on collaboration relies on the material in that paper, particular sections dealing with long-term competitive and comparative advantages and the order of market potential for various industries. This paper draws on the experience of the Cairns Region Economic Development Corporation, in fostering industry collaboration.

2. *Executive Summary*

Along with globalisation, there is an associated increased emphasis on regional economies, how they perform and help drive forward national economies. At the core of this new focus is the recognition of the power of knowledge and the need for it to be disseminated freely to produce innovation. Faster flows of capital to opportunity areas, shorter product commercialisation cycles and flexible manufacturing systems, combined with IT generally, communications and better transportation technologies, are driving change and innovation to remain competitive. Knowledge and its rate of assimilation are now at the centre of determining prosperity.

Collaborative regional models are outperforming others, with clustering of industries around strategic infrastructure, rich natural resources, market access considerations and/or key competencies. These clusters feature vertical as well as horizontal networks in industry value chains and include government, research and development and training and education institutions as key stakeholders in the cluster.

There are now reasonably well-known mechanisms for facilitating collaborative activities. These are explored in case studies from which many lessons can be drawn and summaries of techniques indicate the scope of tools available (Sections 6 and 7). A note of caution is that these must be tailor made for each situation to accommodate wide social, cultural and economic divergences. While industry must be fully engaged, Australia does not have a strong sense of civic engagement at an industry level, which indicates the need for outside facilitation.

At the heart of the most successful regions' collaborative models, is the quality, intensity frequency and breadth of **face to face interactions** between wide sectors of the economy. These develop trust, and produce second order, intuitive learning.

In considering opportunities for collaboration Across Northern Australia, a major constraint is the distance between industry sectors, which has to date limited opportunities for these face-to-face interactions. This relative isolation is also associated with independent attitudes that have served well in the past, but now inhibit collaboration. Distance has also contributed to parochial regional attitudes. Traditional communications have also tended to be more north-south, rather than east-west.

On the other hand, there is an undeveloped community of interest across the North and rich opportunities for collaboration if it can be facilitated across the distances involved. A number of these are identified (Section 4). Indeed the small scale of most Australian industry in global terms and general lack of depth across Northern Australia indicates collaborative effort as an imperative in surviving current world economic development trends.

At the core of suggestions made (Section 5), to begin developing the collaborative opportunities identified is the need for Australia to develop techniques to facilitate high order interactions over distance, to create a climate of trust and shared values leading to the intuitive learning that drives innovation.

3. Collaborative Benefits

Industry collaboration can take many and varied forms. Pivotal to long-term success and continuity is that whatever the form, it be outcome focussed. Quite simply there must be an end benefit in initiating and undertaking the engagement.

A common perception is that collaboration initiatives are mostly targeted at new, and more effective, market penetration. Whilst there is unquestionable merit of collaborative efforts in this regard, it is equally important to recognise that industry collaboration can deliver up many other benefits. A focus on the opportunity of these many and varied potentially beneficial outcomes may allow for collaborative initiatives that might otherwise have been overlooked.

Examples of identified commercially beneficial outcomes from collaboration are summarised in the categories as follow:

1. Achievement of cost efficiencies
2. Reaching critical mass/economies of scale
3. Creating customer confidence in collective ability/improved ability to secure contracts
4. Improvements in productivity
5. Reduction in resource usage levels
6. Rationalisation of resources
7. Improvement in industry logistics
8. Supply chain management and planning
9. Better resourced, more effective marketing strategies
10. Improvement in innovation levels
11. Creation of new product lines
12. Improvement of market penetration/access opportunities
13. More stable, better resourced industry R&D
14. Better capacity to meet market needs/standards required
15. Rationalised industry representation dealing with clients, government etc

These benefits are cross-referenced to the table of suggested actions in Section 5. In that table, the number corresponding to the above benefits is used to identify the range of benefits flowing form the proposed action.

3. Supporting Principles

There are extensive models and techniques for producing industry collaboration. These are further detailed in later sections of this paper. Implicit in all are three underpinning principles that must be addressed to produce successful collaboration:

Trust is central to all techniques for building collaboration, whether they be networks, business alliances, regional economic development action plans, or clusters. A cultural shift is required in Australia in many industries and segments of our society to facilitate collaboration, due to low levels of trust and a preference in rural Australia to operate independently. Collaboration does not necessarily require high order trust, but certainly requires the minimum level that will support the level and type of collaborative activity proposed or required.

The **purpose** of the collaboration must be clearly defined and represent shared values, beliefs and objectives for the participants.

Expected **outcomes** must not only be clearly defined, but accepted by the participants as achievable and contributing to their own personal objectives.

Industry collaboration of course occurs within a societal and institutional framework, with a consequent host of implications for the likely degree of success that may be achieved. Collaboration techniques cannot be isolated from the interplay of these factor conditions. It is this recognition, associated with disparate impacts flowing from greater rates of change on our society and across our regions that has produced a flurry of interest and holistic, “bottom up” regional economic development theory and practice.

The purpose of this paper is to focus on collaboration, opportunities and techniques that will produce commercial benefits, not to delve into this wider field. However, some reference to this larger picture places it in context and to this end a 1999 paper by NIEIR (National Institute of Economic and Industry Research) [2], serves to provide this. The following table from that paper illustrates broad shifts in regional economic development policy:

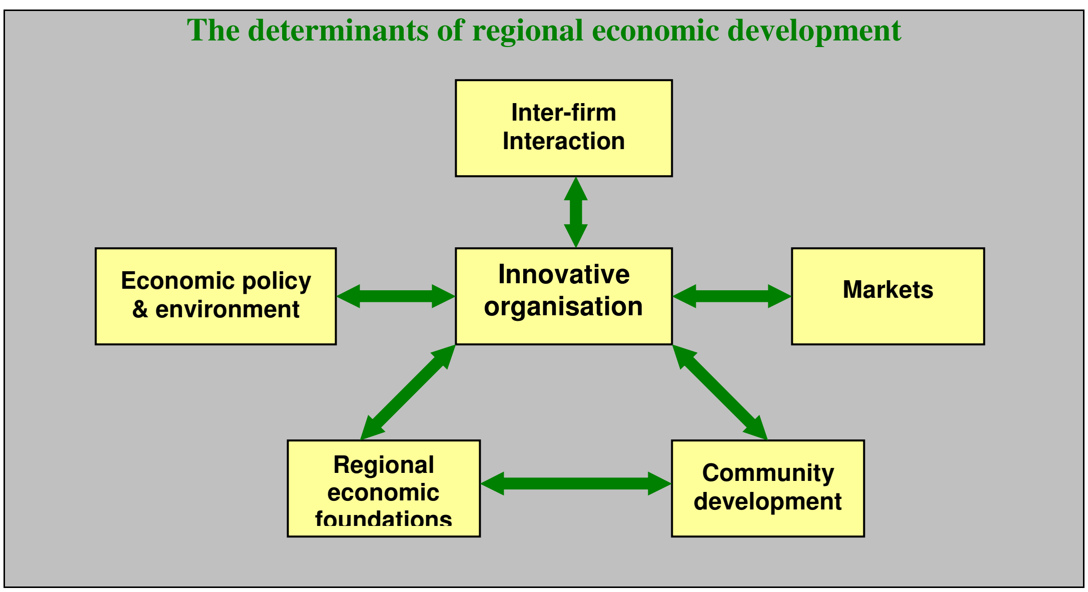
Traditional regional industry policy	Innovative regional industry policy
Industry firm location	Strengthen existing business, mainly SMEs
Image promotion	Building networks of firms
Cheap industrial land	Sharing R&D, training and marketing
Tax concessions	Global infrastructure
Access to semi-skilled labour pool	Building human capabilities
Tax concessions eg payroll tax	Data and information systems
Physical infrastructure	Focus on natural and social environment
	Social capital and lifelong learning

This is not to say that traditional areas are no longer important, but illustrates the shift in emphasis.

The same paper goes on to introduce a discussion on regional economic development in the following terms:

The framework developed by National Economics to analyse the determinants of regional economic development are set out in Diagram 1. It concentrates on three dimensions: building inter-firm networks, strengthening regional foundations and expanding social capital. This section elaborates on eight themes of regional economic development in these dimensions requiring initiative from within regions working in partnership with government.

1. *Business development and industry clusters*
2. *Information and communications technologies*
3. *Supporting SMEs and their technological capabilities*
4. *Innovative regional economic strategies*
5. *Labour markets and workforce development*
6. *New approaches to learning*
7. *Building social capital*
8. *A new role for local government.*



4. *Industries and Areas with Potential*

4.1 Agencies

The "Investing in Northern Australia" paper identifies a community of interests across Northern Australia and notes a conceptual shift is warranted. The task is to facilitate this shift. The principal benefit is to utilise resources effectively, in recognition of the small scale of Australian industry in the global arena and scarce resources for strategic infrastructure.

A conceptual shift would begin to facilitate this coordination. There is an opportunity to build on collaboration across the regions of Northern Australia by creating a marketing program based on identified core competencies and competitive positioning referred to in that paper. While there is some collaboration across the regions, by and large, each of the regions considered are ignorant of the initiatives being pursued in each, are not acquainted with the stakeholders in each and view each other with traditional parochial attitudes.

The first step is an education process to create a wide realisation of what the various regions have in common and a desire to collaborate to achieve critical mass and common goals. The "Investment Paper" is a tool that can be used in the facilitation of this process.

The second is to begin packaging the collective skills of Northern Australia to the market.

4.2 Governments

Differing regulations in the three States mitigate against collaboration. A case in point is the fishing industry with differing size limits and assorted regulations. Collaboration between the responsible agencies and the industry would facilitate commercial collaborative opportunities.

There is a range of strategic infrastructure across Northern Australia and broad gaps. States and regions presently compete for new pieces of infrastructure and this will no doubt continue. However, the concept of collaborative competition within an overall strategy for Northern Australia could see existing infrastructure used more effectively and new infrastructure better targeted. There would be benefit from a review of all these assets on the part of Federal and State agencies in the context of Northern Australia's comparative and competitive positioning. For example:

Airports – what is their role and chances of competitive positioning. What resources need to be allocated to create best regional benefit?

Ports - There are some five ports involved in live cattle export, all competing for resources. Is this the best allocation? Are there better alternatives that would serve the cattle industry as a whole better.

It has been demonstrated that strategic infrastructure will attract industry clustering, which would contribute to building the industry depth not generally present in Northern Australia. The lag between provision of infrastructure and flow on benefits is generally three to five years.

4.3 Horticulture

Central issues across a variety of tropical crop industries are:

- Quality assurance systems – varying compliance
- Quality standards – no consistency
- Chain management/logistical issues
- No cohesion in marketing
- Fragmentation at grower level
- Overproduction for domestic market
- Market access

A core issue is grower fragmentation, with in many cases a seeming inability to work cooperatively. However there are emerging examples of successful marketing groups on a regional level. Case examples are included later. Wider collaboration at an industry level is required, based on the principles of these marketing groups.

Major benefits are potentially to achieve critical mass to supply a consistent product into target export markets, provide orderly marketing mechanisms, as well as tackling the above issues.

There is also potential for collaboration across commodities into markets in order to gain greater attention in the market. For instance, marketing programs into major international markets based on "Australian Tropical Fruit", using the combined resources of a number of tropical fruit producers would have significantly more impact. Even within the one commodity, the range of Australian brands only serve to confuse the marketplace. The effectiveness of marketing under one national image has been demonstrated many times, with New Zealand kiwi fruit being one excellent example.

4.4 Value Adding – Horticulture

There are many and varied opportunities for valued added products based on tropical horticultural commodities. These include extended shelf life ready to eat 'fresh' food products in line with consumer trends. These also provide some other advantages for Australian producers, as such products:

- Have easier access to markets through quarantine and disinfestation protocols;
- Tend to be lighter to transport than the base commodity;
- Have a higher value and can absorb higher freight costs;
- Provide a slight advantage for Australia compared to producing countries currently without ready access to advanced food processing technologies;
- Provide an outlet for second grade commodity product.

There are additionally opportunities to look beyond horticulture as only a source of food products, with fibre, bio-fuels and pharmaceuticals being areas for investigation. To be successful, development of this style of products and their production in the volumes required, will require very broad collaboration across regions and across industries and support institutions.

Globalisation of supermarket chains means fewer, larger customers with very specific requirements. As shelf space is expensive, they seek product available 12 months per year. For instance fresh cut sliced mango product with extended shelf life currently being produced has excellent market prospects. Collaboration across the mango industry is required. This collaboration could produce the product 5 months per year. This would be a good start. In the longer term, the opportunity is to produce value added "fresh" products in collaboration with one or more Asian partners to supply twelve months per year. There is strong competition for fresh product from South America and South Africa during our production window. They will begin value adding. An alliance with Asia could lock out competition for value added tropical horticultural products from global marketing chains.

This concept is by no means a walk up start and there are many barriers.

4.5 Tropical R&D

There are a variety of agencies involved in R&D in tropical ecosystems and crops, from wet rainforest to dry savannah, desert conditions and the tropical marine environment. The opportunity is to strengthen cross-agency interaction, interface these resources with industry and orient a proportion of the R&D directly to addressing identified market opportunities. The Australian Institute of Marine Science (AIMS) provides a model for this balance between pure and applied research.

4.6 Investment in Innovation

It is presently difficult for Australian research and development institutions to attract seed capital for R&D to support commercial opportunity, due to the risk-averse nature of Australian industry and investment markets. Seed funding is required for prototyping and proving activities. Without this, institutions are forced to negotiate away Australian rights to intellectual property to overseas investors who are less risk averse.

This means that any subsequent commercialisation process and flow on effects are often taken offshore and denied to local industry and regional Australia. A variety of examples of regional benefit and industry building opportunities flowing from R&D are set out in the Australian Institute of Marine Science submission to the Bailey Enquiry [3].

An example of potential benefit would be a drug discovery program aimed at treating tropical diseases. A difficulty here is a lack of initiative for drug companies to fund such research, due the likely poor commercial returns from poor countries in tropical regions.

The potential is for Northern Australia, with its advanced tropical research capabilities, to initiate research and alliances with countries in tropical regions. There is a range of interconnected opportunities flowing from this.

If Australia positioned itself as a world leader in this field, the opportunities are not restricted to sale of drugs. The opportunities are across the whole value chain associated with the application and delivery of tropical medicines and technologies. The number one priority for many tropical countries is effective health care for their citizens. Alliances with these countries that assisted in addressing these issues would produce a range of commercial opportunities for other Australian goods and services, provided these health care and other products were packaged through cross-industry collaborations within Northern Australia.

Collaborative opportunities therefore extend well beyond the commercial interchanges that could be developed through the creation of tropical disease drugs.

4.7 Greenhouse Emissions

There are various greenhouse abatement activities commencing. These are beginning to generate expertise, techniques, strategies, systems and products across Australia. Carbon credits are seen as an opportunity for export earnings and contributing to plantation forestry viability. However the opportunity may be much larger.

These Australian product developments represent an emerging opportunity to create a new export industry, if Australia takes a leading role in innovative solutions. There is very likely to be a large global market in these products. Rather than look at what is developed in isolation, the opportunity is to facilitate the packaging of a range of both products and services into an internationally marketed solutions system.

These are early days, but the exploration of the concept with current stakeholders would be useful.

4.8 Aviation

Regional aviation in Northern Australia features small operators, with independent attitudes. In particular, helicopter operators are small and have difficulty in competing with larger, Southern based operators and do not collaborate to tender for projects. There could be potential to collaborate for international as well as local contracts.

4.9 Air Freight Management

A long-standing, serious constraint for industry development in Northern Australia arises from logistical difficulties in delivering product to market. This particularly applies to exports of perishable commodities. Airfreight from all Northern ports is limited to whatever is available in belly cargo of passenger aircraft. While there are 747 freighter services into Australia, these all operate out of either Sydney or Melbourne.

The *Investing In Northern Australia* paper [1], refers to a variety of industries with potential as major Northern industries. These include:

- Aquaculture
- Value added tropical fruit products
- Floriculture
- Bush Foods

The Tiwi Islands Pivot barramundi operation is presently a pilot operation at an early stage with the first stage of commercial development aimed at the domestic market. However the objective is to produce 10,000 tonnes of fresh chilled barramundi product per year, aimed at the export market. For this to be airfreighted out of Darwin, two 747 freighters per week would be required, where there is presently none.

This illustrates the scale of the difficulty, since this is only one commercial operation, whereas the aquaculture industry has potential for many operations, with a variety of fresh chilled product types for export. The constraint for Western Australian aquaculture development is even more severe, with the scale of aviation freight infrastructure and services out of Broome.

Floriculture also may have potential. Flowers have the advantage of being light, but take up volume and therefore capacity, with consequently a high rate per kg ($6 - $7 per kg).

The above are examples. All Northern producers of perishable, time sensitive goods for export in significant volumes have the same problem. There are not only major obstacles to increasing airfreight capacity directly from Northern Australia, but also trends flowing against maintenance of present capacity.

Airfreight in the belly of passenger aircraft is very cost-effective and presently has some availability in Northern Australia. Pressures on airlines producing a hubbing affect around major international airports represent a threat to this level of availability. The prospect for Northern ports is for fewer international flights, with domestic feeder flights from the major capital city airports meeting regional destination demand.

Shortages in belly freight availability out of Cairns are already presenting difficulties for tropical fruit producers at peak production periods.

As to dedicated freighters, the most cost effective freighter is a 747. These services revolve around Sydney and Melbourne airports, which are not only Australia's largest centres of consumers, but also the centres of major industrial capacity. Inbound loads dictate 747 freighter operations. This inbound freight is high value to weight consumer goods and manufacturing inputs. Many of the freighters return to Asia empty or near empty. However the cost of diverting one to land at a Northern port is prohibitive. One recent quote obtained by the Queensland Airfreight Council for a freighter diversion into Cairns was $A229,000, to undertake a diversion to Guam - only a four hour leg.

On present production scales, another difficulty is 747 capacity, which is for 100 tonnes of freight. The coordination of this volume of freight in Northern Australia, from a variety of producers, perhaps in a range of industries, to be ready for loading when the aircraft lands, has to date not been possible on a one off basis, let alone for a regular service. Another limitation is the level of cool chain facilities available, both around Northern airports and in destination markets. If it were found possible to introduce a regular service, there would also be an imperative to find viable back loading into North Australian ports.

Singapore is an international freight hub. Due to light back loading from Australia, it is possible to obtain rates as low as 70c per kg ex Melbourne or Sydney to Singapore. However, once in Singapore, freight competes with high value manufactured goods that can sustain high freight rates. Ex Singapore into Europe, rates range from $A4.60 per kg. Australian perishable goods generally have difficulty sustaining this level of freight cost.

Airfreight Councils have been created in each State and these are beginning to address some of the freight issues facing exporters. They have created the Australian Freight Councils Network, which is a network of these State based organisations. An example of one of their proposals follows, which in itself is a product of collaboration:

Air Sea – UK, Europe and Middle East
The Airfreight Councils of Queensland and NSW have collaborated to create a freight solution for the export of stone fruit from Australia. There is application to other product.

Australia – EU airfreight rates are in the order of $A3.00kg ex major Southern ports. The new system results in a rate of some $A1.40kg. It relies on recognition of Singapore as a major regional freight hub, with not only volume air, but also sea freight shipments. Product is shipped by airfreight ex Sydney or Melbourne to Singapore to take advantage of cheap back loading freight rates, then transferred to reefer containers for sea transport ex Singapore by specialist freight forwarders to take advantage of the three ship departures per week into EU ports.

Sea transport time to EU from Southern ports is 42 to 44 days. This new system results in a total transit time of 20 days, with trials to date indicating that chilled stone fruit is arriving in good condition.

A substantial collaborative effort between Government, the Airfreight Councils, Northern exporters, transport operators and perhaps Supermarket to Asia is indicated as imperative if any nationally significant industries with potential export markets in time sensitive and/or perishable products are to develop and thrive in Northern Australia.

4.10 Aquaculture

In global terms, Australian aquaculture is at an embryonic stage, but has good prospects. Industry organization is at a low level with operators largely being independent.

Inadequate production to meet market demand is a common issue. Collaboration to achieve critical mass, access markets, support R&D, create orderly marketing, consider logistical issues, quality assurance and customer specifications would all be beneficial.

4.11 Ship Building – Defence

One current defence contract is for up to 15 new patrol vessels. The contract includes a requirement for repair and maintenance facilities based in both Cairns and Darwin. There are no shipbuilders with facilities in both ports. There is an opportunity for a focussed, commercial alliance

4.12 Fishing – Standards

Ecofish (FNQ East Coast fishery) is seeking to attain ISO 14000 accreditation to ensure ongoing access to EU markets. The standard certifies a fishery as sustainable. There are reportedly also other methods of achieving access to the EU as a sustainable fishery. The Northern Territory and Western Australian fisheries may be interested in collaborating regarding this issue. However, initial discussion with Australian Seafood Council representatives in Darwin indicated little interest as their industry is primarily domestically focussed.

4.13 Tourism

There are obviously opportunities for continuing development of tourism trails (and packaged product) across West Coast Western Australia, extending across the North to the East Coast.

It is worth noting FNQ tourism firms have the international experience and networks, but in many instances are at the limit of their development. WA in particular has underdeveloped assets and lack of senior tourism marketing skills and networks. There is an opportunity to form collaborative commercial alliances.

FNQ Tourism operators might themselves be natural investors in other Northern Australian regions. From a corporate perspective, their capacities for any substantial corporate growth are limited to either diversification of product and/or diversification of destination.

Indigenous tourism is also at very different levels of development across Northern Australia, with both mature and immature product and skills. There is an opportunity to leverage the development of immature product through existing skills and networks.

4.14 Savannah Guides

The Savannah Guides Limited is referred to as a case study in collaboration. It also represents an opportunity not fully achieved.

The organization is struggling to attract resources to achieve maturity as a concept, product and organization, due to the scale of enterprises targeted for membership. However, it represents an opportunity to produce economic flow on benefits in small communities, take pressure off government resources for natural resource management, diversify income streams for agricultural operations and create a powerful product alliance oriented to growing demand in certain international market segments.

4.15 Tradeable Services

Northern Australia has a range of expertise in services appropriate for marketing to particularly tropical regions of the world. These include:

- Mining services
- Marine sciences
- Tourism development
- Environmental management
    - Tropical farming
    - Forestry
    - Tourism
    - Mining
    - Biodiversity
- Construction and design

These need to be marshalled and packaged into marketing strategies and present an opportunity to build new industries for Northern Australia through collaborative and cooperative effort.

4.16 New Economy Industries

There are various definitions of new economy industries, mostly oriented to services. Ten were identified in a presentation to the North Australian Forum Series of seminars on investing in northern Australia [4]. These were:

Earth repair Industry
Environmental Survey Industry
Resource Renewal Industry
Sustainable Energy Industry
Sustainable Communities & Cities Industry
Intercultural Harmony & Personal well-being Industry
Security Industry
Homes Services Industry
Smart Parts Industry
Contract R&D and professional Services Industry

There are opportunities in establishing new groupings of firms, under these conceptual headings, to promote new alliances, innovative thought and new products for Northern Australia. These relate very closely to the opportunities for tradeable services in tropical skills referred to in the last section.

4.17 Quality Leather Goods

Australia potentially has good supplies of exotic leather for production of leather goods. This includes:

- Crocodile
- Emu
- Ostrich
- Snake
- Sea Snake
- Cane Toads

A major impediment is an inability to produce fine quality from hides due to lack of access to traditional chemicals. CSIRO is researching this. There is an opportunity to create a new, substantial industry **if** this constraint can be resolved. The likelihood of this being achieved requires further investigation. Stakeholders include CSIRO, tanneries and leather goods producers. The creation of an alliance with Italian fine leather goods producers would be worth investigation.

4.18 Crocodile Farming

Australia has only 1% of this $A300m world market. However Australia has a competitive advantage in that Australian hides are acknowledged to be of better quality than other species. There appears to be an opportunity to explore a collaborative effort to expand this industry in consultation with all components of the value chain. A second component of the collaboration would be involvement of representatives from the leather goods industry value chain.

A turnkey crocodile farming operation has been devised that could be used to increase production, with a design and operational level that should suit indigenous communities. There is an associated opportunity to explore creation of a collaborative structure through alliances with ATSIC Commercial Development Commission and at the same time expand this industry.

4.19 Floriculture

The world industry is worth some $A34 billion per year. The Northern Australian industry is small and fragmented. While there are some grower groups, they are as yet at a low level in terms of production and organization. The Northern Australian advantage is being able to produce tropical native and exotics in the Northern hemisphere winter.

Producer groups in different States see themselves only as competitors at present. For instance, Western Australian growers have what appears to be a successful export trade in Geraldton Wax. Growers on the Atherton Tablelands began to develop an industry in the same species based on the same flower, due to their ability to produce flowers earlier. The Western Australian industry has now begun to produce blooms earlier, thus wiping out the North Queensland industry.

There is an opportunity to collaborate to market jointly, extend supply periods, create critical mass and access markets.

4.20 Nursery Products

A similar situation applies to this industry as does in floriculture.

4.21 Mining, Oil And Gas

The primary stakeholders in these industries have their own existing networks and collaborative arrangements, which tend to be global in nature.

The opportunity for collaborative effort lies more with their local suppliers. Grouping of these companies into supplier associations, based on Welsh experience and Japanese models should find a community of interests to stretch and leverage existing products and services, collaborative opportunities for national and international tenders and the achievement of improved efficiencies in production and supply chains.

4.22 AustralAsia Railway

The Industrial Supplies Office is facilitating the meshing of sub-contractor capacity with head contractor requirements. A further dimension would be the creation of a supplier group or groups that could interact to produce similar benefits to those listed in the last section.

4.23 Cattle Industry

The cattle industry has never operated through a single selling desk, unlike other agricultural industries and has never had a rationalised marketing structure. It is fragmented and competitive. While there is an opportunity for collaborative marketing, the trust and cohesion necessary may take some years to facilitate.

In the market for live cattle exports, there is also a competitive approach between States, with both the Northern Territory and Queensland with points of presence in the same market. There is an opportunity for greater collaboration at a State level in marketing of product.

4.24 Area Consultative Committees

These committees (ACC's) presently administer the Federal Regional Assistance Program and do so within a strategic framework. By and large, it is smaller projects, focussed on local communities that are considered. This is valuable and nothing that follows should be taken to detract from that continuing.

However it is felt that there is scope for a broader strategic role for these committees, to run in tandem with regional development agencies. (There is already considerable collaboration in this regard).

All models of collaborative regional economies emphasise the need for a bottom up approach and the importance of community led solutions. The ACC's are not observed so much as government, as they consist of local representatives, who have a good knowledge of their region and its idiosyncrasies. They are therefore well placed to judge where effort will reap best returns locally.

There is already a proposal for all these committees across Northern Australia to collaborate. In grasping this opportunity, these committees should be given scope to support leadership, team building and development of collaborative behaviour in industries in their local area. However, These activities should be part of an overall strategy to feed these separate regional activities into cohesive activity across Northern Australia.

5. *Suggested Approach and Actions*

5.1 Collaboration In Context

In conventional production systems and workplace design, human interaction, (apart from formal communication), was given little attention and often treated as a diversion from the main purposes of the workplace. Economies have been typically organised centrally. These systems are failing.

Technology, global forces and the pace of change have now placed **knowledge and its rate of assimilation** at the centre of determining prosperity.

At the heart of acquiring and assimilating knowledge is the rate and quality of human interactions. Technology provides only better tools. This recognition is globally leading to a move towards decentralised, participative "bottom up" design of economic policy and the organization of production into what has been termed "associational economies".

The success of this approach is illustrated in a growing number of successful regional economies, using collaborative techniques going by a variety of names.

These regions are being classified as "learning regions". However in considering learning, there are distinctions between first and second order learning. *First order learning refers to the refinement of existing practices – doing things better; while second order learning refers to the production of novel practices – doing better things.*[5.]

First order learning can be achieved through tradeable knowledge and can be to some extent centrally codified and distributed. Second order learning requires personal interactions leading to intuitive adaptations. It is these personal interactions that produce innovation. It has been felt that innovation is a linear event, typically beginning with scientific or engineering R&D activity and then moving down through the production system. In fact R&D need not be innovative at all, as some national systems have demonstrated. Innovation can occur right throughout the production and value chains and equally move upwards as easily as downwards through systems.

Collaboration can occur at a variety of levels, from one requiring only formal interaction and low order trust, to intense face to face collaboration, requiring high levels of trust and intuitive learning likely to produce innovative outcomes.

There is also a note of caution in high trust, ongoing collaborative arrangements. For it to continue to be a learning, innovative situation, periodic appraisals need to be built in, otherwise they can degenerate from 'ties that bind to ties that blind'.[5] A second caution is to emphasis the need for the motivation associated with initiatives to create collaborative systems, to be transparent and genuine. Where collaboration is rhetorical to conceal narrow self-interest, it is likely to fail and make any future attempts more difficult. There are many examples of this in Australia.

Successful examples of regional economies are of relatively small geographic areas, where intense interactions have taken place between the various stakeholders in the economy. These regions have the industrial depth and capacity to compete globally.

These observations provide the context for the following observations on the potential for industry collaboration across Northern Australia.

5.2 Factors to Consider

Case studies of successful regional economies demonstrate that collaboration is a part of a complex interplay of factors, conditions, decentralised policies and support mechanisms. It is beyond the scope of this paper. Collaboration techniques are not a stand alone broad brush, fix it mechanism.

Any programs adopted to foster collaboration must include a review of the complex societal and industry context. It is clear that one design will not fit all circumstances. However, unless certain pre-conditions are met, collaboration will be unsuccessful, irrespective of the skill with which it may be facilitated.

If there is no pre-disposition to collaborate, or a recognised and widely felt outside imperative that draws a group together, then there will need to be effective preliminary group building activities prior to any attempt at collaboration.

"TPO" - an appropriate level of trust, a clear purpose and proposed outcomes consistent with group members own needs must be present.

Collaboration infers personal interactions. If collaboration is to occur across Northern Australian regions, any techniques adopted must include opportunities for these to occur. Shared experiences build trust and a meeting every three months is hardly likely to do so.

The concept of 'virtual' industry clustering has appeal in view of the small scale of much of regional Australia's industry. This involves networks of smaller industry clusters that develop methods of cooperation and coordination over distance. New Zealand appears to have had some success with this technique and the Savannah Guides chapter concept has some similarities.

While there is a need for greater collaboration across Northern Australia and some of the opportunities have been identified, there are many more opportunities on a regional basis, where face-to-face interactions and intuitive learning is easier to facilitate.

5.3 Fostering Collaboration

- Begin with identification and definition of a market, definitive commercial opportunity, or method of reducing costs in the value chain. Government resources can assist.

- Assess the social, political and overall environmental factors likely to impact on collaboration.

- In determining the stakeholders, take as wide a view as possible, to include as much of the production and value chain as is practical in the particular circumstances. This should include training, education and research institutions, together with local representatives of government agencies and financial institutions.

- Determine the best mix of techniques to be adopted. They must take account of 'TPO' factors.

- Engage an intermediary to facilitate the process. This may be a regional organization, an industry champion, a consultant, or combination of these. They must be to the participants "honest brokers", with the requisite skills. Australia does not have a strong history of civic engagement and collaborative behaviour in industry. Experience has shown intermediaries to be vital in these circumstances.

- Many Northern Australian industries are at such an early stage of development, are so fragmented, and/or have such a poor history of attempted collaboration, that there would need to be a comprehensive, multi-tiered program established to make substantial progress. This should work from local to cross-regional levels, as bringing regional representatives together before a disposition to collaborate locally is established, will be doomed to failure.

- Whatever techniques are adopted, ensure participants are given the opportunity to lead the process. Peers prefer to learn from each other and have the intuitive knowledge of their industry to do so.

- Support must be provided for a reasonable time until a point of maturity has been reached in the process.

- The process should include review, reflection and measurement, in accordance with action learning principles, to reinforce commitment and support and ensure the collaboration remains an active process.

5.4 Actions and Benefits

This paper indicates broad scope for collaborative and cooperative action across Northern Australia that would contribute to a stronger economy. The following suggested actions are considered to represent a realistic approach to at least initiate the process, in which many of the techniques mentioned above could be utilised. Models for collaborative regional economies seem to rely heavily on informal face-to-face interactions to generate the impetus for cooperation and innovation. The need in Northern Australia is to:

- Facilitate a **new model** that will engender cooperation and collaboration across distance;
- Achieve **critical mass** to gain entry and recognition in many global markets;
- Eliminate **confusion in the marketplace** through fragmented Australian marketing;
- Create **new linkages** across all stages of the value and production chain, industry suppliers and support institutions, together with cross industry linkages to produce 'stretch and leverage' to find and exploit 'white spaces'.

The following actions are styled as suggestions, rather than recommendations, as in the context of a scoping paper, they require additional consideration in many cases before adoption. A column is included for who is to carry out the suggested action. This has largely been left blank, to be completed by, it is presumed, the CAN Officers Group.

1. Establish the Framework

Task / Action	Why do it?	Who will do it?	Benefits (From Section 2)
1.1 Establish, market and facilitate access to a Northern Australia video conference network for business and industry, with sites in all major Northern centres, including Christmas/Cocos Islands	▪ There is not a history of cooperation and collaboration across Northern Australia, with distance and isolation leading to insular attitudes; ▪ Personal interactions facilitate learning, trust and lead to innovative behaviour; ▪ A central driving force for global best practice regions is the level and frequency of face-to-face interactions. Distance in Australia mitigates against this; ▪ On the other hand, due to the scale of regional Australian industry, there is much to gain from joint, cooperative action to address markets; ▪ Australia needs to develop a new model for producing high order collaboration over distance.	DOTRS to lead, perhaps through partial re-focus of Rural Transaction Centre program and Innovation Fund recently announced	A channel aimed at all 1 to 15
1.2 Establish interactive elements of the Northern Australia web site especially for industries and firms to post interest in joint ventures and opportunities	▪ Firms who wish to collaborate, generally speaking may not know how to contact others with a similar viewpoint, especially in other regions. ▪ Begin to generate TPO factors.	DOTRS	1 to 7 11,12 & 14
1.3 Develop business aids and training in tendering, particularly in how to tender for and manage contracts	▪ Many SME's have good technical skills and product, but fall short in meeting the requirements necessary to win complex tenders. Training would assist in addressing opportunities listed in the web		1 to 3, 6,7,8,12,14

Task / Action	Why do it?	Who will do it?	Benefits (From Section 2)
involving more than one enterprise	site; ▪ Develop skills in joint venturing and importantly, in managing that process; ▪ Create confidence from professionally managed experiences and so a predisposition to collaborate again.		
1.4 Provide ACC's with the resources and authority to support activities aimed at building bottom up regional capacities for collaboration within an overall strategy.	▪ Collaborative, associational behaviour is weak in many local areas; ▪ Attempts to develop collaborative behaviour across the North must be underpinned at a local and regional level.		7,8,10 12,14,15
1.5 Rationalise differences in industry regulations between States that inhibit joint action and collaboration between industry segments in different States.	▪ Differing regulations inhibit collaboration in marketing and other areas across State borders.		7,12
1.6 Conduct further research into EU learning region initiatives, place them in context against current Federal and State programs with regional development implications	▪ Australia has had many of the systemic weaknesses of centralism, lack of civic engagement on the part of industry, short term approach to dividend over R&D investment and dysfunctions between industry, training, education, research and industry support services, that have been identified as severe constraints, especially in Britain; ▪ EU models appear to be having success at addressing these dysfunctions;		Search opportunities for 1 to 15

Task / Action	Why do it?	Who will do it?	Benefits (From Section 2)
	▪ Existing government programs have come a long way down the same path; ▪ It would be worthwhile to benchmark the present situation against a working model with which there is some cultural affinity.		
1.7 Initiate discussions between States to explore collaboration in development of the live cattle trade.	▪ Provide an opportunity to consider the effectiveness of having separate State marketing efforts in the marketplace; ▪ Provide an opportunity to review the effect of differing regulations; ▪ Consider any opportunities for the better use of infrastructure.		6,7,9,12
1.8 Consider initiatives, (including current), that will make seed funding available for R&D into product ideas with commercial potential	▪ Retain IP in Australian hands; ▪ Retain industry-building flow on effects from commercial R&D outcomes in Australia and its regions.		11,13

2. Gather the Information

Task / Action	Why do it?	Who will do it?	Benefits (From Section 2)
2.1 Provide definitive, researched market opportunities and listings of contracts of particular interest to and suitable for Northern Australian industries on the North Australian web site	▪ Provide interest and purpose for collaboration within industry groups to establish collaborative arrangements. ▪ Establish parameters for development of strategic action plans to address each viable opportunity revealed.		2,3,6,9,11,11 ,12,14
2.2 Conduct definitive market research in a small range of initial target industries for specific market opportunities and how to address them. Say four target sectors should be chosen from the opportunity areas in this paper.	▪ Test the approach, methodologies and techniques suggested in this paper; ▪ Through this testing process, seek to establish a new model for collaboration, specifically to suit Northern Australian conditions; ▪ Create success stories from which to build		A test aimed at all 1 to 15
2.3 Map all potential stakeholders for formation of 'clusters' in tropical tradeable services, with reference to the 10 'new economy' industries and commence a facilitation process to draw them together into industry groupings and alliances	▪ Break down traditional thinking about industry groupings; ▪ Create cross-sector interchanges; ▪ Encourage stretch and leveraging; ▪ Create new products, services and industries.		7,9,10,11 12,14

Task / Action	Why do it?	Who will do it?	Benefits (From Section 2)
2.4 Facilitate a process to develop a coordinated strategy for use and development of infrastructure across Northern Australia that will most facilitate realisation of the principal industry opportunities identified.	▪ Strategic infrastructure is and element in the creation of industry clustering; ▪ It is difficult to provide infrastructure at each point across the North where it might facilitate industry development and clustering; ▪ An achievable and cost effective approach may be to develop coordinating mechanisms and provide better linkages to world best practice items of infrastructure; ▪ Squarely link infrastructure with best industry opportunities.		1,5 6 to 8
2.5 Map the elements of the Northern Australian general aviation industry, research markets and opportunities in detail	▪ Determine the degree of fragmentation and depth of available resources; ▪ Gauge needs and opportunities and what might be required to take up the opportunities.		Search out 1 to 15
2.6 Research benefits, ways and means of creating collaborative R&D effort into value added products that may be created from the tropical biomass that can be produced in the North, to begin with an investigation of market opportunities.	▪ Northern Australia has a wealth of native biomass and crops that can be grown in the widely different conditions existing; ▪ A market driven approach has not been previously attempted, except in the case marine research; ▪ There needs to be a cultural shift to move away from thinking about tropical crops only in the context of food; ▪ The world produces enough food, the problem is distribution, rather there is demand for fibre, resins and other innovative products; ▪ Research in this area is fragmented across numbers of agencies.		11,13

Task / Action	Why do it?	Who will do it?	Benefits (From Section 2)
2.7 Research the practicality of developing alliances for international collaboration to supply value added horticultural products twelve months per year.	▪ Africa and South America compete during the same general growing season as Australia and are very cost competitive; ▪ Value added products created in Australia at best give only a temporary lead; ▪ Globalisation of supermarket chains is producing fewer major customers for growing regions and seek product supply 12 months per year; ▪ The Americas are moving towards becoming a trading block under NAFTA; ▪ Tropical value added short shelf life products supplied 12 month per year would place Australia and its alliances in an extremely strong competitive position.		2,3,6,9 12,14
2.8 Develop an action plan to create a Northern Australian industry cluster based on tropical disease treatments and health care products.	▪ Open up international opportunities for Australian industry sectors associated with tropical health care; ▪ Create opportunities for broader alliances with nations in tropical zones; ▪ Leverage opportunities for other Northern Australian industries based on specialist goods and services for nations in tropical zones		6,9 10 to 15

3. Develop the Opportunities

Task / Action	Why do it?	Who will do it?	Benefits (From Section 2)
3.1 Follow up market research findings of 2.2 with identification of potential stakeholders in the value chain and facilitate workshop processes	▪ As in 2.2		Part of previous
3.2 Appoint facilitators to assist target sectors to form a plan to address identified opportunities	▪ As above, plus; ▪ Models and case studies demonstrate the need for intermediaries and facilitation in the early stages of development of collaborative behaviour.		Part of previous
3.3 Appoint facilitators to assist industry groups to address tenders requiring collaborative arrangements	▪ As in 1.3; ▪ Provide technical coaching skills		3,14
3.4 Utilise the video conferencing network to conduct special events with scope for interactions	▪ Break down barriers between industry, training, education, research, investment and academic stakeholders; ▪ Initiate cross-fertilisation of ideas to lead to collaborative projects.		1,4,5,6 8,10, 11 to 15
3.4 Follow up the Investing in Northern Australia seminar series with collaboratively organised and marketed	▪ Ensure the framework provided in 1.1 is well utilised; ▪ Begin to develop rapport and interest in financial markets in joint ventures and investment in the North;		11,12,14

Task / Action	Why do it?	Who will do it?	Benefits (From Section 2)
investment tours.	▪ Build a collaborative inter-state exercise from a suggestion emanating from western Australia		
3.5 Prepare a marketing strategy to package Northern Australia's collective tradeable services skills in tropical specialisations.	▪ An umbrella strategy will encourage stakeholders to form alliances; ▪ Develop the initiative under 2.3		9,11,12
3.6 Encourage industry partnerships to participate in international trade shows and events as part of this marketing strategy.	▪ Showcase tradeable services skills in new economy industries in appropriate marketplaces; ▪ Demonstrate to participants the need to collaborate to address markets ▪ Further develop 2.3		9
3.7 Conduct an in-depth, high-level workshop between industry, government, academic and education representatives and the Australian Greenhouse Office on packaging and marketing greenhouse products and expertise.	▪ Develop a new industry for Australia; ▪ Take advantage of an emerging international opportunity		10,11
3.8 Initiate a "product review system" for tourism product and locations judged to have potential across Northern	▪ The product review team approach has worked extremely well in Far North Queensland; ▪ This is an industry with a history of collaborative action. This		1,6,7,9,11

Task / Action	Why do it?	Who will do it?	Benefits (From Section 2)
Australia. The framework would involve experienced industry operators across the region exchanging experience, market development and access strategies, together with cross-fertilisation of business opportunities.	predisposition needs to be given scope for expansion; ▪ On the one hand there are experienced operators, well linked into international tourism marketing and distribution systems, with businesses that have reached a mature development phase. On the other hand, Northern Australia has product and sites with potential, but are under-developed, without these linkages. These elements need to be put in touch;		
3.9 Provide ongoing additional support to speed up the development of the Savannah Guides network concept.	▪ This network is aligned with research indications of growing market demand in major target sectors for Australia's tourism markets; ▪ Quality assurance measures are built in; ▪ Impacts on small communities can be substantial and positive; ▪ Aid diversification where there are often few options and transfer skills to professionally take up the option; ▪ Relieve pressure on agencies to provide management services for sensitive and/or protected areas.		9,11,12,14, 15
3.10 Convene a meeting between stakeholders who can contribute to the adoption of turnkey crocodile farming solutions, particularly in indigenous communities	▪ Speed up development of a potentially major industry; ▪ Provide opportunities for remote indigenous communities; ▪ Provide material for value adding operations.		2,6,7 8,10,14
3.11 Facilitate workshops to explore general aviation	▪ Draw attention to potential;		As above

Task / Action	Why do it?	Who will do it?	Benefits (From Section 2)
industry opportunities found under 2.5	▪ Begin the process of building 'TPO'		
3.12 Initiate exploratory discussions between ISO offices, regional development agencies and selected industry representatives with a view to establishing supplier associations for major industries and projects.	▪ Supplier associations based on the formal Japanese model have been shown to be successful in Wales, where there is a mixture of major traditional industries and branches of international operations; ▪ Such associations should find interactive methods of achieving supply chain and other efficiencies; ▪ Such associations could be encouraged to pursue international contracts through collaborative systems.		1,3,4,5 6 to 8 10 to 12 14,15
3.13 Initiate discussions with Officers of Supermarket to Asia and other stakeholders on supply chain requirements and efficiencies that might be gained in tropical horticultural industries and follow up with a program to engage industry.	▪ Avoid duplication of effort, as there are already efforts to improve supply chain management at local industry levels; ▪ Mesh techniques and programs for developing collaboration with existing resources that are approaching the issue with a different set of tools.		8

6. Case Studies and Examples

6.1 International

6.1.1 Collaboration Generally

Industry collaboration has existed for a long time in various forms, but has only been defined in academic works since the 1990's. One mechanism gaining prominence is the concept of industry clusters. These have gained worldwide recognition as tools in regional economic development for promoting inter-firm and cross sector collaboration. Success levels have been varied. They have achieved least success where adopted as an all-encompassing answer to regional policy. Best levels of success have been achieved where:

- The process has been **transparent** and inclusive for industries and communities;
- There has been a **predisposition** to collaborate;
- The **timing** has coincided with a felt need for cohesion to address issues with wide impacts;
- There has been a **recognition** that each situation, industry and community have different dimensions and that one formula will not fit all;
- "Honest brokers", with the confidence of all parties have **facilitated** the process.

Industry clusters tend to form in regions due to a rich natural resource, a major key industry, a core competency or competencies, market access considerations, or strategic infrastructure.

Due to a plethora of possible situations, there are now many versions of clusters, which makes it difficult to provide a precise definition. It is a case of "whatever version works" to achieve industry or regional outcomes. Clusters go beyond the concept of business networks. A differentiating feature between traditional industry clusters and those now leading regional economic reform is that they include **vertical** and well as **horizontal** networks. These bring together interactions right across an industry value chain, its support industries and associated institutions. These novel interactions are broadening thought processes and producing innovation.

Desirably therefore, cluster membership should consist of all elements of the value chain within and associated with an industry, which come together most usually in a geographic location. Typically firms that are traditionally competitors within a cluster choose when to compete and when to collaborate. The concept is based on academic work led by Professor Porter in the US and others, who studied and determined the factors leading to regional competitiveness and developed a model based on that work.

Each cluster includes firms that sell outside the region - export-orientated - as well as supporting or linkage firms that provide components, support services and raw materials. These firms come together either formally or informally to develop joint solutions to common problems and combine resources to take advantage of market opportunities.

Key words describing a cluster are therefore:

- Collaboration
- Integration
- Geographic concentration
- All industry sectors involved
- Core competency based

The ability to pull resources together quickly makes all the difference. Companies operating within a cluster are able to access specialised resources (including human, other businesses, capital, information and intelligence) on a quick turnaround basis. Thus they exploit their own competencies and gain performance advantages by operating within a cluster.

6.1.2 Silicon Valley

This is often advanced as the classic case of a highly successful industry cluster. It was not a lucky accident.

Business, the Stanford Research Institute (SRI) and national and Californian governments facilitated high technology industry growth in the region. Government generated demand side for IT hardware and software through procurement, predominately military orders for the Department of Defence. The human capital and research capabilities of SRI, itself relying on government funding, produced new high technology products and services. The private sector provided the entrepreneurial talent and high-risk venture capital. In Silicon Valley, growth of the high technology cluster has enormous impetus through the private sector. Government has reduced its role but remains important in procurement, sharing risks for major projects, research and skills formation and promoting the Valley. [2]

A central lesson learned, and one common to most successful clusters globally, is that the process almost invariably involves support by government, with the reasons being:

- Government is in the best position to break down structural barriers and broker relationship building across commercial, academic, government and other sectors;
- Cluster building includes activities not necessarily directly associated with markets. Regional agencies supported by government can at least initially provide impetus and support for local networks;
- Government has the resources and networks to identify and gain access to markets and so provide incentive and “horsepower” for groups of individually under-resourced SMEs;
- Procurement policies can require firms to work together;

- Specific programs can foster business networks;
- Research and Development programs can require cooperation between firms.

6.1.3 Emilia-Romagna – Northern Italy

This region has successful clusters based on SMEs in the knitwear, ceramics and advanced automotive engineering industries. They are mainly small networks of family businesses, which have created one of Europe's most globally competitive regional economies. It is also rated as one of the worlds wealthiest regions. It is of particular interest for two reasons. This is firstly due to the dominance of very small firms across Northern Australia and secondly due to comparisons that can be drawn with Calabria in Southern Italy, within the same National economy.

Factors that led to this prosperity were examined by Cooke and Morgan (1998) [5]. The following has been distilled from that work.

Emilia-Romagna was not always highly prosperous. At the turn of the century it was slightly less industrialised than Calabria and its infant mortality rate was worse than the national average. Calabria was better than the national average. Both regions have experienced the same national policies and administrative systems. Calabria has received regular financial assistance packages; Emila-Romagna has not. Despite this, Calabria is now one of Europe's poorest regions.

Central to the divergent fortunes of the two regions is the higher level of *civic engagement* displayed by Emilia-Romagna, a feature of the region since the eleventh century. This is reflected in their political institutions, social structures and traditional artisan organisations.

The Italian economy was centralist, with little scope for individual regions to apply innovative programs. Progressive reforms since 1970 have de-centralised decision making to some extent and allowed Emilia-Romagna scope to apply creativity in the manner in which they chose to support regional enterprise. This has coupled with a willingness of its people to learn and change and is built on the type and level of interactions apparent through their tradition of civic engagement.

The small scale of regional enterprises has insulated these firms from the core R&D system in Italy, which it seems, has worked to their advantage. It has been observed that the core system does not promote advanced technological capabilities and does little to induce innovations or enable Italian industry to improve its international competitiveness.

Whereas, the networks of small firms in Emilia-Romagna:

……………are engaged in rapid adoption of technology generated externally and in the adoption and continuous improvement of this technology. The success of the system is based on the atomistic interaction of a large number of firms bound to each other by economic, local, cultural and social factors. Firms incrementally innovate through learning by doing, by using and by interacting with suppliers and users. [6]

Regional agencies, local governments and other intermediaries, including vocational training schools, also support them.

Intermediary organisations of various types have played a crucial role, with ERVET, the regional development agency being one.

In the case of technology, while the firms are insulated from the main R&D stream, national policies have been blended with regional and local ones to develop research centres for training and technological consultancy. These tend to transfer and diffuse information and technology quickly from National theory to local practices.

In Emilia-Romagna, the emphasis has been to establish locally focussed centres, to provide what could be termed horizontal access from within districts, focussed on real production issues, rather than centrally located, "vertical" access models.

The example of CITER is given, which is one of the "real service centres" and services knitwear firms. It includes a library of fashion and design catalogues and magazines, a lecture theatre and a workshop in which a CAD-CAM system is demonstrated.

Owners or workers from the district's firms come to browse the library and experiment with the equipment to produce designs and occasionally purchase a system.

Not all the service centres have been unqualified successes; some have been a disaster. Even the most successful have suffered from mistrust due to their public agency status and been criticised for allegedly helping leader firms who in turn were not seen as sharing know how.

Other important regional organisations, which provide important support services are the Regional Chambers of Commerce, artisans organisation and trade and industry associations. Apart from their particular services, they all provide forums for the interchange of information and the building of trust.

There are now suggestions that evolutionary pressures, market and technological imperatives are pulling the system into globalised operations and it may not survive. However on balance, the model has shown flexibility to date and has been able to learn, adjust and evolve. This may see it evolve into yet another successful model.

6.1.4 Wales -UK

Details of the Welsh model for collaboration and economic development have also been sourced from Cooke and Morgan (1998) [5]. It strikes a chord with Northern Australia since Wales has been an economy dominated by mature industry sectors, internationally controlled branch operations and centralised government processes.

The Welsh examination is carried out in the context of perceived weaknesses in the British framework. The argument is made that one reason for the more recent relative success of Wales has been the devolution of some degree of self-governance to Wales. This has allowed the development of more regionalised policies for economic development, tailored to meet the specific circumstances of Wales.

It is argued that there is an interplay of complex, reinforcing problems in Britain, which constitute a systemic weakness, amounting to an anti-industrial syndrome. These include:

- A lack 'patient money' for industrial investment
- Low commitment to R&D
- Inadequate system of skills provision
- Weak inter-firm networks
- Ineffective professional associations
- The centralised State system failing to provide a stable and stimulating regulatory framework

Lack of 'patient money' is explained as an emphasis on short-term profits and growing dividends, which makes it difficult for public companies to justify long-term investment. This *has also fostered a deal-driven culture in which acquisitions are exalted over organic growth. The ultimate sanction against firms which fail to play by these rules is the threat of takeover.* It is noted that dividend payouts are higher than any other OECD country and have been increasing at the same time as investment in R&D has been falling. Leading to a conclusion that British industry is driven by a short-term view, with 'impatient money'.

Extensive comment is also made on the other British factors referred to above, including weak inter-firm relationships, which partly flow from the above and are associated with a lack of trust and low levels of collaboration.

In Wales a history of low civic engagement on the part of the business community has been an impediment to development of initiatives. In fact there is an overall weakness in business organisations and associations. The conclusion is that regions, *which lack strong private sector business institutions are that much more dependent on their public institutions taking the lead in forging a development strategy.*

Wales is also still grappling with the social and economic legacies of the once dominant coal and steel industries. The point is made that Wales is still heavily reliant on external capital due to its industrialisation having been heavily reliant on an immigrant business class with few ties to the localities in which it invested.

The Welsh Development Agency is the lead agency for economic development and is one of the largest and most experienced in this field in the European Union. It initially took a centralist view of its operation, but has more recently taken a different approach.

Since its inception in 1976, the agency has pursued strategies based on land reclamation, factory building and inward investment. More recently it has been setting a higher premium on business support services, technology transfer and skills development.

Early activities succeeded in attracting foreign direct investment in branch operations, largely due to the pool of cheap labour. These plants are now providing flow on effects through the local economy, as they are introducing local business to collaborative concepts, as they source more content through local supply. These plants are also themselves fostering innovation within their plants, which in some cases is providing a lead for head office operations. Examples given that particularly rely on collaboration are:

Through its interaction with Nissan, the local branch of Valeo pioneered a new model of collaborative manufacturing with its own suppliers and this model has subsequently been adopted by Valeo plants worldwide;

The Welsh branch of Northern Telecom took it upon itself to develop a more interactive relationship with its key suppliers and formed a suppliers' association to give this institutional expression, the first such association anywhere in the NT group;

General Electric's aircraft-maintenance plant has gone further than any other plant in the GE empire in realising the concept of the 'supervisor-less' factory through the use of autonomous work teams, with the result that this Welsh plant is something of a Mecca for managers throughout the company;

TRW's plant at Resolven has developed a Suppliers Park to create a 'family supplier organisation' to enable the plant to iterate more effectively with its key suppliers and this concept, developed by local managers, is a first fro TRW worldwide.

It is concluded that there is more scope for innovative activity at a branch plant level than previously thought.

Responsibility for Vocational Educational Training in Britain has now been split across 82 privately run employer bodies. A free market approach has been adopted to create competition for students. This has created unproductive rivalry and it is now apparently impossible to create collaboration between these institutes and so coordinate vocational training in Britain. Wales has been able to enact regulatory mechanisms that assist in tempering this situation.

Now some 60% of foreign direct investment in Wales is repeat investment. These are associated with different mechanisms compared to Greenfield investments that focus on incentives and costs. Repeat investment has more emphasis on sustainability, involving issues such as the level and quality of skills, local suppliers and after care services. The Welsh Development Agency has realised that no one agency can satisfy these emerging requirements. It has become a broker, collaborating with a host of other agencies to deliver the right package to suit individual firms.

An EU program, the Regional Technology Plan (RTP), aimed at promoting innovation in less favoured regions, has also facilitated collaboration in Wales. Wales was invited to become one of four pilot regions for the program.

Since collaboration was seen as central to the process of raising innovative capacity, the RTP initiated an extensive consultative exercise over eighteen months, which was reportedly the most extensive ever undertaken in Wales in the field of economic development. The resulting action plan identified sixty-six projects under six priorities for action, *with project champions ranging from private firms in projects related to technology transfer, supply chains and finance for innovation, and so on, to trade union bodies in projects dealing with skills formation and new qualifications.*

The experience of orchestrating the exercise has apparently been of invaluable experience to the Welsh Development Agency (WDA), due to experience gained in collaborating with a wide range of organizations with which it had no previous experience.

The WDA is also actively building collaboration through Supplier Associations, horizontal networks considering technology transfer and group consideration of training needs.

6.1.5 EU Learning Regions

The EU is reportedly spending one third of its budget on regional economic development initiatives[2]. These in part at least explain high levels of innovation and collaboration in Ireland and Wales. A 1999 paper refers to these initiatives and the supporting rationale.[7]. The quote from this paper below sets out factor conditions to create learning regions:

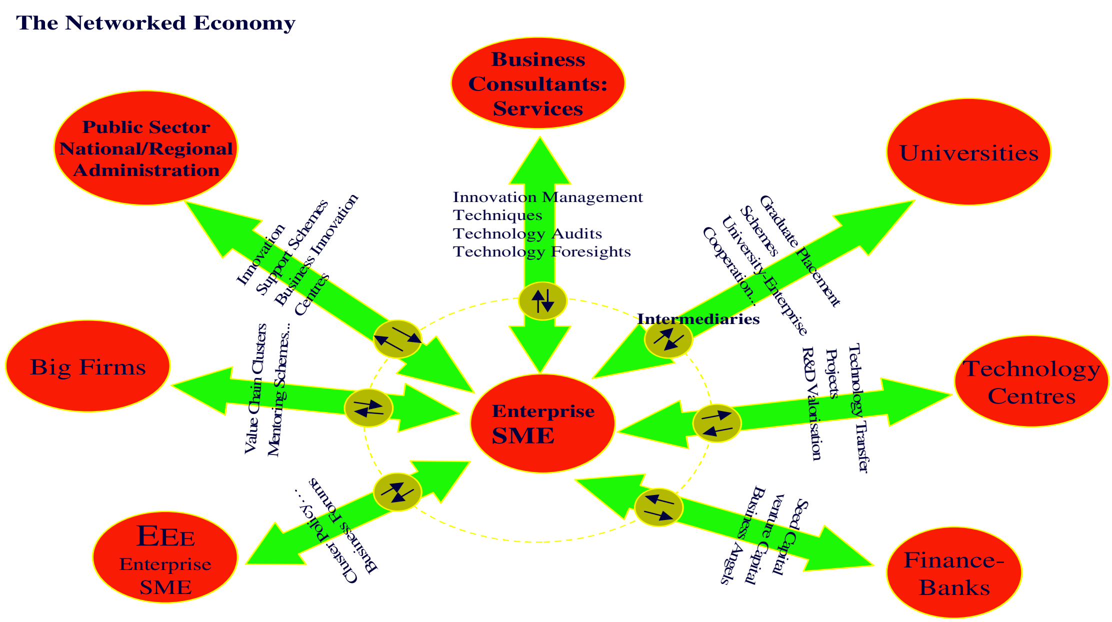
Over and above an appropriate level of physical infrastructures and workforce skills, which have been the traditional target of regional policies, these conditions also involve the existence of regional strengths and opportunities to be further exploited such as:

- *the capacity of regional firms to innovate;*
- *the quality of management;*
- *a business culture which promotes entrepreneurship;*
- *an institutional framework which encourages inter-firm and public-private co-operation;*
- *a dynamic tertiary sector providing business services and the transfer of technology;*
- *a minimum level of R&D capabilities;*
- *the availability of appropriate interfaces between demand for, and supply of innovation inputs, particularly by/for small firms, and;*
- *the existence of adequate financial instruments conducive to innovation, etc.*

These conditions are closely related, at microeconomic level with "intangibles" and "real business services" concepts as opposed to traditional horizontal aid schemes and 'automatic' business subsidies.

At the 'meso-economic level' they are related to 'institutional thickness' and the 'social capital' concepts. The latter has been defined (Henderson & Morgan 1999) as a relational infrastructure for collective action which requires trust, voice, reciprocity and a disposition to collaborate for mutually beneficial ends.

The EU has a 'European Regional Development Fund'. Regional Innovation Strategies (RIS) are supported from this fund. These are particularly directed at assisting less favoured regions, with the objective of creating 'Learning Regions', based on open networks between all sectors of the economy and high levels of collaboration. SME's are seen at the centre of this process, rather than at the bottom of a chain, emanating from centralised regulation and process. The SME centric model is diagrammatically represented as [7]:



The program has extensive and high level support. Over the five years to 1999, more than 600 leading figures in the public and private sectors participated directly in the steering committees of the 32 RIS. These included chief executives and chairmen of international corporations.

It is considered that a learning region can be explained in the following terms. *The innovative capacity of the regional firm is directly related to the learning ability of a region. That is, innovative capacity and the regional learning ability associated with it is directly related to the density and quality of networking within the regional productive environment. Inter-firm and public-private co-operation and the institutional framework within which these relationships take place are the key sources of regional innovation. Innovation being the end product and density of the above relationships, being the process.*

RIS programs have four objectives:

1. Place the promotion of innovation as a key priority for the policy agenda
2. Increase the number of innovation projects in firms
3. Promote public/private and inter-firm co-operation and networks
4. Increase the amount and quality of public spending on innovation

The EU does not try to promote one standard methodology in delivering RIS, but adopts six key methodological principles:

1. Based on public-private partnership and consensus
2. Integrated and multidisciplinary
3. Demand-led
4. Action-oriented
5. Inter-regional cooperation and benchmarking
6. Incremental and cyclical

Feedback received from participants indicates that RIS helps to improve cohesion and institutional cooperation among various socio-economic actors concerned with innovation and develop new networks for cooperation based on trust and shared responsibilities.

6.1.6 US – Business Opportunity Networks

Business opportunity networks are described as a form of interfirm collaboration formed around discrete market opportunities or to meet a specific contract. They may be short-term or long term, with their life defined by the life of the contract or market opportunity. Successful case studies indicate eight general conclusions contributing to the success of these networks. Not all factors are necessarily present in all networks. However they are summarised as:

1. Network members have and recognise a need to pursue new business and the capacity to handle it;
2. Identify and define the opportunity and express it in a plan;
3. Set realistic goals;
4. Appoint a strong leader or team of leaders to "broker" the network;
5. Ensure commitment from members, usually with a tangible, prerequisite financial contribution to costs;
6. Clearly define authorities, roles and responsibilities of all members and ensure clear understanding of these;
7. Chose and implement a structure and mechanisms that best suit the network to handle issues such as product liability, asset protection, proprietary information and intellectual property;
8. Consider including government agencies, especially at initial market research and establishment stages.

Profiles of eight case samples of successful networks in the US are summarised in **Appendix 1.** [8]. This publication outlines specific lessons learnt and key success factors for each example.

6.2 Northern Australia

6.2.1 Savannah Guides

The Savannah Guides concept evolved in the mid 1980's in the Gulf region of Queensland. It is now becoming a collaborative network across Northern Australia. The initial impetus arose from a desire to provide public access to natural attractions on private, leased or public property, whilst maintaining conservation values. From this flowed recognition of a need to provide training and education to create a professional and consistent standard of interpretation. Savannah Guides Limited (SGL) was subsequently established in 1993, with the following objectives:

- Act as professional interpreters of a remote environment
- Act as protectors of the natural and cultural environment
- Manage visitor impacts on private, leased or public property by negotiation whilst maintaining conservation values
- Harness tourism for the benefit of remote communities, including Aboriginal communities

Since then, SGL has concentrated on educating individuals in guiding skills, interpretive knowledge and sustainable tourism practices in sensitive environments. They recently held their inaugural guide school in Western Australia. In the course of this development, the concept and the organization have won a number of prestigious tourism awards.

The major stage of network development came when the Northern Territory Government expressed interest in an extension into the Territory and offered financial support. They challenged the organization as to how they would manage that expansion. Consultants were appointed, which resulted in a better corporate vision, structure and definitive action plan, which have provided focus.

The organization is now managing its expansion, but finding difficulty with sourcing sufficient cash flows. A funding strategy has been written over the past twelve months in an attempt to address this.

Office bearers donate their time. This represents a substantial burden on the President in particular, with office bearer's firms in effect subsidising the organization. This is a common problem for regional leaders and is a constraint mentioned in a number of reports, including the McKinsey *Regional Development, Unfinished Business Report.*

Guide Schools are an important element in the organizations success. They provide opportunities for face-to-face interactions, to learn from each other, gain new insights and participate in formal training activity. Training is at a series of levels, adding to member's sense of achievement. Each school celebrates individual members achievements, thus contributing to group cohesion, reinforcing a sense of worth and sense of purpose.

An important activity of these gatherings is also to institute management plans for new member properties. An example is Cobbald Gorge, which was to be turned over to management under the Parks and Wildlife Service. The management plan developed by the landholder with the support of the Savannah Guides was accepted by the Service, with the result being the landholder is self managing the property and has diversified his income streams into sustainable tourism.

The impact of the Guides organization can be very significant in a small outback community. Mt Surprise is a case in point. Over a ten-year period, the community has gone from negativity, with little confidence in the future, to one with viable businesses and renewed confidence.

Undara Lava Tubes was the first Savannah Guides station in the region. That was followed by Cobbald Gorge and Talleroo Hot Springs. Increased visitor traffic led to the opening of the Mt Surprise Tourist Park, followed by the Bed Rock Village Caravan Park, run by a Savannah Guide trained at Undara, who is now running tours of his own. The Savannahlander train service now comes to Mt Surprise and a bus operator meets the train and conducts tours.

The town now has a museum, a local progress association, has been tidied up and there is civic pride in the town

SGL is seeking to repeat this scenario across Northern Australia, providing diversification opportunities in small, remote communities.

With growth, SGL has had to consider how to maintain cohesion and participation, with membership scattered over a wide geographic area.

The structure adopted is:

- A Board, referred to as the Joongai, is the premier ruling body;
- Secretariat, to provide support for the Joongai and members generally;
- Sub-Committees, delegated management tasks from the Joongai;
- Local Chapters, with a local management committee, with their president becoming a member of the Joongai;
- Local Business Hubs, where there are insufficient numbers to warrant chapter formation. These have no formal structure.

In addition, while the SGL has been provided as a case study, it also represents an opportunity, as the organization is still at a low level and represents untapped opportunities for further collaborative development, particularly in the North of Western Australia.

6.2.2 EcoFish Ltd

This group began in 1999 as the Seafood and Marine Cluster under Cairns Region Economic Development Corporation. It has some 80 financial members interested in the Far North Queensland Fisheries. These are under three categories:

Class A:	Commercial Fisherman
Class B:	Fishing Industry Support (Includes individual fishermen, skippers etc as well as industry support services)
Class C:	Others (mainly interested individual persons)

The impetus for group formation came from the industry perception of a threat to its continued operation due to possible restrictive legislation. The second driver for formation was the recognition of benefits to the industry in bringing together not only licensed fishermen but also all other industry components and support elements.

The group is not driven by a need to find new markets, as demand is strong for their product. New markets are only of interest if they represent high yield.

There was no previous history of industry collaboration. However there is a state-wide industry association, the Queensland Seafood Industry Association, or QSIA, (previously the Queensland Commercial Fisherman's Association).

The QSIA is concerned with lobbying on behalf of the state-wide industry and fishing issues.

Ecofish has a range of interests that differentiate it from the State body:

- **Lobbying** on regional issues (in consultation with QSIA);
- **Marketing** and industry promotion to inform and build community support. This is seen as a core activity, one that has been very successful and contributes to group cohesion. Activities in this category include:
    - Media releases
    - Web site maintenance
    - Paid Advertisements
    - School and industry information sessions
    - Cairns Show display
    - Donations to charities;
- **Training,** Education and employment issues are considered by a sub-committee, with the objective of maintaining industry skills and access to an adequate pool of labour;
- **Ecological Sustainability** issues are seen as central to industry survival. As part of this, the industry is seeking to attain accreditation under ISO 14,000, which would

certify the fishery as sustainable. It is considered that this certification would also ensure continued access to certain markets, particularly in EU countries and provide opportunities to secure premium prices in certain cases.

Ecofish considers principal lessons learnt are:

- **Formative Support** – Facilitation of group formation and support from outside the industry is crucial.
    - o The group would not have been a success without support during its formative period. This was provided by government through Cairns Region Economic Development Corporation. This firstly involved facilitation of group formation and secondly creation of a strategic action plan with the aid of a consultant;
- **Process Design** – Careful design of process is essential, particularly in the early stages of group operation.
    - o A funding proposal foundered early in the life of the group, as it was found that while it appeared a logical solution, there was insufficient industry support;
    - o Lack of an in-depth knowledge of group dynamics and relationships has been the source of friction;
- **Networks** that encompass local government agency representatives have been important in gaining recognition and support for the group.

Timing seems to have been the central key, as group formation came at a time when there was industry consensus that there is a threat to survival. Such a perception predisposes to cohesion and group action.

6.2.3 Super Yacht Cluster

This cluster grew from small shipyards in Cairns noticing that the port was gaining business from refits and refurbishments of large international yachts. Investigation revealed the port was very cost competitive and that this was a niche market with growth potential.

A wide cross-section from all firms in the value chain was bought together. This extended from the shipyards themselves, through brokers and industry suppliers such as marine paint suppliers. In other words, all who could possibly benefit from additional yacht repair and refurbishment business were engaged as stakeholders.

The group jointly funded representatives to attend a major US yacht trade show and returned to Australia with $A15 million of new contracts. This success has cemented group cohesion.

Central factors leading to group success were:

- Identification of niche market opportunity;

- Engagement of all beneficiaries;
- Preparedness to act jointly

6.2.4 National Mango Association

The National Mango Industry Association was formed to progress industry issues nationally. However the individual mango growing regions do not have a high level of cooperative effort or trust, placing the structure on an unsound foundation. This will be an impediment to the national body developing to its potential to assist in creation of a cohesive national industry.

6.2.5 Shepherd Avocado Group

This is a marketing group of 28 avocado growers, which began informally in 1992. However it was not until 1996 that effective benefits were gained and the group has since formalised its organization into a cooperative. The need was identified through prices being driven down by wholesale agents dealing with individual growers.

The impetus for group success was the discovery of a process to speed up fruit ripening using ethylene. The group appointed one agent to act on their behalf, who approached a major chain with the prospect supplying avocados with a "ripe for tonight" marketing tag. This increased sales in the order of 200% in one season, creating the demand volume required for the industry to be profitable at the time.

Associated benefits have firstly been to cut down on disease, as avocados are stored for less time before sale and secondly, more opportunities have been created for growers not in the group, by removing shepherd group growers from supplying to the open market.

The group is considered very successful, in that it has succeeded in increasing demand for their crop and members have achieved consistent prices at a level to make a profit.

There are some difficulties and disadvantages perceived.

1. It costs growers more to market through the group. This is due to a levy to support in store promotions and a $100 per pallet to ripen fruit. These translate into a cost of $1.45 to $1.50 per tray to the grower.

2. In years of short supply, there have been instances of members breaking commitments by marketing outside the group to get better prices.

3. The process has reportedly not improved trust between group members. Two resigned this year (a short supply year), apparently to get higher prices than the group. Next year is expected to be a year of oversupply.

4. The major chains run "specials" to promote product that include a temporary price cut. At least in the case of the Shepherd group, the price cut is at their expense.

5. The group supplies to major chains at a discount rate, on the basis of increasing market demand. This discount is reportedly not always passed on to consumers in individual store's pricing decisions.

6.2.6 Top Crop Lychee Group

This group was formed in 1996 and has 15 grower members. It is a marketing group under a registered business name owned by certain foundation members. The group formed as a result of dissatisfaction with another lychee marketing group.

The group operates under a simple constitution with a minimum of rules. Their objectives are simple – to produce a premium product and achieve a premium price. The group is very successful in that their product does achieve a premium price, group cooperative levels and informal interactions are high and other growers aspire to join.

A central tenet is to retain control of the marketing process and this is done under the conditions associated with joining and retaining membership and style of operation:

- A market coordinator is retained on a commission only basis;
- The group pioneered a QA system for lychees and has systems to trace product from market to production source;
- New members have a two-year probationary period, during which founding members can ask them to leave. Only one has been asked leave and one other left because he could not force a rule change;
- Members must sell through the market coordinator and during their first year can only use generic lychee cartons, not carrying the 'Top Crop' label;
- New members are required to spend a day in the packing operation of an experienced member;
- Regular market reports on product condition are received back from the sale floors in the various markets into which product is sold;
- Where a member is found to have a quality problem, another experienced member will work with them on their property to resolve the problem;
- If a member fails to comply with quality standards, they revert to generic boxes until it is resolved.

It is felt that a key success factor has been the development of a relationship with a road transport firm that provides trucks exclusively for transport of lychees to market. Meetings are called on an as needed basis, partly due to the distances between members.

The group is presently exploring expansion into direct export to China and is sending representatives to China in the second half of 2001.

6.2.7 Rambutan Producers

This group began in 1993, became an incorporated association and is now a registered company. It had 54 members across Far North Queensland and the Northern Territory. This has dropped to about 30 due to difficulties experienced in the 2001 season.

Identification of a market opportunity into Japan was the impetus for group development from a local marketing group to an interstate organization. This developed through a revision of Japanese quarantine regulations that opened an opportunity for both rambutan and blueberries. This was recognised by a Japanese importer, who contacted an Australian agent, who happened to have seen an in-store promotion by Far North Queensland growers in Sydney. Otherwise he would not have known there was an Australian source of supply.

The growers have sent representatives on two trips to Japan. The first was to appraise the market; the second to participate in the 'Australian Embassy Cherry Blossom Gourmet Food Festival'.

Major difficulties have been experienced with agents appointed by the Queensland growers. It is felt that their business practices have not promoted orderly marketing in the industry. An outcome has been to create mistrust between Queensland and Northern Territory growers. There was also concern expressed by Queensland growers over consignments of fruit sent from the Northern Territory that apparently did not meet quality standards required by the Japanese market.

The group has reached the point where a full-time employee is warranted. They plan to develop a formal business and strategic action plan in the second half of 2001. From the group's point of view, key points and lessons learnt are:

- Group control needs to be retained over the marketing interface between the industry and importers;
- Generic branding across all markets is not appropriate and international branding in particular needs to be associated with recognition. The brand first adopted was 'FNQ Rambutan', which has no recognition in the Japanese market. The brand adopted now is 'Aussie Rambutan', to be consistent with the tag adopted by other recognised food product lines in Japan, such as 'Aussie Beef';
- High quality standards need to be set and sustained to gain and retain market access;
- Japanese in particular choose food with eye appeal. The methyl bromide process used for disinfestation tends to turn skin colour from red to brown. Strict control is required over a range of factors to limit this tendency;
- The proposed Surebeam electronic disinfestation process is seen as a key to creating strong demand in the Japanese market, as it will not affect fruit colour;
- Cultural differences and social etiquette need to be learned and respected for success in international markets;
- The export process has required learning a different cool chain regime.

- Maintaining open, regular communications between the interstate participants is crucial but very difficult;
- There are attitudinal differences between Queensland and Northern Territory growers.

6.2.8 Mango MAP

In 1997 a 'Rural Partnership Program' was implemented on the Atherton Tablelands, referred to as 'Directions'. This was a Federal Government program, supported by the Queensland Government under an MOU. It had 17 program components, with one being three feasibility studies to be undertaken into horticultural value adding opportunities.

Mangoes were chosen for one study. Second grade mangoes were traditionally supplied to major processors located in Brisbane and south, to be used for tinned slices, juice, or puree.

Previous attempts at collaboration to produce value added mango products had failed.

An initial market scan was commissioned, which indicated that concepts for a 'fresh sliced' product and a 'semi-dried' product should both have market potential.

In late 2000, the study finally resulted in a cooperative being registered, with some 70 grower members. The cooperative established a processing operation for a 'fresh sliced' mango product, developed in the course of the study, using modified atmosphere packaging technology. The product has a shelf life of 6-8 weeks at five degrees and is a ready to eat no mess product. Demand to date far exceeds supply, with regular international enquiries, but the cooperative is suffering from under capitalisation. Under such circumstances, it could be expected to come under pressure from competitors.

Development of the semi-dried product has not been pursued due to lack of resources.

The process leading to formation of the cooperative had to endeavour to overcome a lack of collaborative history in the industry and a failed previous attempt. The following steps are worth noting:

- There are low levels of trust between individual growers and the process has not substantially changed this;
- Attention and trust was gained initially by the DPI, the local Fruit and Vegetable Growers Chairman and the regional development organization forming an alliance to jointly support the study;
- It was important for the growers to make a commitment to the process. In doing so they became participants, rather than spectators. For this reason, they were asked to make small financial contributions at various stages of the study ($150, then $250);
- These contributions also had the effect of demonstrating that their neighbours had also made a commitment. This developed at least some level of trust and cohesion;
- There is suspicion of other growing areas. It was not until the size of the opportunity had been identified that the suggestion was made to invite other growing areas to

participate. This led to Burdekin growers joining as contributors and Northern Territory growers becoming supporters. This was the first time any inter-regional cooperation had occurred;

- No promises were made on outcomes, apart from doing the best job possible with resources available. Previous attempts had raised expectations and led to disappointment;
- Short, regular written reports were distributed on progress. Feedback received was that this was greatly appreciated and the first time as participants in any joint scheme this had happened.

Overall, at all stages of the process, it suffered from inadequate funds. Especially once the product potential had been proven, a better option could have been to seek a major joint venture partner.

6.2.9 Tourism Tropical North Queensland (TTNQ)

Tourism Tropical North Queensland (formerly known as the Far North Queensland Promotion Bureau) is a tourism industry membership based company limited by guarantee, which provides an excellent example of competitors having learned the merits of collaboration.

The company has now been operating for in excess of 26 years, and boasts a membership of in excess of 600 tourism and affiliate industry operators. Principal operations are clearly focussed and confined to destination promotion of Cairns and the Tropical North Queensland region.

Membership fee contributions range from $610 to $12,000 per member per year. Members additionally contribute to supplementary cooperative marketing initiatives.

With maturity of the company, and its members, focus has in recent years been given to leveraging capacities which have been given effect by development of successful partnerships with Federal, State and Local Governments and authorities, as well as airline companies and other influential industry organisations and players. The result has seen not only cohesive, targeted and effective destination promotional campaigns but also a unified and cost effective approach to industry development which has been fully integrated across all of industry, all of Government, and indeed all of the subregional districts of the Cape York Peninsula.

Tourism has become the economic driving force of the region, which now enjoys annual tourism visitation of over 2 million tourists.

The fundamental principles of collaborative endeavour, employed in the successful development of leisure tourism product and markets, are now being applied to attraction of event, business, education, and health tourism.

7. *Mechanisms and Techniques*

7.1 Market Research and Development

Producers often begin producing something either because they can, because it sounds like a great idea to them and/or because they perceive someone else is doing well in the same field. After production begins, they begin to test and search out their market. This approach is often driven by a lack of resources and/or expertise to carry out the requisite market research.

Personal observation of the authors has been that many attempts at collaboration are driven by a need by producers to find a market.

It is suggested that productive collaborations can be better produced, by working from the market backwards. The steps include the usual in market research and development:

- Identify the market/s, location, size, nature and trends;
- Define who the customers are and exactly what they want and expect;
- Investigate price and likely profitability;
- Consider access, logistical considerations and market entry strategies;
- Gain an understanding of current or likely distribution systems for their product or service;
- Decide on target markets.

From this information, it should be possible to derive the following:

- The likelihood of profit and conditions necessary to produce profit;
- Minimum production levels to viably enter one or more market sectors;
- Supply management capacities and strategies;
- Maximum production the market is likely to sustain;
- Industry investment levels necessary;
- Strategies for market entry and development;
- Supply chain requirements;
- Quality standards and a precise product definition.

In other words, create a clear, comprehensive and logical action plan, which in most cases would almost automatically make out a case for collaboration. This should be a facilitation process involving all elements of the industry value chain, including Government, in the context of also developing the underpinning principles (TPO). The basic question to be put to the stakeholders is "How can we organise ourselves to take advantage of this market opportunity and all achieve our profit and other objectives?"

7.2 Acceptance of Scale

Australia is a very small market in global terms. Australian exports are by and large not an important part of global importers considerations and our exports in most cases represent an extremely small proportion of world trade. This produces tenuous links into world markets, which in most cases would not notice if Australian participation ceased.

This emphasises the need for Australian industry sectors to collaborate. The context for this as a collaborative technique is to assist potential industry stakeholders to see the advantages of collaboration to access markets to gain the minimum scale necessary to service an export market.

This simply represents an extension of the last section on market research.

7.3 Creation of Defacto Collaboration

Achieving collaboration between horticultural producers is often very difficult, with many attempts ending in failure. There is a low level of intrinsic trust. One method that has been successful time and again is the creation of what we will call defacto collaboration, through an intermediate "gateway" that producers have to pass through to sell their product. Single desk selling mechanisms have been an example of this, but are not the only way to achieve the same outcome.

Zespri, New Zealand is a current, best practice model of a single selling desk. It markets all New Zealand kiwi fruit through the one organization and has been largely responsible for the success of that fruit and growers' cooperative efforts.

The Tobacco industry is one of many industry examples that appeared to represent high levels of collaborative effort. Farmers helped each other. Families worked on others farms during harvest, they exchanged advice and experiences, there was a strong social fabric, etc. However, they all had a quota and knew they could sell their quota on the local sales auction floor. They did not see each other as competitors. Since diversification into a range of crops, they now all see each other as competitors and cooperation, collaboration and some of the social fabric have largely collapsed, with serious regional consequences.

Diamond Star vapour treatment facility represents an example of defacto collaboration. Access to the Japanese market requires compliance with standards of quarantine. This involves treatment of mangoes to guard against fruit fly infestation and this vapour treatment process has been certified as meeting the standards required. Diamond Star is a Japanese company with direct knowledge of and access to the Japanese market. They have established a collaborative arrangement with one local grower and built a vapour treatment and packing export plant on his property. He manages the relationships with local growers, who must comply with stringent standards to be able to sell their fruit for export. The incentive is that growers who comply receive a premium price for their fruit.

The cost of the technology and market entry barriers force growers to market collaboratively and sustain quality standards.

Surebeam, is the name given to technology capable of electronically disinfecting fruit, described in the Investing Across Northern Australia paper [1]. If it proceeds, it will have a similar effect to the Diamond Star operation. The company proposes to find and manage the supply of products to the market. Suppliers would need to provide fruit to a specification, on time and in the quantities required, so creating an orderly marketing system. For those that do, they should achieve a price premium. In this case, in view of potential market size, there is likely to be a need for collaboration across regions in Northern Australia to supply one or more plants.

NIR Technology, also mentioned in the Investing across Northern Australia paper, screens fruit for ripeness and sweetness. The implications of this are less clear, but may have similar effects once fully operational.

7.4 Supplier Groups

Formation of supplier groups or associations represent both a technique and an opportunity for collaboration across the North. The Welsh Development Agency is reported to have had particular success in adapting the Japanese concept of *Kyoryoku Kai* to local conditions. Experience indicated that it is wise to limit the size of the group, as a central task is the facilitation of trust. Once established, substantial benefits can be delivered to members, apart from coordination in supplying to their major head contractor.

There has been considerable success in transferring problem solving skills through the use of interactive workshop techniques, in which each firm tutors its peers in its own specialised field. Issues commonly covered, such as product development, logistics, target costing and TQM can be delivered by external agencies, but there is more respect for learning through peers and probably more second order (intuitive) learning and adoptive behaviour as a result.

There is an opportunity for such groups to move on to considering their joint capability of addressing international contracts and stretching and leveraging their present activities to create new products and services.

The process requires professional intermediary assistance to establish the groups, process and activities.

7.5 Cluster Facilitation

Facilitation of industry clusters may include the other techniques mentioned in this section. In general, there is some consistency from various sources as to the general steps involved. Two examples follow:

'Examples and Reflections on Brazil's Clusters' [9]

Key points from paper delivered at the World Congress on Clusters (Paris, January 2001):

The processes vary greatly according to their nature but they generally imply the following elements (many of which are simultaneous):

- *Identification of actors and champions in the cluster*
- *Use of consultants to scope the possibilities before the parties commit to constructive dialogue*
- *Development of a group vision*
- *Research and analysis, in order to arrive at a common level of understanding*
- *Prioritisation of the key factors to secure the competitiveness of the cluster*
- *Formation of working groups and teams to work on specific projects for the cluster*
- *A continuing focus on medium and long-term steps that must be followed to deliver the competitiveness of the cluster.*

The appropriate functions for government include:

- *To create a context that motivates innovation and progress*
- *To reinforce the formation of the cluster and its constant adjustment*

A cluster development exercise for the Adelaide metropolitan area in 1995, adopted the following steps [10]:

- Engage industry champions and key stakeholders to develop cluster leadership;
- Background research and investigations by facilitators to map the structure of regional clusters;
- Hold a series of carefully planned meetings to develop trust and consensus on how industries and firms involved in a cluster could work together;
- Prepare an action and business plan for each cluster to undertake strategic projects;
- Review of the leadership group and securing of resources necessary to support the development of the cluster, and
- Prepare a framework for the ongoing development and management of each cluster.

An important lesson learnt in the Australian experience is that the real opportunities for commercially beneficial collaboration are often not identified until industry groups have the opportunity to meet and exchange information on the industry constraints and opportunities as they individually see them.

7.6 Strategic Action Plans

All clusters and alliances at some stage require a strategic action plan. The caution is to ensure these plans are prioritised, clearly stated and achievable, with the following components:

- Description of prioritised actions
- Why they are being done
- Who is to carry them out
- When they are to be done
- Where the money and resources are to come from

- What the expected outcomes are from each action
- Review of progress against achievement of expected outcomes

Without this clarity, group processes become lost and slowly disintegrate.

7.7 Scenario Analysis

Scenario analysis involves constructing stories about different plausible futures. Essentially, scenario analysis involves asking 'What if?'

Scenario analysis has a history going back to the 1960s in the military and in business. In recent times, as both the pace of change and the level of uncertainty increase, there has been a surge of interest in scenario analysis and planning. For example, scenario analysis was used at the highest levels in South Africa to help people come to terms with what the post-apartheid future could be.

The technique considers possible future trends and makes strategic decisions based on an analysis of the consequences of the most likely future scenarios. Scenario analysis can be a useful tool in helping people to think laterally and to question assumptions and unfounded beliefs about the future.

The basic process of scenario analysis involves:

- *identifying driving forces* – taking into consideration future spheres: the politisphere, econosphere, sociosphere, technosphere and biosphere;
- *identifying predetermined factors* – assessing what is inevitable about the future;
- *identifying critical uncertainties* – assessing those areas where the future is uncertain, which can be prioritised according to importance and the degree of uncertainty;
- *developing scenario plots* – a series of plausible alternative futures;
- *assessing the implications of different scenarios* – for the organisation(s), community(ies), sector(s) of concern;
- *identifying and monitoring indicators* – to enable continual reassessment and adaptation.

Scenarios are an interpretation of the present as well as an archetypal image of the future. They present an internally consistent story about the path from the present to the future.

7.8 Soft Systems Methodology

Soft systems methodology (SSM) is an approach to solving complex unstructured human problem situations based on holistic analysis and systems thinking. SSM is a participatory methodology that helps different stakeholders to understand each other's perspectives. It focuses on creating the human activity systems and human relationships needed for an organisation or group to achieve a common purpose.

SSM was developed during the 1980s as large organisations realised that top-down and highly mechanical approaches to organisational management were not working in a rapidly changing environment. It has been used to facilitate change processes in many large private and public sector organisations.

The SSM premise is that if people participate in the process of finding out about the problem situation and learning about ways to improve it, then they are more likely to understand improvements being suggested.

SSM is a methodology highly suited to assisting regional organisations clarify their purpose and then to design the 'human activity systems' – the functions and processes – to achieve this purpose.

The methodology is based on a seven-stage process that moves from clarifying an unstructured or messy problem situation through designing ideal or conceptual human activity systems. These conceptual models are then compared with the problem situation in order to identify desirable and feasible change. The methodology integrates thinking about the logic of how to improve a situation with what is socially and politically feasible.

7.9 Team Building, Action Learning, Workshop Techniques

The mechanisms for these processes are not repeated here. Rather they are listed as techniques for use as appropriate in initiating collaborative behaviour where there have traditionally been low levels of cooperation. At their core, all stem from the truth encapsulated in the following quotation:

"People don't change their lives based on data. They change it based on experience, an intimate contact they have had with somebody that they trusted".

(Peter Block – Believing)

7.10 Learning Regions

The EU has developed a comprehensive set of initiatives to foster collaboration within its regions. These are designed to break down barriers between the different elements of the economy and the institutions that service them. These are available for adaptation to Australian conditions.

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