

CUMMINGS ECONOMICS

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FLINDERS RIVER WATER DEVELOPMENT FORUM HUGHENDEN, 18-19 NOVEMBER 2008

1. ADDRESS – SOCIAL & ECONOMIC BENEFITS

In 2004, Flinders Shire Council asked the North Australia Research Group to carry out a Social and Economic Benefits Study on the Mt Beckford Scheme and then to broaden it to include both that scheme and the O'Connell Creek Scheme at Richmond.

2. The study team was Bill Cummings, Cummings Economics – economic aspects, Jeff Benjamin, North Australia Water Strategies of Mareeba – water aspects, and John O'Halloran – social aspects.

Water Resources

3. With a mean annual runoff of 3.7 million megalitres a year, the Flinders is a substantial river catchment in state and national terms.

Only a very small fraction of this runoff is being used. At the time, there was a moratorium on further development of the resource while a Gulf Water Resources Management Plan was being prepared by the Queensland Department of Natural Resources.

4. In recent years, there had been a significant expansion of small scale usage of the catchment area's water resources for irrigation, including some small scale use of artesian water, farm dams away from the main course of the river, and small instream extraction.

Two major schemes have been proposed, the Mt Beckford Scheme at Hughenden and the O'Connell Creek Scheme at Richmond.

5. SMEC Australia Pty Ltd carried out investigations into potential dam sites in the Hughenden area and prepared a report for Flinders Shire Council dated March 2003 (SMEC 2003) into the Mt Beckford proposal. The proposed development involved the construction of an "in-stream" dam on the Flinders River at Mt Beckford, a site just north of the Flinders Highway about 15 km east of Hughenden.



Our report was based on a variation of the initial SMEC proposal that would involve a 2000 meter-long river embankment, some 30 – 35 meters high and a 2000 meter-long embankment between Mt Arthur and Mt Beckford and a 2000 meter-long embankment across Eight Mile Creek.

In December 1999, the Department of Natural Resources prepared a pre-feasibility report into an off-stream storage on O'Connell Creek, filled by gravity diversion from the Flinders River. Preferred option comprised a 5 m high sheet-pile weir in the river diverting water above threshold flow limit by means of an excavated channel of 200 m³/sec, (17 280 ML per day), capacity into the O'Connell Creek storage.

Profiles of the two schemes were as follows.

6. Capital Cost & Water Delivered

	<i>Mt Beckford</i>	<i>O'Connell Ck</i>	<i>Total</i>
Water Impoundment	110,000 ML	192,000 ML	302,000 ML
Water Yield	66,000 ML	55,500 ML	121,500 ML
Water Delivered	53,000 ML	44,400 ML	97,400 ML
Estimated Capital Cost	\$68 m	\$67 m	\$135 m

7. Yield & Mean Annual Flows

<i>Water Yield</i>	<i>Mt Beckford</i>	<i>O'Connell Ck</i>	<i>Total</i>
Mean Annual River Flow	66,000 ML	55,000 ML	121,500 ML
At Location	132,000 ML (Hughenden)	533,600 ML (Richmond)	533,600 ML (Richmond)
% Yield of Mean Annual Flow	50%	10%	23%
Mean Annual Runoff at Mouth	3,857,000 ML	3,857,000 ML	3,857,000 ML
% Yield of Mean Annual Runoff at Mouth	1.7%	1.4%	3.2%

Together, they involve a capital cost of about \$135m and a water yield of 121,500 ML, representing about 3% of the mean annual runoff from the Flinders River system.

Economic Background

8. The area covered by the Flinders River Catchment Area approximately coincides with the local authority areas of Flinders Shire based on Hughenden, Richmond Shire based on Richmond, McKinlay Shire based on Julia Creek and Cloncurry Shire based on Cloncurry.

The area had a relatively rudimentary economy based on income coming in from agriculture and (in McKinlay and Cloncurry Shires) from mining, services to transport (especially the Mt Isa Townsville rail line and including the regional Main Roads office in Cloncurry), and services to holiday and other visitors. The remainder of the economy consisted of support services to primary producers, mines and to the area's population in general mainly located in the district centres of Hughenden, Richmond, Julia Creek and Cloncurry.

The structure of the workforce in the area was estimated at :-

Pastoral/Agricultural	1,200	25%
Mining & Mineral Processing	850	18%
Servicing East West Transport links, especially the Railway, say	400	8%
Tourism Services (accommodation, cafes, restaurants, some transport, retail, etc.), say	250	5%
Sub Total – Base Industries	2,700	56%
Support Services	2,100	44%
Total	4,800	100%

9. After strong early development based on the pastoral industry and (in Cloncurry Shire) mining, population peaked in the 1950's at about 17,000. By and large, populations in the pastoral shires of Flinders, Richmond and McKinlay have been slowly declining since a peak in the early 1960's.

The situation in Cloncurry Shire has been more complex with focus of mining activities in the north west region shifting in the 1960's to Mt Isa and with Cloncurry losing much of its regional servicing role to Mt Isa at this time. There were rallies in the 70's and 90's but population in Cloncurry Shire stood at less than half its 1954 peak.

10. New competition arrangements were posing a threat to some railway employment in the area. While there are prospects of additional mining, modern arrangements involve large labour saving machinery, short mine life spans, most employment being "fly-in/fly-out" and a great deal of servicing being outsourced to larger centres, all substantially reducing local economic benefits.

While the Shires in the area have been taking actions that would slow or stabilize the population decline, including promoting tourism and (in the case of Flinders Shire) promoting road links north to the Lynd, it seems unlikely that these actions would provide the major stimulus needed to achieve a strong reversal of long-term trends.

- 11.** Three underlying factors would be favorable to irrigation development in the area :-
- a) There is a small, but growing core of irrigators and local expertise in the field.
 - b) Hughenden and Richmond are linked by rail to Townsville, the largest general cargo port in Northern Australia.
 - c) Tropical agricultural technology is improving in Northern Australia.

Possible Crops

- 12.** After reviewing possible crops, it was concluded that the area was probably best suited to the development of the suite of crops that underpin the Emerald irrigation area, and in particular to cotton, crops related to cattle production (hay and silage) and horticultural crops (citrus and early season grapes).

It is stressed that this is a preliminary assessment and before any scheme went ahead, a substantial amount of investigation and market testing among prospective purchasers of land with irrigation rights attached would need to take place.

It is also to be noted that there is a highly negative public perception of cotton. The assessment is based on the premise that new genetically modified varieties overcome problems associated with heavy pesticide use. The indications are that cotton growing would need to be established in both Hughenden and Richmond areas to achieve sufficient throughput to establish a cotton gin.

- 13.** Economic impacts were modeled on the area being developed for cotton 60%, fodder crops 30%, horticultural crops 10%. The model provides for half the fodder crops being sold outside the area and half being used to support local feedlotting.

Other Sources of Income

- 14.** It was identified the schemes were likely to generate other possible sources of income from tourism and recreation fishing but most of the benefits are not likely to be able to be captured as revenue for the project. However, along with community recreational benefits, the benefits involved could provide the basis for public funds being invested in the project of the order of the \$10 million canvassed in the SMEC report.

Economic Impacts

15. There would be substantial employment generated during construction periods, not only on the irrigation schemes but on initial farm establishment. These two sources are likely in themselves to result in about a 20% rise in workforce and population in Flinders Shire and up to a 40% rise in Richmond Shire.
16. On-going irrigation scheme impacts were estimated to result in the following additional gross value of production and employment in agriculture.

	<i>Mt Beckford</i>	<i>O'Connell Creek</i>	<i>Total</i>
Gross Value of Production	\$101 m	\$85 m	\$186 m
Increase on Present	158%	236%	
Employment	600	430	1,030
Increase on Present	167%	215%	

17. Flow-on impacts on workforce were estimated as follows :-

<i>Workforce</i>	<i>Current</i>	<i>Direct Increase</i>	<i>Flow-on</i>	<i>Total Increase</i>	<i>Ongoing Total</i>	<i>% Increase</i>
Mt Beckford (Flinders)	1060	600	360	960	1960	+85%
O'Connell Ck	480	430	260	690	1170	+144%
Combined Mt Beckford & O'Connell Ck	1540	1030	620	1650	3130	+91%

18. It was estimated that this would flow through to an increase in population as follows :-

<i>Population</i>	<i>Current</i>	<i>Additional</i>	<i>Ongoing</i>	<i>% Increase</i>
Mt Beckford (Flinders)	2200	1730	3930	+79%
O'Connell Ck	1050	1240	2290	+118%
Combined Mt Beckford & O'Connell Ck	3250	2970	6220	+91%

Social Background

19. In practice, the two schemes would impact on Flinders and Richmond Shires but have little impact on the other two shires. Like many rural shires in Western Queensland and New South Wales, population has been declining. However, income tends to be above state average and housing costs tend to be cheaper. Unemployment rate is relatively low. About 7% of the population is of indigenous origin in Flinders Shire and 3% in Richmond Shire.

Average age (35 years) was a bit higher than state average in Flinders Shire and 87% and 89% Australian born in the two shires respectively. Education levels however, tend to be below state average and computer usage lower. As with most farming communities, there is a relatively high level of managers and administrators (about 25%). The Shires have a relatively high level of employment in agriculture and transport.

Social Impacts

- 20.** Only a small number of properties would be affected by inundation/potential land resumption.

The Mt Beckford dam site is only 15 km from the town and the irrigation area close to the town. The O'Connell Creek Scheme is right next to Richmond. Apart from subsequent on-farm population, the existing regional centres of Hughenden and Richmond could be expected to accommodate any increases in population. The schemes would thus be able to draw on already existing infrastructure and services.

There is very strong support for the schemes evident in the local communities due to the additional farming, business and job opportunities they would bring, resulting in increased population, improved business viability, improved services, diversification of economic base and new recreational and tourism benefits.

The schemes would be consistent with community capacity building initiatives, including agreed local vision and strategic agendas, strengthened individual skills and leadership, more effective community organisations and use of community and external resources. Concern about cotton as a crop is mentioned in an earlier section of the report.

Representatives of indigenous organisations identified employment and recreational opportunities as the main benefits. Close proximity of the dams and complimentary training and mentoring support would maximize local indigenous participation in employment opportunities.

- 21.** Hughenden and Richmond's social infrastructure, including health, housing, education, public safety and transport infrastructure has a substantial capacity to absorb an increase in population, especially in terms of available buildings. It would be important if the schemes go ahead for potential lag times in government agency responses be anticipated, including special arrangements for more itinerant workers and families during the construction period and subsequent seasonal operational peaks. The proximity of the Schemes to Hughenden and Richmond will allow efficiencies in construction, maintenance and transport costs.

There are substantial recreational and tourism benefits associated with the projects. Recent experiences in Richmond and Croydon highlight the benefits of having recreation lakes close to outback centres. Forward planning should include management plans for the new recreation areas.

- 22.** Land and dwelling prices in Hughenden and Richmond were low. Apart from the Flinders Shire Council's sewerage system requiring an upgrade, no other constraints to urban development were identified. The provision of additional public housing and additional temporary accommodation during the construction phase could minimize any possible impacts on any vulnerable sections of the community.
- 23.** The schemes would have a strong impact in creating local job and business opportunities and be consistent with existing local business and labour market skills. There is existing vacant retail office space and industrial land in both centres that would accommodate an expansion of business activities. A strategy would be required on timely and easy access to required technical expertise and support for irrigators, including the capacity of local businesses to provide timely and professional services.

The report provides a list of strategies that could be put in place that could maximize local community benefits and respond to any potentially negative impacts from the schemes.

- 24.** Over the four years since the report was prepared, not a great deal has changed in the two local authority areas. Both have developed their tourism attractions and road links to north and south are slowly improving.

Cattle prices have continued to remain sound. Up until recently however, increasing fuel and other input costs and a high dollar have been whittling away profitability.

Recent events have dramatically reduced those pressures. It is too early to tell whether reduced growth in economic activity in Australia and globally will impact on demand for the key crops upon which the scheme would be likely to be based – cotton, beef and horticultural products.

Almost certainly, action to reduce green house gases are likely to see energy prices higher than previously, increasing pumping costs. On the other hand, this might lead to biofuel crops becoming part of an appropriate cropping mix.

Economic factors may lead to more intensive use of capital investment with additional cropping taking place per ha, higher water usage per ha, but lower land areas than in the model used.

- 25.** THANK YOU

