

22/2/81  
995

# THE REVISED BRADFELD SCHEME

THE PROPOSED DIVERSION OF THE UPPER

TULLY

HERBERT

BURDEKIN

RIVERS

ON TO THE INLAND PLAINS OF NORTH AND

CENTRAL QUEENSLAND

PROPOSAL OF QUEENSLAND N.P.A. WATER RESOURCES

SUB-COMMITTEE

NOVEMBER 1981.

627.45/

81



0052986

RC  
.913  
FI  
981  
C1

## THE BRADFIELD SCHEME

The scheme to divert water from the coastal rivers to inland Queensland was proposed by the noted engineer Dr J J C Bradfield in 1938. He envisaged diverting water from the coastal Tully, Herbert and Burdekin Rivers across the Great Dividing Range to supply the inland waters in Queensland. The major inland water courses to receive the diverted water would be the Flinders and Thompson Rivers and Torrens Creek.

Bradfield's work was based on elevation (height) information obtained from a barometer that he carried on horse back and the extremely sparse streamflow data that was available at the time.

Bradfield's scheme emphasised providing water for stock and fodder to offset the recurring problem of drought, plus recharge for the aquifers of the Great Artesian Basin. He paid little attention to using the transferred water for irrigated agriculture or to competing demands for water east of the Divide for irrigation and hydro power generation.

In about 1983 the Queensland Government commissioned the consulting engineering firm, Cameron McNamara Pty Ltd, to undertake a re-assessment of the Bradfield scheme. The final report by the consultants was not released by the Government however some information from the report was disseminated.

A summary of that information is:-

- Estimated cost of the total project is \$1380 M in 1982 dollars (around \$3170 M in 1996 dollars)
- It would be possible to divert 924 000 megalitres of water per year to the Hughenden area.
- After allowing 60 000 megalitres per year for industrial and urban demands, the remaining water could irrigate 72 000 hectares of intensive cropping for which there is ample land available.
- Using water to generate hydro power east of the Divide could either seriously impair the amount of water available or completely preclude the scheme.
- The route proposed would involve a total lift of 409 metres through 47 kilometres of pipeline with gravity flow through a combination of 94 kilometres of canals and 34 kilometres of tunnels.
- The route would be from water backed into the Clarke River by a 76 metre high dam at Hell's Gate to a receiving storage on the Flinders River upstream of Hughenden.
- Based on 1982 values the proposed scheme would be built in four stages ranging from a cost of \$590 M (approx \$1355 M in 1996 dollars) to irrigate 11 000 hectares in stage 1, to \$1380 M (\$3170 M in 1996 dollars) for the complete scheme to irrigate 72 000 hectares.
- The annual cost for electricity for pumping would be from \$17 M (approx \$39 M in 1996 dollars) for stage 1, to \$57 M (approx \$130 M in 1996 dollars) for the final stage.

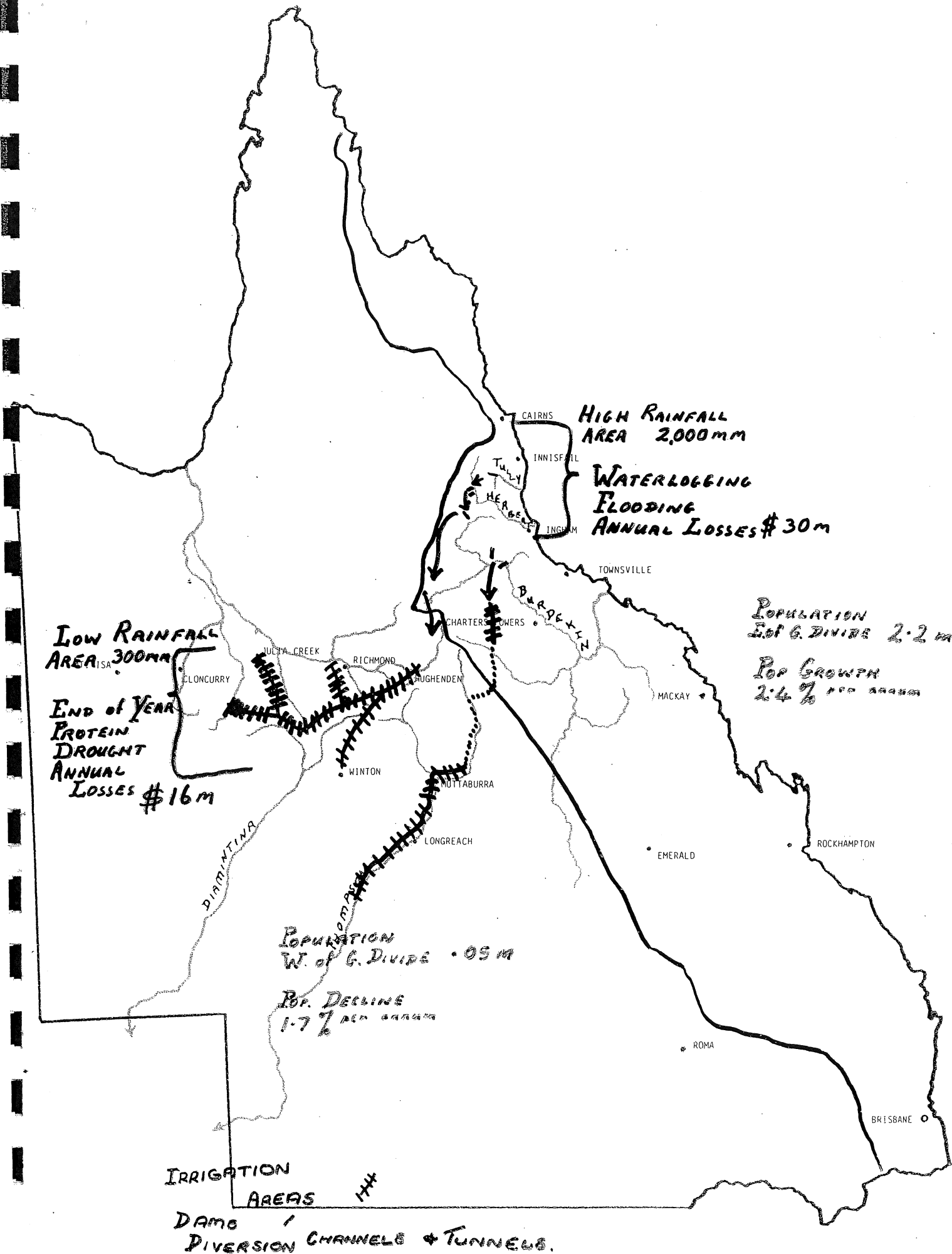
The scheme has not been promoted by the Department of Natural Resources largely due to the major costs involved as well as modest benefits.

Greater benefits at far less cost were considered to be achievable by developments serving land east of the Great Dividing Range.

I.	<u>Index</u>	
II.	<u>Foreword</u>	Page 1.
III.	<u>The Revised Bradfield Scheme</u>	Page 2.
1.	<u>The Bradfield Idriess Scheme</u>	Page 3.
2.	<u>The Critics and the Criticisms</u>	Page 3.
2.1	Criticising the Critics	Page 4.
3.	<u>Background</u>	Page 5.
3.1	Population and Demography	Page 5.
3.2	Markets	Page 5.
3.3	Success of Similar Nogoia Project at Emerald	Page 5.
3.4	The Cost of Overcrowded Cities	Page 6.
3.5	Water will Facilitate and Fan Further Growth	Page 6.
3.6	Defense	Page 6.
3.7	Foreign Ownership and Working for the Absentee	Page 7.
3.8	The Quality of Life	Page 7.
3.9	Loss of Production in Northern Australia West of the Great Divide	Page 7.
3.10	Energy Crisis and Implications	Page 8.
4.	<u>The Physical Environment of North Queensland</u>	Page 8.
i	Protein Drought	Page 8.
ii	Waterlogging in the Canefields	Page 8.
iii	High Rainfall	Page 9.
iv	High Quality Soil	Page 9.
v	No Water Conservation Possible	Page 9.
vi	Recurring Drought	Page 9.
vii	Preservation and Maximisation of Artesian Water Usage	Page 10.
5.	Present Queensland Government Water Resources Development Policy	Page 11.
6.	A Revised Staged Development of the Bradfield Proposals	Page 12.
	<u>Primary Development</u>	
Stage I:	Dam on Headwaters of Flinders	Page 12.
	Dam on Burdekin at Mt Foxton	Page 12.
Stage II:	Herbert River Diversion	Page 13.
	Burdekin River Diversion	Page 14.
	Great Western Aquaduct	Page 15.
Stage III:	Tully River Diversion	Page 16.
	Summary	Page 17.
7.	<u>Secondary Development</u> Stage IV:	Page 18.
	Dam on Burdekin	
	Diversion from Mt Foxton Dam into Torrens Creek	
	Weirs on Torrens Creek and Thompson River	Page 18.

ADDENDA

8. Addendum I  
Hydro Electric Power Aspect  
Page 19.
9. Addendum II  
Economic Aspect to pay people not to work -  
or the Cost of Not Proceeding with Major  
Capital Expenditure  
Page 21.
10. Addendum III  
Important Press Reports:  
"Australian"  
"Telegraph"
11. Addendum IV  
More Detail on the Herbert River Diversion  
Page 27.
12. Addendum V  
Babinda Mill Report  
Page 28.



FOREWORD

This report was compiled by:

- Dr. Eric Heidecker - Senior Lecturer in Geology, University of Qld. leading naturalist and author.
- Mr. Roy Stainkey - owns and works one of North Queensland's biggest sheep runs, Senior Executive UGA and NPA.
- Mr. Bob Katter Jnr - an M.L.A. and fourth generation resident of inland North Queensland.

An on site inspection of the Herbert River diversion was undertaken by the above Sub-Committee of the N.P.A. (Qld) Water Resources Committee. This was facilitated by a three day hike with back-packs in which committee members verified much of the information contained in this document. Other information was secured by processing reports which stacked some two feet in height and dated back to 1929. In addition with the help of a stereo viewer the sub-committee studied in detail some 200 square feet of topographical maps and aerial photographs.

At a water resources convention at Bourke, Wally Mitchell told many of the most powerful and influential men in Australia that Australia's Bicentennial Birthday present must be a \$4 billion commitment to water resources.

Sadly in the 1977 Federal Budget a five year \$200 million commitment was made to water resource development. This programme is now in its fourth year. Some 35 million was allocated in the budget this year which will bring total spending under the programme up approx to \$110 \* million; so unless the 1982 budget commits an unprecedented \$90 million to water, this, the most important of promises is going to be broken.

---

* 78 - 79	\$20.3	These were the sums allocated - considerably less was in fact spent.
79 - 80	\$25	
80 - 81	\$29.4	
81 - 82	\$35	

## THE REVISED BRADFIELD SCHEME

The diversion of the Upper Tully River (above the Koombuloomba Dam)

- through a small diversion channel
- and 7 km tunnel
- into a tributary of the Herbert River.

The diversion of the Upper Herbert River (some 6 kms above where the river turns east)\* by

- building a major holding dam at Kooragwyn, 3 kms above the junction with Cameron Creek
- and diverting flow through a small diversion channel out of a small weir at Keogh's weir site
- through a 15½ km tunnel into a tributary of the Burdekin River.

At this tunnel outfall there is a fall of some 30 m which will facilitate a peak load hydro electric power station of some 200 mgw generating capacity (operating time 2 hours per day).

The diversion of the Upper Burdekin River (at Lake Lucy)

- by a small dam near Lake Lucy
- into a diversion channel some 180 kms long
- into a holding dam on the Clarke River (a tributary of the Burdekin).

The diversion of the Upper Clarke River

- through a tunnel some 100 kms in length
- into a holding dam on the Flinders River.

At this tunnel outfall there is a fall of some 150 m which will facilitate a peak load hydro electric power station of some 500 mgw (operating time 10 hours per day).

The diversion of the Upper Flinders River

- into a main delivery channel on top of the water divide between the Flinders watershed and the watershed of the Thompson and Diamantina Rivers,
- running in an arc through Kynuna, Corfield and almost to McKinlay
- with branch channels to Richmond, Julia Creek and Winton.

Finally, a Secondary Phase utilising a major holding dam on the Middle Burdekin at Hells Gates and a small diversion dam lower down at Mt Foxton to divert water into a channel delivering water for farming purposes adjacent to and west of Charters Towers, and then the bulk of water into Torrens Creek,

and a series of weirs on Torrens Creek and the Thompson River itself to provide water to irrigation farmers adjacent to the river and stretching from Muttaborra through Longreach to Stonehenge.

## BRADFIELD \* IDRIESS \* SCHEME

The Scheme was first proposed by Dr. Bradfield in 1929. It was the subject of numerous commissioned Committees of Inquiry by both the Queensland State Government as well as the Federal Government.

Whilst the original proposals were widened to take in most of Australia.

The heart of the scheme (the Bradfield Scheme) without embellishment was the: -

Damming of the Tully River (near where the Koombooloomba Hydro Dam now stands).

Diverting the Tully River (above this dam) into the Herbert River.

Damming of the Herbert River at the Kooragwyn Dam Site (two miles upstream from junction with Cameron Creek).

Diverting the Herbert River (above the Falls) into the Burdekin River.

Damming the Burdekin and diverting it into the Flinders.

Diverting the Flinders by way of small channel into the Thompson, from where it would fill up Lake Eyre thus increasing the moisture content of Australia's dry interior - rain would thereby precipitate and the desert, it was hoped, would bloom.

### THE CRITICS AND THE CRITICISMS

2.1 The Federal Government Committee of Inquiry set up to cover the Scheme said it will not work. Increased moisture they claimed would not make it rain, (e.g. The Sinai Desert, The Horn of Africa, N.W. of Western Australia all border oceans and yet all are semi-arid or outright desert). The meteorological expert and the then Australian head of the Department of Meteorology on this Committee gave a dissenting report backing Bradfield and producing objective evidence backing Bradfield's contention that rainfall would increase.

2.2 A review of the Bradfield plan by Dr. Burton published by the Water Research Foundation of Australia, March 1961. This 'review' slated Bradfield basically restating the in depth Nimmo Report.

2.3 The Nimmo Report commissioned by the Queensland Government attacked Bradfield on three points, claiming inter alia that: -

- (a) Water would not flow from the Burdekin at Hell's Gate Dam Reservoir into the Flinders River. Bradfield without accurate topographical information had his levels wrong.
- (b) His stream flow estimates were wrong (there was not enough water to make the scheme economically viable). Bradfield said 5.4m mgl's was available for diversion. Nimmo said 1.125m mgl's only.
- (c) The cost of the Scheme was such that it would not be a viable economic proposition (Bradfield claiming it would cost \$40 m Nimmo said \$100 m).

---

\* Dr. Bradfield built inter alia the Sydney Harbour and Storey Bridges.

\* Ion Idriess noted Australian Author and Historian.



# CRITICISING THE CRITICS

2.1 The first criticism "that it will not cause more rain" may be valid but few people would now advocate this approach; the diverted waters would be used for irrigation on the inland plains and not allowed to run to Lake Eyre.

2.2 & 2.3 (a) Nimmo was right in his criticism 'that Bradfield's elevations were wrong, and though a pump storage approach could be used (using off peak electricity to pump water up the range and using the down fall on the other side to produce hydro-electricity). Nimmo himself proposed the answer to this problem; he suggested a diversion dam (1735 feet elevation) at a site on the Burdekin near Lake Lucy some 400 feet higher than the Hell's Gate site.

(b) In criticism, Nimmo said the Tully could yield only 270,000 mgls, not 540,000 mgls, as Bradfield claimed. Unlike Bradfield (1929) and Nimmo (1047), who had to use complex formulas and models to estimate discharges, some 50 years of accurate stream discharge records are now available to anyone\*. This discharge of the Tully can be accurately stated, therefore, as 434,000 mgls.

For the Herbert, Nimmo was again more inaccurate than Bradfield. Nimmo claimed discharge available was 630,000 mgls, whilst Bradfield said 2,070,000 mgls. The discharge at Gleneagle (approximately 70 kms above the diversion weir) is 1.072 m. mgls, a figure of some 1.2 m. mgls would not be unreasonable: most certainly with a gib dam, a weir and possibly a small dam on Cameron Creek at least 1.072 m. mgls could be diverted.

Nimmo allows a further 335,000 mgls from the Upper Burdekin at Lake Lucy dam site. The annual discharge at this point is .535 m. mgls; whilst another dam further upstream would be needed to divert all of this discharge this wouldn't appear to create any great difficulty.

Nor does Nimmo make any allowance for the Flinders River itself, which yields a discharge of .179 m. mgls at a dam site near the Glendower bore\*\*.

The diversion of some 2 m. mgls is therefore quite a reasonable expectation even allowing for some loss of the Burdekin and Flinders discharge.

(c) Finally, Nimmo's economic assessment is most curious as are some of his costing figures. Bradfield costed his scheme at \$40m, Nimmo said \$100m. Nimmo accepts Bradfield's contention that a 22 km tunnel is required to join the Herbert to the Burdekin. Unlike Bradfield, Nimmo had accurate contour maps available which clearly demonstrate that a 13½ km tunnel was all that was needed.

More importantly, Nimmo's argument of economic non viability must be seriously questioned since resuming 1 m. acres at \$8/acre (current market prices per acre) and reselling for \$700/acre (price for identical land at last Emerald Irrigation ballot) would almost completely pay for the scheme.

---

\* Yield at Koombooloomba Dam, 353 m. mgls. Average annual yield below Dam but through hydro turbine between 1978 and 1981 inclusive is .082 m. mgls.

\*\* Bradfield's computations were slightly more accurate than Nimmo's. (Nimmo's figure was 1.12 m.mgls, Bradfield 5.4 m.mgls. Actual discharge above diversion points if Hell's Gates site could be used would be 3.45 m. mgls.)

## BACKGROUND

### 3.1 POPULATION AND DEMOGRAPHY

Australia is not in any sense in occupation of most of its continental land mass. The area west of the Great Divide and encompassing all of the northern half of Australia, over half the continental land mass, contains only 1.5% of the Australian population, i.e. 210,000 people\*, and 87,000 of these are contained in just three towns, Alice Springs, Darwin and Mt Isa.

Worse still is the fact that the population in this area is falling at an increasing rate.

The situation in Queensland, west of the Great Divide, is sad. This is clearly indicated by population figures for the towns of central west and north west Queensland.

<u>Shire</u>	<u>Pop. in 1961</u>	<u>Pop in 1980</u>	
Blackall	3291	2090	down 32%
Barcaldine	2384	1770	down 25%
Aramac	1790	1020	down 44%
Winton	3043	1900	down 30%
Cloncurry	4869	4250	down 12%
McKinlay (Julia Ck)	2134	1450	down 33%
Richmond	2214	1450	down 36%
Flinders (Hughenden)	3953	2850	down 28%
		<u>av. pop. loss 30%</u>	

This vast bulk of the Australian land mass has in the main adequate rainfall and fair to good soil types (see 4.1, Soil Suitability, below). The continued failure of Australia and the State Government in Queensland to settle these areas cannot be justified.

### 3.2 MARKETS

Massive irrigation development of the black soil plains of inland Queensland can be justified by expanding the bouyant markets in cotton, coarse grains, wheat, cattle fattening, and even ethanol production where by-products would be highly useful to the cattle and wool industries (viz, in overcoming end of year protein drought, a characteristic of the monsoonal north).

### 3.3 THE SUCCESS OF THE SIMILAR NOGOA PROJECT AT EMERALD

The success of Emerald's Fairbairn Dam irrigation project, with its near identical situation to that which exists in the mid-west plains of north and central Queensland would appear to guarantee the success of a similar project below the Flinders River.

The problems of the Ord are mainly centred around isolation from existing farming infrastructures, e.g. tractor parts are 1,500 miles away, in the south west corner of W.A.

Hughenden is only 250 miles away from the Giru-Ayr area or from Emerald: infrastructure is handy.

---

\* Extract, Tax Zone Allowance Committee of Enquiry 1981 Report (Commissioned by the Federal Government).

### 3.4 THE CCST OF OVERCROWDED CITIES

The social and economic costs of jamming an ever increasing number of people into an ever decreasing area of space, as is the case in Melbourne, Sydney and Brisbane, causes commuter subsidies of over \$85 m\* on suburban rail services in Brisbane alone.

The extra cost of space for a car in unit accommodation in Sydney is now some \$20,000.

One recent study estimated that 40% of the work force in Australia's capital cities spent over an hour each day getting to and from work.

Kids don't have playgrounds and parents don't have kids.

### 3.5 THE PROVISION OF BASIC INFRASTRUCTURE: WATER WILL FACILITATE AND FAN FURTHER GROWTH

Many projects ideally suited for these country areas suffering from population drainage cannot get off the ground because of lack of infrastructure.

A recent proposal for a meatworks at Julia Creek was abandoned, inter alia, because of the lack of electricity on this western grid system.

The Julia Creek Shale Oil Project needs 20,000 gallons of water per day; the cost of providing this water would be \$127m.

A proposed giant power station on the remote Galilee Basin coal fields east of Muttaborra again cannot commence without substantial water supplies.

### 3.6 DEFENSE

It is often maintained that the Arabs fight badly because they fight for someone else's land.

Our moral right to hold on to land which we are not in fact in any real sense in possession or occupation of would be at best tenuous.

Not only are we not using this land, but through the provision of Land Rights to Aboriginal tribes, our legal rights would appear to have been in part abrogated.

Without infrastructure, lines of communication and lines of supply, our ability to defend this area, with its huge coast line, in a military sense would be right on impossible if some invader maintained sea and air control.

It would have to be the height of hypocrisy to ask a man to risk his life fighting to hold on to land which in peacetime the nation had shown no interest in whatsoever.

Our troops would face a northern invasion with no lines of resupply, no lines of communication and with God not on our side.

---

\* Report of the Queensland Commissioner for Railways for year ended 30 June 1981. Page 22 and 23.

### 3.10 ENERGY CRISIS AND IMPLICATIONS

Northern Australia is a monsoonal area where rain falls in January, February and March, whilst for the other nine months the sun shines without ceasing. With the coming of the photo voltaic cell, immense vistas of opportunity exist in this region with abundant sunshine.

## 4. THE PHYSICAL ENVIRONMENT OF NORTH QUEENSLAND

Two major economic problems exist in North Queensland: the end of the year protein drought of the Northern Cattle industry, and the water logging and flood damage in the Canefields between Ingham and Innisfail.

### i THE PROTEIN DROUGHT

The protein drought results from the monsoonal wet, which sees the entire annual rainfall fall in the first three months of the year and then a straight nine months of hot dry weather throughout almost all of the North.

Cattle start to lose condition from August onwards. From October onwards northern meat works find it extremely difficult to secure fat cattle for processing and normally close; it is nearly impossible for them to get sufficient fat cattle to recommence killing until March of the next year. This protein drought problem means a forced annual three months closure and loss of 4,000 meat worker jobs for those three months, plus the dislocations and diseconomies that are concomitant from this. The estimated annual cost is some \$15 million.

The massive collapse of the wool industry (sheep numbers are down 55% on 1969) in North Queensland in spite of stable prices is generally attributed to protein drought exacerbated by a series of big wets. Because of this lambing throughout the 1970s has averaged little more than 15%, where it should be 50%. The loss is \$1m/year.

### ii WATERLOGGING AND FLOODING IN NORTHERN CANEFIELDS

Following clearing, logging and continuing land developments, the Herbert, Tully and Russell Mulgrave Rivers have become silted and canefields water logged. Many highly suitable areas could be successfully brought under cane production if the area could be properly drained and flood waters controlled.

Every heavy wet season will result now, it would appear, in losses of close to \$30m. During one recent heavy wet, the income of the mill at Babinda alone was down some \$7m. When one considers that there are some 10 mills in these areas, one can start to grasp the dimensions of the problem\*.

---

\* See Addendum V, page 30.

### iii HIGH RAINFALL

Where water exists in abundance: in sharp contrast to the nine months dry on the parched plains of the inland, the rainforests of the high country between Ingham and Innisfail regularly enjoy rainfalls in excess of 200 inches a year (over 5,000 mm).

The rainfall run off from this tiny strip of coast line is greater than the entire discharge of the Murray Darling System, which covers four states of Australia.

Even if 1.5 m.mgls were removed from this area and redirected inland, some 8m acre feet would still be available annually from the Herbert, Tully and Russell Rivers for irrigation on this narrow coastal belt, which would be 8ft of irrigation water for every acre of land available for cultivation.

### iv HIGH QUALITY SOIL

Where soil of the highest quality exists in abundance: - coupled with these considerations is the quality of texture and extent of top soil on the inland plains west of the Great Divide.

In Department of Primary Industry trials at the D.P.I. Research Station at Richmond, after 7 successive years of cropping with grain sorghum without fertiliser, a certain harvest figure was achieved. A second adjacent field was sown with fertiliser and yielded exact harvesting figures to those of the first field. In other words, fertiliser was superfluous, and this soils is as good as it could be.

### v NO WATER CONSERVATION POSSIBLE ON INLAND PLAINS

It must be emphasised that the flat, undulating plains of inland Queensland provide no possibility for water development. Until one reaches the peneplain of the Cloncurry Massif, dam sites simply do not exist. Artesian Water Resources are extremely limited and are only now being controlled into an equilibrium situation and this is only supplying stock water\*. Northern Gulf streams and damsites along the Gregory Range, like Cloncurry, provide limited possibilities as they are very limited in their yield and are too distant to supply water to the mid-west plains.

### vi DROUGHT

Drought normally produces losses that can only be measured in billions of dollars\*, but can be eliminated, or rather the effects of drought can be reduced to a manageable proportion, though the increase in moisture content of the atmosphere will have some effect on the rainfall figures. Breeders can be hand fed instead of tumbled on drought depressed market, cattle can be sold for slaughter, even though they are not fat. Wool clips will be down but there will still be sheep to shear. Although costs will increase and returns diminish, disaster and bankruptcy will not as it has in the past in the central and north west of Queensland, be an integral part of the natural and regularly occurring phenomenon of drought.

---

\*\* In one year alone during the drought of the late '50s, losses to the N.S.W. Railway System alone were estimated at \$47m.

It is felt that the water reserves of the Great Artesian Basin are now in a state approaching equilibrium. This has been achieved by extremely rigid controls. No irrigation with artesian bore water is allowed in Queensland. If this vast area of land and its stations are given access to water via this project, then the bores on these stations, most of which are flowing into open drains, can and should be capped by Government edict. People without access to water from this scheme can then utilise their bore water for irrigation. Thus the scheme will not only help all those within the ambit of the scheme, but will also enable the 302,950 mgl<sup>s</sup>\* of annual flow from the Great Artesian Basin to be suddenly made available in increased quantities to those beyond the ambit of this scheme. Irrigation can literally come within the reach of almost everyone with access to the Great Artesian Basin.

---

\* Queensland Water Commission Report 1980.

## 5. QUEENSLAND GOVERNMENT WATER RESOURCES DEVELOPMENT POLICY

Following the publication of the Nimmo Report - the Bradfield proposals having been therein effectively rebuffed and scorned into oblivion - the Queensland Government water policy was oriented toward using the waters of the upper Tully, Herbert and Burdekin Rivers purely for irrigation of the coastal plain and/or for Hydro electric purposes. This was in spite of the very serious damage these excess waters wreak upon the coastal towns and farms in their pathway.

This strategy will have towns like Ingham and farms in the Burdekin delta forever flooded in any year of excessive rainfall and even worse still the vast bulk of the water will continue to run uselessly to the sea. Even if all of the flood plains were to be irrigated (and of course, this is far from necessary), still only a small fraction of this runoff would be utilised.

The philosophy of the Nimmo Report has been followed to date. The Tully Hydro Electric project is sadly now reality, producing some 70 mgw of electricity.

Very extensive investigatory work was done on a Herbert River Hydro Electric proposal which at this stage is still on the drawing board.

The current Burdekin Falls Dam was pushed forward as a proposal with long term hydro-electric capacity. This dam upon completion of Stage II would require the waters of the Upper Burdekin to be an economically feasible proposition. The present Commonwealth/State Agreement is for funding of first stage only, and any sensibly long term development of northern resources would necessitate the building of a Burdekin Falls dam of this size. Some might, however, question its priority as opposed to the Urannah, Bradfield and Mt Foxton proposals.

The Nimmo Report philosophy, interwoven throughout the whole fabric of the later Kemp Report, accurately reflected the political and demographic realities of the day and passed a death sentence on the development of inland Queensland.

6. A REVISED STAGED DEVELOPMENT OF THE BRADFIELD PROPOSALSSTAGE I

- |   |   |                                       |
|---|---|---------------------------------------|
| I | Holding Dam on the Flinders River, near the Glendower Bore, 60 km north west of Hughenden*. | Cost<br>(Rough Estimate)<br><br>\$50m |
|---|---|---------------------------------------|

This dam would be designed as an outfall Coolamon, as Bradfield called it, to eventually take the water from the tunnel through the Great Divide.

Discharge near Glendower Station, of 179,000 mgls/yr, should produce an estimated yield for irrigation purposes:

100,000 mgls/yr

This would provide 20 inches of irrigation water for 100 farms each of some 600 acres in size. This water would be in addition to the annual rainfall in recent years of some 17", normally received between Jan. and March.

- |    |  |   |
|----|--|---|
| II | Dam at Mt Foxton on the Burdekin River near where the Greenvale Railway Line crosses the Burdekin River. | Cost<br>(Rough Estimate)<br><br>\$30m** |
|----|--|---|

Mean annual discharge is 1.8 m. mgls above junction with the Clarke River. This should provide a yield of some

500,000 mgls/yr\*\*\*

Whilst this is not an integral part of the Bradfield Scheme in a technical sense, in a practical, social and political sense it is: to move farming infrastructure closer to Hughenden to spread the benefit of the excess water of the Tully, Herbert and Burdekin Rivers to the areas west of Charters Towers as well as west of Hughenden and the Great Divide to provide Townsville with a cheap water supply.

Benefits from Mt Foxton Dam:

230,000 mgls	for irrigation - Ayr
50,000 mgls	for Urban and Industrial usage at Townsville
150,000 mgls	for irrigation north west of Charters Towers.

---

\* Two dams could possibly be required here at a cost of \$30 and \$20m. Can only guess here as only maps available in Queensland is 1:250,000 scale. Dam one at Map Ref. 242414 and high dam FSL El at Map Ref. 246430.

\*\*\* .406 mgls discharge from Running River (Lowest ever .07m. mgls/yr). Therefore .5 m mgls seems a not unreasonable yield from Foxton.

\*\* This costing is based on a Dam to FSL 335m (it would have Crest Height 23m, Crest Length 275m and 20km road; since Burdekin Falls has Height 50m, Crest Length 1000m and 100 kms bitumen road, and Burdekin Falls Dam is to cost \$75m).



A REVISED STAGED DEVELOPMENT OF THE BRADFIELDPROPOSALS.STAGE II

## Herbert River Diversion

Kooragwyn Dam, on the Herbert River above  
junction with Cameron Creek

smaller than Burdekin Falls Dam  
and therefore smaller costing.

(This figure is conservative:  
the original estimate of £8.5m, \*  
upvalued for allow for CPI move-  
ments would yield a figure of \$53m)

63m

Diversion Weir at Keough's site, some 10 kms  
upstream from the Herbert River  
Falls.

Original estimate was £1.2m

9m

Minimum operating level

1850 ft

Full Supply level

1855 ft

Diversion Channel to tunnel inlet

3 kms at \$.75m/km

2m

tunnel inlet elevation

1850 ft

Tunnel through Princess Hills (15½kms @  
\$6m per km \*\*

93m

tunnel outlet elevation

1833 ft

flow capacity 2 m mls

---



---

\$167m

Water available at the point of diversion with a large  
capacity tunnel, with a big dam upstream and a big weir  
at the point of diversion should allow for a complete  
diversion of the discharge of this stream - 1.07m mls  
recorded near Gleneagle about 50 kms upstream from the  
point of diversion. Also this section of the river runs  
all year round. Therefore, it is not unreasonable to  
expect the diversion of some 1.2 m mls.

In any event, a further dam on Cameron Creek would most  
certainly ensure a total diversion (see Stage III)

#### Hydro Electric Power Station at Deep Creek Tunnel Outlet between the Herbert and Burdekin Rivers.

It would appear that the tunnel through Princess Hills  
would have a residual head of between 25 and 30 metres  
with 1.2 m mls annual flow, + .4 m.mgls from the Tully.  
This flow could produce 200 mgw for 2 hours every day of  
the year. This would be almost a full tenth of the State's  
peak load generating requirements.

\* Queensland Government Report on Herbert River Hydro-Electric  
proposal, May 1962, Coordinator General's Library.

	Crest Length	Crest Height	Cost
Kooragwyn Dam	2,800m (inc. saddle wings)	.40m	£8.5m in 1962
Burdekin Falls Dam	5,700m (inc. saddle dam)	.48m	\$75m in 1979
Cameron Creek Dam, on the same grid line as Kooragwyn was costed at £1.8m in 1962.			

6. REVISED STAGE DEVELOPMENT OF THE BRADFIELD PROPOSALS

STAGE II (cont'd)

Burdekin River Diversion

Lake Lucy Dam (Burdekin Project Committee Report 1977, p52)

(Discharge at Lake Lucy Dam site .535 m mls  
FSL 533m 1745 ft 8.5m

Diversion Channel to head of Clarke River,  
180 kms at \$0.75 m per km 135.0m

Holding dam at tunnel inlet  
FSL at Clarke River Dam is 1640 ft 40.0m

Tunnel to the Flinders River above Prairie.  
Probably the best outlet point would be on  
Porcupine Gorge. Allowing a fall of 1 ft/km  
in the tunnel, outlet elevation would be:

1540 ft  
length 100 kms at \$3.5m \* 350.0m

\$533.5m

Yield from the upper Burdekin which usually runs all year round is .535 m mls (the yield from Lake Lucy is calculated at .08 m mls but in this diversion role this figure would be significantly higher). A further dam would almost certainly be necessary upstream from Lake Lucy (see Stage III). Also this discharge will be held in the diversion channel itself and the holding dam at the tunnel inlet, but most importantly in the Flinders River Dam.

A figure which might be optimistic but is achievable with difficulty is a yield figure in line with the total discharge water available at the point of diversion, i.e. .535 m mls.

---

\* Again this figure is a rule of thumb figure used by the Snowy Mountains Electric Authority and ranges between \$3m or even as high as \$5m. Again, allowing for economies of scale, I have selected \$3.5m as reasonable.

This figure is highly controversial. The S.M.E.A. quotes figures of \$100,000 per km for annual flow of 1.5 m mls, whilst the Queensland Government Water Resources Commission quotes figures of \$.75m per km. The great length of this channel should mean economies of scale so I have used a figure of \$5m to be conservative. This is for a flow of 1.5 m mls per year

\*\* (refers to Princess Hills Tunnel, p.12 above)

This figure is purely a rough rule of thumb costing derived from S.M.E.A. experience of \$2, \$3 or \$5m per km for .3m/km fall in a tunnel of 1.5 m mls/yr discharge capacity.

Great Western Aquaduct (ending near Kynuna)  
(approximately 200 km @ \$.1m/km)

to run on a line starting from, presumably some hydro electric station outflow at the Flinders River Dam, and then running along the top of the watershed between the Thompson and Diamantina on the one side and the Flinders River on the other.

\$20m

Since the Channel runs on top of a watershed the costly crossing of creeks and waterways is avoided. Also the water can gravity feed water onto both south and north from the watershed, thus helping both north and central Queensland and delivering water more economically than any other scheme in Australia.

The very serious problem which results in whole stations being resumed holus bolus and people's rights and ownership being trampled are avoided with a long delivery channel since only parts of stations need to be resumed and this loss is offset by the landholders access to water.

A diversion channel would run down towards each town, thus providing a fresh water supply and allow town bores to be capped. Also, farms will then be based closer to each of the four major towns, Hughenden, Richmond, Julia Creek and Winton.

STAGE III

Tully River Diversion

Dam on Tully River\* above Tully Falls  
(Crest Height El2265)

\$28m

Diversion Channel to tunnel inlet  
5 kms @ .2m/km  
inlet El2265)

\$ 1m

Tunnel to Herbert River  
i.e. Sunday Creek, 7 kms  
@ \$2m/km

\$16m

\_\_\_\_\_  
\$45m

Second Dam on Burdekin above Lake Lucy, no  
siting or costing has been done on this last  
stage

\$35m

A second dam at Cameron Creek, a tributary  
of the Herbert River, could also be required.  
Such a dam was costed in the Hydro-Electric  
Study in 1962 at 1.8m. This would cost  
now, presumably, some \$16m

\$16m

---

\* This is one of two existing dams at Koombooloomba.  
This will provide extra holding capacity to relieve  
pressure on the Lake Lucy Diversion Dam.

Total Cost:

			<u>Yield</u>	<u>Cost</u>
<u>Stage I</u>	Flinders River Dam (excl. Foxton Dam)		.179	\$25m
<u>Stage II</u>	Herbert River Diversion \$167	1.172		
	Burdekin R. Diversion \$533			
	Clarke R. Dam	.350		
	Flinders R. Aquaduct \$ 20			\$710m
<u>Stage III</u>	Tully River Diversion \$ 45	.434		
	Upper Burdekin Dam \$ 35	.035		\$ 80m
				<u>\$825m</u>

Water available for diversion: 2.67 m. mgls\*.

Allowing for evaporation and soakage and loss through the overflowing of dams during the big flood years, it is reasonable to assume that some 1.7 m. mgls\*\* will actually be available for watering land.

This should provide every year 18 inches of irrigation water to some 1.14 m acres.

A residual head of some 450 feet with a flow of approximately 2 m. mgls should facilitate a peak load hydro electric station at Hughenden iwth a capacity of 500 mgw.\*\*\* A second station at the Princess Hills tunnel outlet near Ingham should provide a further peak load capacity of some 250 mgw\*\*\*\*.

The Scheme should provide a total hydro-electric peak load generating capacity of some 750 mgw.

Dr E. Heidecker  
Mr R. Stainkey  
Mr R. Katter Jnr

November 1981.

- 
- \* A further .15m acres should be irrigable from the artesian bores
- \*\* Nimmo works on a figure of about 65% which would be available for watering land. 65% of 2.67m. mgls is 1.7 m. mgls.
- \*\*\* It would provide 500 mgw ten hours per day, every day of the year. This is a full one quarter of the state's total requirement.
- \*\*\*\* This would be only for 1½ hours per day, but again this would be over one tenth of the state's total load demand which is in fact only required for 1½ hours per day.

## SECOND PHASE

### STAGE IV

One of Dr Bradfield's proposed alternatives is graphically illustrated in the enclosed extract from Dr Heidecker's "Geological Sketch Guide to the Coral Sea Coast" and environs. Whilst obviously it is a possibly alternative, it is perspected here as a further development.

Yield at Mt Foxtan*	2.2 m. mgls
Thompson River at Stonehenge yields	3.4 m. mgls
A dam at Mt Foxtan as in Stage I	\$ 30m
A dam at Hell's Gates	\$ 44m
Series of small dams & weir on Torrens Creek and Thompson River	\$ 50m
Head Channel some 400 kms @ \$½m/km	\$200m

With the provision possibly of a small lift the water could be delivered past Lake Webb and into Torrens Creek. Run down Torrens Creek as far as Longreach.

This combined with a number of small weirs on Torrens Creek and the Thompson River will enable the maximisation of usage of water available in Torrens Creek and the Upper Thompson River. Such development is not now available because of discontinuity of supply, and the need for this water downstream in dry years for stock watering purposes.

None of this water is now utilised for anything else but stock watering purposes.

Some .7 m.mgls will be lost in evaporation and seepage, and some 1.4 m. mgls should be available for irrigation at Charters Towers and delivery to Torrens Creek.

.4 m acres can be irrigated at Charters Towers with .6 m.mgls with a further .8m.mgls still available for delivery to Torrens Creek.

A series of small dams and weirs should produce a firm annual yield of some .6 m. mgls, thus providing 1.4 m.mgls irrigating to an annual depth of 18 inches, some .9 m.mgls.

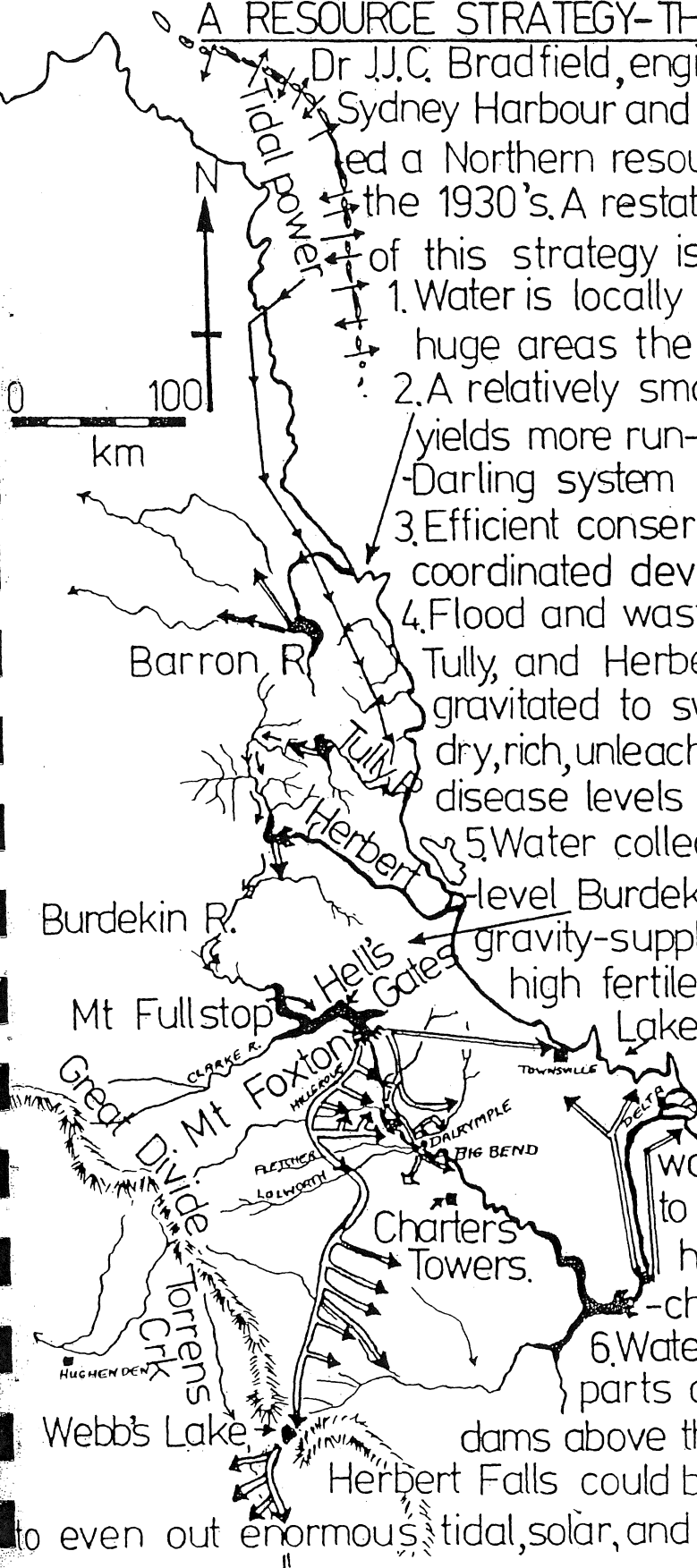
---

* Mt Fullstop mean annual discharge (m.a.d.)	2.24 m.mgls
less mean annual discharge at Lake Lucy	
(.535 less evaporation & seepage	
20%, .107) is .428	<u>4.28</u>
	1.81
less Clarke River m.a.d. .04	
(.35 less evaporation etc 10%)	<u>.31</u>
	1.5
plus Douglas Ck. .189	
& other tributaries .150	
plus Running River .406	<u>.75</u>
	<u>2.25</u>

## A RESOURCE STRATEGY-THE BRADFIELD SCHEME

Dr J.J.C. Bradfield, engineer-designer of the Sydney Harbour and Story Bridges, developed a Northern resource strategy during the 1930's. A restatement and extension of this strategy is that:

1. Water is locally abundant but over huge areas the key deficient resource.
2. A relatively small, wet, mountain zone yields more run-off than the Murray-Darling system spread over 4 states.
3. Efficient conservation must involve coordinated development of rivers.
4. Flood and waste waters of the Barron, Tully, and Herbert Rivers can be gravitated to swell rivers flowing thru dry, rich, unleached soils with low pest-disease levels ideal for rice, grains.
5. Water collected in one of the high level Burdekin Dam sites could gravity-supply diversion dams and high fertile soils down to Webb's Lake and a low pass thru the Great Divide. Minor pumping could lift water over to gravitate to rich Downs soils and huge undeveloped petro-chemical coal fields.
6. Water pumped up from low parts of the wet coast to dams above the Barron, Tully, and Herbert Falls could be returned for power to even out enormous tidal, solar, and fusion sources.



## HYDRO-ELECTRIC POWER ASPECT

In 1979/80 financial year the State's generating requirement rose to 1900 megawatts. However, this generating capacity was only required for a couple of hours per day whilst the demand between 10.30 pm and 6.30 am was less than 1100 mgw. The cost of building a conventional coal fired power station to produce 800 mgw of electricity to meet this peak demand would be some \$400m.\*

Whilst some 400 employees would be needed to run such a station, an even greater operating cost would be the upward-spiralling price of coal.

POWER STATION	GENERATING CAPACITY	EMPLOYEES	ANNUAL COST OF COAL
Hydro: Barron Gorge **	60 mgw	28	Nil
Koombooloomba	72 mgw	69	Nil
	132 mgw	97	
Coal: Collinsville	180 mgw	200 (app)	81/82 \$7½m
			82/83 \$10m

The elevation of the outlet from the tunnel through the Great Divide is some 1,530 feet, the elevation of the start of the Great Western Aquaduct, i.e. the 350 km delivery channel is below 1250 feet, therefore a 300 foot head is not unreasonable.

A discharge of some 2.7 m mls is available above the various diversion points, so a flow rate of 2 m mls per year is reasonable.

This could produce some 500 mgw for 10 hours every day, or a full quarter of the State's requirements (this 500 mgw is only required between 7 am to 12 noon and between 4 pm and 9 pm)

Whilst running costs are negligible, capital outlay would be under \$200m\*\*\* compared with over \$400m for a similar capacity thermal station.

---

\* The 1650 Gladstone Power Station will cost \$575m whilst Tarong 1400 mgw is mooted to cost some \$850m.

\*\* The Hydro-Electric Station at Koombooloomba normally operates as a full base load station. Barron Gorge, however, often operates only for peak loads.

\*\*\* Wivenhoe pump storage project is costing \$180m for a generating capacity of 500 mgw.



## Power Production Continued

There were, however, substantial forced reductions in consumer demand on 6 and 7 October following a State Government Rationing Order made necessary by a coal gang strike (3-7 October), again over the experience payments issue.

Augmentation of the Gladstone—Gin Gin section of the Gladstone—South Pine 275 kV interconnection in June enabled increased utilisation of power generation at Gladstone, the transfer limit being raised from 700 MW to 850 MW.

### Gladstone Power Station

No. 2 unit was taken out of service on 16 January for overhaul but the Gladstone maintenance workers' strike caused a nine weeks delay in the work and it was not returned to service until 20 weeks after the unit was taken out of service for the overhaul.

Overhaul of No. 1 unit, initially planned to start in April, was postponed until after 30 June.

The small amount of time spent on preventive maintenance was reflected in overall availability of the station being 81.2% compared with 74.9% for the previous year, and a record output of 609 GWh was produced in December (60.7% of total energy requirement).

### Swanbank "A" and "B" Power Stations

Swanbank Power Stations generated 3 565 GWh (29.5% of State total). This was 9% less than the

previous year and would have been significantly lower had generation not been re-scheduled from Gladstone to Swanbank during the miners' strike. Plant maintenance was severely disrupted by union black bans, overtime bans, the Gladstone maintenance workers' strike, and re-scheduling load from Gladstone Power Station because of coal shortages during the miners' strike.

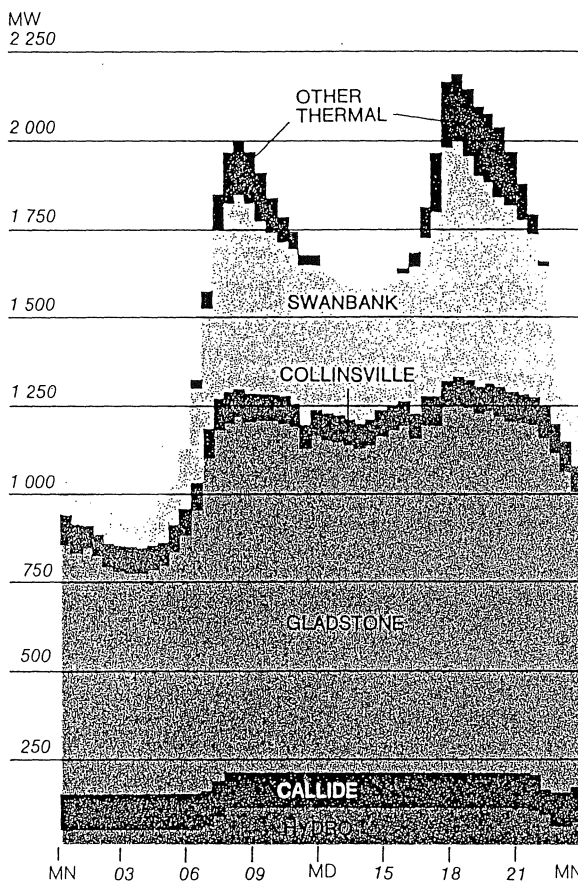
Scheduled overhaul of Swanbank "B" No. 4 unit began in late March and it was still out of service at 30 June. No. 3 unit at Swanbank "B" was due for overhaul before winter 1981 but industrial disputes at Gladstone caused the overhaul to be delayed until 1981/82.

Swanbank "A" was the most reliable power station during the year, its equivalent forced outage rate being 1.9%.

### Tennyson and Bulimba Power Stations

Generation at the metropolitan stations of Tennyson and Bulimba was 366 GWh (9.9% higher than in 1979/80). The two stations produced significant amounts of energy throughout the Central Queensland miners' strike, and during the Gladstone maintenance strike and operators' bans.

**Typical June 1981 Weekday Demand Curve**  
*Interconnected Generation Central, Southern and Northern Regions*



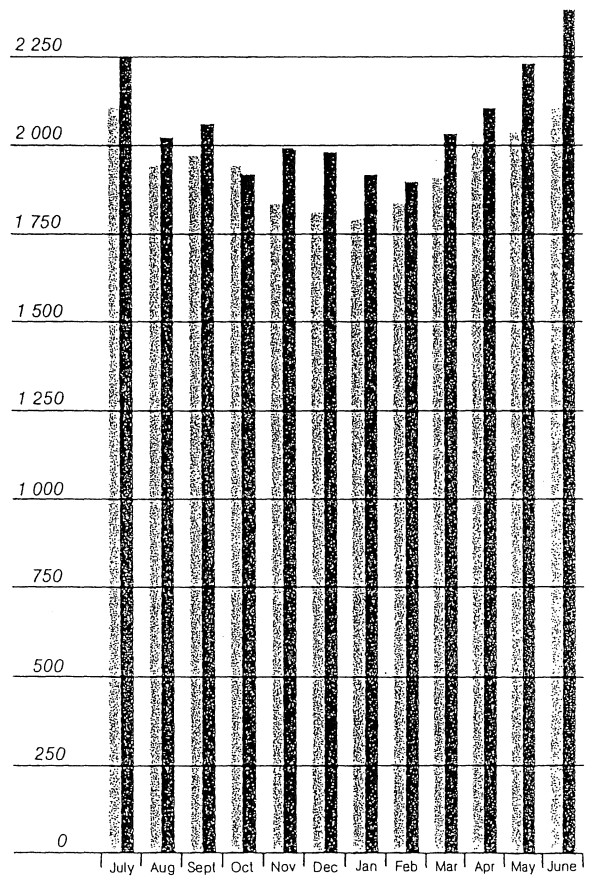
### Monthly Maximum Demands

*Interconnected Generation Central, Southern and Northern Regions*

Last Year

This Year

MW  
2 500



## THE ECONOMIC ASPECT

Australia's greatest social and economic problem is the worsening stagnation of the Australian economy and 7% unemployment. This results from tight monetary policies which include the high cost of money at a bond rate of 17% and a high level of statutory reserve deposits.

The Monetarist Economic School and their quintessential exponent Milton Friedman, contend that if the growth of money is greater than the growth of goods and services, then you will get inflation, the greater the disparity the greater the inflation. I.e., as a rough general principal, if money (M3) grows at an annual rate of 14% and the Gross Domestic Product grows at 3%, inflation will be 11%.

Another argument which, of course, is seldom voiced publicly, is that tight money causes unemployment: unemployment holds down wage rises which otherwise would be passed on to the consumer as price rises.

This unemployment argument surely is unacceptable: that we should protect the purchasing power of our money by breaking the backs and hearts of 7% of the population that we will have thrown on the dole is, one would hope, not an acceptable method of arresting inflation.

Though in the climate of the wages stampede of the Whitlam Era Mr Hayden, and even Mr Uren, felt this medicine had to be dealt out.

Friedman and the monetarist approach to economic management provides the linch pin of policy in the U.S.A., Great Britain and Australia at the moment. It is succeeding in restraining inflation, but is, in fact, causing economic stagnation. Thus the rate of growth of G.D.P. on a per capita basis is slowing and, more importantly, unemployment levels have remained substantially unchanged from the days of the Whitlam years.

To continue with present economic policies will be to continue with the present levels of unemployment and, of course, the high taxation to meet the dole cheque of some \$3.9 billion per year (see p. 22)

If these people were working instead of being a burden on tax pool they would probably contribute over \$2.2b (on the 1982 experience) in taxes alone and save another \$½b in medical and welfare services into the bargain, a total of some \$4b.

If money growth was restricted to an area of the economy that would show a corresponding growth in goods and services, of course there would be no inflationary pressures\*.

This was the conclusion reached by the New Deal Economists in the United States during the Depression, who launched, under Franklin Roosevelt, upon massive water and hydro-electric developmental schemes. America, throughout the middle and most particularly the late thirties, quite literally worked its way out of the Depression.

---

\* Except again through inflation created by wage increases, i.e. cost push inflation.

Not only did they get the economy working again, but the Tennessee Valley Authority Projects and the Colorado water and electricity developmental schemes became the best known and amongst the nation's greatest national resources.\*\*\*

The Japanese economic miracle similarly has combined the highest growth rates in the world with only moderate inflation because here the strong relationship between Government and business (the Zaibatsu) coupled with strong Government control over credit, has meant that Japanese industry, wherever they can prove that a requested loan will result in an offsetting growth in goods and services, the loan will be made. The Government of Japan has the financial control needed to supply the necessary credit.

In Australia, with a totally unfettered banking system, a loosening of credit would probably only mean an increased ability by the city rich to buy and sell real estate to each other - a good example of an increase in the supply of money without any offsetting growth in goods and services.

Again, and to quote one final example, the Whitlam Government borrowed heavily, deficit budgeting to increase tremendously the growth of money supply (the Government's fall, for example, followed disclosure of attempts to borrow over a billion dollars to allow Government purchase of Australian mining resources.) This money was used to provide free health care, free university tuition, increases in social security payments and the purchase of resources from the private sector (e.g. Mary Kathleen and Jaburu), all arguably admirable social objectives but none which would result in an increase in the amount of goods and services moving into the economy. A vast increase of money in the economy and no change in the annual amount of goods and services being produced caused inflation to leap in two years from 7% to over 20%. \*

Now the whole object of this statement, and re-statement of fundamental economic truisms, is to assert that whilst Australia has 7% of its work force at great expense to this nation\*, lying idle, the Government should borrow money to spend on public works that will result in a compensating increase in the amount of goods and services becoming available within the Australian economy.

A scheme such as the diversion of the Coastal rivers of North Queensland onto the inland plains of Central and North Queensland should enable some million acres of production of cotton and wheat to commence as well as probably the provision of 750 mw of hydro electric generating capacity. This would more than compensate in the long term for any increase in money supply necessary to finance such a project, though obviously there would be short term inflationary pressures created by any such increase in expenditure on capital works.

---

\* There is always some idle plant capacity so an increase in money supply and its consequent demand pressures should always result in some increase in production. This increased production of goods and services is normally only enough, however, to offset the growth in money supply which triggered it.

\*\* \$4b., see Addendum IV.

\*\*\* N.B. Whilst the U.S.A. went through the Depression with unemployment levels of 15%, Australia's unemployment levels during the same period hovered close to 30%.



AEM:MM

## INFORMATION REQUEST RESUME

FOR: Mr R. Katter, M.L.A.

DATE:  
21/4/82THE COST OF UNEMPLOYMENT

The current state of unemployment in Australia is that there are 486,600 persons, representing 7% of the work force out of work. The table shows the unemployment figures for 1981 and the beginning of 1982:

Year		Unemployed*
1981	Jan	377,000
	Feb	358,400
	Mar	330,700
	Apr	306,500
	May	307,700
	Jun	289,700
	Jul	314,900
	Aug	320,900
	Sep	328,100
	Oct	304,100
	Nov	310,700
	Dec	358,700
1982	Jan	337,700
	Feb	404,500 * 486,600

\* These figures do not include those registered for part-time employment. This was, in February an additional 82,100.

The Rate of Unemployment Benefit was as follows:-

Single Person	18 years +	\$58.10 per week
Married Person	& dependent wife	\$116.20 per week
Married Person	& dependent wife and one child	\$126.20 per week
Married Person	& dependent wife and two children	\$136.20 per week
and subsequent children at \$10 extra per week.		

Regarding the Australian Budget, the total Outlays and Receipts for 1980/81 and 1981/82 are as follows:-

	1980-81	\$	1981-82	\$
Outlays Actual	-	\$35,274,000,000	Est.	- \$40,862,000,000
Receipts	"	- \$35,140,000,000	Est.	- \$40,716,000,000

The material supportive of these facts has come from a wide diversity of publications and supplementary material relative to unemployment in a number of countries has been included.

These extracts and articles are as follows:-

- (1) Aust. Round up of Economic Statistics, March 1982
- (2) Aust. Budget Statements 1981-82. Australian Budget Outlays and Receipts.
- (3) Aust. Year Book 1981 - Taxation Tables
- (4) Aust. Bureau of Statistics Bulletin - Unemployment Australia, February, 1982.
- (5) Australia Estimates of Receipts and Expenditure 1980 - 82 Budget extract - Unemployment Benefits Expenditure 1980/81 - 1981/82.
- (6) I.P.A. Facts, September/November 1982 - Social Welfare, The Cost Ahead.
- (7) Table showing Superannuation contributions payable for Public Servants - Queensland Legislative Assembly Accounts Office.
- (8) "Enterprise Zones" Times London Article, 9 March 1982.
- (9) O.E.C.D. Observer, March 1982 - Articles on Unemployment in O.E.C.D member countries.
- (10) Department of Social Security Annual Report 1980-81.

.....Compiled with the  
assistance of  
A.E. MORRISON  
Queensland State  
Parliament Librarian.

## UNEMPLOYMENT BENEFITS PAID

During the year 1980/81, Federal funding for all unemployment benefits was \$995,747,620 and estimates for 1981/82 amounted to \$1,090,000,000 paid from the National Welfare Fund Act 1943.

Unemployment now having risen to 486,600 means that, assuming a single person income of \$58.10\*, the unemployment benefits paid would be \$1,468,585,600.

## INCOME TAX LOST

Since the average wage at the December quarter for 1981 for male adults was \$204 and female \$190, the mean of the two years is \$197\*\*, or \$10,244 per person per year. The tax on this income would be \$2,078 per person per year. For the total 486,600 unemployed, this would return to the Government an additional \$1.011 billion in income tax per year. If these people are not working this amount is lost to the Government.

## COST OF HEALTH CARE FOR THE UNEMPLOYED

The costs of Health Insurance in a Private Fund for a family of four on the most popular table is approximately \$15.00 per week, but the range of services is highly variable and taking into account this variety \$10 per week would be a reasonable average figure.

Again, however, using a single person analysis, it could be as low as \$5 per week. If we compromise on \$7.50 and remember that part of all bills are now paid by the person himself, \$10 per week, or \$520 per person per year, is a figure which is currently set by Private Insurance Companies and Medibank in an effort to allocate an average cost of health per person per year.

When a person moves on to unemployment benefits, the Government has to take over the cost of that person and his dependents' health care. This cost would then be \$520 for each of the 486,600 unemployed, a cost of \$253 million per year\*\*\*.

---

\*This figure is inflated since Queensland has a universal free hospital system and the State Government, and not the Federal, would meet the health costs for unemployed Queenslanders.

\*\*It is assumed that there are no Tax deductions for dependents. Obviously many of the unemployed would be married, but, on the other hand, where the average Australian income is approximately \$300 per week, a figure of \$197 seems too low. These two biases should offset each other.

\*\*\*A single person income is a good mean figure. Whilst many unemployed have dependents many, on the other hand, because they are under 18 or have part-time employment, would not be eligible for a full \$58.10 benefit.

INDIRECT TAX LOST AND SECONDARY LOSS OF TAXATION

The single person's unemployment benefit is \$58.10 per week, and this person's income would be \$197 if he were working.

When a person moves off the unemployment benefit and onto a wage, the increase in income is therefore \$140 per week. This \$140 extra would be spent, not saved. This increase in the sales of goods and services would mean an increased income for the supplier of goods and services - the business sector which pays tax of 42 cents in the dollar.

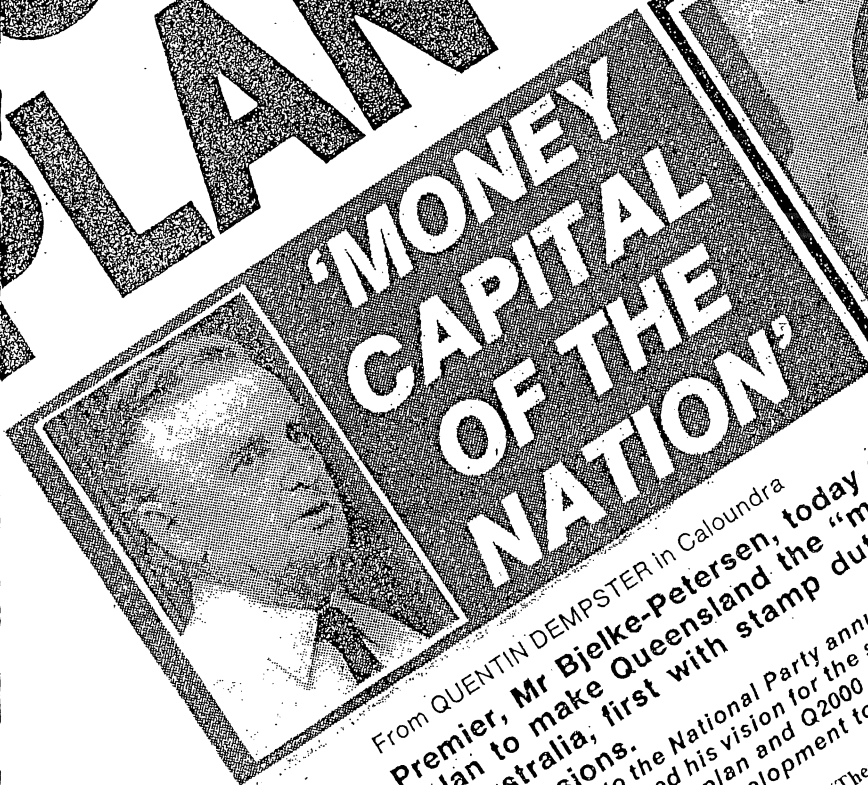
If we selected a figure of 33 1/3% as an average tax rate, with tariffs averaging over 100%, Company Tax 42%, and Sales Tax averaging 17%, this figure would seem reasonably conservative. At this rate of 33 1/3%, the Government would be losing revenue of 33 1/3% of this increased consumer spending of \$3.542 billion, i.e. a further revenue loss of \$.886 billion per year.

TOTAL QUANTIFIABLE COST OF UNEMPLOYMENT

	\$
(a) Total cost of Government spending on unemployment 1981/82	1,468,000,000
(b) Total cost of income tax lost 486,600 (February Statistics)	1,011,000,000
(c) Total loss of Health Insurance payments	253,000,000
	<hr/>
	2,732,000,000
(d) Indirect Tax lost, including Secondary Tax loss (multiplier effect), but excluding payroll tax	1,181,000,000
	<hr/>
	<u>\$3,913,000,000</u>

THE COST TO THE GOVERNMENT OF HAVING 486,600 PEOPLE UNEMPLOYED IS OF THE ORDER OF SOME \$3,900,000 PER YEAR, OUT OF A TOTAL FEDERAL BUDGET OF \$40 BILLION.

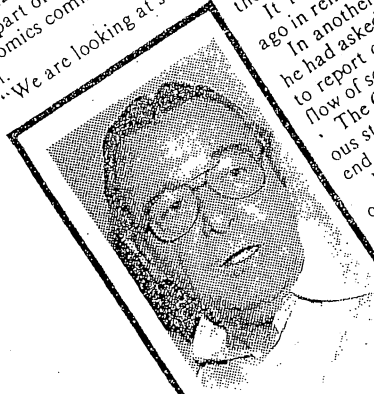
# 1987 Bjelle's GRAND PLAN FOR Q



## 'MONEY CAPITAL OF THE NATION'

From QUENTIN DEMPSTER in Caloundra  
**The Premier, Mr Bjelle-Petersen, today said he had a plan to make Queensland the "money capital" of Australia, first with stamp duty and mortgage concessions.**  
In his opening speech to the National Party annual convention here, the Premier outlined his vision for the state and announced a five-year economic plan and Q2000 — a planning and management program for development to the end of the century.

Mr Bjelle-Petersen told more than 500 delegates: "There is talk of recession in the pace for the rest of Australia," he said.  
It followed the government's initiative five years ago in removing death duties.  
He had asked the Co-ordinator General, Mr Schubert, to report on the feasibility of a scheme to divert the flow of some North Queensland rivers inland.  
The Co-ordinator General would examine all previous studies on such a scheme and report back by the end of this year.  
"It's a visionary project but we must set our sights high to meet the challenges of the future," he said.  
He said Queensland's low tax policies had contributed to population growth, which would



**TODAY**



□ EDITORIALS, LETTERS: PAGE 8

□ THE ARTS, TELEVISION GUIDE: PAGE 10

# Economy takes plunge into recession, and worse to come

WAGE pressures and record interest rates plunged the economy into recession in the six months to March, and the outlook is for a further deterioration and more unemployment.

Bureau of Statistics figures issued in Canberra yesterday show the economy turned in its worst performance in five years, recording negative growth in the December and March quarters.

The figures on national accounts for the March quarter provide the most accurate measure of output in all sectors of the economy, and provide a guide to the overall health of the country.

The figures show non-farm gross domestic product — the basic measure of output by business and industry — fell 0.3 per cent in the three months to March, indicating a long period of economic growth has come to an end.

And in a surprising move, the statisticians revised the estimate of growth in the December quarter, altering the original 1 per cent increase to a 0.7 per cent fall.

This means in the six months to March, output slipped 1 per cent, or about \$2000 million. And in the year to March, economic growth was only 1.2 per cent, well below the Budget target of 3 per cent.

The slump has come at a difficult time for the premiers, who at today's Premiers Conference will be pressing the Commonwealth for more money for their infrastructure programs.

The news of the six-month recession contradicts claims made by the Prime Minister, Mr Fraser, two months ago that the economy was growing rapidly.

Answering a question without notice in Parliament on April 29 from the Opposition Leader, Mr Hayden, he said: "The Leader of the Opposition used the words recession and

By ROBERT BOWDEN

depression. He needs to know — I am sure he does know — that a definition of depression is a situation in a country where there has been a reduction in output for two or more quarters.

"I think that is the generally accepted definition of the word depression.

"Quite contrary to what is happening in a number of other countries, the Australian economy has been and is growing."

The Treasurer, Mr Howard, yesterday said the national accounts figures were "disappointing but not entirely unexpected".

"The protracted recession in the world economy has contributed in a significant way to the adverse developments contained in the latest set of accounts," he said.

"There are, however, a number of home-grown factors.

"The marked erosion of business profits and rising import penetration testify that domestic wage costs have outstripped what the economy can afford."

The figures show the wages push which followed the recent abandonment of wage indexation has sharply reduced the share of corporate profits as a percentage of GDP.

In seasonally adjusted terms, wages and salaries grew by 4.5 per cent in the March quarter, while company profits fell by 13.6 per cent.

As a share of GDP, profits fell from the average level of 14.1 per cent in 1980-81 to 11.4

per cent in the March quarter. Wages rose from 62.1 per cent to 64.9 per cent over the same period.

If the latest round of gloomy industry surveys are any indication, the coming June quarter figures will show a further downturn in production. This will mean three quarters in a row of falling economic activity — a phenomenon that has not occurred for 20 years.

Mr Hayden said the national accounts showed the need for positive measures to stimulate the economy and boost confidence.

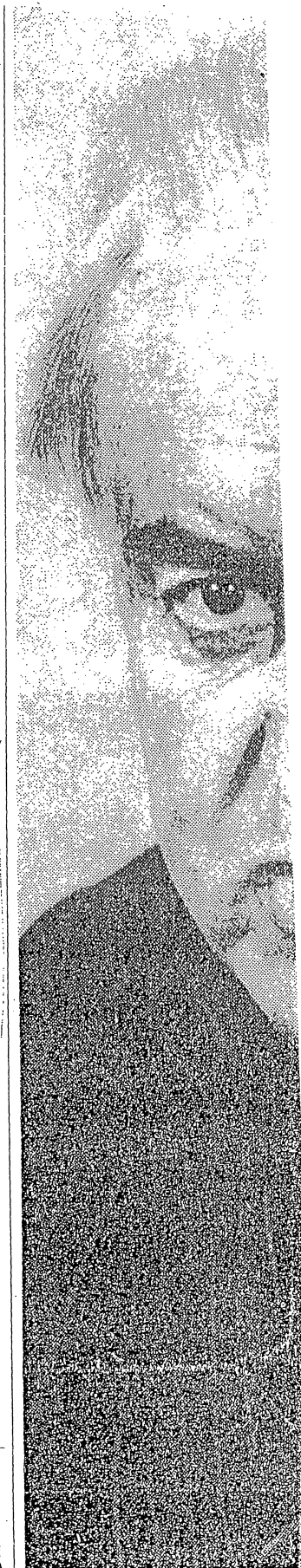
"A country with the major economic advantages of Australia should be doing much better than the depressing figures issued today," Mr Hayden said. "I cannot understand why Mr Fraser refuses to recognise this.

"His Government's policies have had seven years to start working, and now the Prime Minister must try a different course if we are to avoid more hardship and recession in the year ahead.

"He will have the support of all Australians if he uses the coming Budget to turn present economic policy around and provide some careful and commonsense stimulation."

Mr Howard said at a news conference after the figures were released that the Government would not be forced into adopting a stimulatory economic policy, and would not be changing its strategy for the Budget.

He indicated he had been surprised by the revision of the December quarter figures, saying they made economic planning difficult.



GOUGH Whitlam back in t

## Israelis in Lebanon until joint force is in control — Recin

ADDENDUM IV

HERBERT RIVER DIVERSION

Herbert River mean annual stream discharge  
at Ingham: 3.754 m. mgl's


Gleneagle: 1.072 m. mgl's

Some 2.682 m. mgl's is still available if ever needed  
for irrigation or industrial development on the coastal  
plain.

This is some 2.235 m. acre feet.

Thus, if there were some 220,000 acres on the coastal  
plain, excluding the annual rain fall completely, there  
would be enough water to flood the entire coastal plain  
to a depth of 10 feet every year forever.

A similar situation prevails at Tully.

	Paper No.: 995	
	Date: 22/2/07	
	Tender: Pinner	
	<input checked="" type="checkbox"/> Fabled	Fabled, by leave
	<input type="checkbox"/> Incorporated, by leave	<input checked="" type="checkbox"/> Remainder incorporated, by leave
Check at the Table:		