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Inquiry into Ecological Carrying Capacity of the ACT & Region

Introductory Remarks

As Canberra is the National Capital of Australia, the population of ACT and its nearby surrounds will - as a matter of course - always be markedly influenced by fluctuations in the total population of the Nation itself; in other words its public service function will be a major driver - allied to the rise or fall in Australia's population as a whole. It was to be expected that the National Capital's population would increase since Federation, now almost a century ago. The rise in Canberra's population has become especially rapid over the last fifty years or so, allied with the Nation's more rapid growth rates.

Therefore the 'ecological carrying capacity of the ACT & Region' cannot be merely assessed in terms of the available resources in its surrounding lands - be it for food, water, energy and so on. The intrinsic productivity of this tableland region is low: it has a cool to cold temperate climate, very variable rainfall and a short summer growing season. Moreover, we are now in an era of looming shortages of fossil energy & fertiliser, and climate change to boot! There is thus scant local resources to provide the current and future needs of Canberra's population, let alone one which continues to grow apace in response to the expanding administrative needs of the Nation as a whole.

The pressing issue, therefore, is to now make an assessment of Australia's overall ecological carrying capacity, and then see if one can assume that ACT & Region can be 'fed and watered' *from further afield* for the generations to come?

Australian Population Growth: The Different Phases

1. The Long Hunter-Gatherer Period : Eventually Sustainable

Humans began to move across the Australian continent some 50-60,000 years ago, and over all this period the hunter-gatherer lifestyle persisted, for very good reason: generally infertile soils and variable rainfalls mitigated against the introduction of subsistence agriculture which became widespread on other continents some 10,000 years ago. Of course, there have been changes a-plenty over all these millennia due to intervening ice ages, species extinctions, and so on.

However, Tim Flannery (1994) saw a harmonious ecological relationship existing between the Australian Aborigine and the land & environment during the relatively warm interglacial period of recent millennia. He considered the population - probably only between 300,000 & a million - as a *sustainable* one. All of this was to be upset by the British takeover, beginning in 1788.

1 (of 2)

2. European Takeover : Land Exploitation & Population Increase

The arrival of the First Fleet at Botany Bay introduced an agricultural regime from the northern hemisphere: cereal crops and grasses as well as hard-hooved sheep & cattle – all ill adapted to a land of such infertile soils and variable rainfall. Indigenous ecosystems were decimated as settlement spread across the continent, especially along the better watered east and southern regions. Once soil nutrient reserves had been used up it became imperative to apply fertiliser; superphosphate applications became necessary from the mid 1900s, while a more complete mix containing phosphorus, potassium & nitrogen is now common. Irrigation also expanded, particularly in the Murray-Darling Basin, where the ACT & Region sits close to its headwaters. This continent currently provides food and fibre for our own population of over 22 million (growing rapidly and now at over 400,000/yr; see Fig 1), as well as a large export market.

This has all come at a large environmental cost: not only have we lost huge swathes of our long-evolved biodiverse ecosystems, but the soil itself has taken a battering: erosion is rife with the loss of organic carbon and widespread acidification and salinity! Stream flows and their wetlands have also suffered badly.

3. Food Shortages Loom: Urgent Need to Reduce Australia's Population & Footprint

The world overall is now experiencing a number of crises that affect food supply viz dwindling supplies of fossil fuel and fertiliser (e.g. peak oil & peak phosphate) together with likely climate change effects on agriculture.

As scientists foresee a future of lower rainfall across southern Australia, the productivity of our already degraded soils looks bleak. Moreover, our phosphate reserves are low, an element so vital for our inherently infertile soil; imagine its future cost as other nations, too, require to import it from Morocco, the world's main repository!

Concluding Remarks

The population of ACT & Region is correlated with that of Australia as a whole, and both are growing rapidly. Moreover the food outlook for all Australians, as outlined above, is dire. Major issues are soil impoverishment, looming shortages of fossil energy and fertiliser as well as the deleterious impacts of climate change.

It therefore behoves the Assembly - together with other State legislatures - to lobby the Federal Government to lower population as a matter of urgency; both immigration and birth numbers must be targeted. At the same time emphasis on sustainable agricultural systems is needed with the restoration of native biodiversity.

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