

**Submission to:** Inquiry into future water supplies for Australia's rural industries and communities. **Of:** The Standing Committee on Agriculture, Fisheries and Forestry, House of Representatives, Australia.

**Regarding:** COMPATIBLE WATER & REVEGETATION POLICIES: USE OF "BROWSE". A written submission relevant to forthcoming WA and NT hearings.

**Date:** 17<sup>th</sup> July 2003, subsequent to recent development of Vegetation Policy in Qld.

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**A need already reported to the Inquiry:** *Land and Water Australia* has reported to the Inquiry (11/12/2002) the serious concern that "revegetation of catchments for biodiversity, salinity and erosion benefits" will contribute to a "water squeeze" exacerbated by "climate change leading to higher temperatures, higher evaporation..."

**Compatible benefits of browse:** This Company has continued trials with a range of browse trees (both native and adapted to Australia) following research funded with the *Land and Water Resources Research and Development Corporation* (Project P90/19).

These trials bear out experience in Rajasthan, Israel, and the USA – that water supplies are less lost to evapotranspiration by browse trees that can reduce sodicity, leaching, nutrient loss, river turbidity, and annual protein "droughts". Current salinity, water, and vegetation policies are based on the use of evapotranspirative "green pump" trees, that reduce recharge and rising water tables. Unfortunately useful aquifers, springs, and river underflows can be dried up as well.

In contrast we note that certain selected dryland browse trees have evolved organic ways of maintaining scarce water and nutrient mineral resources. They collect vital mineral nutrients by filtration and organic soil sequestration rather than evapotranspirative draw down. Consequently it is possible for filtered water to pass down into useful aquifers and stream underflows. As organic filtration and sequestration of mineral nutrients is involved there is a much greater possibility of long-term carbon sequestration by browse. A proportion of browse trees in a eucalypt woodland can improve, even double, greenhouse carbon sequestration. This is a significant compatibility factor as Kyoto carbon sequestration targets have emerged as a key factors in recent Vegetation Policy discussions in Queensland.

**Policy implications:** Compatible Water and Vegetation Policies might recognise the multi-purpose benefits of browse. These benefits extend to Greenhouse carbon sequestration, biodiversity, nutrient recycling, and Reef health. A Policy of discussion, evaluation and recognition would be most welcome as there is little encouragement to revegetate with browse. There seem to be lost opportunities in pastoral woodlands which have suffered climatic "dieback". This is particularly so in parts of the Burdekin catchment that has suffered record variability in sequences of rainfall deficit and unseasonable rains.

**Illustrative trials:** Our trials at "Dalrymple Gardens" on the Burdekin River, Queensland, go back 30 years. The benefits of tamarind trees, first planted a century ago, are proving quite complex and multi-faceted eg in water health and parasite control. A complex

interplay between native browse trees and drainage has emerged. A selected species of the native *Albizia* genus has emerged as one of the most productive and multifaceted in its additional benefits eg to carbon sequestration.

*For Hendikus*

For KAY BEE DEVELOPMENTS PTY LTD.

Cc Electorate office of Chair Person.  
Land and Water Australia.

