AGRICULTURE IN AUSTRALIA - INTRODUCTION

Australian agriculture is characterised by:

- **a heavy dependence on overseas markets**
- **a large scale of activities compared with similar enterprises in other parts of the world.**
- **a heavy and long concentration on a limited range of products**
- **a dependence on a low rainfall, seasonally dry and periodically droughty environment**
- **an old land resource with limited fertility and a high propensity to degradation.**
- **a relatively high standard of living of the agricultural community.**

OVERSEAS MARKETS

The community only consumes a small amount of the total Australian production and therefore, most Australian products must be sold in competition with overseas producers. Therefore, Australian agriculture must be efficient by world standards to compete.

LOW PRODUCTIVITY PER HECTARE

A large part of Australia has low productivity and fertility compared with overseas competitors - see agriculture in Australia - overview showing 9 month growing seasons.

The comparatively low area for Australia is mainly caused by the seasonality and limited rainfall combined with very high rates of evaporation and prolonged drought periods. The vast interior of Australia receives little rainfall in either winter or summer that is, less than 300 mm per annum. Combined with high evaporation rates greater than 3000 mm per annum for most years and most seasons there is a soil moisture deficit. Such land is at best used for extensive livestock grazing.

The northern portion receives all its rainfall of 400-1200 mm in the hot

summer months when evaporation is at its the highest rate of 2800-3200 mm pa. Therefore, the northern regions are less effective for plant growth than the southern parts of Australia. Generally, there is a severe dry period during winter requiring irrigation for crop management. Except for the sugar cane belt of Queensland which receives more than 1600 mm per annum and has less than 1600 mm per annum rate of evaporation. The southern portion of Australia receives most of its rainfall, 400-1200 mm per annum during the cooler months and where pan evaporation is less than 1600 mm per annum. Therefore, there is more moisture available form plant growth or a given amount of rainfall especially during the wet winter season where even relatively dry lands can be used for cereal crops.

The eastern coastal zone receives more rainfall than most other parts of Australia; 800-1600 mm per annum and has a relatively low pan evaporation of less than 1600 mm per annum. This rainfall occurs during all seasons providing a potentially longer growing seasons than for most other parts of Australia. Because of the rugged terrain and cooler temperatures of the eastern highlands the land use is more varied ranging from wilderness to intensive cropping and horticulture.

DROUGHT

Australia is well known for its periods of low rainfall and drought which severely reduces production of crops and animal forage and exposes soils to erosion. For example, between 1965 and 1980 almost all of southern Australia experienced drought conditions that is, received less than 10 percentile long term rainfall for between 30% and 40% of all months. Because the extent of drought was not known during the initial stages of settlement and expansion over the past 154 years, cropping activities were often extended well beyond sensitive climatic limits. This occasionally caused such hardship and environmental damage that government decrees were enacted to limit the extent of cultivation in southern Australia and non agriculture the Western Division of NSW was designated in 1901.

Even steep sloping lands were often cleared encouraged by taxation advantages and used for cultivation resulting in severe erosion for example, on the southern tablelands. In southern pastoral lands were saltbush and bluebush provided forage for sheep and cattle a lack of understanding of annual rates of shrub growth led to gross overstocking which together with a huge rabbit population led a large losses of vegetation cover and consequently very serious erosion.

Such lands never fully recovered and even today sheep numbers are still below that at the turn of the century.

LAND CAPABILITY

Many land owners are unwilling or unable to change land use patterns. This is caused by economic problems and a lack of understanding of long term effects. Dry land salinity was observed and explained in terms of extensive clearing of native woodlands in Western Australian wheatlands in the mid 1920s and Victoria in the 1960s. Rising water tables and salinity led to the abandonment of a number of early irrigation areas along the Murray around the turn of the century. The serious long term consequences of the rising water tables in the Murrumbidgee Irrigation Area have been known since the 1950s.

POST WAR 2 CHANGES

Remarkable changes in the markets for Australian rural products. Major shifts in the structure and organisation of the rural economy. Considerable benefits from scientific research into problems if cropping and farm animal husbandry. In particular, the introduction of myxomatosis which has caused a major decline in rabbit population and thus increasing production.