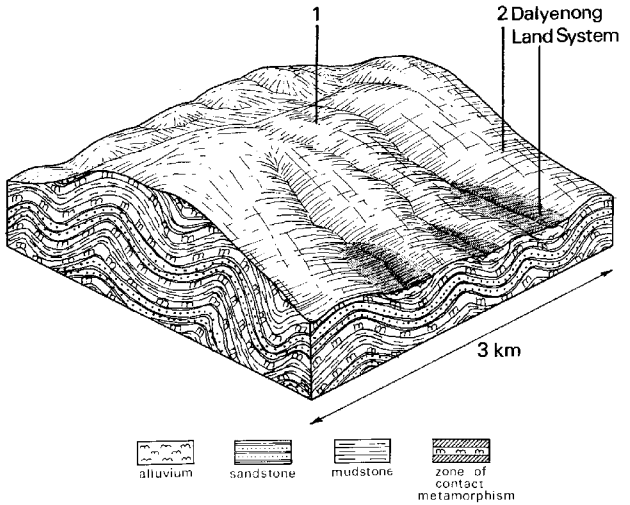
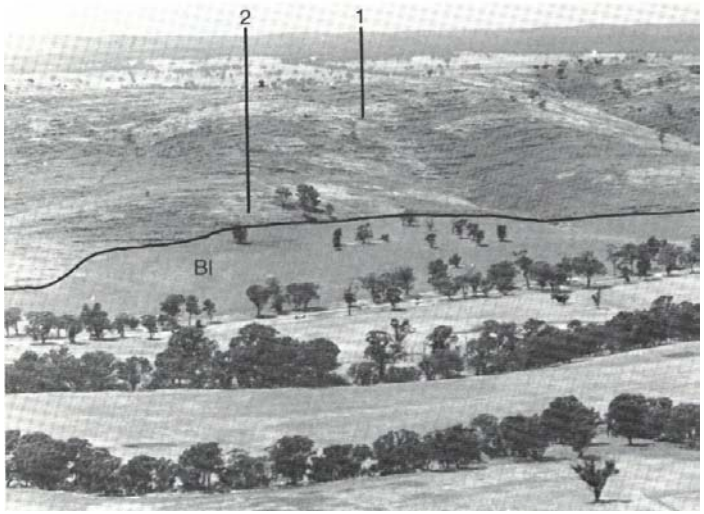
7.21 Spring Hill land system

Steep metamorphosed hills with outcropping rocks between Archdale and Gowar originally supported open forests dominated by *Eucalyptus polyanthemos.*

Most of the timber has been replaced by native pastures. The low water-holding capacity of the shallow stony loams and the shallow rooting systems of the native pastures reduce the growing season to a few months of the year and the total productivity is low.

Steepness and rock outcrops make access difficult. Overgrazing and trampling have promoted high run-off, leading to sheet erosion on the slopes and gully erosion in the drainage lines of adjacent land systems. Increased percolation of water and salts to the groundwaters since settlement has resulted in rising water tables and increasing incidence of soil salting in adjacent areas.





The outcropping rock strata on these steep cleared hills indicate the shallowness of the soil.

Native grasses do not provide the stony loam soils with adequate protection against intense summer storms.

SPRING HILL LAND SYSTEM Area108sq.km

CLIMATE		
Rainfall (mm)	Annual, 400-500; lowest January (20), highest June (59)	
Temperature (^{0}C)	Annual, 15; lowest July (8), highest February (2 1)	
Seasonal growth limitations	Temperature: less than 10^0 C (av.) June-August Rainfall: less than potential evapotranspiration September-April	
GEOLOGY		
Age, lithology	Ordovician sandstone and mudstone	
PHYSIOGRAPHY		
Elevation range (m)	200-400	
Relative relief (m)	40	
Drainage pattern	Dendritic	
Drainage density (km/ sq. km)	0.6	
Land form	Hill (metamorphic aureole)	
LAND COMPONENT	1	2
Percentage of land system	70%	30%
PHYSIOGRAPHY		
Position on land form	Upper slope	Lower slope
Slope (typical) and range(%)	20, 10-25	8,5-10
Slope shape	Convex	Convex
NATIVE VEGETATION		
Structure	Open forest	Open forest
Dominant species	*E. Polyanthemos* *E. goniocalyx* *E. microcarpa*	*E. microcarpa* *E. leucoxylon*
SOIL		
Parent material	Sandstone and mudstone	Sandstone and mudstone
Description	Shallow stony uniform loam soils	Shallow red gradational soils
Classification	Um 5.21 – 3/1/010	Gn 3.14 – 3/1/010
Surface texture	Loam	Fine sandy loam
Surface consistence (dry)	Soft	Slightly hard
Depth (m)	0-0.1	01-0.5
Nutrient status	Very low throughout	Low throughout
Available soil water capacity	Very low	Low
Perviousness to water	Rapid	Moderate
Drainage	Excessively drained	Somewhat excessively drained
Exposed stone	Abundant (rock)	Abundant (rock)
Dispersibility	Nil	Low
Slaking tendency	Nil	Low
PRESENT LAND USE	Grazing	Grazing

Land deterioration hazards - Spring Hill land system

Disturbance	Component	Affected process and trend	Primary resultant deterioration		Primary resultant off-site process
			Form	Susceptibility	
Altered vegetation -reduced leaf area, rooting depth, perenniality	1,2	Reduced transpiration, increased leaching	Nutrient decline	Low	Increased movement of water and salts to groundwaters
Reduced soil surface cover	1,2	Increased soil detachment	Sheet erosion	High	Increased flash flows and sediment loads
Increased trafficking, trampling	1,2	Increased soil compaction	Structure decline	Low	Increased flash flows and sediment loads

Saline seepage areas have destroyed the vegetation and increased the rate of soil erosion.

Sheet erosion is prevalent on the steep cleared slopes.