FOOD

Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.[1]

KEY POINTS

Agriculture occupies about 40% of the global land surface and consumes about 20% of its plant productivity.

The environmental demands of agriculture are a major driver of biodiversity loss and land degradation.

Food security can be threatened by climate change, water shortages, diminishing grain stockpiles, increasing costs of production, and use of arable land for biofuels.

A low meat, low dairy diet together with a strong community and home garden based urban agriculture can make major sustainability savings.

In populated areas, a plane flight on a clear day will most likely reveal below you a neat mosaic of cleared agricultural land. This is the vast 'vegetable patch, orchard and livestock pasture' that is supplying food to our cities: the urban back garden (Figure 7.1). It is also land that once supported natural plant and animal communities. Almost 40% of the Earth's land surface is now used for agriculture and in Australia, with its large area of cattle station pasture, this figure is 57% (see Table 7.1).

Global net primary production (NPP) is the rate at which all the plants in the world store energy as biomass; a measure of the total plant matter produced over a particular time period. Estimates of global NPP are becoming more precise through the use of satellite photography and other methods. A recent study has shown that about 20% of the total vegetation produced on Earth is for human use (crops, pasture, timber, etc.). Tables 7.2 and 7.3 give a breakdown of this human land