

# HADRA PLANNING NOTES

## GARDEN GRABBING & GREEN SPACE

Suburbia is the greatest nature reserve, with over 1 million hectares in the UK, placed on 16 million gardens. It far surpasses conventional farmland where monocrops, herbicides and artificial fertilisers have destroyed most habitats. It could be argued that farmland is the best place to build houses, as it is a more degraded environment.

The mistake often made with regard to defending green space, and gardens, is to assume it has value only for wildlife. In reality, nature reserves and gardens are for the health and welfare of people, and nature can be seen as a secondary benefit. The fact that wildlife habitats are thereby protected or created, is also of psychological benefit to people.

The insidious loss of gardens through urbanisation creates an environment in which people cannot live either physically or psychologically. In London, 32 square kilometres of garden has been placed under buildings and drives. In the North East 50% of gardens are now paved over, and more people have slab patios than have trees.

## HUMAN BIOLOGICAL NEED

A garden must not be seen as a luxury, an accusation often aimed at areas full of middle class leafy streets. Humans biologically need green space and have evolved in such surroundings. For instance:

- 60% of urban dwellers visit the countryside each year
- 20% of urban children never visit the countryside and rely on local green space

Evidence proves that even roof gardens dramatically benefit people, both physically and psychologically. Hospital patient studies prove that a green 'view' reduces post operative stays, reduces negative notes on the medical record and reduces the need for painkillers. Research suggests that even aggressive behaviour towards partners is reduced in a natural environment.

This is called the 'savannah hypotheses' whereby the natural scene, especially flat topped lateral growth trees (acacia's) over grass, relates us back to our origins and increases our sense of wellbeing. In such surroundings we are less sick, have less depression and have greater spiritual, sensory and aesthetic awareness. It appears we are more productive and have better educational performance in green environments. Considering that humans have been hunter gatherers for 300,000 generations, and sedentary for perhaps three, the need for a natural, or semi-natural environment should be no surprise.

## GLOBAL WARMING

On average 30% - 50% of urban areas is green space in the UK, but London is the poorest of all major cities in Europe. The greatest threat is the 'heat island' effect whereby concrete, brick and such materials reflects heat and increases urban temperatures. This was a contributory factor when 35,000 premature heatwave deaths occurred in Europe in 2003. Buildings consume 50% of the world's energy so good design, insulation, etc. are fundamental.

Grass surfaces are 25C cooler than asphalt. Parks are 5.9C cooler at night than surrounding urban zones. The leafy suburbs like Coulsdon are 2 – 3C cooler than Croydon centre. A 10%

increase in green space reduces temperatures by 4C. Conversely, a loss of one garden in ten increases temperatures by 4C. World targets suggest that global temperatures must not increase by more than 2C if serious problems are to be avoided. Global temperatures are already 1.5C warmer and scientists argue that current activity will take it above 2C even if action is taken immediately.

Trees must be seen as natural air conditioning units. At least one tree should be a planning requirement for each and every housing unit.

In Germany, any gardens or green space lost to development must be replaced by an equivalent green infrastructure. Typically, this would be a 'green' roof, but the shallow sedum type roofs used in the UK are not acceptable. A deeper soil, and more heavy vegetation is required.

If global warming continues, irrigation will be prohibited and lawns will immediately become susceptible, so changing our gardens. Low emission gardens, such as Mediterranean planting, will have to replace the 'English' garden based on lawns and herbaceous planting. This change has already occurred in South Australia, where the English type garden is now despised.

## WATER & FLOODING

Vegetation, including trees, reduces water run-off and flooding. All non-absorbent materials increase run-off and dramatically worsen the risk of flooding. Planning should ensure that water is retained within the curtilage of each property using soakaways, which allows the water to reach aquifers. Hard surfaces should be avoided and permeable surfaces dictated by planners.

## WHAT CONSTITUTES THE BEST GARDEN?

Typically, this question is related to habitat for wildlife, but it must now relate to the carbon footprint, global warming and water requirements. The best garden must:

- Have a low soil to plant ratio. Bare soil releases its carbon and is not natural!
- Have weedy lawns untreated by fertiliser or herbicides
- Have few lawns so mowing is reduced
- Have the greatest volume of greenery

The greatest volume of greenery suggests that the garden needs to be multi layered. This assumes few lawns, an upper layer of trees, an understory of shrubs, and ground cover beneath this such that no soil is exposed. Hedges are valuable, and gravel and stone mulch is not particularly useful to wildlife.

## THE BEST GARDEN FOR WILDLIFE

Research by Jennifer Owen in her book 'The Ecology of a Garden' is probably the most scientific, as it extends over 30 years. For the UK it suggests gardens include:

- 49 birds
- 7 mammals
- 3 amphibians
- 1,602 insects
- 121 other invertebrates such as woodlice and slugs

The insect research is far from complete and it may total 8,000 if her garden could be thoroughly checked, which is currently too expensive to carry out.

The location or size of the garden does not matter, and city gardens are just as valuable. The best garden will include ponds & water, variety of plants, composting, dead wood and long grass. Linked gardens and wildlife corridors extend the garden value.

Care must be taken not to assume that pollinators such as bumble bees and honey bees, as well as butterflies, are the most important groups. In reality, the majority of insects eat plants or eat each other. Nonetheless, a selection of flowers is necessary for all pollinators and includes clovers (good in weedy lawns), lavender, teasel, foxglove, buddlia, dahlia, etc. Nectar and pollen rich flowers in gardens are the last refuge for bumble bee and other species now repelled by farming. Herbaceous perennials are best and conventional bedding plants, such as pansies, primulas, petunias, are useless! Pollination in the countryside is reducing dramatically with the loss of orchards, the increase in grain and cereal crops, and the growing of biofuels.

Ivy is a valuable plant for insects, and the fruits for birds.

The RHS are currently conducting a 3 year 'plants for bugs' project at Wisley based on the hypothesis – bugs don't care about the geographical origin of a plant. This is researching the value of native, near native and exotic plant species related to insect numbers. Some findings may arise in 2010, but the project finishes in 2011. The RHS plant finder suggests that 70,000 plant species are utilised in UK gardens. Approximately 70% of garden plants are considered non-native.

Strimming is the most damaging type of mowing, as it destroys many insects. Long grass, often called conservation meadow, should only be cut once each year (October or November) and the arisings removed to de-nutry the soil. This is because de-nutried poor soil is best for wildflowers.

## OBESITY – THE GREEN GYM

Working in green space increases self esteem, reduces blood pressure and delays dementia. Unlike in a gym, gardening has a longer attendance factor and is more engaging, and with an average 272 calories burn rate per hour, is far better for improving fitness and reducing weight.

Gardening literally saves lives, and benefits the environment, providing it is organic or at least low impact as far as fertilisers and herbicides is concerned.

## FOOD PRODUCTION

Global warming is reducing food production in the world and concern about food production is growing. Reducing the carbon footprint dictates that local food production may be an essential need, but planners do not consider this as a current issue. Allotments could never meet the local food need and gardens may be essential for fruit and vegetable production in the future, as they were in the past. These issues are becoming more mainstream and less ecofreakish.

Notes by Ken West 8/10/09