



HISTORICAL PRECEDENTS FOR PERMACULTURE

This brief article was written in 1991 but apart from circulation at PDCs has not been published. It has a strong link to my thinking at the time about indigenous agriculture in Australia expressed in Article 5 - Aboriginal Land Use



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The permaculture texts, particularly *Permaculture One* and *The Designers Manual* include references to traditional systems of land use which illustrate many aspects of permaculture including systems based on perennial plants including trees.

ABORIGINAL LAND USE

In *Permaculture One* aboriginal land use is recognised as a system of sustainable agriculture which provides a reference point for the development of future sustainable systems. Since *Permaculture One* was written, evidence and wider recognition of the profound and deliberate shaping of the Australian environment to provide the needs of the aboriginal peoples has increased, especially through the work of ecologist and archeologist Rhys Jones.

GARDEN AGRICULTURES

Examples of garden agriculture abound and provide clear evidence that these household based systems are both highly productive and sustainable. The multi layer garden agricultures of Central America and S.E. Asia provided more direct models for permaculture¹ which have been especially applied in tropical and subtropical areas.

LARGE SCALE FOOD FORESTS

The tree crop agricultures described by Russell Smith² especially those of the Mediterranean region provided evidence of productive broad acre land uses on marginal lands. A question which arises from the work of Smith, Mollison and Holmgren is; if forest based agricultures are so productive why are there so few examples?

Archeological evidence that forest farming was much more widespread in the Middle East, Mediterranean and European regions before the rise of civilisation with cities, standing armies and extensive grain agriculture is gradually accumulating but why have so few examples persisted into and through the historical period. I have developed a hypothesis which explains the demise of forest farming in these regions over the last few thousand years which is compatible with the evidence that such systems are productive as well as sustainable.

Forest farming is here defined as the management and culture of forests to provide a large proportion of people's needs. Traditional forms of forest farming generally provided fruit, nuts, honey and animal products in abundance along with wood products. These systems along with intensive garden agriculture provided for people's needs. The sorts of natural forests from which cultivated systems could have evolved in temperate and Mediterranean climates tend to be soft leaved, mostly deciduous forests with high mineral

1 see Extract from Anderson, E. *Plants Life and Man* 1952 in *Permaculture One*

2 Smith, J. Russell *Tree Crops and Permanent Agriculture* Devin-Adair. New York 1950.

fertility and “mull” humus soils rather than coniferous forests with acidic “moor” humus soils or sclerophyll systems with skeletal fired soils (typical of Australia).

The favourable forests have a high proportion of nut bearing species (oaks, chestnuts, walnuts, beech, hazels) which provide protein, oil and starch rich foods which can be stored as well as providing concentrated forage for forest ranging animals and birds used for food (pigs, turkeys etc). While these forests are very resistant to burning, they do not recover well if destroyed by crown fire.

Prior to the development of standing armies, tribal conflicts rarely made much impact on the economy and environment. The New Guinea highlands at the time of contact provides a good model of this type of warfare. The development of city states, standing armies and warfare in the Middle East about 4,000 years ago³ would have had profound implications for peoples dependent for forest farming.

Standing armies provided the resources for conquest and appropriation. Fire became a important strategic weapon in conquest. Food forests could not be easily burnt but the determined efforts of well organised armies with the right weather conditions could have destroyed almost any forest. Recovery from such an attack could have taken several generations.

After centuries of warfare with armies moving back and forth across the Middle East it is not surprising that grain agriculture would have developed a distinct strategic advantage. The burning of grain crops and destruction of silos devastated local communities and economies but recovery was possible over a few seasons.

There are many documented examples of the burning of managed forests in more recent times by which dominant peoples subjugated forest dwelling and dependent peoples. The Clearances (firing) of the Scottish highland forests in the seventeenth century is a good example. This devastated the economy and culture of the Highlanders who ran highland cattle in the diverse and productive forests. The ecological effects were catastrophic and the pastoral farming of wool for the British textile industry which replaced the forests ensured no regeneration.

The current destruction of the Amazonian food forests and dispossession of the indigenous peoples by beef cattle ranchers is one of the final stages of a historical process which has spread from the Middle East over the last 4,000 years.

An important aspect in the destruction of forest farming is that in almost all cases the forests, if not the livestock in the forest were part of the commonwealth of the communities which husbanded them. Ownership in the western sense was rare. The invaders often used the legal excuse that these forests where not owned by anyone.

3 Mumford, L. *The City In History* Penguin 1961

Fire destruction by hostile foreigners was a major cause of the demise of indigenous forest farming. However an equally important contribution to their demise was ironically the very success of cultures based on forests. Naturally rich forests which became progressively modified by indigenous peoples to increase their productivity provided the wealth which allowed civilisation and urban culture to develop.

Little is known about the mysterious Etruscan who predated Roman civilisation in central Italy but it is known that they developed a highly productive tree crop agriculture and that the central Italian landscape which the Romans inherited was the resource base from which the Empire sprang. Once Rome established domination over colonies the inflow of external resource reduced the importance of local systems. Affluence led to land amalgamation and degradation, loss of agricultural skills and dependence on foreign food. When the navy could no longer ensure the arrival of the grain ships from N. Africa attempts to redevelop local production were largely a failure. The natural and cultural resource base had been destroyed. Amongst other impacts, deforestation of the uplands led to hydrological changes which gave rise to the Pontine marshes. These marshes were a source of malaria affecting the people of the area for the next 2,000 years until they were drained and maintained dry by the planting of Blue gums early this century.

The demise of the Mycenaean civilisation in the eastern Mediterranean provides another example of dependence on forests. Marshall Massey⁴ puts the case for ecological catastrophe in the Greek islands about 1200 BC which prevented the resettlement of whole areas for over four centuries. The wealth and culture of the Mycenaeans was based on land resources but the nature of their land use is not known. However in the eastern Mediterranean mountain cloud forests collected moisture which sustained aquifer systems necessary for productive agriculture and urban development on the lower slopes. Desertification and loss of the soil resource would have followed loss of the high forests. The details of these processes are not known from the historical record.

What these examples illustrate is that once stable productive systems are destroyed by misuse it can take centuries to recover and the original systems and productivity may never be achieved. Forest farming which evolved out of climax forests would have been particularly vulnerable to permanent destruction. It is hard to imagine peasant peoples without external resources creating the grafted chestnut forests from barren hillsides which Russell Smith described on Corsica. These are clearly manipulated remnants of natural forests.

Goat pastoralism, limited plantings of tough tree crops such as olives and carobs and small patches of arable farming on areas of topsoil deposition is the pattern of traditional agriculture in much of the Mediterranean hill country. Restoration of the Mycenaean or Etruscan landscapes would require the dedication of generations of an affluent society assuming it were possible.

⁴ Massey, M. Carrying Capacity and the Greek Dark Ages in *Co-Evolution Quarterly* no. 40 1983

Productive sustainable agricultures must include storages of biological wealth which are essential to productivity and provide a buffer against stress. In agricultures based on annual crops soil organic matter is the great biological storage which must be nurtured and can include humic acid structures which are thousands of years old. Forest farming systems include the additional storage of long lived trees. These are much more resistant to destructive social conditions than soil organic matter which can be easily whittled away. However once mature forest systems die as a result of climate or hydrological change brought about by over exploitation of more fragile catchment forests the losses can be sudden and irreversible.

It could be argued that the spread of potatoes as an alternative staple to grains in Europe was so fast partly because potato crops stored in the ground represent an even greater flexibility in the face of warfare which ravaged so many regions of Europe in the 16th and 17th centuries.

The lessons of history are that sustainable agriculture cannot be maintained without a stewardship ethic embedded in an enduring culture which transcends the twin wars against nature and people which have particularly characterised the emergence of western civilisation during the last 4,000 years.

This historical perspective clearly reinforces the permaculture perspective that tinkering at the edges of existing industrial agriculture is largely a waste of effort and resources given the magnitude and global nature of our crisis. The objective of sustainable agriculture is an illusion without addressing the incredibly destabilising forces of militarism, growth economics, consumer culture, global inequity and population growth.

Conversely any stability claimed for forest farming/permaculture, will be worth little without a culture which can protect such systems from over exploitation, greed and conflict over many generations.