SUSTAINABILITY

Sustainability issues affect the whole world - both rich and poor societies. Human greed and the rush for greater profits can be seen as the root causes of much of the world's unsustainable development. The industrialized world contains 20% of the world's population and consumes 80% of the world's resources.

In 1987, the *Brundtland* report produced by the World Commission on Environment and Development highlighted six major global challenges facing humanity.

- **Population and human resources**
- **Food security**
- **Species and ecosystems**
- **Energy**
- **Industry**
- **The urban challenge**

The report gave a thorough survey of the major global environmental crises and made proposals concerning how those problems could be resolved. Out of this report came strategies for the long-term survival of a world with finite resources. Sustainability was the key theme of the report.

Definition (Brundtland report 1987):

Sustainable development: 'Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.'

From the website www.oursouthwest.com
'If something is sustainable, it means we can go on doing it indefinitely. If it isn't, we can't.' Jonathon Porritt
'A sustainable business is resource efficient, respects the environment and is a good neighbour.' Sustainable Business Team, Government Office for the South West, UK, 2000

This paper has been produced by the Tewkesbury Road Action on Polytunnels Group [TRAP]

Polytunnels and Sustainability

Sustainability in the Brundtland(1987) context and in its common current usage refers amongst other things to the need to halt global warming, limit environmental degradation and prevent the loss of biodiversity. The current polytunnel businessmen are often happy to obscure the wider meaning of the term 'sustainability' and refer only to its economic context, i.e. 'Will this business sustain me and maintain my family's economic position into the future?' If the supermarkets, agri-businesses in general and the global industrial complex continue to exploit world resources for personal economic gain without consideration for 'sustainability' in its wider contexts, polytunnel food production will sustain only the lifestyles of a few to the detriment of the many. There is growing evidence from international, national and regional agencies and non-government organisations as well as from a multitude of pressure groups that those days are numbered.

Intensive agriculture is an agricultural production system characterized by the significant use of inputs, and seeking to maximize production. The system relies on the use of chemical fertilizers and pesticides. It is associated with the increasing use of modern business practices and agricultural mechanization. Intensive farming is often at the expense of environmental considerations. Large-scale polytunnel food production is a continuing phase in the intensification and industrialization of agriculture. Below, I discuss how elements of this phase of industrialization raise issues of sustainability.

1. **Plastic:** The industry relies on total coverage of the soil twice, once at ground level with the use of plastic mulches, twice, with the use of transparent plastic to protect the crop. A 50 hectare scheme would use as a minimum, something approaching 100 hectares of plastic for each crop cycle. In windy years it is not uncommon to lose one or perhaps two sets of tunnel covers per season. This potentially increases plastic usage to three, four or perhaps more times the crop hectareage per crop cycle. Additionally, plastic is used for the underground network of irrigation and feed tubes and the polypropylene ropes that tie down the plastic sheets To rely so totally on plastic for growing is to rely on high energy input materials Even if some of this plastic *is* recycleable – and we have little evidence to suggest it is - plastics are manufactured from petrochemicals, a finite resource, require high energy inputs for its manufacture and therefore unsustainable.
2. **Metal hoops:** To support the plastic, metal hoops 8m wide are drilled into the soil at 2m intervals. This requires 625 hoops per hectare. Each hoop is approximately 12m long. That's 7500m of high grade galvanised steel tubing per hectare, or over 4½ miles per hectare. Damaged tubes can be recycled but this requires steel furnaces and high energy inputs. The economics of steel recycling depends on commodity markets. Scrap steel is often worthless and therefore recycling is uneconomical. The use of a finite resource, high-grade steel, in this quantity is an unsustainable practice.
3. **Labour:** There are few if any opportunities for local labour at these polyfactories. Workers are imported from wherever they are cheapest. This has traditionally meant the old Soviet bloc of eastern Europe but as living standards rise in these areas, more labour is currently being sourced from China and Mongolia. Sustainable policies would prioritize local employment requirements.
4. **Produce:** The soft fruit from polytunnels is mostly produced out-of-season. The unseasonality of this fruit is further compounded by supermarkets' attitudes to sourcing out-of-season produce to British consumers. To this end the 'berry barons' are supplying imported soft fruit from their foreign business partners to maintain all-year-round product flow. Supermarket fruit and vegetables are also usually more expensive than greengrocers' produce and have travelled considerably more food miles from field to fork. Supermarket shopping usually means increased car usage.
5. **Pesticides:** The routine heavy spraying of soft fruit crops is driven by supermarket policies of cosmetic perfection and the growers' fears of crop rejection by the supermarkets. Anecdotally, growers say that they use less pesticide under polytunnels. The Pesticide Residue Committee (PRC) analysis and the Pesticide Usage Survey Report (PUSR) from 2001 convey a different picture of increasing pesticide use. Until the PRC 2004 report on residues in strawberries, the jury is out. Routine and unnecessary spraying for cosmetic reasons cannot be good practice. The chemicals are expensive, and synthetic or petrochemical-based, are extremely problematic in health and environmental issues and have little place in a sustainable future.

6. **Environment:** Perhaps one of the largest and most easily addressed criticisms of polytunnels is of their effect on the environment. The loss of visual amenity is clear to all including the poly-businesses themselves, who have come to agree with our objections. I know no environmental impact assessment(EIA) carried out to weigh the damage done to wildlife and biodiversity. Anecdotal evidence does however exist of the huge loss of wildlife in polytunnel fields that were once arable farmland. Examples of losses include: the collapse of bird populations in general, skylarks in particular, butterflies and small mammals. Routine chemical soil sterilization under the polythene kills soil micro-organisms, earth worms and beneficial insect populations *as well as* verticillium wilt. An EIA is long overdue to highlight the clear yet unrecorded evidence of environmental destruction and loss of biodiversity. These issues are at the forefront of sustainable food production practice.
7. **Soil:** Sustainability is built on the assumption of healthy soil. DEFRA and the EU both recognize this and their current policy changes reflect that. The National Soil Resources Institute at Cranfield University has instigated research into soil quality under polytunnels and we await these results.
8. **Soil-less growing mediums:** To overcome soil-borne disease, strawberries are increasingly being grown in polytunnels in grow-bags placed on raised tables. The strawberry industry used 17000 cubic metres of pure peat for this purpose in 2000. This figure will have risen considerably by 2004. There are currently approximately 1000 cubic metres of pure peat grow-bags sitting in one greenhouse and goods inwards store at Newtown Farm, Newent. Environmental group, Corporate Watch (web site www.corporatewatch.org.uk/publications/peat/peat2.htm) writes, 'Reliable alternatives to peat for strawberry growing are already available. For example, there been widespread adoption of coir in strawberry bag systems in the Netherlands.' UK government have set a 40%'peat-alternatives' target by 2005. The agricultural industry looks set to prevent its achievement.

For all these and other reasons, the large-scale use of polytunnels for the growing of soft fruit should be considered unsustainable and environmentally destructive.

The following is from Gloucestershire's Vision 21 website

"Community Strategies

Community Strategies are a new type of local plan where the community is involved in partnership. They describe a positive vision for the future of the area and a list of actions that work toward that vision.

The one factor that applies to all Community Strategies, however, is that they should promote sustainable development, i.e. development that has an impact on the "economic, environmental and social well being" of the local area In other words, they must meet current needs but still take account of the needs of future generations.

This outlook means working in a way that is not wasteful of resources, protects wildlife, habitats and sites of heritage value and minimises pollution. At the same time, they aim to meet peoples' needs for work, housing, education, safety, health and other services, a thriving local economy, distinctive local character and community involvement.

In Gloucestershire, 7 community strategies are being written: one for each of the 6 districts and boroughs and one for Gloucestershire as a whole. The strategies are written by Local Strategic Partnerships (LSPs). These groups are made up of representatives from the local authority, community groups, businesses and voluntary organisations. Once written, community strategies will become integral to the work of councils and their partners, providing a framework of local co-ordination that will improve local public services.

Vision 21 has been working closely with Tewkesbury, Gloucester and Cheltenham on their strategies and has still some work to do with the other districts. The Round Table for Sustainable Development has in particular been working with the County Council on the Gloucestershire wide Community Strategy.

Most strategies will be written by April 2004, but if you are interested you can still have an influence, as actions will be the next step. For information about the contact person for Community Strategies in your district give us a call. "