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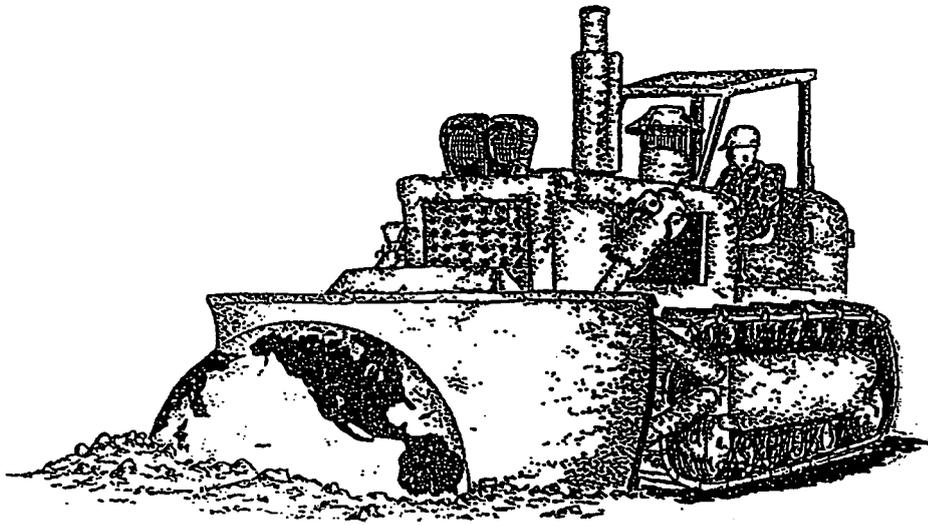
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A CRITICAL ANALYSIS OF ETHICAL CONSIDERATION IN ENVIRONMENTAL MANAGEMENT :
SOCIAL, ECONOMIC AND ECOLOGICAL PERSPECTIVES.

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A thesis submitted to the University of Durham for the degree of
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Declaration

The contents of this thesis is the original work of the author and has not previously been submitted for a degree at this or any other university. The work of other people is acknowledged by reference.

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ABSTRACT

Everyone is an environmental manager, whether they alter or maintain their personal socio-ecological space, or command the operations of a major production company or infrastructure developments. Historically the social impacts of organisation have been more insidious than the ecological impacts, but now there is much less of a definition between social and ecological impact - they are most often bound together.

At the end of the 20th century, technological and 'scientific' developments, personal goals and aspirations, and a psychological separation from nature and its 'laws' means that impacts of individual or collective decisions on socio-ecological integrity have burgeoned. Gravitation towards managing and exploiting our socio-ecological environment has not been matched by a growth in our ability to predict the impacts of our actions.

The greater the impact potential, the greater is the need for ethical consideration in environmental management. Yet deliberate and default benignity in actions has been eroded as fast as impact potential has grown. The fundamental belief in personal gain, and the arrogant psychological and expressed independence from our biological dependence on nature, have severed any accord between many sections of human society and the rest of nature.

This dualistic outlook can be explained, especially as social and infrastructural developments reinforce destructive and divisive lifestyles, however a watershed of socio-environmental and ethical issue awareness brings with it the possibility of reinstating an accord with our surroundings.

Reformist responses to calls for socio-environmental responsibility have brought about improvements, and ethical consideration is either explicit or implicit in this. But even the most prestigious responses such as environmental economics offer, at best, short term partial protection from further socio-ecological degradation, and are of questionable utility for procedural and principle based reasons. At worst they offer piecemeal, delayed, and inadequate reactions geared towards staying, questioning or denying responses and issues, or to resolving symptoms of problems and consciences.

However there are several linked frameworks offering potential for the ecologisation of society, for rectifying indifference to social and environmental decay. Deep, social and transpersonal ecologies, and education from non-industrial societies, provide outlook frameworks which can assist in the reorientation of development patterns towards community organicisation and the redressing socio-ecological discord.

GLOSSARY

A21	Agenda 21 (product of UNCED)
ATOW	at time of writing
CAP	Common Agricultural Policy (assoc. Europe)
CBA	cost-benefit analysis
CEC	Commission to the European Community
CftE	Caring for the Earth (report by IUCN, UNEP and WWF)
CEA	cost-effective analysis
CoR	Club of Rome
COINTELPRO - Counterintelligence program (assoc. FBI)	
CRE	Commission for Racial Equality
CV	contingent valuation
DoE	Department of the Environment
DoT	Department of Transport
EDI	Economic Development Institute
EIA	environmental impact assessment
ESA	environmentally sensitive area
ESRSSA	Environmental status Report for Sub-Saharan Africa
EOS	European Omnibus Survey
FAO	Food and Agriculture Organisation
FBI	Federal Bureau of Investigation
GDP	gross domestic product
GEF	Global Environment Facility
GNP	gross national product
GSS	Government Statistical Service
GTZ	German Corporation for Technical Assisstance
FAO	United Nation Food and Agriculture Organisation
FoE	Friends of the Earth
IBRD	International Bank for Reconstruction and Development (the World Bank)
IDA	International Development Agency
IMF	International Monetary Fund
IUCN	International Union for the Conservation of Nature
MAFF	Ministry of Agriculture, Fisheries and Food
NFU	National Farmers Union
NGO	Non-governmental organisation
NRA	National Rivers Authority
NSA	nitrogen sensitive area
OAU	Organisation of African Unity
OC	opportunity cost
OECD	Organisation for Economic Co-Operation and Development
ORV	off-road vehicle
PR	public relations
QE(I)	quality of the environment (index)
RCEP	Royal Commission on Environmental Pollution
UCCCRJ	United Church of Christ for Racial Justice
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Program
UNEP	United Nation Environment Program
UNHCR	United Nations High Commission for Refugees
UNFAO	United Nations Food and Agriculture Organisation
USAID	United States Agency for International Aid
USDEA	United States Drug Enforcement Agency
PR	public relations
RBA	risk-benefit analysis

RE	resource economics
RSPB	Royal Society for Protection of Birds
TEV	total economic value
WB	World Bank
WHO	World Health Organisation
WTA	willingness to accept compensation
WTP	willingness to pay
WWF	World Wide Fund for Nature
WWW	World Wide Web (internet)
YRE	Youth Against Racism in Europe

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CHAPTER 1

INTRODUCTION

Objectives

The aim of this thesis is to consider the level, nature and potential of ethical consideration in environmental management. Analysis on this theme is by no means new, but it is timely since the scope and scale of the impact of environmental management on each other and Nature-not-Man have for some time, and continue, to escalate very quickly. The great frequency and scale of adverse impacts on socio-ecological integrity are increasingly acknowledged. Simultaneously, vested interests and ignorance continue to fuel future breaches of this integrity.

For almost every ethical issue in environmental management, there is a current or historical explanation, often accompanied by a barrage of excuses. Humbled in private conversation, few are able to defend the consequences of many socio-environmentally-impacting projects which regularly reach the media. Others, though resigned to the status-quo, regret that it is as it is. That troubled conscience about our adverse impacts has precipitated many types of responses might be encouraging. But too often the easiest paths to a clear conscience, rather than a fundamental resolution of the problems, is taken. So the dislocative process continues, in parallel the degradation of socio-ecological integrity.

Talk of Malthusian collapse scenarios may or may not carry substance, but decay in the environment of humans and the rest of nature is abundantly clear. Little of the adverse impact is necessary for a global human species to exist with high life quality, and indeed the current trends or stasis in integrity corrosion is working directly against human interests, and also against the interests of the rest of Nature: of Nature-not-Man.

Further, this type of dualistic perception of the world is being questioned. We totally depend on the rest of nature, but it could do without us. We are a part of it, not a separate or distinctly special species - there is nothing inherently important about our intellectual capacities, especially if the products of this are gross destruction and divisiveness. However a distinction based on 'transformative impact', primary nature (Nature-not-Man) and secondary nature (human affected), is useful in discourse.

1

There is a growing belief that wider human society has much to re-learn from cultures which have not followed western industrial development paths. This is not to say that the products of these routes are *all* 'bad', but it is clear that there is much which can only serve damaging and disruptive ends. Much of what has become normalised, as characteristic of 'civilised' living, is the cause of widespread environmental and social disruption and inequity. Trading systems in a spuriously named 'global village' currently accommodate many of the following : mass levels of deliberate and/or inadvertent adverse impacts on the lives of poorer sections of national and global populations - as well as direct racist discrimination; excessive/inapropriate agro-chemical and biocide applications; vast distances between places of production and consumption; huge ratios of input to output; immoral excess of wasted production; vast areas of land and ecosystem razing and scouring; huge levels of explosives application for industrial, political and experimental purposes; and increasingly large scales of administration of people.

The scale of all these activities has 'denuded' the individual, both human and animal. One recurring theme is that people often unwittingly, or through apathy, ignorance, incomprehension, and cultural stasis, directly cause or demand actions that breach sound ethicality. As Passmore (1980) states:

> *To understand why human beings behave as they do, we shall do better in many cases to appeal by way of explanation to their ignorance, fear, vanity, greed, bigotry, their lust for power - and sometimes, fortunately, to their generosity, affection, courage, and creativity - than to the moral principles to which they officially subscribe.*

As mentioned above, responses to awareness of the problematic effects of a collective human society (very much weighted towards western society) have tended towards the least possible effort to arrive at a clear conscience (and in public life, least tarnished image) rather than seriously addressing and solving the problems. However, of the attempts made, 'environmental economics' has been one of the most 'prestigious' efforts. But it is fraught with questions of procedure and legitimacy, especially since it works *with* the value systems and evaluative processes which have brought about the need for change, rather than questioning them. Other attempts to reforming human activities may be welcomed in the reformative context, but they are often contradictory, evasive of real change, or just spoken and written, when action (or its cessation) is the only true source of value in the context of reducing adverse impacts.

It is contradictory and insidious to consider 'green-consumerism', 'environmentalism', and 'green-business' as 'growth industries' - this sort of 'greenness' simply extends the life-expectancy of 'high mass consumption', hiding the degradation processes behind a facade of resolution, and it tends to confuse (mislead) those seeking to live in a more benign way.

The object of this thesis then is to analyse these themes, to consider the strength of ethical regard (and indeed inherent ethicality in some cases) in our lifestyles of consumption and activities. Further, an analysis of approaches to the future is made. In this context, and with the premise that the status-quo is not a viable or favourable option for the future, reformist and less contradictory radical approaches are considered.

The other side of the fence.

Passmore (1980) observes that "it is not fashionable nowadays...to try to understand why your opponents think and feel as they do". Throughout this thesis, every effort has been made to avoid this kind of tunnel vision.

At this introductory stage, a picture of the North American counter socio-environmental consideration movement can provide a useful backdrop to the rest of the thesis. Similar sentiments are shared by 'growth'-gravitational/ interest groups in most other countries, though their form may differ slightly. The North American 'done-a-backflip' Ron Arnold is author of what is described by his colleague Allan Gottlieb, as "the bible of the growing Wise Use Movement" ('Ecology Wars : Environmentalism As If People Mattered', 1993). Arnold once worked for the Sierra Club, but now works in the front lines promoting industrial liberalism.

There is a fervency in Gottliebs' introduction to 'the bible' as he describes how:

> *...things have gotten worse for jobs and the economy because of eco-catastrophist interference.*
>
> *...the clear goal of environmentalists is to 'unmake industrial civilisation'.*
>
> *...the environmentalist has only a Stop button, never a Go button.*

He refers to "the dark recesses of environmentalism", and believes that:

> *We [the Wise Use people] create productive harmony between man and nature - jobs and environment. We live by a Civilization Ethic. So we are the real environmentalists.*

They assert the distinction between 'ecology' and 'environmentalism': the former is a science the latter a social movement. They see the personification of the latter as "anyone who claims to be one", and the former as "qualified professionals". Arnold states that "the gulf of economic/ecologic misunderstanding is enormous and unbridgable". He writes that "everybody is an environmentalist of one kind or another" - an explanation of the final point in chapter 6, that 79% of Americans consider themselves to be environmentalists.

Arnold observes that from the 1960's, "sensitivity to nature became first a public virtue, then a requirement, then a fetish", and that this otherwise "amusing and tedious" sentiment came "packaged in a strongly anti-industry, anti-people wrapper".

> *The more enlightened captains of industry felt that there had to be a way to protect nature without damaging free enterprise, that there were market oriented solutions to pollution, and that people could live in harmony with nature even in the midst of high growth industrial civilization.*

(Arnold 1993)

Arnold does not hesitate to criticise industrial responses to the growth of environmentalism, observing that attempts to 'green-wash' public images through small grants to environmental groups "only sold rope to hangmen". He laments that national parks and wilderness preserves block an estimated 50% of US known energy reserves from extraction, and that these pressures meant that in 1982, the country imported 28% of its oil, costing $62 billion, and contributing to the United States' first trade deficit of the century (Arnold 1993). He is also troubled by facts such as his estimate of $125 billion costs in 1982 to the American economy of regulations,

> *...83% [of which] was spent on compliance with 'social engineering' objectives, on bureaucrats playing doctor with natural resources and human lives".*

In the same year, Ronald Reagan was president, and as Zakin (1993) notes, after the Carter years, he reasserted the military-industrial complex and unleashed an anti-environmental backlash. But the bible of the Wise Use movement considers that even though Reagan developed a legacy of deregulation, in his time as president he was not quick enough at breaking up environmental protection.

Zakin states that the Wise Use movement had over 3 million supporters by the early 1990's (US population ~ 260 million), while business interests spend roughly $1 billion per year on anti-environmental professionals (see chapter 6) whose job is to 'green-wash' corporate imagery (Stauber & Rampton 1995). The movement is comprised of over 400 individual anti-environmental organisations, many of which

work under strategically deceptive names such as 'The Abundant Wildlife Society' (cattle farmers), 'The Sahara Club' (an off road vehicle sports club) and 'The Sea Lion Defence Fund' (the Alaskan fisheries legal arm) (Jite 1995). Jite lists the three basic tenets of the Wise Use Movement:

- *Removing present environmental protections;*
- *Preventing future environmental legislation; and*
- *To benefit the economic interests of its members.*

Tokar (1995) provides a detailed insight into the nature and aims of the Wise Use movement, describing its goals as being...

> *...to discredit environmental organisations, roll back environmental regulations and assert unlimited rights for property owners.*

The basic aim of the Wise Use Movement is to spread misinformation to the effect that environmental 'issues' are seldom issues at all; that where they might be, free market forces are the best way to deal with them; to spread rumours about the nature of environmentalists and their intentions. Burke (1995) notes how a Wise Use associate group (the Cato Institute) proposed the idea that Greenpeace was a communist 'pawn' group with connections to the KGB.

Arnold (1993) talks of problematic 'regulationism', 'wildernism' (eco-religiousness, 'Arch Druid' David Brower - founder of Friends of the Earth), 'post-materialist blues' (which affect those born after the second world war, and who have never known real hardship or physical insecurity) - "the result of resource managers has been headaches that grow into migraines and skull fractures".

It is not surprising then to hear from Zakin (1993) that Arnold and Gottlieb, the two front men of the 'Wise Use' movement for industrial freedom, run one of the 'slickest' branches of the Wise Use conglomerate, "supported by industry, right wing groups, and fundamentalist Christians", the Centre for the Defence of Free Enterprise, "a direct-mail and right-wing publishing organization". She quotes Arnold as wanting to "destroy the environmental movement once and for all".

At the close of play...

Recently the Bovine Spogiform Encephalopathy/Creutzfeldt Jacob Disease (BSE/CJD) links have surfaced as an enormous issue in the UK. The £500 million pa industry of beef production is in turmoil as domestic and export markets have collapsed. Schools, fast food outlets and the French market (50% of exports) have

ceased to accept British beef due to concerns over the threat to human health. The Guardian (26/3/96) reports that there is a virtual global ban on British beef. Scientists cannot confirm categorically whether there is a link between the bovine and human diseases thought to derive from the sheep version (scrappie). A day earlier the Guardian (25/3/96) reported on a "Cabinet Plot to Stop Beef Alert", stating that "ministers wanted [the] BSE link to humans kept quiet". There is talk of slaughtering and burning up to 100% of the 11 million cattle in the country. More likely is a selective cull of about 4.5 million cattle over five years (costs about £3.2 billion, and another £10 billion if lost earnings are compensated), whilst "the doomsday option" of killing and destroying the entire national herd might be £7 billion in compensation and £20 billion if restitution is paid as herds are rebuilt (Guardian 26/3/96).

This 'crisis' comes just months after the meat industry was in the headlines, defending the export of live animals to the rest of Europe. Did successes in this fight lead to the successful transference of BSE to French veal farms in the calves? It seems that all British sourced calves and cattle in continental Europe might be destroyed too. Might some of the condemned animals find their way to more distant (less industrialised) countries? How will the industry recover from job losses and business collapse? Will an estimated 50,000+ British people be affected by dormant contamination with CJD? Should there be mass slaughter and burning of human communities thought to be affected? Nowhere in any media outlets has anyone considered the interests of the cattle. The only concerns raised are about re-establishing public confidence and restoring the market for 'safe' British beef.

We should not forget the pressures on the British fishing industry told to pay millions in compensation to other European countries for excluding their fishermen from *British* waters.

A spokesman for a quango of Charity Commissioners, C. McCall QC, states that "charity must serve the overriding object of the public benefit. That is to be measured in terms of benefit to mankind" (Guardian 27/3/96). This definition agrees with the dictionary definition, but if the interests of Nature-not-Man are to be recognised, it is inadequate.

Some more recent events from the media:

• The Newbury by-pass. There is a broad based mass-opposition to it; criticism that it is not dealing with the problem of traffic, rather it is accommodating it. Some say it should have been tunnelled long ago. Some of those participating in active citizenship

in defence of the woodland have been violently harassed, arrested, and charged; expert rock climbers have defended both the ancient woodlands and the assertion of state authority over citizens. A small snail is losing one of its few habitats; protected sites of special scientific interest will be built over. The combustion engine and its concrete paths win over environmental consideration again. The road will be made narrower than initially planned 'so as to reduce environmental impact'. Protest will have added several million pounds to the cost of the road - not surprising since for example "two 'cherry pickers', 100 police and 1,200 security guards were used to bring five protesters and two photographers down from the tallest tree on the route [of the by-pass], a 160ft Corsican pine" (Guardian 27/3/96). Such an army is not even used against armed terrorists.

• Weapons exports have also been in the 1995-6 headlines: ambiguously purposeful products/parts ended up in Iraq, and became part of the arsenal directed at the Allied Forces in the Gulf War - nobody was found responsible; the killing of 100,000 Iraqis was a price worth paying to secure the flows of oil. By 1996, "sanctions [following the Gulf War] have set back health care in Iraq 50 years" (Guardian 26/3/96, reporting WHO statement). British companies vie to export 'crowd control' and torture devices to known violators of 'human rights' - 40,000 volt electric shock batons exported for example, but producing companies deny this (Panorama investigative documentary/ Amnesty International). More than 1 million unregistered guns are though to be on the streets of Britain; 16 school children and a teacher shot by a suicide killer; an adolescent on the run with four stolen guns; "thirty one percent of boys aged 15 admit carrying offensive weapons" (Guardian 15/5/96); lunch break shooting practice in the City. Britain is thought to be about 10 years behind the trends in the US. Chinese threats to Taiwan precipitated a $4.5 billion sale for the US arms industry.

• "Boots, one of Britain's most trusted companies, commissioned research - and then suppressed it after the results showed that its most lucrative drug could be replaced by products three times as cheap and just as effective" (Observer 28/4/1996). The Observer also reports the Wall Street Journal as revealing that "Boots aggressively strove to discredit the research and hired a team of private investigators to help it to do so" (ibid.).

• "There is hardly a family on or off America's 300 [Native American Indian] reservations which has not had a child disappear into the white adoption market" (Nicoll 1996); tribal elder Phillip Underbaggage "still recalls the days of the boarding schools when children were removed from their families and faced with a regime

where they had their braids cut, were given cold showers, and were beaten for talking in their own language" (ibid.).

• The director-general of the UNFAO opened their 20th Regional Conference for Europe stating that 800 million people are chronically undernourished and roughly 200 million children under the age of five are affected by "acute or chronic protein and calorie deficiency" - "there [is] enough food in the world, distribution [is] skewed" (Guardian 30/4/96).

• There are plans to flood 30 billion gallons of water a day for two weeks down the Grand Canyon "to repair ecological damage caused by dams built 33 years ago":

> One of the hardest worked rivers on earth, the Colorado intermittently dries up by the time it reaches the coast in Mexico. It powers some of the countries most powerful dams, and keeps the neon lights burning in Las Vegas.
>
> (Guardian 26/3/96)

• Convictions for racist and sexist discrimination in the work place and violence in public places, and the military asserts discrimination based on sexual orientation. Nationalism is thought to be on the rise around Europe; American flags are burnt in the East and the West, whilst US economic and political colonialism is only comparable in scale to its export of cultural pollution. The 'external threat' of communism has been replaced by that of the world of Islam, so the CIA and FBI still have a big role to play in the US. Meanwhile "police chiefs want [Scotland Yard's] anti-terror squad to spy on green activists" (Guardian 27/3/96).

CHAPTER 2

HUMAN ASPECTS OF ENVIRONMENTAL MANAGEMENT

There are a number of crucial psychological states which define the perceived context and role of people, and these in turn guide or dictate their approach to the environment. Indeed they are the filters through which perceptions, faiths, and beliefs are channelled to values and actions. These perceptions define understanding and its development, outlook and expectations, and evaluation of context, role and moral beliefs. They are the guidelines for living, but as with all tools or guides, are not always used.

Human survival depends on food, water and protection from environmental and social threats. Competition and consumption are part of the living process, as is mutual aid and giving and we also have a need for intelectual stimuli and excitement. The routes which are chosen to achieve these ends need to be questioned on ethical or moral grounds. The primary concerns of any ecologically considerate individual are *lifestyle, consumption patterns, attitudes and actions*.

From where do socio-ecological tensions and damages derive? How could this damage be reversed in order to develop mutual regard amongst people and between them and the rest of nature? Our dependence on nature is clearly recognised:

> *Our viability as a species depends upon our future relationship with the natural world.*

> (Bookchin 1990)

What might parameters for a socially and ecologically favourable future be if we concede that there is a need to reinstate greater accord with the rest of nature?

To make clear from the start that 'Environmentalism' (to use a general term) does not denote anti-human sentiment, environmental racism will be considered first. It is a considerable problemand it links the anti-racist and environmental movements. As is mentioned elsewhere in this thesis, many (such as Bookchin in Bookchin & Foreman 1991) believe that human *and* environmental 'liberation' are now more than ever bound together.

Humanism is normally defined as a philosophy where human kind can achieve happiness and fulfilment without 'religion'. In this thesis it is used to mean homocentrism - implying *extreme faith in* human *capacities*.

Managerialism ought to be defined as good environmental 'housekeeping' - though it more often manifests itself as *a gravitation towards intervention*. This ties in with the humanistic belief in our ability to improve the collective of life (in the 'man as a measure of all value' context), based on an incomplete comprehension of Earth systems.

Speciesism is a term of recent coinage used to refer to discrimination against other species, or more typically discrimination in favour of the human species. It is a condition of mind that works in parallel with homocentric attitudes, and fortifies managerialist tendencies. Humanism, anthropocentrism, speciesism and managerialism have considerable impact on our relationship to 'Nature-not-Man'.

The final section on 'dilemmas' considers the most common instance: the most comminly antagonistic relationship between environment and development interests.

2.1 Environmental Racism.

Environmental racism is race based discrimination in the design and application of environmental policy and management. It is overwhelmingly discrimination by white against non-white people. The Rev. B.F. Chavis Jr (introducing Bullard 1993a) defines it as discrimination in environmental policy making and in the enforcement of regulations and laws, and thus:

> •...*the deliberate targeting of communities of colour for toxic waste disposal and the siting of polluting industries*

> •...*the official sanctioning of the life-threatening presence of poisons and pollutants in communities of colour*

> •...*[and in] the history of excluding people of colour from the mainstream environmental groups, decision making boards, commissions, and regulatory bodies.*

He speaks with particular reference to the USA, but this can be extrapolated into a global context.

While the problem of the 'long range transport of air pollutants' was increasingly being considered by EC law makers in the 1970's, more industrialised countries were

becoming more entrenched in the morally and ecologically dubious process of the internationalisation of waste disposal, and in the locating of 'dirty industries'. "[The practice of] dumping toxic wastes from Europe and the US in Third World countries perpetuates old patterns of imperialism, colonialism, and racism" (Saeger 1993). Countless examples of European and North American companies and governments disposing of waste and conducting environmentally obnoxious operations overseas are to be found in the archives of the Greenpeace and 'Multinational Monitor' World Wide Web (WWW) sites.

In the context of discriminatory management of the environment it might seem to some unreasonable to assert that racism by whites against non-whites is most significant, but white dominance in culpability is the reality. Western imperialistic attitudes are intrinsically racist and affect all levels of environmental management. They can be described as environmentally racist.

An internal memorandum by World Bank chief economist Lawrence Summers (leaked in December 1991) summarises the racist nature of global environmental management as sanctioned by influential circles. The suggestion in the leaked note quoted by Bullard (1993a) was that dirty industries should be encouraged to migrate to 'Less Developed Countries' for three main reasons. Since:

> *...the measurement of the costs of health impairing pollution depends on the foregone earnings from increased morbidity and mortality* [,]

...economic logic would suggest placement of dirty industries in

> *...countries with the lowest cost, which will be the country with the lowest wages [countries in the South and East].*
>
> *...under-polluted areas in Africa are vastly under-polluted...[! Indeed] their air quality is probably vastly inefficiently [clean!] when compared to Los Angeles or Mexico City.*

and

> *...the demand for a clean environment for aesthetic and health reasons is likely to have very high income elasticity.*

This means concern over an enhanced risk of cancer is likely to be higher in a country where people survive long enough to get cancer than in a country where under five mortality is twenty percent (Bullard 1993a). In essence, since richer - dominantly white areas - *can* locate dirty industries in poorer (dominantly non-white) areas,

which might be less effectively vocal in opposition to these, and which still have relatively clean air, they *ought* to. This rationale functions at inter-continental, international, and national levels.

In the US:

> *...more than 1,900 maquiladoras ['dirty' industries providing low pay jobs and exacerbating pollution and strain on local sewerage and other infrastructure], assembly plants operated by American, Japanese, and other foreign countries, are located along the 2,000 mile US-Mexican border [on the Mexican side].*

(Bullard 1993a)

Indeed a journey along the Mexican side border road from Matamoros to Reynosa (the eastern length of the US/Mexican border) is to experience a foul industrial haze even on a breezy 'cloudless' day (pers. obs.).

Alpert & Elliott (1995) note how the maquiladora phenomenon has another defining characteristic: "a young female labour force" is preferred since these women are seen as the most exploitable workers available. They state that although the "exploitation is fierce and conditions degrading", the factories offer employment opportunities which would not otherwise be available. Further, the women workers tolerate the jobs which in Guatemala offer almost twice what women could earn as domestics. Still, the morality of rich and high profit American and Japanese companies operating such conditions *simply because they can* is questionable.

In the report 'Playing with Fire' (Greenpeace 1990) it was found that the minority representation in communities with existing hazardous waste incinerators in the US was 89% higher than the national average, and:

> *...all of the [651] nuclear bomb testing sites in continental US are located on Native American lands.*

Bullard (1993b) states that:

> *...three of the five largest commercial hazardous waste landfills are located in predominantly African American or Latino American communities.*

Lee (1993) draws on the findings of the 1987 report by the UCCCRJ, 'Toxic Wastes and Race in the United States': three out of every five African Americans and Hispanic Americans lived in communities with uncontrolled toxic waste sites (Bullard 1993b states 60%), and more than 15 million African American and eight

million Hispanic Americans lived in communities with one or more such sites. Lee also states that:

> *...half of all Asians, Pacific Islanders, and Native Americans live in communities with uncontrolled toxic waste sites.*

Moreover, removing officially sanctioned racism will hardly effect moral re-alignment quickly in a country such as the US. Bullard (1993a) succinctly describes the background of white racism in the US as:

> *...founded on the principles of 'free land' (stolen from Native Americans and Mexicans), 'free labour' (cruelly extracted from African slaves), and 'free men' (white men with property).*

Systems of segregation and manipulation that existed from the birth of the nation were entrenched in the psyche of large sections of the white population, and strongly influenced policy and decisions related to the management of the environment. Indeed it is suggested that racist discrimination and disregard for environmental integrity go hand in hand. For example:

> *The wilderness was feared and hated by most white settlers [of North America]. Wilderness, like the Indians, stood in the way of the maximum exploitation of the new world. They both had to be destroyed.*

(Haughton 1991).

Novack (1995) also describes how in the US, "the system and government...has held [North American Indians] in misery, destitution, and humiliation".

> *The pioneers looked upon the Indians as little more than obnoxious obstacles in the path of their advancement who had to be cleared away by any means and at all costs....They placed Indian 'varmints' and 'serpents' on the same level as wild beasts. In Early New England bounties were paid for Indian scalps as today they are awarded for the tails of predatory animals.*

(Novack 1995)

Isbister (1991) states that the culture of white Americans and their living standards are founded on...

> *...the most genocidal imperialism the world has known,.....[they are] beneficiaries of an unparalleled destruction that almost eliminated an entire race.*

Further, "it is a fact that most Americans would like to forget" (ibid.).

Muhammed Bey (1995) reminds us of the colossal obscenity of the slave trade (up to 90% of the 100 million abducted and enslaved Africans died during transport across the Atlantic), and of how this part of history, including the African heritage, has been systematically excluded from, or its importance diminished in taught world history.

European nations also grew industrially through appropriated labour and resources. Colonial exploits were nearly always at the direct expense of the colonised regions. The interests of native populations were at best placed second to those of wealthy Europeans. Weissman (1993) asserts that:

> *...global plundering has always had devastating environmental, as well as social, effects.*

He then reminds us that after World War Two, the US continued the pattern initiated by European colonisers (particularly through the agency of multi-national corporations). Since the late 1970's 'development'-induced debt has acted to mould poorer countries of the South and East into serving the interests of industrialised countries (ibid.).

The 'control' of countries or their 'change experiences' via debtor/creditor relationships is explained in Table 2.1. The sequences in Table 2.1 are of course not universal, they represent bad/worst case scenarios. As a self-fuelling cycle, a 'loan for development' was chosen as a diagramatical focal point. There is clearly a wide range of adverse socio-ecological and economic impacts that can, and have, resulted from this development paradigm. Woodward (1995) considers there to be a considerable problem in the dynamics that over-emphasise cash crops as the best route to food security - though he observes that:

> *...in the majority of cases the effect [of large scale cash crop developments] is likely to be ambiguous [- the 'dilemma equation].*

Though more often than not with good intent, development agencies opened the doors to economic colonialism as agribusinesses were assimilated and developed by multi-nationals, dependent to a great extent on imported seed, agrochemicals and machinery, so engineering a vicious circle of entrapment in un-manageable debt crises.

Recent debt-for-nature swap proposals are widely received as Western 'playground' colonialism, particularly as conservation geared towards the game hunting interests of colonising nations was the immediate recollection. So:

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...the association of wildlife with the dictates of colonial administration was largely responsible for the later beliefs of emerging independent African [and Indian] administrations that conservation was a luxury of little relevance to plans for economic development.

(McCormick 1989)
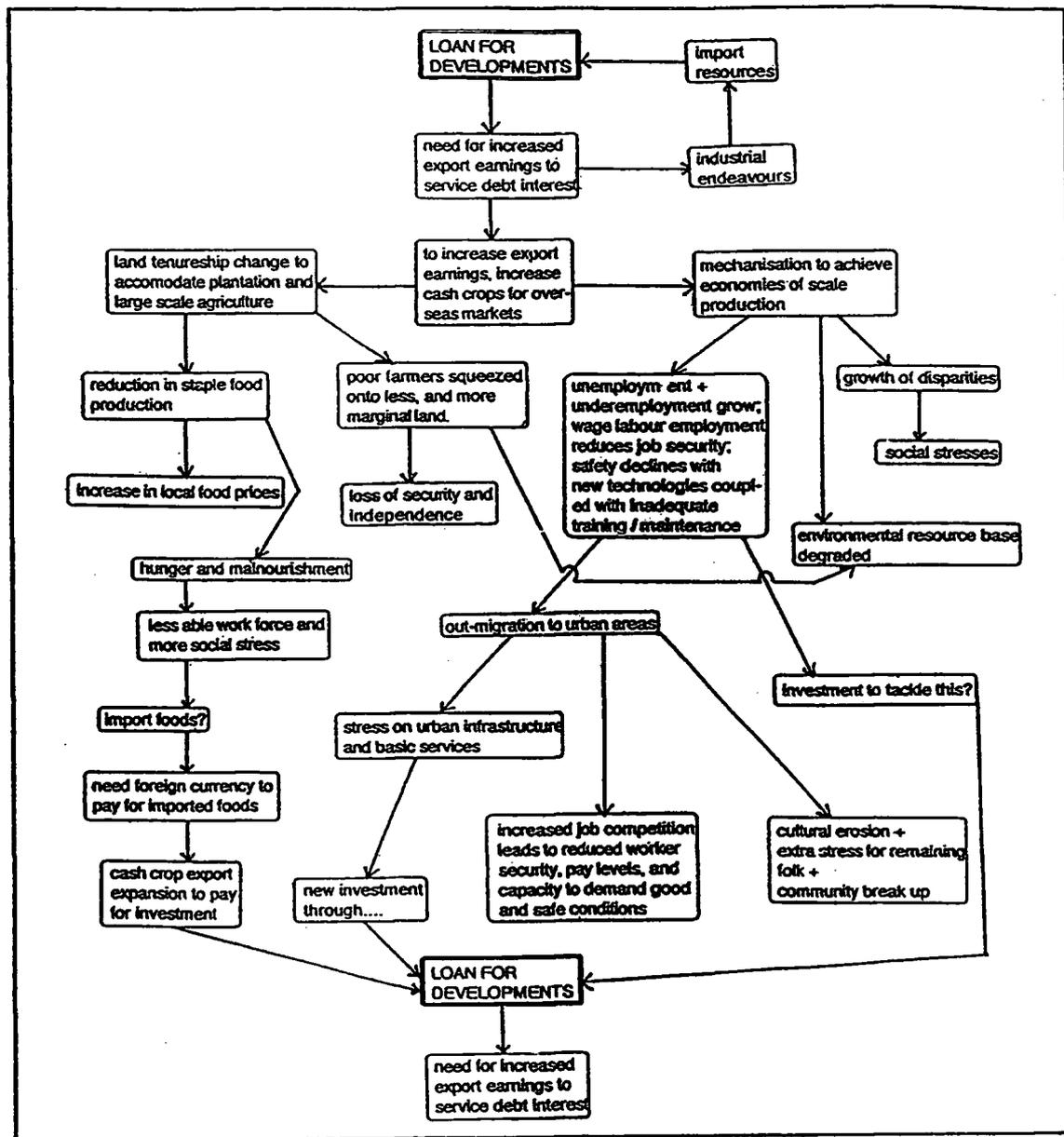
Table 2.1
Dynamics of the Debt/Socio-Ecological Crisis.

Drives towards (externally funded and influenced) development have not infrequently led to considerable adverse socio-ecological impacts. Tables 2.2 and 2.3 (in conjunction with Table 2.1) further illustrate this process. O'Riordan (1995) suggest, that it may lead to "an economic as well as environmental [and social] haemorrhage".

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┌─────────────────────────────────────────────────────────────────────┐
│                        ┌──────────────────┐                          │
│                        │ growth of cash crop│                        │
│                        │ agribusiness     │                          │
│                        └────────┬─────────┘                          │
│                                 │                                    │
│                                 ▼                                    │
│                        ┌──────────────────┐                          │
│                    ┌───│ increased pressure│───┐                     │
│                   /    │ on and for land  │    \                     │
│                  /     └──────────────────┘     \                    │
│                 ▼                                 ▼                   │
│        ┌──────────────────┐          ┌──────────────────┐            │
│        │ better land taken up│        │ marginal (poorer soil│        │
│        │ to be thrashed for │        │ or steep slopes) land│        │
│        │ cash crops       │          │ and forests encroached│       │
│        └──────────────────┘          │ on by poorer displaced│       │
│        ┌─────                        │ farmers          │──────┐     │
│        │                             └──────────────────┘      │     │
│        │                    ┌───────────┴───────┐              │     │
│        │                    ▼                   ▼              │     │
│        │         ┌──────────────────┐ ┌──────────────────┐    │     │
│        │         │ social effects   │ │ ecological effects│   │     │
│        │         │ SEE TABLE 2.1    │ │ SEE TABLE  2.3   │   │     │
│        │         └──────────────────┘ └──────────────────┘    │     │
└─────────────────────────────────────────────────────────────────────┘
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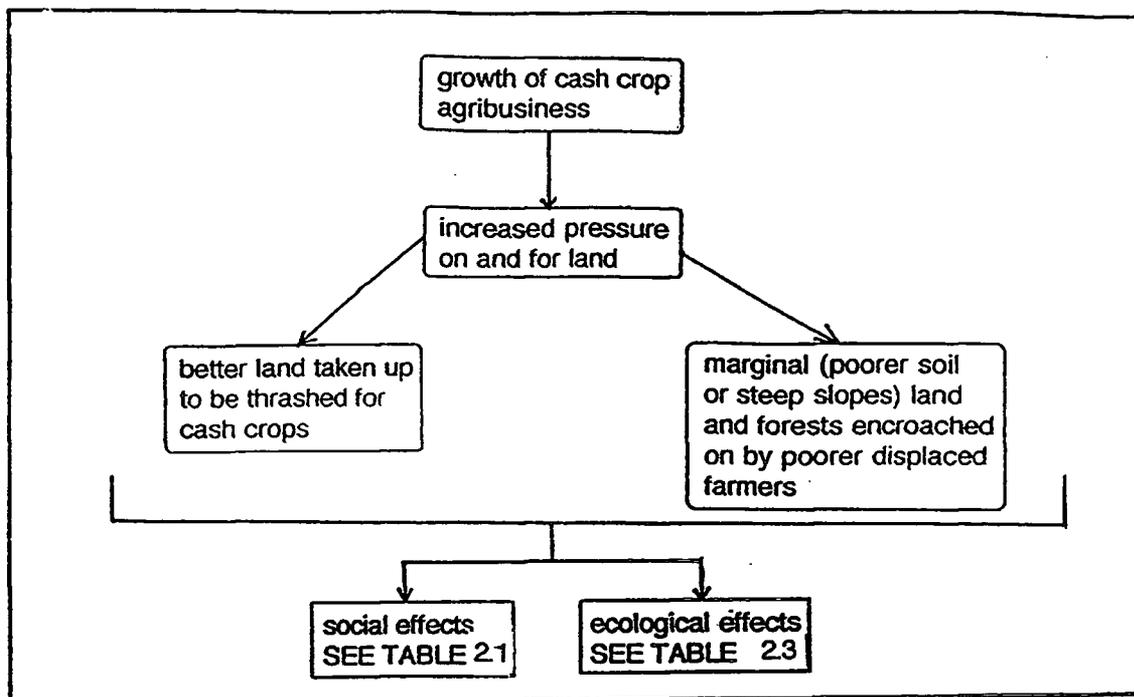
Table 2.2
Effects of Agribusiness Growth.

Even more insidious than the hunting related demarcations was the division of
continents based upon European border creation in colonised areas, with scant regard
for tribal zoning, trading systems, and kinship ties (split by new borders), which
remains as testament to the arrogant nature of imperialism. Peet (1991) suggests that
when European powers worked out their claims to parts of the African continent, the
prime consideration was the balance of European power rather than natural or
ethnographic lines. Many Europeans thought the introduction of systems of
governance were good for the indigenous people. But the cultural and philosophical
disruption, especially mercenaric Christian missionary endeavours, brought 'cultural
pollution' and the dissolution of age-old customs. This set the foundation for future
capitalist endeavours, which would further dilute the cultural richness through the
spread of American style consumer culture (Big Mac, Coke, Marlboro etc.), and
precipitate gradual dislocation from (relative) ecological harmony.

During the era of the new world 'discovery', the introduction of alien diseases wiped
out whole populations. Bruchan (1993) states that diseases introduced inadvertently to
North America killed more than 90% of the natives of the continent in the 16th and
17th centuries. The unintentional genocidal effects of 'New World Discovery' were
not 'nullified' by the effects of 'new world diseases' on Europeans. In South America
the appropriation of land and the establishment of slave-worked Latifundia for the
plantation production of crops destined for Europe, took a heavy toll on the

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environment of the area as well as the native population of the continent and of West Africa, from where the slaves were taken.

PRESSURE ON LAND

- -----> reduction in shifting types of agriculture - continuous use causes nutrient & soil-structural decline.
- -----> use of poorer, less stable, less productive lands
    - -----> increased incentive for chemical use
        - -----> increased chance of pollution related problems
- -----> forest clearance for new farm land
    - -----> greater exposure to wind, rains and sun
    - -----> greater access for unscrupulous loggers etc.

THIS CAN LEAD TO

- enhanced localised soil disturbance
- greater exposure of soils generally, and in areas previously vegetated
- with mechanised techniques, soil structure broken up by deep ploughing and other machinery compaction/disturbance effects

THEREFOR EXPOSURE IS ENHANCED

EXPOSURE * WIND attack by: particulate lift; wind-carried objects/materials knocking more particles loose; and reduced vegetation cover exposes remaining taller vegetation to winds - 'throw' by winds may cause root movements to loosen soil. Loosened soils more available for water and wind transport (erosion).

EXPOSURE * WATER erosion enhanced: direct rain splash causes creep & break up, and less surface vegetation allows greater overland flow (OLF)(causing sheet, rill and channel erosion). Greater OLF means less deep/percolation. [Less deep/percolation can lower the water table. Lessened ease of water access may lead to plans for a dam. See 6.1 for potential socio-ecological effects of dams, and Table 2.1 for possible economic effects of a loan based dam project].

EXPOSURE * SUN. Thermal baking: opens cracks in soil; makes soil harder to work; causes onion style erosion of rock materials by diurnal thermal expansion & contraction; rapidly dried surface draws water from deeper in soil down a hydro-gradient - this can lead to salinization (mineral surface deposit accumulation) so reducing hospitality to crops; and hard baking and mineralic deposition in the dry season can lead to reduced percolation rates and flooding in the wet season, so compromising agricultural potential.

OVERALL EFFECTS OF PRESSURE ON LAND:

- -----> Soil loss by wind, water, and creep.
- -----> Loss of soil nutrients and organic matter basis.
- -----> The above two can lead to the laterization of ferallitic soils.
- -----> Loss of soil structure (for 'smooth' hydro-cycle and workability)
- -----> Gully erosion by water disproportionately reduces cultivable land by fragmentation.

TOTAL EFFECT CAN BE REGIONAL ARIDISATION AND A DECLINE IN THE AGRICULTURAL POTENTIAL OF SOILS. THIS MAY LEAD TO FURTHER ENCROACHMENT OF VEGETATED/FORESTED AREAS, STARTING THE CYCLE AGAIN WITH MORE PRESSURE ON THE LAND. LOAN BASED CAPITAL INVESTMENT TO COUNTER THE ABOVE PROCESSES : SEE TABLES 2.1 & 2.2.

Table 2.3
(Pressure on Land and) Soil Degradation Processes.

Environmental racism remains a problem today. Historical forms of colonialism may be much reduced, but as mentioned earlier economic colonialism has replaced it, and is the cause of considerable social disruption, ecological degradation, political manipulation and continued exploitation.

Racism does not need to be openly institutionalised, as it was formerly in South Africa, in order to be endemic, and to violently discriminate. To make an attitude illegal does not eradicate it. In the US, even after some progress in law since the 1960's, there is still ingrained discrimination:

> *...communities of colour in urban ghettos, in rural 'poverty pockets', or on economically impoverished American Indian reservations face some of the worst environmental devastation in the country.*

(Bullard 1993a)

Lee (1993) notes the important fact that:

> *Today most African Americans and other people of colour are beset by rising unemployment, increasing poverty, worsening housing, and declining educational and health status. It would be very difficult to properly address issues of environmental quality outside the broader context of these equity concerns. In short, communities of colour cannot afford the luxury of only being concerned about the quality of their environment when confronted by a plethora of other problems related to their day-to-day survival. This does not mean, however, that people of colour do not care about the quality of their environment and it's effect on their lives.*

Again, though Lee speaks of the US experience, similar principles apply in Europe and the less industrialised countries.

The absence of effective opposition to damaging industrial developments does not mean that none exists. Moral consideration ought to deter instigators of these developments from certain activities. However it seems that ecologically and socially damaging activities are often staunchly defended with economic (and even militaristic) might in order to secure profit.

Meanwhile liberation movements for just about every exploited and/or abused party are suppressed. Churchill and Wall (1990) present an abundance of evidence, including FBI internal memos and other circulars, exposing the extreme lengths to which the FBI has gone to "disrupt, misdirect, discredit, or otherwise neutralise...[by]...infiltration, psychological warfare, legal harassment, and violence [including murder]" movements including the Civil Rights, American Indian, the Black Panther Party, Central America sympathisers, anti-war, green, and student movements (1990; see also B. Glick paper (at Patriot Archives WWW site)). This

was carried out officially under the counter-intelligence program named COINTELPRO between 1956 and 1971, but as Churchill and Wall conclude, "COINTELPRO lives on". This is because vested interests all too frequently depend on gain at the expense of others. Potential gain by industrial concerns often eliminates the possibility of beneficial negotiation between developers and inhabitants.

It is acknowledged even in official circles that the deciding factor on whether to attack Iraq in what became the Gulf War was that the West had vested oil trade interests in the welfare of Kuwait - real budget/economic prohibitiveness barriers exist for many other potential war zone intervention sites, whereas oil drives the global industrial machine.

The operations of the oil company Shell in Ogoniland (south-east Nigeria) have for years been causing environmental havoc to the Ogoni People (the following comes from various sources including the Ogoni Community Association UK, a Channel 4 (1995) 'Delta Force' documentary, and Rowell 1995). In 1993 the Movement to Save the Ogoni People (MOSOP) demanded compensation and a drastic reduction or the termination of operations. By the end of the year, hundreds had been killed, thousands made homeless, scores of villages burnt to the ground, and many arrested. Some have now been executed for the 'crime' of protest. There is evidence that Shell assisted with the provision of weapons and/or finance used to effect this suppression (see for example Rowell 1995).

Shell has an economic interest in continuing operations here, as does the Nigerian Government who receive 80-90% of revenues from oil earnings (ibid.). Shell managers have clearly made a moral decision, to the effect that profits come before social and ecological justice. Though the above 'enforcement' has been *applied* not by Shell but by the Nigerian government, the continuance of operations and the evidence that Shell have assisted with resources is effectively a sanction of this 'justice' (sic).

Discrimination in state investment of tax revenue, access to jobs, health care, housing, basic amenities, law enforcement (no-go zones, longer sentences), ease of movement within and between countries, police and public harassment and until very recently institutionalised discrimination and segregation have marginalised opportunities for, and the life quality of, non-whites in Europe, North America and Australia/New Zealand. The Guardian (17/4/1996) for example warns that:

> *Non-European visitors to the Sydney Olympic Games in the year 2000 should be warned they could be beaten up by police who mistake them for Aborigines.*

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Lower financial security resulting from discrimination amplifies the problem. The apparent disinterest of political authorities in resolving it has meant the degeneration of considerable areas of (particularly) urban environment into physically dangerous, socially depressed and economically marginalised zones.

Table 2.4 shows some statistics of racist discrimination in Britain, drawn from Youth Against Racism in Europe (YRE) publications. It is fair to say that compared to the living conditions of the average white citizen, non-whites are marginalised by historical and contemporary discrimination. 'Affirmative action' (positive discrimination to redress obnoxious imbalances) is a much debated issue in the US. There have been calls from a multi-racial spectrum for *the cancellation of all overseas debt* (for less-industrialised countries), and with the facts of contemporary and historical racism in mind, it can be seen as a justified proposal.

In the US, segregation used to be endorsed in law. However segregation by choice and restrictive/coercive methods continues. Minority groups of national populations in America, the UK, France, Germany, and other European countries tend to be residentially concentrated in less favourable areas in terms of environmental quality for example: urban locations downwind of prevailing wind directions; city centre concrete commuter zones; industrial parts of towns; marginalised and service-deprived estates (in the US, 'projects') and tower blocks; inadequately maintained accommodation in city centres; and sites near busy main roads where air quality and safety are compromised. Homeless individuals and poorer families are disproportionately represented in these locations (Bullard 1993a, YRE publications, Freund and Martin 1993).

Sources	Year	Findings
Commission for Racial Equality	1990	20% of British housing agencies discriminate against non-whites
London Research Centre	1990	London non-white popu. : 20% Inner London Homeless : 51% non-white
British Census	1991	Unemployment : whites - 8% non-whites - 16.5%
YRE	1994	Prison sentences for non-white men over 21 in Britain for the same offence 30 % longer than for whites.

Table 2.4
Statistics of Racism in Britain (from YRE publications).

Freund and Martin (1993) note how transport systems, and infrastructures have developed in part deliberately and in part by 'default' in a way that discriminates against non-whites. General discrimination has meant that non-whites are disproportionately represented in lower income groups. The emergence of an automobile-based transport system therefor exacerbates disadvantages. Increasingly decentralised work opportunities, shopping facilities, health care centres and entertainment facilities mean that non-car owners are disproportionately marginalised. Financial constraints mean greater dependence on public transport, yet

> ...the best developed public transport is that which connects more affluent residential suburbs with the core of the central city business district...often bypassing poor areas...[,]

(Freund & Martin 1993)

The research Freund and Martin did in Europe and America showed that:

> ...in the past few decades, the auto, more than rail and other transport modes, has facilitated the movement of largely white and middle-class people from inner cities to encapsulate the suburbs.

Freund and Martin cite an example of racist transport planning: planner Robert Moses specifically built bridges in New York too low for buses, thus restricting the beaches and parkways beyond to car owners - the more affluent (i.e. white) sector of society.

Alston and Brown (1993) highlight five key areas of global (environmental) threats to people of colour: ecological impacts of war, underground nuclear testing, the international waste trade, debt-for-nature swaps, and biodiversity. They also consider the problem of NGOs whose focus sometimes inadequately addresses the human aspects of cultural dynamics in seeking a balance of socio-economic and ecological concerns.

Ecological impacts of war include the worst after effects of mass bombing and chemical and nuclear weapon use, such as oil pollution in the Persian gulf; ecologically degraded Vietnam and El Salvador (biocide defoliants used by forces to clear vegetated areas in order to reduce 'dissident' or 'rebel' group inconspicuity); USDEA operations in Latin America (Guatemala, Bolivia, Colombia, Chile, Brazil and Panama), have left residues from unexploded bombs, shrapnel, and toxics (and associated health affects) from chemical weapons.

A by-product of war is the displacement of millions of refugees and the psychological effects they experience. In December 1995, the UNHCR estimated that there were

about 50 million people globally uprooted or who had fled war or persecution (1.7 million from Rwanda, more than 0.5 million from Bosnia Herzegovnia, 2.4 million from Afghanistan, etc.)(UNHCR 1995). The intervention and participation of Western countries and corporations (especially the US) in the politics and development of less industrialised countries amplify the scale and quantity of warfare. Thus:

> ...trade, economic assistance, and military policies that reinforce inequities and promote underdevelopment in the name of multinational corporate interests must...be dismantled and replaced by more fair and just policies and practices.

(Alston & Brown 1993)

The 'globalist perspective' adopted by the US during the cold war saw...

> ...almost all of the Third World societies as pawns in an enormously complex chess game being fought by two master players - the Soviet Union and the US - the stakes being the freedom of the people in the western alliance [Europe and America].

(Isbister 1991)

Underground nuclear testing and the associated uranium mining operations have, since the dawn of 'the new drive' in nuclear developments in 1940, overwhelmingly impacted and endangered the lives and livelihoods of indigenous populations:

> From the Aborigines of Australia, to the Western Shoshone Indians in Nevada [US], from the inhabitants of the Central Asian Republic of Kazakhstan to the natives of the French Pacific, indigenous peoples throughout the world have witnessed the destruction of their lands by nuclear testing.

(Isbister 1991)

The barren lunar landscapes caused by mineral speculation in Western Algeria, as well as the traditional religious areas of aboriginal land in Australia are permanent testament to recent environmental racism. France began its nuclear test exploits in Algeria, but soon moved them to their Pacific Island colonies. Their insistence on continued nuclear tests in the Pacific islands around Tahiti (1995-1996) is a harsh demonstration of the disregard for local populations - that France is willing to 'sacrifice' an area safely away from French national boundaries in opposition to a considerable proportion of French people, let alone Pacific Islanders.

The nature of the international waste trade as was described earlier has also been described by Alston and Brown (1993):

> With the increasing restrictions on toxic waste disposal in the US and Western Europe, as well as [effective] public opposition to it, waste management companies and illegal waste traders are seeking alternative dump sites overseas.

Politically and economically weak countries which have benefited least from industrialisation are those typically targeted for dump sites. Often persuaded by money, jobs and other economic developments, this form of waste transfer can be considered an extension of the domestic patterns of targeting communities of colour. Since 1988, the Organisation of African Unity (OAU) has strongly and effectively opposed these practices, but the problem has only 'moved' laterally to Central and South America, the Caribbean, Asia and the Middle East. Although many countries have already suffered contamination from 'traded' wastes (for example Colombia, Cyprus, Lebanon, Turkey, China, the Philippines etc. (ibid.)), it is increasingly appreciated that the continuance of such trade sanctions unacceptable and racist environmental and social disregard.

Pucket (1994) informs us that between 1980 and 1989, the cost of landfilling one tonne of toxic waste in the US rose from $15 to $250. This, in parallel with increased opposition (the NIMBY lobby) was what led to overseas waste 'dumping'. Pucket describes how, as soon as barriers such as the OAU developed, a strategy of altering the description of waste was adopted: 'contaminated scrap metals' became 'resources' for heavy metal recovery and recycling; and large quantities of plastic waste exported to India, supposedly for recycling, has ended up dumped in the countryside. Indeed Pucket (1994) states that it has even been proposed that:

> ...solid wastes be used to raise the level of pacific islands to counter the effects of global warming and rising sea levels.

Since almost any waste can be claimed to be of 'use', virtually all waste trade can be labelled as suitable for recycling when it might be, for example, hazardous waste which *could* be burnt as fuel, or *could* be used for construction or as fertiliser (ibid.). There emerged a loophole, which led to the 1989 'Basel Conference on the Control of Transboundary Movements of Hazardous Wastes'. By 1994 there were 55 signatories to the convention, which required a 'weak' control of 'Prior Informed Consent' from the relevant receiving authority before the waste could be shipped.

In the context of apparently well-meaning development programs, debt-for-nature swaps have often affected land management practices in such a way as to compromise the interests of populations of the less industrialised countries. Alston and Brown (1993) suggest that:

> ...despite the potential benefits from protecting critical parts of the biosphere, the debt-for-nature strategy has undermined the efforts of indigenous peoples to achieve self-determination and ownership of the lands where they have lived for centuries.

Recently the Co-ordinating Body for Indigenous People's Organisations of the Amazon Basin have proposed a new version of debt swapping - debt-for-Indian-stewardship swaps whereby "foreign debt would be traded for demarcation and protection of traditional territory" (Alston & Brown 1993). They qoute the Brazilian Institute for Economic and Social Analysis who describe classical debt-for-nature swaps as having been:

> *...part of a more general strategy for converting debt, reaffirming the creditors' political and economic domination over the debtors within a development model which commercialises life in all it's aspects.*

The biodiversity issue came to the fore at the 1992 Rio Conference, and is seen by many as socially problematic whilst ecologically, and possibly socially important. The term 'biodiversity' has grown from meaning just planetary biological life to mean:

> *...the vast global collection of genes, species, habitats, and ecosystems, as well as the cultural diversity that is its human expression.*

(Alston & Brown 1993))

A major concern is that:

> *Northern pharmaceutical and agricultural companies, as well as many conservation NGOs, have promoted...schemes to preserve biological diversity at the expense of cultural diversity.*

(ibid.)

In addition to the much published rain forest debate, threats to the biodiversity of countries such as Madagascar (where many unique species are found) and regions such as African mountain rain forests (where primates are a focus) are being exposed with increasing frequency.

The operations of unscrupulous Western based industrial groups are without doubt imperialistic and antisocial in nature, disregarding homo-social and ecosystem integrity. Berrigan (1995) for example describes the experiences of the Baka people (Pygmies) in Cameroon, where until recently, innaccessibility of the forests meant there was only gradual encroachment from the coast.

> *...now the activities of (mostly) European [especially French and Dutch] logging companies are making a major impact on [the forest].*

> *These giant firms, employing the latest technology and intensive methods, are clearing out the most precious of the woods - the hardwoods...These are used extensively in Europe for railway sleepers, for furniture and joinery, such as in the construction of conservatories, garden furniture and lavatory seats.*

The chaotic swathes of unofficial roads disturb wildlife and cause the breakdown of the integrity of the forest ecosystem...The way of life of the indigenous populations has been shattered by the destruction of the forest and by the decimation of the wildlife on which they depend for food.

(Berrigan 1995)

One French logging company in particular (SEBC) was distinct in the level of its violations of signed agreements, and villagers in the area protested by letter and road block.

The protest at Atsjek made history in Africa - and so did the reaction of the authorities, which was swift and brutal. Police descended of the village, crushed the protest, broke down the road block and threw 24 people into prison.

(ibid.)

Indigenous peoples are exploited in other ways as well. Wilkie (1995) revealed another development in this process: the "ambitious and controversial scientific enterprise" was to collect blood samples from several hundred isolated indigenous peoples around the world. Scientists from Yale University and the Swiss pharmaceutical company Hoffman-La-Roche accompanied Colombian genetic researchers. In exchange for some medical treatments, blood samples were acquired. Saleable products (and resulting profits, at the expense or loss of indigenous peoples) were the aim. Once the genes are acquired, the welfare of the source peoples is no longer a concern. Patent applications have already been made for some of these gene extracts (ibid.).

Similar tales to this are revealed not infrequently, as was raised in the UNCED meeting in 1992. The use of herbal medicines/remedies from for example rain forest areas are an example. Cox and Balick (1995) consider the ethnobotanical approach to drug discovery in detail, and state that they are well aware that the healers with whom they carry out research provide significant intellectual guidance, and that "they are entitled to the same intelectual property rights enjoyed by other investgators". Hence "a significant part ofa ny royalties earned from [a drug they are working on from the Samoan Healers tuition] will be returned to the Samoan people" (ibid.). Indeed Cox and Balickstate that "virtually all ethnobotanists active in drug research are involved in making similar arrangements" (ibid.), and some are working on formal guidelines.

Cox and Balick (1995) also note that:

To many cultures, protecting the forest around them is more important than receiving money. Hence, many researchers are devoting effort to protecting the rain forests in the regions where they work.

It is reasonable to assume that as well as any proffessed concern for the cultures themselves, the motivation for this derives also from the potential instrumental value to be derived from the forests and the financial rewards of forest products/extracts or their synthetic (copy) versions. It is paradoxical then that cultural dissolution through contact with 'the outside world' means that:

...plant knowledge seems to be dissappearing even faster than the forests themselves.
(Cox & Balick 1995)

Recent years have seen a strategic change in many environmental movements, in that NIMBY (not in *my* back yard) reactions to offensive environmental management plans have changed more towards NIABY (not in *anyones* back yard). Taylor (1993) notes such a change with the increased participation of people of colour in the environmental movement in the US. She states that :

...many of the white-dominated, well-to-do, community environmental organisations
...have sought to protect their own neighbourhoods from hazardous wastes.

Taylor reminds us that national conferences of the environmental justice movement differ from those of mainstream environmental organisations such as the Sierra Club and Friends of the Earth, which lack the multi-cultural outlook that would lead to more equitable goals and a more effectively strategic movement. These observations, based on the US experience, contain principles and trends which have extended to other countries.

In Britain, the aim of the Black Environment Network is to increase the participation of ethnic minorities in, and expand the focus of, the mainstream environment movement. Mainstream NGO environment organisations have in place equal opportunity charters, the aim of which is to alter the historical 'middle class white' domination of the environmental movement. In national campaigns there is significant cross-over between activists in the anti-racist movement and the environment movement. These notions will be considered further in chapter 7, where ecologically and socially favourable parameters for the future are discussed: deep, social and transpersonal ecological values do not accommodate discrimination; mutual aid replacing divisive forms of competetivism would displace discrimination; and community resurgence is about the reclamation of autonomy over community development. All of these demand expansion of ethical consideration in environmental management as well as other disciplines.

2.2 Humanism, technology and scientism.

It must be stated that discussion of humanism, and its critique, is not to be considered as 'anti-human'. Of course humans have existence legitimacy equal to any other organism or object. The un-doubtable calibre of the human species means that there is a weighty potential and inherent propensity in the survival and betterment instinct to exploit these capacities to the full. It is in doing so that ethical and moral problems arise, problems *because of our ability to reason and reflect on our actions*. If we did not posses this capacity, then our actions would simply be instinctive bio-physiological pursuit backed by specialised mental capacity. Since we *can* evaluate, decide and scheme, there is an obligation to incorporate moral considerations into environmental management. When the effects of our actions are visible or tangible, confidence in our ability grows. The transformation of landscape into tamed and productive spaces is testament to the *significant* consequences of our actions.

Human pride in this ability seems to have developed a particular arrogance, what Erhenfield (1980) describes as "arrogant humanism". He states that the core of humanism is:

> ...*a supreme faith in human reason - its ability to confront and solve the many problems that humans face, its ability to rearrange both the world of nature and the affairs of men and women so that human life will prosper.*

By the 18th century, humanist confidence and homo-centric attitudes were deeply entrenched in the dominant Western culture (Erhenfield 1980, Midgley 1992). The extent and 'contagious' nature of humanism was manifest in the rejection of religious homage in favour of scientism. Midgley (1992) describes how Christianity displaced earlier Jewish ideas of community with nature and so set the momentum of a social wave - which, by the 17th and 18th century, had merged with new theories of reason. By this time, she asserts, the anthropocentric and humanistic tendencies had begun to exclude women from the inner circle, and Western men took the front-line of overwhelming selfishness and arrogance.

Erhenfield (1980) produces numerous examples of how people 'stumble' on, psychologically 'secure' in a faith in human abilities to mould and cope with their environment (accommodating a 'technological fix'). There is clearly justification for this confidence, but it is potentially flawed. He mentions ecological blunders - disregard for ecological constraints, unquestioned confidence in the products of our endeavours (hybrids and genetic engineering, modified ecosystems etc.). As an example, the original recommended doses of agro-chemical application to land often

end up being reduced, or products recalled, or banned. Project evaluation (from the micro to the macro level) fails to *fully* assess the costs (for example socio-ecological damage, and declining male sperm counts (though *ecologically* this may be favourable if it reduces the number of people). In his paper considering the ecosystem management paradigm which "has gained wide acceptance among land resource managers", Stanley (1995) concludes that:

> *...the belief in our ability to meet the assumptions of [humanistic] ecosystem management is unwarranted and ...ecosystem management is yet another example of the arrogance of humanism.*

It is in the humanistic framework that those seeking to protect environments or organisms aim to 'discover' new instrumental-type values of the subject in order to effect conservation.

What might have in the past seemed a relatively clear sequence of events in terms of analysis becomes obscured, and we now have cause, quasi-solution, effects of the quasi-solution, and some or all of the original problem remaining. This is how Erhenfield sees the modern scientific approach. Indeed it is widely acknowledged that approximately 75% of prescribed drugs are served to deal with side-effects of the first 25%.

> *[Quasi-solutions and residue problems] - the dialectical process whereby the solution to one problem generates sets of new problems that eventually preclude solutions.*

(Schwartz 1971)

On a macro scale, it is reasonable to suggest that people are not in control of the collective momentum of technological 'progress'. This, if nothing else is of huge importance in terms of the moral consequences of technology. Whatever use people can put technology to, they will try it; if a negatively-impacting use can be made profitable, this is sufficient incentive. Erhenfield (1980) links this application of technology to the globalisation of culture and trade:

> *...there will always be some people that will be destructive or insane while occupying power [or who have access to destructive resources]. The more interlinked and organised the world becomes, the more vulnerable it will be to such disturbed [or profit seeking] people.*

If only in the context of human interests, reliance on technology can be very dangerous: the illicit trade in radioactive materials from the former USSR are clear example, as are the considerable stockpiles of arms in the hands of 'official' and

'unofficial' groups. The availability of lethal weapons to anyone willing and (financially) able to purchase them, is ecologically, as well as socially, disastrous - while financially beneficial to the producers.

Seymour (1989) notes how in ancient Greece, when abstract sciences in the Islamic world were making great progress:

> *...people actually drew back, consciously, from the practical developments this science would have made possible...the working steam engine...There is evidence that they purposefully abstained...kept their science abstract. It would have seemed to the good Muslim blasphemous to have interfered too much with what seemed to them the work and intentions of God.*

This is one approach to technology which seems more cautious and thoughtful than the humanistic approach.

The impacts of technological culture are most often dualistically 'good' and 'bad', and profit seeking is not 'bad' in itself. But the means to the ends so often have adverse socio-ecological consequences. What is more, it is unfortunate that the 'bad' side is not easily controlled, that 'the lowest social denominators' tend to surface; that there will always be people ready to use any means to establish or maintain the satisfaction of their desires. The systems and products are not inherently 'bad', but the uses to which they are put can be damaging. A simple example is the chainsaw: it can be used to fell a tree likely to fall onto a busy route but it can also be used for capitalistic quick-return forest clearance, with associated socio-ecological side effects.

The US Forest Service, in conjunction with private timber companies, actually props up an *uneconomic* and unsustainable timber harvest system. Foreman (1991) states that in the 'urgency' to do deals, the Forest Service incur more costs in preparing sales for extraction rights than they gain from the timber companies. He states that in 1985 the cost to the tax payer of below-cost sales was $600 million. He describes the early approach to timber extraction in the US as follows, suggesting that attitudes are little different today:

> *In the view of the timbermen, the forests were endless, and they felt perfectly justified in ransacking an area [and burning extensive other areas], leaving it raw and bleeding, and moving farther west.*

(Foreman 1991)

Lee (1995) describes how in the eyes of the US Forest Service, "the technical rationality of the modern state meets the undisciplined American Wilderness", and that:

For most of the twentieth century, [its goal was to emphasize] the need for regional economic development. From such a perspective, the role of foresters is the management of timber, not the conservation of forests.

(ibid.)

This counters the Forest Services' common defence of conservation-know-how/ stewardship of forest areas. It is a technical process of timber removal, rather than knowledge of ecosystems.

Many sections of (particularly Western) human society are hardly in control of their socio-ecological impact. Yet individually we would like to believe that some degree of moderation is in operation, is shown regarding environmental management by environmental managers.

The information super-highway is a more recent addition to technology's resource pool, and the mounting infrastructure of potential volatility. It can serve to spread valuable information and good will, but it also distributes discriminatory, exploitative and dangerous literature, images and know-how - government military information, child pornography, web sites for militia groups, white power web sites and the 'alt.guns' discussion group are a few examples.

The sheer complexity and extent of technology serves to enhance the impressions that humans are in control and that problems are surmountable. 'There must be a solution to every problem' - this is the psychology of humanism as supported by technology and the scientific world view . The reduction of complex bio-chemi-physical activity to simplified, comprehensible levels of analysis, 'lies, damn lies and statistics', and the common practice of exposing 'desirable' rather than accurate outcomes in research and knowledge exchange are all part of the problem. It is linked to the competitive climate of commerce and capitalistic economy, and to party politics. 'Green technologies' do exist, as does the know-how for 'greener living' within consumer culture. But vested interests, for example in oil (see 2.1) also decrease the likelihood of rapid 'greening' in business. Some observers/participants in the world of commerce (such as Hawken 1994, Forrester 1990, Ralston & Church 1991), see the emergence of 'green commerce' as imminent, with leaders already setting relatively high ecological standards (see 6.2.

Through the search for profit and the desire to develop tradable knowledge (such as the trend in universities towards corporate-sponsored research), green technology research has been stifled rather than being disseminated - it has been literally 'cuffed

in the vaults'. Benton (1994) agrees that profit-making is a driving force behind research - usually directed by those with power:

> *Political, economic and military interests shape, by way of organising and funding of research, the research priorities and the formulation of problems for investigation on the part of the scientific community.*

Two characteristics of the humanist outlook which are of particular importance in our approach to the management of the environment can usefully be noted.

Firstly, the humanist orientation favours extensive organisation and managerialism (see 2.3). With conservative economic policies this creates a hierarchical social climate, and this is a structure that precipitates or aggravates socio-ecological disharmony (see 'social ecology', section 7.2). It plays into the hands of Darwinian 'competetivism', a deficient condition removed from the dynamic equilibrate forces that act in primary nature. Although we are indeed, as a species, as if separate from primary nature to a considerable extent, we are intricately bound into the same biological dependency web.

The second characteristic (linked to the first) is the desire for power. 'Blind faith' in our perceptive and analytical abilities, coupled with discrimination (in the form of racism, sexism and speciecism etc.), leads to a managerialist orientation which exploits the environment for rapid return. In the work place, humanistic (egotistical, hierarchical) behaviour often overrides experience-based information regarding the function and efficiency characteristics of business, and this wreaks havoc amongst potential sites of 'improvement' both for human and non-human interest groups.

Two other points can be usefully mentioned here. Firstly, in the context of contemporary communications, transport and travel, individuals can not help but to 'go with the flow' to a great extent, and so their ability to lessen their adverse impacts on people and neighbouring species, whilst participating in society, is hampered. Human behaviour is largely dictated by perceptions and experience. As such, an individuals' destructive or disruptive characteristics are more a manifestation of collective conditioning and habit than genetic make-up. This type of reasoning is often used to *explain* social malaise. In terms of the end uses of technology:

> *...when evil results from human discovery it is usually because of unforeseen circumstances rather than wicked intent.*

(Ehrenfield 1980)

Acknowledgement of this idea also denotes acceptance of the notion that *we are not fully in control of our technological products, which once produced are open to application by 'disturbed' or profit seeking people*, to echo Erhenfield (1980).

Secondly it is a human 'trap' rather than a political ideology characteristic which produces the humanist problem. The industrial characteristics of both capitalism and communism are "*out-growths* of the humanist premise" (Ehrenfield 1980). Their hyper-societal organisational structures (the nation state and the centrally planned economy) are psychologically accommodated by a supreme faith in the ability of people to organise their affairs, and to do so with positive results. People are primarily concerned with their personal or community interests over all others - secondary (other interest group) concerns are mainly instrumental. Merchant (1992) provides a useful Table summarising the various groundings for environmental ethics. Table 2.5 is an illustration of Merchant's data.

What exactly is problematic about humanistic tendencies and why should it concern us that this outlook is so prevalent? Myth and propaganda have widely led to a collective state of mind in which human abilities to cope with, and adjust to, environmental surroundings are taken for granted. This has led to a stage of consciousness detached from nature (see Table 2.6).

The conditions outlined in Table 2.6 merit concern - they reveal alienation from the natural state and they reinforce and enhance the propensity for humanistic faith and other ecologically detached states of mind. They are a dislocation from our ecological roots - what Devall and Sessions (1985) would describe as 'regressive evolution'.

2.3 Environmental managerialism, or the interventionist approach.

'Environmental managerialism' has recently become a catch-phrase synonymous with good environmental management practice. 'Managerialism' is the tendency to manage our surroundings, based on the premise that 'we know best'. It can be argued that the authoritarian and instrumentalist basis of managerialism is incompatible with benign actions in relation to the environment. The phraseology seeks, if not to justify, then to pacify opposition to what is now widely recognised as unethical abuse of our surroundings. Management *per se* is not so much in question as *the gravitation towards intervention and manipulation generally*.

SELF: EGOCENTRIC		SOCIETY: HOMOCENTRIC		COSMOS: ECOCENTRIC	
Self-Interest	**Religious**	**Utilitarian**	**Religious**	**Eco-Scientific**	**Eco-Religious**
•Maximisation of indivi- dual self interest: what is good for each indivi- dual will benefit society as a whole.	•Authority of God Genesis 1	•Greatest good for the greatest number of people	•Stewardship by humans as God's care-takers	•Rational, scientific belief system based on laws of ecology	•Faith that all living and non-living things have value
•Mutual coercion mutu- ally aggreed upon	•Protestant ethic •Individual salvation	•Social justice •Duty to other humans	•Golden Rule. Genesis 2	•Unity, stability, diversity harmony of ecosystem •Balance of nature or chaotic systems approach	•Duty to whole environment •Human and cosmic survival

MECHANISM	BOTH MECHANISTIC AND HOLISTIC	ORGANICISM (HOLISM)
1. Matter is composed of atomic particles		1. Everything is connected to everything else
2. The whole is equal to the sum of the parts		2. The whole is greater than the sum of the parts
3. Knowledge is context-independent		3. Knowledge is context-dependent
4. Change occurs by the rearrangement of parts		4. The primacy of purpose over parts
5. Dualism of mind and body, matter and spirit		5. The unity of human and non-human nature

Table 2.5
Grounds for an Environmental Ethic (adapted from Merchant, 1992).

Equations of humanism:

- •'overgrown' garden = laziness
- •uncut grass & unmanaged woodland = neglect, resource waste...*ought* to be managed and sanitised
- •untamed 'wilderness' = frightening
- •person outside urban areas = 'in the sticks' or 'middle of nowhere'

Effects of the above:

- •slim awareness of the names of local plants and animals
- •little awareness of local edible and medicinal plants
- •(false) picture book images of farm management practices and sources of food.
- •psychological normalisation of life in degraded urban environments.
- •apathy, lack of knowledge, and lack of interest in demanding protection of local and wider environments, and a gravitation towards acceptance of intervention and 'development'.

Table 2.6
The Humanistic Frame of Mind and its Effects.

Managerialism is at the ethical heart of the debate on environmental management. It comes into play on the border between a survival based need for action and action for its own sake. 'Action' here implying *intervention in and the moulding of the natural environment by people*. It might be extended to '*by people, for people*', but there are actions carried out by people for non-humans. This is where the issue becomes confused between selfish and altruistic actions. An action in defence of another being

or organism - which might at first seem to be altruistic - could actually be selfish, since to *not* act for the subject would cause dissatisfaction in the one acting through guilty conscience (refer also to 7.5 for 'transpersonal ecology' and the extension of 'self' to 'Self'). Therefore, pure altruism is unlikely to be a 'real' motivation.

In addition, the 'will to do good' for other organisms is not necessarily matched by the 'ability to achieve' the desired goal: 'blind' intervention can be disruptive because of our limited understanding of ecosystems. The rabbit was not introduced to Australia for its own benefit yet now it is regarded as a pest problem. Similarly with the spread of mink and grey squirrel in Britain. The common lag time between cause and effect means many environmental problems do not arise immediately - a fact that is sometimes strategically exploited by development interests groups.

It is useful to distinguish between 'intervention' and 'participation' in natural processes. 'Participation' can be defined as *acting to fulfil the biological requirements necessary to live and perpetuate as a species*. 'Intervention' can be defined as *deliberately altering the course of natural processes where it is not necessary for living and the perpetuation of the species*. This distinction is made awkward by some of the 'unique' qualities of the human species, namely those deriving from the large complex brain of these apes. We have physical and psychological needs. Hence we seek food, and food for thought. We also have desires, products of conceptualisation and imagination afforded by perception and mental analytical and assimilative capacities. These are particularly distinct in humans.

We also have emotions which can lead us to desire more than we physically need. We also seek more than we psychologically need. This may seem to be striking deeply into psycho-constructual analysis, but it is necessary since the global consequences of our collective desires and demands on natural systems are charging a heavy toll on global surface integrity. An example is desires induced by advertising which offers life-transforming, but actually cluttering products - new/improved washing powder, or a new fast car (with *brighter* clothes, or a *faster* car, we might soothe and stimulate our ego). The media is very much responsible for ratcheting up our material and travel desires and expectations.

It is the consequences of these psychological, but not biologically-determined, needs which are problematic. In some sections of the human species there exist materialistic, interventionist and ultimately self-destructive drives constantly seeking gratification. It is observable that increased economic activity does not *necessarily* mean increased quality of life.

Inflated desires/expectations of material consumption, the ratcheting up of financial units dealt with, and the growth of statistical and logistical complexity often actually arrest and even reverse the trend towards greater life quality.

The power of money can become un-wieldy since it is hardly possible to effectively check the ethicality of all of the inputs to increased product/service consumption. Also stress between people, as well as haphazard and damaging 'environmental exploitation' can derive from inequitable material and financial resource distribution.

Why do we want to manage our environment in the first place? To meet our actual and perceived needs and desires. Some human societies demand environmental management to satisfy consumption greater than biological needs. It has already been indicated that there is a feeling of security associated with the managed environment. A greater level of interference in the natural world is seen as necessary - to satisfy habitual or media-induced needs as well as *real* needs. The dislocation of production and consumption (geographically - and in terms of perception) has led to over-production of raw materials and products, artificial price supports and wastage (in the EC, milk and wine 'lakes', and grain, beef and butter 'mountains'). The Guardian (13/4/1996) reports that:

> *One of the many bizarre aspects of the [E.C.] subsidy system is that intensive farming, using most fertiliser and artificial aids to production, is being most highly rewarded. Farmers who most need societies help to stay in business - those farming organically or hill farmers who also safeguard the countryside - are least likely to be generously treated.*

Simultaneously the 'total resource consumption' (or 'value added') between point of production of raw materials and consumption of the final product is inflated. Changes towards supermarket distribution lead to considerable wastage of foods bought on demand speculation, which when not sold are destroyed.

This is a serious problem with considerable social, ecological and economic consequences (see Table 2.7). It has caused massive distortions in international trading patterns. In England, production of animals for guaranteed per capita prices has meant that stock levels have been maintain at disproportionately high levels. In some areas where land degradation is feared, stocking density caps have been applied, above which price support is eroded.

----->> 1/ Coupled with the international trade of 'livestock'; leads to a greater potential for per capita levels of suffering for the animals.

2/ Ethical bankruptcy as European subsidised livestock production, fed on cash crop grains imported from W. Africa and S. America (*1), is 'dumped' on overseas markets at (locally) undercutting prices. (*2)

*1 - see socio-ecological impacts of this in Tables 2.1, 2.2, and 2.3
*2 - overseas countries victim to European agricultural policy (the CAP) which supports excess food production

Table 2.7
Distortions in Agricultural Systems.

So how exactly is this related to managerialistic tendencies?

The urge to satisfy (artificially inflated) desires is the key to the profit motive. These desires and the induced, enhanced, managerialist tendencies in human character are bound together. The attitude which accommodates these processes will not 'chameleonically' change in other activities. It is a framework of 'reason' that pervades all aspects of life.

Gratuitously consumptive tendencies are conducive to insensitive and disharmonising lifestyles. Managerialistic inclinations are one component of the disruptive outlook (ecologically and socially as well as economically), one which is at the same time consciously and obliviously excessively demanding of the environment. The result is erosion of ethical consideration for all beyond the narrowest 'self'. This means that ethical consideration is eroded to what are increasingly considered to be inadequate levels.

In this discussion of managerialism, it is worth relating the contribution of the scientific world view to this outlook. This world view grew with the 'scientific revolution' (beginning in the seventeenth century). Before this paradigm was something of an 'ecological world view'. Merchant (1992) describes how "the earth was considered to be a beneficent, receptive, nurturing female". This philosophy "served as a cultural constraint restricting the actions of human beings" (ibid.) - it was a constant reminder of our complete organic dependence on the land, and a strong force in ensuring a sound psychological approach to living.

The seventeenth century (Western) scientific materialism encouraged experiment: breaches of the moral restraints the 'Mother-Earth' image offered against the exploitation of nature. This 'new experimental science' was coupled with a world view which saw nature as a dead and inert machine. Merchant (1992) describes how Francis Bacon 'prescribed' the inquisition of nature, how it ought to be "bound into service", moulded for human needs; that we ought to discover her "plots and secrets". She quotes the observations of Robert Boyle in the 1660's, that:

> ...some men [sic] care only to know nature, others desire to command her [and] to bring nature to be serviceable to their particular ends, whether of health, or riches, or sensual delight.

This experimental scientific approach was complemented by a mechanistic world view. It removed the "animistic, organic assumptions about the cosmos" (Merchant 1992), and saw organisms, including people, as being composed of interchangeable parts which could be repaired or replaced (perhaps the most literal manifestation of this belief is the use of pig and baboon organs in transplant operations). It is immediately clear how this system of thought, which is "now taught in most western schools" (ibid.), could contribute to the acceptability of managerialist tendencies. Merchant offers five key assumptions which allow for the human manipulation and control of nature:

- matter is composed of particles;

- the universe is a natural order;

- knowledge and information can be abstracted from the natural world;

- problems can be analysed into parts that can be manipulated by mathematics; and

- sense data are discrete.

For Descartes (1596-1650), motion was seen as a primary quality of matter introduced from instant to instant by God, whilst for Newton (1642-1727) new motion was added periodically (presumably by God) in the form of gravity, fermentation and electricity (lightning), "to prevent the non autonomous world-machine from running down" (Merchant 1992). Nature is composed of systems which can be reduced to predictable rules and laws through observation. Context-independent entities and quantities satisfy science's dependence on "a rigid, limited, and restrictive structural reality" (ibid.).

Ethical codes are a human conception. 'Ought' and 'ought not' are expressions of our understanding of 'right' and 'wrong'. Animals rarely show signs of unnecessarily

devious, manipulative, exploitative or violent intent - recent footage of dolphin 'violence' towards porpoises, and the throwing of seals by killer whales is not 'immoral' behaviour. We like to believe that non-human animals, act not through moral code, but through instinct - which, unless under stress, dictates that they act in peaceful ways. A cheetah running down, killing and eating a gazelle *is* a violent act *in human terms*, but it is a necessary 'part of the process'. People on the other hand do, without doubt, act in 'unnecessarily devious, manipulative and exploitative ways' towards each other and the world around us. This is the nature of the managerialistic approach: *to manipulate, adjust and exploit our surrounds unnecessarily because we think we will benefit, and we think we can achieve defined goals by doing so.* The ultimately unanswerable question is whether it is morally acceptable to exploit the environment simply because we can, particularly when it is widely considered that there are extensive moral implications. Morals have no absolutes, they are subjective standards, but our impacts are more objectively clear. That it is unanswerable does not mean it is not worthy of consideration - perhaps moral precautionary principles ought to be exerted.

In conclusion, "the mechanistic [managerialist] world view continues today as the legitimating ideology of industrial capitalism and its inherent ethic of the domination of nature" (Merchant 1992). Such mechanistic assumptions, whether or not they are accurate perceptions of reality, are problematic ecologically. Through the interactions between human societies, they are socially problematic as well. Merchants' tabulation of the 'grounds for environmentalism' (Table 2.5) denotes these philosophies as 'egocentric'. The egocentric position is challenged firstly by the homocentric view (which seeks to safeguard the interests of people), and secondly by some ecocentric views (which seek to normalise respect offered by an intelligent species to other species and systems). All of these are challenged by some radical ecophilosophies.

2.4 Speciesism.

Speciesism is analogous to environmental racism. It parallels humanistic and homocentric attitudes in that it marginalises, and legitimises disregard of, the interests of non-human species. It is also in part a product of managerialist and mechanistic outlooks. It does not necessarily apply where there is *direct survival competition* between people and other species but this is not as common as it is perceived to be. In peoples' search for profit, for 'entertainment', the unquestioning acceptance of traditions, ignorance and indifference or 'each-to-their-own(-but-only-if-human)' acceptance of what is no less than malicious disregard for the interests of other species, humans abuse and exploit other species.

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In environmental management the most direct and intentional application of speciesist attitudes are in animal agriculture and in many forest and land management practices (including strip/deep mining). Other effects might be termed 'indirect' or by 'default'. The latter includes the construction and maintenance of agricultural and other large scale infrastructures, and smaller scale forms of management such as the manipulation of 'game' animal populations and 'vermin' control ('varmints' in the US). Alongside game population and vermin control are other controversial issues such as 'recreational countryside sports' and live ammunition use in military training zones.

There is speciesism inherent in medical research and cosmetics testing; the fur trade; the use of dogs and horses in crowd control and 'dangerous situation investigation' (e.g.. mine fields); the animal entertainment industries (zoos, circuses, dophinariums, and household pets); and more contrived 'sports' (cock-fighting, bear baiting, rodeos, bullfights etc.) - but these really fall outside the realm of environmental management. However the environmental consequences of some of these practices can be significant - demand for African wild animals (coliseums in Roman times) brought about massive population reductions for many species. Seymour (1989) tells us that:

> North Africa was practically denuded of large wild animal life by the insatiable
> appetite of the [Roman] arenas.

The question of 'tradition' associated with cultural continuation arguably *explains* much of the resistance to change in our treatment of other species. It does not *morally* excuse what some see as ethical negligence - negligence by those who are aware of the arguments against the continued abuse of animals which are farmed, persecuted through land management practices and in the name of 'sport' and 'pest' control. It must be emphasised that advocating the liberation of animals from their currently degraded status *does not imply lowering the status of people towards some mean value*.

Where speciesism is entrenched, it makes decision making much 'simpler'. This simplification prepares the ground for moral erosion. The debate (exhaustively covered in literature) is without doubt one which stimulates strong feelings. The case against the continuance of current practices, and for affording greater regard to non-humans is argued on *utilitarian* grounds (for example Singer's landmark book of 1975, 'Animal Liberation') and on a *rights* basis (S. Clark and T. Regan for example). The essential shared implication is that animals have interests which are of equal importance to *them* as ours are to *us*, and therefore respect for their interests is due. To disregard the interests of people is considered to be immoral. The same ought to

apply to non-humans. Table 2.8 presents a simple breakdown of human un/abusive interactions with other animals.

Consciously abusive

Malicious abuse of animals for various reasons including anger release, and neglect of animals in ones charge (there have been convictions for this, though the punishment has only been petty). Many acts in this category are illegal, though cruel practices such as the use of leg-hold traps in North America, snares in Europe and elsewhere, and the most intensive forms of animal product production (such as battery farms, veal crates, and Fois Gras pate production) are legal in many countries.

Naively/unknowingly abusive

Includes abusiveness due to a lack of information, for example through investing capital in a bank or the stock market and therefor indirectly supporting abusive practices they invest in. Also includes thoughtless acceptance of abusive traditions, and this is linked to a lack of consideration.

Regretfully abusive

Where practices are recognised as abusive but are continued either through a genuine belief that they are necessary (though they might not be so); where one feels that it would be futile to try to change the status quo; or because there is actually no choice due to a survival type situation (during war or famine, polar residence...).

Optionally abusive

To chose abusive practices, knowing that they are so; for example "I couldn't live without bacon"; the farmer seeking profit from animal agriculture (particularly through the more intensive systems); agroforestry practitioners who ignore the ethical consequences of their actions in the pursuit of profit; and abuse of animals in the pursuit of country sports (some who participate genuinely believe they are not cruel activities, whilst others see the abuse as a small price to pay for an invigorating ride/run/walk through rural areas).

Unabusive by default

Where one is by chance unabusive, for example where one can not afford to buy meat and other animal products or one can not afford to own and manage land. Also investment in building societies, which are only allowed to invest in housing developments - limiting investment in, for example, animal agriculture.

Unabusive by choice

This might be on account of health-related dietary prescriptions (of a vegetarian / vegan diet); through choice for the positive health effects - still a selfish act; or where for moral or ethical reasons one chooses not to participate in any way in the practice of or demand for abusive practices.

Table 2.8
Outlooks of Un/Abusive Interactions with Animals.

Human and non-human animals are to an extent territorial. Some non-human animals can adapt to living with people (such as dogs and cats), whilst others experience shortened and less fulfilled lives. Some experience severe deprivation and frustration (birds in cages, fish in 'domestic' tanks) and others are deliberately/naively mistreated. It is useful to distinguish between the treatment of captive and wild/feral animals, and to consider the effects of captivity on animals. The natural place of an animal is amongst its own kind (though some choose solitude for extensive periods of time), with the freedom to roam within the territorial complex of animal life. Human claims

to territory are 'natural' as well but the construction of fencing and walls are a direct interference with the movement of other creatures. The legitimacy of these barriers more often though, rests on their requirement for the control of captive 'livestock', a practice questioned by the arguments in favour of respecting the interests of animals.

Before discussing the treatment of captive and wild/feral animals, the *need* for using animals will be considered. Both the successful existence of herbivorous human communities and cultures, and scientific research, show that there is no inherent nutritional deficiency in a plant-based diet (though as with any dietary habits, a 'bad' diet is possible). Indeed there can be considerable health benefits from a balanced plant diet. This is confirmed by for example Dr. G. Langley's 1995 book, 'Vegan Nutrition', which is a detailed composite analysis of scientific studies in Europe and America to date considering the nutritional adequacy and effects of the plant-based diet on human health. Numerous other writers, including Garner (1993), and Al-Hafiz B.A Masri (1989) support the same conclusion: that there are significant health benefits to a balanced plant diet. It is beyond reasonable doubt that animal agriculture and other sources of animal based sustenance are *not biologically necessary for the healthy continuance of the human species*. Since humans are also endowed with reasoning and a moral sense, and given the omnivore choice, they have a moral obligation to reduce/avoid consumption behaviours which cause unnecessarily enhanced levels of suffering.

The question then arises whether or not is feasible to grow or gather plants adequate to sustain humans. This obviously varies depending on geographical and topographical location, but in general, a proportion of the inhabited earth can supply sufficient plant foods. In some areas, for example in temperate climates, there is no reason why an appropriate agricultural strategy could not support the human population with a good plant diet. Furthermore due to the nutritional efficiency of a plant-based diet, about a quarter of the current farmed land in Britain could support the current population on a plant diet since it takes between 10 and 20 units of plant protein to 'produce' one unit of animal protein. Clearly some areas, such as biotically marginal arid and desert zones and polar/perma-frost belts are not able to support human populations solely with plants.

The way in which people are geographically distributed, with an ongoing urban convergence, is considered a barrier to wholly ecologically-sound, herbivorous human existence. Realistically, the trend toward ultra-mobile lifestyles will not change in the foreseeable future, nor will the complex networks of people and goods

transport disappear. The logistics of a herbivorous food industry are much simpler than an omnivorous one.

The use of animal power to farm land and move resources is another form of exploitation which, although it relieves considerable labour burdens from people, does mean the exertion of morally questionable control over other creatures and it can considerably enhance their suffering (through extreme and unbalanced load-bearing). Captive animals are used as 'tools' of production: 'beasts of burden'. Equine and bovine animals are the most common recipients of this treatment (canines are also widely used as work 'hands').

The first moral objection to the above is to the use and control of the animals. Secondly, in their maltreatment through the training process and during 'work' (the use of goads, whips, and other forms of violent physical contact). Where such abuses are banned in law, as with other laws, they are broken. Condoning the use of animals as above, even with welfare protection laws in place, is effectively sanctioning the inevitable abuses in the practices.

The production of animal carcasses and dermis by-products (feather and hair) is the next issue to consider. Extensive literature supports the case that the process and products associated with animal agriculture involve enhanced suffering, stress, and interference in the liberty of the subjects (crowding, body part docking, cage/pen containment, disregard for family and group bonding sensibilities, direct control abuses, sex selection in bird production, and genetic manipulation).

Indirect consequences of animal agriculture which to an extent might be classed as 'externalities' include:

- altering land for purposes of animal agricultural management;

- feed crop production, transport, and preparation (human social consequences were described in 2.1);

- carcass and animal-agricultural waste disposal by combustion or burying; spillage (milk having a particularly high biological oxygen demand in breakdown; slurry also causes problems including eutrophication in water bodies);
- agrochemical pollution;

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- the associated perceived requirements for vermin and predator control;

- (waste) by-product application (slurry to land, resulting in gaseous and particulate contributions to air and water - greenhouse gasses and eutrophying nutrients);

- excessive surface vegetation removal causing exposure to erosive forces; and

- associated energy and nutritional consumption for an inefficient system of food production and distribution.

Animal agriculture has ecological and ethical implications since they directly affect other animals in areas where the agriculture takes place and beyond - as air and water transport redistributes and dilutes the by-products. Since many of these effects on non-farm animals are predictable, the sanctioning of animal agriculture can be described as speceisist discrimination against non-farm animals in addition to farm animals.

Wild and feral animals are affected as we manage the environment around us for a number of purposes other than agriculture. As mentioned above, they are subject to population reduction (as vermin or pests: wolves, foxes, hares/rabbits, crows, stoats, mink, grey squirrels etc.) by means of direct assault, trapping, snaring, poison, or genetic interference. They are subject to population 'streamlining' (e.g. deer culls) and are persecuted in the practice of country sports. Uncountable numbers of wild and feral animals are affected when vegetation is thinned, land cleared, ploughed and 'moulded' for forestry and other agricultural, mining, and recreational purposes - as well as for infrastructure and urban developments. Wild and feral animals are particularly affected by crop maintenance and harvest (seasonal and longer term silvicultural) since they settle, and are then are displaced as the crops are harvested, or tree crops are thinned, cleaned and treated with biocides.

Two issues, which purportedly have animals' and conservation interests as goals, are worthy of attention. Firstly, zoos encage animals stating that as well as education (and entertainment) the aim is the preservation of species (with the longer-term goal of reintroducing species, and boosting wild populations). This incarceration, in the same way as more intensive animal agriculture, often induces depraved states of mental and physical conditions. These are manifest as 'tameness', obesity and illness - and tormented creatures displaying stereotypical behaviours. Few animals are ever reintroduced: re-introduction has a hit-and-miss record of success and most zoos

either have insufficient funds and/or knowledge to provide basic appropriate conditions, or else they are conspicuous displays of extravagant wealth or imitations of latter-day entertainments. Many would go as far as to say that animals in perpetual captivity verge towards being sub species - for example an elephant in a small plantless enclosure, (otherwise) migratory birds in small aviaries, or 'big cats' in cages (they are all very depraved conditions of existence).

Secondly, countryside sports are thought by some to be economically viable means for conserving species (see for instance various publications from the British Field Sports Society and The Game Conservancy). Even though woodland may be planted for the purposes of providing game bird cover or fox coverts, many would suggest that conserving to kill is a morally corrupt and corrupting mentality. The British Field Sports Society and the British Association of Shooting Clubs assertion that without country sports there would be far fewer deer, hedgerows, copses, and other small wooded areas, are simply emotive, illogical. Blood sports such as badger baiting and cock-fighting have illegal links with the wider country sport community. 'Sports' centred around killing sentient animals are a questionable basis for conservation, one that is incompatible with ethical, ecological and social consideration.

In conclusion, it is most frequently the case when animals are subject to negatively experiential impacting treatment by humans, that the practices are not necessary. Whilst they carry on, they satisfy human *trivial* interests, such as food type preference, the search for profits, or entertainment, at the direct expense of the most *vital* interests of animals. Few would dispute that the unnecessary suffering is unfavourable. So the conclusion which can be drawn is that ethical consideration is usually of low status in evaluating our conscious interaction with non-humans, and so speciesism is a condition of contemporary society. Britain is often described as a 'nation of animal lovers' but *the failure to recognise* the ethically problematic nature of many practices is part of the speciesist psychology.

2.5 Dilemmas.

A number of attitudinal and psychological constructs which seem to result in the ethically and morally problematic consequences of human activities have been discussed. It is now appropriate to search for an understanding of how these fit into the daily reality of decision making in organisational and development situations. Development and organisation mean change and management. The direction of change, the means of change, and the structure and methods of management necessitate decision-making. It is in these choices that ethical consideration can, and

should act as a tool and guide. Decisions based on the advantages and disadvantages and the ethical implications of the option(s) chosen must be made. Such evaluations, where due consideration takes place, are rarely simple. Rather, dilemmas arise - a choice has to be made between two or more courses of action, all of which may have some undesirable consequences. Whatever decision is made, there will be some people aggrieved by the decision. In the case of the most common pro-development conclusions, ethically and ecologically problematic effects will result.

Bennet (1992) outlines what he sees as the key types of dilemma that arise in decision making pertaining to environmental management. He suggests that first and foremost there are *ethical dilemmas*. It seems fair to suggest that rigid standards are the only way to guarantee the maintenance of conduct fitting to a moral society: "in the absence of immutable principles, utility will always tend to displace moral justice". In other words, unless there are clear, obligatory standards in development and management, the search for personal or group utility will reduce ethical standards to a low and/or optional status.

Next Bennet suggests that there are *efficiency dilemmas*. This refers to how much environmental damage is acceptable in the search for utility. They are questions of degree. What is required is a mechanism to "deduce a proper balance between utility and environmental damage" (ibid.). Traditional mechanisms for achieving what was seen as an appropriate balance were economics based cost/benefit analyses. Now though, there are attempts at broader-scope mechanisms for establishing a more accurate representation of the costs and benefits of proposed actions, and assessing the effects of past actions (see chapters 4 and 5).

The next two dilemmas are socially based: they are *equity and liberty dilemmas*. The equity dilemma refers to who benefits from and who suffers from the impacts of actions - who pays for the operations and management, and who profits. It is complicated in most of contemporary society by the existing distribution of wealth and power, and cultural/political systems which are not based on collective principles.

Schools of thought which advocate 'from each according to their ability and to each according to their need' (communalistic), or suggest that 'claims to property are admissions of theft' clash with free market ideologies. The latter accommodate unlimited private appropriation of resources and assets with little emphasis on equitable distribution, a system which when functioning under the same umbrella as 'nation state taxing' is a morally contradictory order. It is a system which plays into the hands of 'free market capitalistic hooliganism' (what Heider (1994) calls 'anarcho-

capitalism'), one of the most divisive aspects of contemporary society and an extreme version of individual/industrial liberty. The Marxist school of thought emphasises collective security and social harmonisation through community obligations, not what Bookchin (1990) describes as a 'nihilistic anti-property obsession' which led some in the 1960's to feel they were liberating society by stealing from shops. However there is ample moral weight in the notion that "no one has a right to own property on which the lives of others depend, - either morally, socially or ecologically" (Bookchin 1990).

Liberty concomitant with private accumulation of wealth, is a source of much disharmony and moral erosion. But as Bennet (1992) asserts, "certain interests strongly resist subordinating their private interests to the collective good". Why should A share the products of her efforts and work with others? If B didn't work for it, why should B benefit from it? Why shouldn't A be allowed to maximise personal gain? Why should A sacrifice gain for the benefit of B? Because as an intelligent species we can choose mutual aid over competetivism without derailing the motivating force behind progress; because moral consideration would create a more equitable ideology than afforded by personal-gain fundamentalism. This ought to extend beyond the human species to include the whole of the Gaian collective.

The fifth dilemma category raised by Bennet is *uncertainty*. As was suggested in relation to humanism and scientism, we have incomplete information on the functioning of ecological systems with which we interact. Therefore we are unable to make fully-informed predictions of the likely effects of actions. We can observe and predict effects but can never have considered all possibilities. Execution of convicted killers is argued against for the same reason, that *'beyond reasonable doubt' is not definitive*. The execution (or the release of a genetically modified animal, the 'placement' of a road through a forest etc.) can not be reversed. There are infinite possible impacts of actions. But within limits we are able to predict a number of possible significant effects of any action or abstention from action. This affords a basis for precautionary actions or restraint.

Associated with uncertainty and precautionary action is *risk*. Who is to assess risk? How? And who says what is acceptable? As described below in 'frameworks of environmental analysis' (4.1), risk-benefit analysis aims to balance risk against possible gains. But how much risk is acceptable for a given set of expected gains? Does the level of risk acceptable change with the expected returns of an action? This issue is a source of much heated debate, for example in the situations described in 'environmental racism' (2.1), where poorer communities may be willing to accept higher risk - making operations potentially cheaper in terms of safety standard

expenditure. Should companies assert equal standards of environmental and social safety globally, or is it acceptable for them to be more lax in poor countries just because it can be got away with? The latter seems a repugnant choice. How then can even the efforts of environmental economics deal with moral questions? Who is X to decide what risk Y can acceptably be exposed to, and what if Y states that s/he is willing to accept greater risk than what X would permit? Two social dilemmas emerge: how much autonomy should individuals have over their own life and safety; and what obligations in this respect do individuals have to society? Again, there can be no definitive answer.

Lastly there are *evaluation dilemmas*. How can incommensurate values be compared? Chapters 4 and 5 describe and analyse methods of environmental economics. These are seen by many as the most progressive and useful attempts to reach a stage of comprehensive impact analysis, but - as is considered in chapter 5 - there are a host of dilemmas related to the usefulness of, and indeed legitimacy, of the products of environmental economics. Some market-derived values may be no less problematic than the market system itself. But others, such as the hypothetical market contingent valuation values are even more so. As Bennet (1992) suggests:

> *...no matter how objective a rating system may appear, all ratings are value judgements. And if there is no objective measure of personal values, they can be neither quantified nor aggregated into group preferences.*

There seems to be a certain impossibility attached to the idea of a comprehensive legitimate evaluation process. Does this mean that we ought to let go of what fragments of such a system we have managed to collate? Of course not: we have a moral obligation, if we can not find a perfect system, to move as far away from bad systematics as possible.

Bennet presents several case studies of dilemmas, which broadly represent the kinds of situations that decision-makers face. The first is a river development project nearing completion, where it is found that the sole population of a previously-unknown species will be destroyed if the project goes ahead. But if the project is cancelled, there will be no pay-back for the considerable investment. The next is a situation in which the economic basis for an area is a particular industry, the viability of which depends on the cheap disposal of waste into a river - but the dumping is now seen to be the cause of considerable ecological damage due to steady growth in production and discharges into the river from other industries. This is threatening the safety of downstream water-users in another country. A similar type of situation might be where an industry is only able to be competitive if subsidised. Many jobs

depend on it as does the local economy. Due to exchange rate changes, the subsidies will have to be increased or the industry will collapse. What choice should be made?

Next he describes a situation where recent evidence suggests that the emissions of the industrial base of a nations' economy are causing severe environmental damage in countries downwind. As new international legislation demands improvements, how can this country absorb the costs of cleaning up the industry when the benefits will all be abroad, and experienced by others? Another situation arises where part of the culture of an indigenous people involves a large mammal (such as the Inuit and the bowhead whale). Hi-tech hunting has reduced the numbers so drastically that it is threatened with extinction. What does the leader of the indigenous people do? End a part of traditional culture, or carry on with the tradition and risk controversy with conservation bodies and the possible extinction of the animal which is part of the culture?

A multi-national company proposes to a financially poor country the development of a large industrial plant which will create jobs, stimulate the local economy, ...and pose a low, but potentially very damaging, threat since the industry will involve hazardous operations with toxic substances. Furthermore, the national inspectorates might not have the skills and resources to monitor such an operation effectively. What does the poor country do? Lastly he describes a situation where a picturesque coastal community with a small shipping industry is faced with a dilemma: the ship builders have won a contract to build some large ships. To do so they propose to replace the old estuary bridge with one that would allow larger boats to pass. There would be considerable economic expansion in the community but part of the community is concerned that the valuable qualities of the area will be lost as industrial expansion will follow this first proposed expansion. What should the mayor do?

As was suggested in relation to humanism, we all too frequently trust that there *must* be a solution to any problem, that at all junctions there *must* be a favourable route. But this is not the case, and particularly in the context of environmental issues, often a choice must be made between some form of preservation or protection and the equity and liberty interests of sections of the human community: ethical consideration is pitted against economic potential. For impossible dilemmas one route must be chosen over the other - as both can not be had. The conclusion of Bennets' (1992) study is that *in none of the trade-off situations did things turn out in favour of environmental protection.* He finds that:

...economic constituencies are demonstrably better equipped to cope with conflicts of interest than are environmental constituencies.

Bennet's study is unique in the literature available in that rather than being geared towards environmental or developmental persuasions, and rather than attempting to provide formulas for solution making, he presents a barrage of dilemmas. And as has been emphasised in this paper, individuals are rarely intent on doing harm to others: rather, the real world continually offers intractable situations. It is often the case that if one is to gain, another must lose. There is not an ever-expanding cake for all interest sources to seek more and more of: media and the effectiveness of advertising mean that in a material world, aspirations will always exceed their satisfaction. If economics is to be the dominant paradigm, environmental interests will be sacrificed. This would seem to be the case, though as will be seen in chapter 7, there are those who consider green capitalism and green business to be a viable, indeed necessary and inevitable future.

The application of a 'comparative advantage' (CA) places CA on a questionable pedestal in which 'economic primacy', based around economic theory, presides where wider considerations should sit. Yet this may not be through intent so much as the default nature of the real world. However this is difficult to accept. This is the same problem affecting minority and indigenous communities threatened by the actions of the wider society or development interests. But could this be a 'natural' state of affairs or is it the result of intent or narrow focused action-return analysis?

Bennet (1992) observes that failure to invest in rigorous anticipatory mechanisms meant that the initiation of the activities which caused the impacts preceded proper assessment. This is one of the key criticisms raised against 'environmental impact assessment' (EIA): they are obligatory for many developments, but it is up to the developer to conduct them. Thus they tend to be undertaken with the development in mind. Whoever prepares EIA's which tend against the proposed development may well threaten future chances of being employed to conduct EIA's. Those opposed to the development very often do not have the economic clout to fight legal battles and conduct extensive *'scientific'* investigation, while the developer is able to write these off as overheads for developments which are expected to offer financial rewards.

This chapter has discussed some of the psychological constructs which define the context of the world we see ourselves in. Historical perspectives were considered, particularly in relation to environmental racism. Other aspects of human relations with and attitudes towards the natural world and other humans were raised. The next

chapter considers human social development and the emergence of capitalism; the socio-ecologically expensive implications of dependency theory; and what is recognised as a degenerative and seriously disruptive end-product of cultural and social change: a decadent consumerist culture of contentment.

CHAPTER 3

GLOBAL HUMAN SOCIETY/IES AND MANAGEMENT OF THE ENVIRONMENT

This chapter attempts to trace social history development from early societies through to the contemporary 'culmination' of 'Western style' development, and investigates social structures as they evolved from communal to highly divided systems. Social development is of crucial importance with regard to the nature and level of ethical consideration in our lifestyles and activities. Capitalism is one of the conceptual products of social development, and whether it is seen as a natural evolution of trading systems, or as a tool of exploitation, it is a dominant system, and proponents claim it offers materialistically attractive possibilities.

This chapter also considers dependency theory, this being the process which is problematic because it serves to reduce the status of the interests of the dependent population to one vulnerable to external (most often economic / profit oriented) interests and desires. It is very much linked to the discussion of environmental racism (section 2.1) in that the dominant peak of the dependency hierarchy are some 'Western' white persons and multi-nationals. In the process of development and maintenance of this human social construction, ecological concerns are marginalised through disinterest on the part of some (seeking profits), and by others who come under serious survival pressures.

3.1 Synopsis of historical societal development, and capitalist emergence.

3.1.1 Historical Societal Development

The structures and nature of society is of prime importance in the way it affects the management of the environment. Broad changes in the form of social developments result in changing impacts of society on the environment. Change in impact is predictable, but what is more subtle is the changes over historical time since it is only relatively recently that the potential for drastic impacts over a short period of time has existed. Industrial culture offers considerable transformative potential for human lives and their impact.

Whether one adheres to faith in the notion of evolution or old testament religious creation, it is undisputed that human society has developed and expanded in its

abilities to manipulate environmental circumstance. The concept of 'progress' from a subsistence lifestyle has become an existence option for large sections of human society. Prehistorians suggest that humans emerged as distinct from other apes 5-10 million years ago, archaeological evidence from East Africa suggest that standing stone tool using, hunter-gatherers existed 1.8 million years ago, and 5,000 years ago the first forms of agriculture emerged (Peet 1991).

Peet considers the nature of the pre-capitalist world, and conceives of three key stages in social development process that can be seen: primitive communism, kin-ordered societies, and tributary formations. Primitive communism is based around gathering and hunting and other non-agricultural food acquisition techniques, and was dominant until about 15,000 years ago. It is interesting to note that this means human society has been for 99% of its supposed time, gatherers and hunters. Aside from the smaller global population numbers during this time, the nature of such societies would mean low per capita impact on the environment. Indeed, a virtual absence of management would place such systems in the category of 'environmental non-management' by default (rather than intentional laissez-faire). It is generally thought that such societies were co-operative and egalitarian (Peet 1991, Bookchin 1991, and Seymour 1989), whilst the nature of the roles of the sexes was already as is widely conceived today : "in all societies women are associated with the power to give life, men with the power to take it" (Peet 1991) - so men generally hunted whilst women gathered and produced and cared for children.

The kin-ordered society emerged with the domestication of plants and animals and an increased commitment of family labour to a particular piece of land or flock of animals (Peet 1991). Peet sums up the conclusions of a number of authors, saying that under conditions of resource stress as the Pleistocene glaciation retreated (Early humans living in East Africa which became more arid), something of a Neolithic revolution transformed the forces of production and domesticated plants and animals. Since women were the ones who had gathered plants in the past, they were the main driving force initially (planting crops), leading to an enormous increase in the productivity of their labour. Some suggest that this was where regular tradable surpluses began.

As agriculture required continual and more ordered work for the production and storage of foods, what began as a logical extension of the primitive communal style of labour division increasingly became formalised - differences and specialisations were transformed into inequalities, and hierarchies emerged to ensure labour reproduction from life creating women. This is the beginning of the processes that Bookchin

(1991) observes in his social ecology: the domination of human by human began the hierarchical struggle between the sexes, which led to the domination of nature by humans.

Bookchin asserts that this hierarchical struggle manifested itself in the:

> ...breakdown of primordial equality into hierarchical systems of inequality, the disintegration of early kinship groups into social classes, the dissolution of tribal communities into the city, and finally the usurpation of social administration by the [male dominated] state.

This also introduced the embryonic form of one of the socially problematic aspects of environmental management - men filling administrative roles, while women bore the brunt of agricultural effort (and so the dualistic nature of women's work load calcified as this land work was done alongside the domestic tasks of home making). Tribal leader systems emerged as heads of kin groups were increasingly mysticised and hereditary leadership was established. So men often functioned as leaders, women were controlled in conjunction with their reproductive and biological abilities in child care, and increasing demands for regular labour for agriculture (working the crops and livestock and improving the cropping landscape, for example by terracing) kindled systems of serfdom and slavery. Although male dominance is thought to have been most common, matriarchal societies are also thought to have been not uncommon (see for example Merchant 1992). But in analysis, as Bookchin (1991) states:

> 'Matriarchy' merely changes the gender of domination and thereby perpetuates domination as such.

Tributary formations grew out of the kin-ordered social structures, and productivity growth and the concentration of surplus in the hands of an emerging state (or kingdom) culture enabled disproportionate accumulations of social, agricultural and asset/material control. There emerged in different parts of the world different social and land management traditions as cultures evolved with diverse climatic, topographic, ecological, social and philosophical influences.

Peet (1991) describes the Asiatic state as characterised by a pyramidal clan structure in which surpluses were absorbed by the transformation of old tribal aristocracy into state, and a central place system created a two tiered structure with core and peripheral areas. Geopolitical expansion occurred as the level of trade grew rapidly (especially in prestige goods) and so developed such concepts as market share and

monopolies. Parallel to this was the development of centres of trade; in conjunction with political and hierarchical competition, territorial and city states emerged.

Increasingly, territorial and political interests demanded fortification of key areas. As habitation clustering formed larger towns and eventually cities, the importation of food became essential. Larger and more ordered trading systems, and regional specialisation for exchanges developed. Administration centres focused on the creation of tradables such as textiles and crafts (secondary goods), whilst the increasingly defined peripheral agricultural regions continued to produce land sourced products - foods, crop / livestock by-products and raw materials (primary products).

One of the 'dynamics' thought to be of significance in social development processes is the ability to overpower 'natural' levels of production - particularly through the use of irrigation - so allowing greater regional autonomy in respect of food availability. Core areas could manipulate agriculturally dependent regions more effectively once the former could provide food for themselves (or the latter depended on resources from core areas to maintain the irrigation infrastructure vital to the expanding agricultural systems (Seymour 1989)). There is an observed correlation between irrigation and social dynamism in diverse parts of the world (South West Asia, Egypt, China, Peru, and Central America). There is some dispute over the actual level of significance of irrigation, just as there is debate about the importance of environmental determinism in societal development. Also, there is thought to be no clear pattern regarding whether irrigation and so agricultural productivity invited urban concentrations of population, or whether urban concentrations of population demanded the development of more productive agricultural techniques (Peet 1991).

3.1.2 The emergence of capitalism.

A dictionary definition of 'capitalism' is...

> ...an economic and political system in which property, business and industry are owned by private individuals and not by the state, and in which companies are run in competition with each other in order to make a profit.
>
> (Collins Cobuild English Language Dictionary)

Bowles & Edwards (1993) describe capitalism as an economic system in which workers are hired to produce goods and services, to be marketed with the intention of making a profit. They refer to a 'capitalist epoch', suggesting that around A.D.1500, when capitalist organisation of work first appeared in parts of England and Italy, it only affected a few people. Prior to capitalism the majority of the global population

were born, lived, worked and died within small geographical circles. Migration, conquest and other forces of geo-political expansion translocated people to other areas.

The development of more formal and planned trade, the reorientation of production towards exchange, and the rise of mercantile cities were the essential process changes marking the transformation from pre-capitalist to capitalist organisation of societies (Peet 1991). Accompanying these changes were the operational support processes - those necessary to facilitate the emerging capitalist culture. Administrative structures and systems of transport capable of connecting increasingly distant sites of production and consumption, a paradigmatic shift in *labour* relations (towards employers with greater leverage over the lives of *employees*), and an overall increase in activity and lifestyle horizons forged changes in human ecology which offered scope for significant improvements in human life quality, and indeed seemed very attractive. It is important to note that population increase was a prerequisite to capitalist emergence, since without a potential market for the (mass) scale of production, capitalism can not exist.

Capitalism's' emergence and development was accompanied by considerable change in respect of people and place: as just mentioned, the global population began to increase very rapidly; urbanisation created ever-growing clusters of populations; and scientific and technological revolution radically altered processes of survival and living for large sections of the global population. Manual production of all goods using hand tools and water wheel power till about 1500 then accelerated into mechanised operations which in some areas, made hand tools obsolete (especially for trade production) and considerably reduced the time taken to produce goods (Bowles & Edwards 1993). The tools of mechanised production are just a part of the self-generating industrialism of capitalist production systems.

As mentioned above, transport systems were of key importance to the emerging societal trading systems. Bowles & Edwards (1993) suggest that what was available in 1500 was little different to what was available to the Romans 1000 years earlier: overland transport was "arduous, costly, slow and highly unreliable", walking was normal and (occasionally drawn) wagons were used: only the wealthiest could afford to travel more than a few miles from home, and water transport was with small, slow, and unsafe ships.

By 1600, ships regularly rounded the Cape of Good Hope and crossed the Atlantic, and by 1800 ship speed was greater, and crossing the Atlantic became routine. By

1900 steam power was increasingly common and canal construction (the Suez and Panama) had reduced the travel-time size of world water trade routes. During the 1900s, ships grew to enormous sizes, carrying 2500 times the cargo of Columbus' ship of 1492. Land transport was also revolutionised: the digging of canal networks reduced the cost and increased the efficiency of 'overland' transport. The mid-1800's brought the railway, massively increasing the ease of movement for people and goods. By 1900, railways extended across all of the worlds' industrial areas, penetrating into Russia, China, East Africa, North America, and North India as well as Western Europe. The 1900s brought the automobile and trucks, continuing the revolutionary levels of transport development (Bowles & Edwards 1993).

~~Whitelegg provides a diagram which places the utility of the automobile in perspective. It is set against the bicycle in terms of a number of important criterion, some of which not often considered by car users. The example is drawn from a German study, hence the currency and use of kilometres per hour (see Table 3.1).~~

These advances were matched by developments in communications, so administratively completing the course of capitalist emergence. The advent of refrigeration (in conjunction with improvements in shipping) was of particular importance to the capitalist culture since it allowed for the transport of farmed foods from the colonies back to Europe - for example from South America to Spain and Portugal. Medical improvements, and particularly increased awareness of hygiene afforded considerable improvements in health and life expectancy.

3.1.3 The effects of capitalist emergence.

At the household level there were drastic changes as the revolution ages progressed. Previously, production and consumption had been predominantly based around the household, with local exchange adding variety to consumption and tool use. Capitalism, especially with urbanisation and the mechanisation of agriculture pushed and pulled people into the employ of others. Even the use of a simple cattle drawn plow massively increased the productivity of the person-hour of labour.

Bowles & Edwards (1991) describe how little was to be left untouched by the spread of capitalism and its associated physical and organisational phenomena. As more people moved into paid employment, so their links to other areas expanded, and at the same time their vulnerability to unemployment was enhanced in two key ways. The first was through inter-regional competition for mobile market shares. The second was vulnerability to redundancy as technological progress rendered old skills obsolete

- and, increasingly with mechanical productivity, reductions in the numbers of people required to do the same amount of work.

Polarisation of development and underdevelopment is described in 'Dependency Theory'. The nature of the working environment changed as well. As machine production spread and domestic white goods became more common in the household a trend towards large factory scale production occurred (Goodman & Redclift 1991). Since this increased the labour productivity of the worker, unemployment growth resulted, and poor working conditions meant life quality was compromised. Bulk scale production also had the effect of standardising, to some extent, what was consumed.

The crucial characteristics of capitalist society, time and timing, worked their way rapidly into the fabric of daily life: punctuality to external demand and demand from above became normal. Previously the pace of the worker and the rhythms of the weather and seasons clocked the time of day. Household life has been "reshaped, emptied of its functions and nearly eliminated" (Bowles & Edwards 1991). Whereas previously family generations clustered nearby or together, now even the nuclear family is the minority. What used to be the domain of the family - the production of foods, clothes and basic education and medical care - is increasingly the job of outside 'professionals'. The family and community network has also suffered in the wake of capitalist shifts in the economies of societies. Previously families often lived in the same location for generations. But now each generation may move many times in the family unit even before the children leave school. This has social effects beyond the scope of this thesis.

Goodman & Redclift (1991) assess the transformations that occurred in relation to rural society and the precedents leading to the modern agri-food industry. Family-based farming has survived only through accepting radical changes in the nature of agricultural operations. The agricultural population has massively reduced both in North America and Europe. In 1990 the number of farms in the US was less than a third what it was in 1930. In the EC, the reduction in the number of farms was delayed and slower: it was reduced by about half between 1950 and 1990. It is argued that in both the extensive (pre-1939) and the intensive (post-1945) systems of accumulation of wealth and food security,

> *...the role of agriculture has been to relieve downward pressure on the rate of profit by furnishing staple foodstuffs or 'wage goods' at low real prices to the urban industrial sector.*

(Goodman & Redclift 1991)

Thus agriculture, which in the time of early colonialism was the backbone of most the bulk of global society later became the tool of wealth creation wielded by colonial powers once it was feasible to transport foods from the 'colonies' to the 'motherland'. Later agriculture became again a crutch of security. The difference then was that it served to prop up the capitalist endeavours of elites in whose hands lay the rapidly growing and increasingly competitive commodity production industry. Seymour (1989) describes how across the globe, the detachment of elites from the land they owned became (and still is today) so distinct that they often never even visit the land from which considerable rents are drawn. This type of situation is one of the most socio-ecologically dislocated structures of modern man: that people living off and dependent on a piece of land should pay another for the use of that land, whilst the other may own much more land than her entire family might require to feed themselves, is an absurd and non-sensical result of greedy non-communalistic culture. How is it that the Duke of Westminster 'owns' 20% of the English countryside?

Features of intensive capitalist accumulation after 1945 are these:

> *the interdependent expansion of capital and consumer goods industries, rapid technical change and productivity growth, monopoly market structures, the transnationalisation of production and exchange, and mass consumption of standardised commodities.*

(Goodman & Redclift 1991)

High mass-consumption in western society, which is classically the climax in development models (following a 'drive to maturity' in the economy), is now to some extent threatened by an environmental and cultural consumer backlash which questions its effects on social, ecological and indeed economic wealth in terms of impact and in the light of ethical consideration.

Traditionalist and conservative resistance to change, particularly where there was established hierarchical orders (whether egalitarian (as propounded by for example Islamic Sharia law), or ultra stratified as in the case of 'kingdoms' (sic.)) was inevitable, but the magnetism of a cultural system offering great potential for material and financial wealth creation is very strong. Only dedicated egalitarians (by instinct or religious belief) can resist seeking the earning and material accumulation and indulgence available to the successful capitalist.

It is unfortunate that the nature of capitalism has been a ruthless ideological pursuit, and that its natural gravity is towards inequity:

> *Capitalism was made possible by the raiding of stored wealth, the re-orientation of trade routes, the imposition of unequal exchange, the forceful movement of millions of people in world space, and the conversion of the people and territories of whole continents into colonies where all aspects of existence were subject to the purposes of the Europeans.*

(Peet 1991)

Indeed "the poverty of the Third World **is not natural, inevitable or even historically typical**", it is a result of underdevelopment where once diverse and stable local economies had persisted, through the processes now described as 'dependency theory' (Peet 1991).

Durka (1995) refers to the "savagery and violence of the American capitalist ruling class", noting their apparent "utter disregard and loathing of humanity" in the way "holocausts" have been inflicted on native Americans, Africans, Asians, Arabs, and Latin Americans. Durka details the scale of the trade in devices of war and torture (projected to be of the order of $334 billion for the period 1991-2000), the estimated US market share being 70% (whilst West European competitors collectively garnered less than 14%). Durka (1995) reports that in June 1995, the US House of Representatives voted to...

> *...place the full backing of the government behind unlimited amounts of loans for weapons exports.*

This huge industry, globalised through US hegemony, is without doubt one of the most destructive and obscene aspects of capitalistic profit-search, and the care-free exertion of capitalism's indifferent profit motive onto virtually all peoples of the world. The motivation is political and financial, yet the considerable effects are ecological and social (see section 2.1).

3.2 Dependency Theory.

This is a dualistic theory in which core areas industrialise and develop in conjunction with peripheral areas not developing, or 'under-developing'. The process may work at the regional, national, and international level. Through it, a core elite (small as a proportion of population) benefits while a peripheral mass does not and indeed is marginalised. The imbalance derives from the core extracting the surplus production from the primary products based peripheral economy, either by having ownership of the means of production, and employing the peripheral populations as wage labourers, or by lending the means of production or the finance, and then collecting the loan plus interest. Peet (1991) suggests that the margin of return by this process for the core is

about 1.5% of the product value, whilst the cost for the peripheral area is about 15% of the product value. This is thought to be enough to cripple the development prospects for the periphery since the expropriated surplus is what the periphery must then borrow from the core to invest in future development schemes.

Since this process of surplus (potential for cumulative growth) extraction may happen from the regional to the international level, the beneficiaries are thought to be the following. At the regional level, a local elite benefits (and may invest in luxurious life styles rather than the future growth of the local economy). Of course economic activity will stimulate the local economy to some extent, but more in the primary and service industries, and again, surpluses may be extracted from this level due to local or distant sources of loans. Regional capitals may emerge, such as Sau Paulo in South Eastern Brazil, hosting a proportionally small elite and a proportionally large poorer population. At the national level, the same systems can exist, with the surplus being extracted by national banks and the economic elite, resulting in disparities and a dependency of the masses on the elites (giving the latter the power to dictate the terms of resource exchange).

At the international level, multinational companies (MNCs) can dominate possession of the mechanics of production and purchase cheap labour - the 'new international division of labour', as it is referred to, has only had significant spin-offs in the form of locally owned industry in a few countries (notably the 'East Asian Tiger' economies such as Singapore and Malaysia). Again, the production surplus is extracted, only in this case it is less likely to even stay in the country, but rather to go wherever the corporate body choose to invest next. Capital flight is a problem when national elites extract the surplus as well, with Swiss bank accounts and French villas being the common image of the capitals' destination. This is amplified through unofficial 'removal'/appropriation (through corruption) of development funds to which elites are likely to have greatest access.

Through the mechanics of capitalist enterprise, sections of national and international populations can be economically and developmentally marginalised and exploited, whilst an international 'elite' of MNCs and national elites experience asset growth.

Further, regional 'cores' (metropoles) can only achieve a dependent form of industrialisation, so a hierarchy of growth potential (ranging from great manipulative and exploitative capacity to high degrees of dependency) binds the majority to insecurity whilst an elite of individuals and corporations can secure steady and considerable financial growth.

Two other 'dynamics' are thought to be involved. Peet (1991) suggests that where peripheral areas have had the closest ties to core areas, greater degrees of under-development has been the experience. In Latin America for example, old mining areas and sugar producing regions have experienced ultra-underdevelopment - the expropriated surplus values from the production gravitating to the core areas.

The second dynamic is that trade makes poor areas poorer, and rich areas richer. This is thought to occur more distinctly at the international level, and is due to the easy international mobility of capital in conjunction with :

- the export of (primary) products of large quantities of cheap labour; and
- the import of (industrial) products of small quantities of expensive labour.

The terms of trade favour high cost (core produced) products and devalue the exports of economically peripheral areas.

Having discussed the processes of societal development, capitalism, and dependency theory it is now appropriate to consider one of the more irksome cultural products of them. The culture of the more industrialised countries is increasingly recognised as being social devolution, and at the same time as being ecologically very demanding and economically inequitable. It is a synthesis of the conceptual normalisation of consumerist culture and either a naive ignorance of the plight of so much of the global population and sections of national populations, or arrogant disinterest in the same.

3.3 Decadent consumerism and 'the culture of contentment'.

'The culture of contentment' is essentially a conceptual stasis in which those concerned are trapped by fear or naivety in a self protecting cultural bubble, comfortably unconcerned about the future except in so much as they will fight 'tooth and nail' to protect their safe and comfortable circumstance from the rest of society. In the heat of urgent determination to fend off any legislative or policy threats to this status quo, those concerned often react with rash short-termism and little regard for those outside the 'safe net' circle (Galbraith 1992).

It is fair to say that we in 'the West' live in a consumer society which to a considerable extent consumes without considering the inputs and their sources, the processing of inputs, the ethical standards of these, and whether or not we actually need the products at all. Western society encapsulates the belief that great numbers of products are necessary for a good life. Our collective culture has permeated expectations to the point where an individual is often considered unsuccessful if that individual does not

own a house or a car - the absence of household white goods is considered a poor standard of living. Galbraith (1992) suggests that the attraction of "often frivolous and dispensable consumer artefacts and entertainments" might be amusing sometimes, but what he sees as "the controlling appeal" of the same is a cause for concern.

Consumerism is the belief that buying as many goods as is possible is good for the individual or community, and decadence is a state of low standards of behaviour or morality. The consumer culture is highly 'contagious', such that knowledge of what one *might* have often creates a desire to attain it. This is what Galbraith (1990) refers to as "the controlling mood of human instinct", a characteristic which he observes to extend beyond the capitalist world - it is an unfortunate dominant trait of the human species. As emphasised, *individuals alone can rarely be fully blamed for their state of mind and depraved societal conditions are symptoms of the dominant culture*. The way forward is to constantly raise questions about the nature and ethical validity of the traits under scrutiny, and to work towards greater information dissemination about products and services, that society might re-orient itself toward an ethically aware and active state - an obligation for the reasoning human species.

Decadent consumerism is therefor an overwhelming propensity to seek to attain private possession of products and make use of a multitude of services. Consumerism is more of a problem in the West because disposable incomes are generally higher and goods more available, but the effect is to ratchet up expectations on a wider scale (via the media). That the expectations of many people will not materialise, or that if they are to materialise the subjects will have to work long hours and save up to achieve them is similar to the 'mind-lock' problem which also effects what Galbraith refers to as "the wealthy classes" and "the fortunate" - they are psychologically addicted to lifestyles which are costly in terms of collective social and ecological integrity. Finger (1985) notes how industrial society might be to blame for "high social fragmentation characterised by the loss of collective projects". His recommended action is the "humanisation" of actions and culture (not to be confused with humanism), a process which ought to be effected through education.

As a whole the wealthy classes perhaps arrogantly assume it is their destiny to succeed, direct and manage others, to be 'successful' and to maintain through generations a *'high standard of living'*. There is significant pressure within the wealthy classes to conform to these expectations. It is unfortunate that a *'high standard of living'* has come to be associated with *'a high rate of consumption'* on two accounts.

Firstly, social unease is an inevitable consequence of blatant consumption disparities. The fact that a majority of the global population will never reach the same levels of consumption as the more excessive consumer cultures broadcast throughout the world in television and other media channels means that discontent will be further fuelled - even in the US estimates of poverty go as high as 40% - Galbraith (1992) states that almost 20% of children in the US were born into poverty in 1988, up by 28% from 1978.

Secondly, the 'expectation example' set by Westerners and global elites is a very resource and energy intensive one. So 'the aspiring classes' and 'social climbers' might be led to seek the same unsustainable circumstances. Galbraith (1992) re-quotes banker JP Morgan testifying to a US senate committee:

> *If you destroy the leisure class, you destroy civilisation...[the leisure class being] all those who can afford to hire a maid.*

This sort of attitude, which is by no means historically uncommon, and which still persists today, sums up the arrogant and self-satisfying social disease which afflicts many of those marginalised by great wealth. Reading (1995) attempts to justify disparities stating that: "The rich must be able to buy a week's work from others" - if the non-rich are to be employed, there must be a demand for the products of their labour.

The environmental effects of a collective gravitation towards increased consumption are considerable actually, and potentially even worse. The contagious and divisive culture of consumption in the West have come to expect demands massive resource usage at the direct expense of people elsewhere - historically through direct appropriation and colonisation, and recently through the more subtle agency of economic colonialism (see 2.1, 3.1, and 3.2).

This was one of the most pressing issues at the UNCED meeting in Brazil in 1992: it is unacceptable for the West to request/demand that other countries should not follow the same development patterns simply because there is growing concern about environmental issues, but at the same time, if the rest of the world does follow the same pattern of development in terms of industrial and social transformation, the detrimental environmental and social consequences of Western style consumer culture will be further amplified and spread.

The ideas pressed by the Club of Rome (CoR) relating to the ecological limits to growth, and those put forward by F. Hirsch relating to the social limits to growth, come into play here as tools for conceptual analysis. The resource use necessary for all to achieve 'high mass consumption' would likely exceed resource availability, especially in terms of the energy acquisition processes. Finger (1995) though suggests that "output limits would jeopardise further industrial development", thus acting as the 'bio-physical limits to growth - as opposed to the 'input' limits to the expansion of industrial society that the CoR refer to. In terms of social stresses, great levels of "tensions and frustrations" (Hirsch 1976) would be the result - because of the competitive culture which is associated with mass consumption trading and purchasing, and the urgency of demand inherent in 'the controlling appeal' of materialism will not be satisfied.

In relation to general societal developments, there are hurdles for those wishing to live more ecologically. High car ownership is such a hurdle. To cycle to work or the shops often requires riding through life-threatening road systems. Freund and Martin (1993) describe how the car culture has so overwhelmingly taken over that the layout of retail, service and work premises are geared towards car use. Out-of-town shopping centres replace the community shop, and significant commuting resources are expected for getting to work. The irony is that although distances covered conveniently are much increased, the surge of car numbers at peak times means that travel time to work might be disproportionately high. Average speeds in some cities (for example London) are much lower than that which is most efficient for the two litre combustion engines. It has even been suggested that at times London traffic moves no faster than the horse drawn carts of the 19th century.

Would-be 'conscientious shoppers' must dedicate time and energy to ethico-ecological consumption. We are led to believe that a house requires tens of different cleaning and maintenance products. Shoppers are faced with ranges of choice from companies clamouring for market share. Labels become meaningless, loud (or green) with product claim slogans. To investigate the complete background of a product is difficult if not impossible. Even when a retailer is able to provide some information the conscientious customer cannot be expected to be of adequate environmental and social science knowledge to fully assess the effects of consuming the product (see 6.3 for further discussion of this). This is another side of the industrial consumer and capitalist society, in which the individual can rarely be fully aware of the environmental impact of a product or service.

'Clumsy' environmental impact through purchasing power may be an awkward concept to grapple with, but it must be considered - this might call for suggestions that business ought to lead the public by product ethicalisation.

Ethical concern over just about all forms of consumption from foods to construction materials, from transport modes to household energy efficiency, have touched the senses of virtually all citizens in the West through some medium. Even those which have been especially highlighted relating to products causing ecological decay or degradation (some peat extractions, intensive animal farming, excessive illumination in houses, or the unnecessary use of automobiles) have only been thought about or boycotted by a small proportion. The new 'environmentally friendly' sales pitches have confused and devalued reference to 'environment', 'recyclability', 'eco(logical)', 'green', 'etc.. 'Green-speak' must now be scrutinised intensively (though the EC is in the process of legislating stricter definitions of advertising standards).

To return to 'the culture of contentment', Galbraith asserts that "the power of contentment over belief is universal; it extends over time and space" (1992). This might explain the relatively low response to environmental concerns in terms of *serious* change (whether it be for immediately tangible positive effects or as precautionary in/actions). When people are contented, when they become used to certain comforts, interest in the circumstances of others and other concerns is often lost (for example, *more* pictures of hungry children, *more* images of destroyed landscapes, or *more* war-torn countries).

Would the same critics who cross the pavement to avoid the awkwardness of facing a cold and hungry person also claim to be concerned about homelessness if questioned? Why do politicians talk of 'sweeping' them off the streets?

Would the regular buyer of battery hen eggs and intensive beef claim to be a member of 'a nation of animal lovers'?

Would the same person that says 'we must reduce our car usage' drive to work? Why do even the most enlightened environmentalists still use cars?

Such is the all too common weakness of human conviction, even in societies where options are available, where survival pressures really are *not* a problem, and where the source of the human-ecological dislocation is the most prevalent.

Galbraith (1992) observes that now in the US (and this could apply to the U.K. as well with its swollen 'middle class') the 'contented' are a majority. He notes four key characteristics of the outlooks of this 'contented majority':

- they are in receipt of their "just desserts";
- they favour short term public inaction - the long term may not arrive;

- they have a very selective view of the state and government - at the same time as wanting no intervention in their pursuits, they want protection from 'the rest'; and

- they are content to witness severe disparities in incomes

He observes a "functional underclass" which the contented majority depend on for the execution of "repetitive, tedious, painfully fatiguing, mentally boring and socially demeaning" work. In many Western countries, because increasingly people are not willing to do such work, the last few decades has seen influxes of workers from poorer countries to do these jobs (for example in Germany, France and Switzerland, workers from Turkey, Yugoslavia, North Africa and southern European workers from Italy and the Iberian Peninsular).

The first and fourth characteristic accommodate the fact that in the US in 1988 the top 1% of family groups controlled 13.5% of all pre-tax income and the top 20% accrued just under 52% (Galbraith 1992).

> *...what once justified the favoured position of the few - a handful of aristocrats and capitalists - has now become the favouring defence of the comfortable many.*

(Galbraith 1992))

Galbraiths' second observation of 'the contented majority' is of utmost importance in the context of ecological and social concerns. Their self-interest focus denies paying out for the benefit of future generations - there is an insistence on inaction to avoid present costs. An example of this is the unwillingness or inability of current European governments to clean up contaminated lands, and the allowing the North Sea to deteriorate in terms of biological cleanliness and integrity (see Appendix 1).

Galbraith (1992) succinctly describes the inactivity instincts which pervade the comfortable sectors of societies in regard to ecological concerns:

> *...the policy avowed by the contented...it delays action. Notably, it proposes more research, which very often provides a comforting, intellectually reputable gloss over inaction. At the worst, it suggests empanelling a commission, the purpose of which would be to discuss and recommend action or perhaps postponement thereof. At the very worst there is limited, perhaps symbolic, action, as in recent times. Other long-run environmental dangers - global warming and the dissipation of the ozone layer - invite similar responses.*

This is the approach which is very close to 'reformism'. What Galbraith sees as 'the very worst' scenario, limited and symbolic action, is very much within the remit of the reformist approach. Tinkering with a few visible symptoms and petty conscience clearing actions are prevalent in current environmental consideration responses (se chapter 6). Economic concerns virtually always win over ecological (and social) interests.

This then, is the contemporary culmination of historical development: a relatively content - or at least lulled to passivity - majority dependent on a tough working 'remainder' who depend on the majority for their jobs. Socio-ecologically negative effects appear to the contented as issues to put off, question or ignore so as to protect the integrity of a divisive and damaging culture of decadent consumerist contentment. New York *symbolically* represents a contemporary culmination of this development. One of the bastions of industrial society constructions, it used to be known as 'the Big Apple'. Nowadays it may be rotten at the core. A monumental, shiny, imported facade of Italian marble is the international image of the city, but social decay and ecological elimination etches steadily towards the surface.

CHAPTER 4

ENVIRONMENTAL ECONOMICS AND EVALUATION

In the last three decades environmental issues have become a prominent focus of public concern. Mounting evidence experienced directly (in the immediate living environment) and indirectly (through the media) influences daily life for many people, and has attained at least a lasting place in the psyche of many more. As awareness of local issues has increased, so has awareness of more distant threats to the environment, and the importance of the integrity of a Gaian-type linkage is increasingly appreciated. It is now widely realised that global scale problems (macro-environmental problems) and global circulation effects (for example the long range transport of air pollutants and other waste by sea currents, or the heavily debated question of global warming) may affect everyone. As was emphasised in chapter 3, these concerns are more often than not bound up with other concerns over the treatment of people, animals, and biotic components of the environment.

Concern and interest derives from two areas: direct experience and perception of intrusion/threat, and moral consideration for the interests of other people, animals and components of earth ecology. With awareness and concern has grown demand for the inclusion of environmental consideration as a core component of development assessment:

> *...environmental interest groups and advocates have become vocal at every political*
> *level, especially in those countries with open political systems...*

(Field 1994)

...and extensive national and international laws have either come into place or been activated from dormancy.

Complications arise from the fact that most environmental phenomena do not have a clear, direct and measurable financial value, and so are difficult to incorporate into conventional evaluation methods. Coupled with this has been the absence of any strategic or systematic method for evaluating qualitative weighting and descriptive experience as factors in the decision making process. In order to tackle this emerging problem, economic analytical tools and perspectives were adapted to try and incorporate the 'new' ingredient of the decision making and development process. Thus 'environmental economics' was born. The rate of uptake of environmental economics as a tool for policy makers and implementers has led some to believe that:

(Jacobs 1994)

There has been much debate about the admissibility and morality of economic-type analyses of non-market, non-financial, and indeed subjective and quantitatively infinite phenomena. Equally, there are strong arguments in defence of the same which aim, wherever possible, to calculate figures of either financial value or indices for comparison so that environmental concerns can be more easily (than afforded by qualitative evaluation) included in planning and assessment procedures. This debate will be considered in chapter 5.

Environmental economics attempts to focus on:

...all the different facets of the connection between environmental quality and the economic behaviour of individuals and groups of people.

(Jacobs 1994)

It aims to determine the weighting due for environmental phenomena, *based on values attributed and assigned by people*, to components of this bio-social complex, and how that weight might be included in management and development.

Related to the supposedly more 'pro-environment' environmental economics is 'resource economics' (RE). Though some would assert that RE is almost interchangeable with environmental economics, RE is geared more towards serving efficiency interests of business (for the sake of profitability) and balancing rates of resource use with supply in human society, rather than towards environmental protection. Field (1994) outlines the breadth of the absolute dependency of people on natural resources (fuel, water, minerals, timber, food, etc.). He reminds us that some are renewable (they have a regenerative capacity so long as they are 'harvested' within 'sustainable' parameters) while others are non-renewable (such as oil within the current use regime).

Clearly though, there is the potential, if all costs including (Pigou'an) 'externalities' were to be included in costs for producers and consumers, for resource economics to offer substance in environmental protection. So perhaps Dasguptas' (1991) assertion that economic calculations and environmental concerns are *not* in conflict holds more water than is immediately apparent. For example, the marginal productivity incurred with increased quantities of fertiliser use on cropped fields diminishes as more is applied (potentially to the point where the fertiliser becomes toxic to the crops). So as well as being environmentally favourable, it is also economically favourable not to

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apply quantities of fertiliser beyond a certain level, and low-input agriculture is increasingly common amongst cost-conscious farmers.

Anderson (1991) gives some poignant facts about the anti-environmental nature of conventional economic measures of social development or progress. First though, he reminds us that the gross domestic product (GDP) can act as an indicator of environmental impact - the premise being that GDP is equal to the ecological demand (the sum of humankind's demand on the environment including resource extraction and waste dumping). If per capital GDP is multiplied by the population level, an indication of environmental impact will result.

He reminds us of the crucial and controversial fact that gross national product (GNP) can rise twice through one episode of environmental destruction. If a factory pollutes the environment in the production process, and this is followed by a pollution clean up operation, then both the value of the product and the cost of the clean up will be counted in the GNP - even though the clean up expenditure was to (hopefully) achieve close to the same condition as before. Air pollution is not counted in GNP. GNP counts the money value of coal and oil extraction, and the value of timber extracted, but not the depletion of either the fuel or timber resource, nor the ecological cost of the processes and practices involved. In conjunction with GNP, "...national income accounting favours the destruction of resources because money is more likely to change hands..." (Anderson 1991)...through this process than leaving environmental phenomena alone, where money doesn't usually change hands - enhancement of the circular flow of the economy increases the GNP.

4.1 Frameworks for environmental (economics) analysis.

There are several frameworks within which tools of environmental economics can be used. Various forms of 'impact analysis' geared towards attaining information about particular sub-sections of the effects of any action or development are the first type of framework. The most important ones are environmental impact analysis (more commonly known as 'environmental impact assessment'), and economic impact analysis. Others might be geared towards social impact analysis.

An *environmental impact assessment* (EIA) is:

> *...an identification and study of all significant environmental repercussions stemming from a course of action.*

(Field 1994)

Economic impact analysis is concerned with:

> *...how some action - a new law, a new technological breakthrough, a new source of imports - will effect an economic system in whole or in terms of it's various parts.*

<div align="right">(ibid.)</div>

They have become a prerequisite to any significant social or developmental action in many countries and blocks of countries (such as the EEC). They are demanded by development organisations such as the World Bank as a condition for loans. EIAs are normally carried out in advance of an action, with the aim of predicting the likely environmental effects of that action, and so can shed light on probable positive and adverse effects. The plan of action can then be adjusted to reduce the adverse effects and where possible increase the likely positive effects, that they may mitigate against the negatives. They can be carried out after a course of action to monitor actual effects and assess the accuracy of the predicted effects, that they might be more accurate in the future.

Strategic impact assessment is an analysis of the likely effects of an action within the broader context of either regional or national 'strategies' and aims. In Britain, a Local Councils' proposal will be considered on the local scale. It might also be appropriate for County Council consideration. Referral to the NRA, the DoE, the DoT and MAFF might also be appropriate or necessary, depending on the scale and nature of the proposal. This procedure aims to ensure that local developments and changes occur within the constraints and goals of wider areas, and that they do not breach national or international law.

Risk-benefit analysis (RBA) is similar to cost-benefit analysis (described below). An example used by the OECD (1992) is that of a nuclear power station. The benefits of a proposed station would be the value of the electricity (and perhaps job creation could be included - though this would occur with other alternatives). Costs would be the resource costs and the *risks* to human health from a possible accident, from normal emissions of radioactivity and from waste products as they might threaten current and future generations. A comprehensive RBA would also attempt to assess the risks to non-humans.

Another form of analysis is '*cost-effectiveness analysis*' (CEA), which is a tool for assessing the costs of alternative methods of dealing with a problem, or the likely rates of 'improvement' return for investment in a change (whether the return be financial or in, say, pollution abatement). It can thus enable the most efficient use of

the ever-limited resource, money, in achieving goals (in this case, environmental goals). In a CEA, the costs but not the benefits are measured in financial terms (OECD 1992). It is a useful procedure within the context of defined goals but it does not assess the legitimacy or adequacy of those goals. CEA can be useful in conjunction with the next form of analysis, 'cost-benefit analysis' (CBA).

CBA is a comprehensive assessment of the likely costs and benefits of a particular action, non-action, or policy change. It is analogous to a projected revenue-expenditure balance sheet which might be prepared by a company, but there are two key differences:

> ...it is a tool for helping to make public decisions, done from the standpoint of society
> in general rather than that of a single profit making firm; and it is usually done for
> policies and programs that have **unmarketed** types of outputs [such as improvements
> in environmental quality].

(Field 1994)

When attempting to calculate the costs and benefits likely to result from an action, the most responsible aim would be to include in the equations the *total value* of the positive and negative effects (the benefits and costs), including both economic and non-economic. This differs from traditional *economic* thought, which sees value as a 'utilitarian' concept (Bateman 1995) and is humanistically instrumental in its outlook.

Though there are a number of ways to attempt to value all environmental goods and resources, there are countless occasions where conventional economic valuation is either awkward and unlikely to be reliable, or where it is not appropriate. On these occasions non-financial evaluations can be more useful. It is possible to provide information which is just as useful for many purposes (such as policy, development option analysis etc.). Though most cost-benefit analyses attempt to create something like a financial balance sheet, as mentioned above, it is possible to create a non-financial balance sheet with individual issues weighted firstly by how important they are thought to be by people (see section 4.3.1.2), and secondly by the likely degree of impact which can be elucidated by scientific investigation. The latter need not provide precise numerical results for this purpose, so long as agreement by qualified individuals and members of the public can be reached on what might be regarded as 'very low', 'low', 'moderate', 'high', and 'very high' impacts.

The way this works is that surveys of public views of issue importance are carried out, with issues rated as being of low, medium and high importance. These carry weights of 1, 2, and 3 respectively. Agreement on what is 'very low' to 'very high'

impact would be achieved. These carry weights of 1, 2, 3, 4 and 5 respectively. A particular issue would then register one figure, a compound of importance times degree of impact. So an issue of low importance and low impact gains a value of 1 x 1 = 1, and an issue of high importance and high impact gains a value of 3 x 5 = 15. These issues will have a descriptive label of good or bad, corresponding to benefits and costs. To make this into a balance sheet, it is presented as in Table 5.1.

Issue	COSTS	Issue	BENEFITS
A	3 x 3 = 9	P	3 x 3 = 12
B	1 x 4 = 4	Q	1 x 5 = 5
C	1 x 2 = 2	R	2 x 2 = 4
D	2 x 5 = 10	S	1 x 1 = 1
Total costs and Benefits	9 + 4 + 2 + 10 = 25		12 + 5 + 4 + 1 = 22

Table 4.1
Example of a Non-Financial Cost-Benefit Analysis of Multi-Issue Action.

In this example, the non-financial costs marginally exceed the benefits. In a real situation, this would be read in conjunction with a financial cost-benefit analysis. The latter might assess issues E-L, with E-H being costs, and I-L benefits. Total expected costs and benefits would be summed as in this example, but with financial costs attached to the values. If the financial cost was predicted to be significantly less than the benefits, then it might be concluded that the marginal negative balance of the non-financial issues could be sacrificed for the financial gains expected.

So when a development proposal is being evaluated, two 'balance' sheets might be prepared. One would use whatever financial costings were deemed reasonable and accurate, sourced from the various economic methodologies detailed below in 4.3.2, and the other would include the results of an inquiry of the sort just described.

This sort of non-economic 'balance sheet' has not historically been included as such, but as with several other techniques outlined, it has occurred in other forms - such as a list of issues for which money values were not available or attainable, but which were thought to be of importance. The list would have included details of whether the issues were 'good' or 'bad' (benefits or costs), and they might have in themselves swayed judgement through the discretion of those with authority or decision making power, or they might have assisted in swaying judgement where financial costs and benefits were predicted to be roughly equal (where there was a financial no-gain situation predicted).

4.2 **What is 'value'.**

At this stage it would be useful to clarify the notion of value. If something is of value, it is consciously or unconsciously of use and importance, or potential use and importance, to a living organism or living organisms, or to 'Earth Direction'. In this context, utility need not be conscious, and humans are of no special significance in so much as they are no longer the centre of things: simply they are part of a big system - if utility serves what Seymour (1989) calls the 'Life Force', that alone means something is of value. Bateman (1995) describes moving from utilitarian to 'Total Economic Value' concepts as: "allowing for a considerable widening of people's attitudes towards the evaluation of assets". However the restricting of parameters afforded by making "people as the arbiters of value" (ibid.) is an increasingly questioned bias. Unfortunately, though, it is within these parameters that most substantial discourse is set (writers on deep ecology such as Naess (1989) and Devall and Sessions (1985) recognise the more extensive scopes of 'use' and 'value'), so this is the context of this discussion of environmental economics. Indeed this is the context of what is of greatest urgency since, as mentioned below in 5.3.2.2, until the vital interests of all people are more than met, non-human interests will continue to be 'second class phenomena' - to a great degree, human interests *might* be seen as a logical core focus for the foreseeable future.

Barde and Pearce (1991) categorised value into four types (for this purpose, consider the subject to be a hill region):

1/   *use values* (such as agriculture, forestry, walking, and camping)

2/   *indirect values* (such as water storage and flow regulation);

3/   *option values* (future recreation by present individuals); and

4/   *existence value* (people gain satisfaction from the existence of an area such as the Lake district - 'notional' utility).

A more comprehensive 'Total Economic Value' (TEV) outlined by Bateman (1995) divides utility into use and non-use values.

Non-use value is comprised of:

1/   *bequest value* (passing un-damaged global 'assets' on to future generations); and

2/   *existence value* (described here as preserving biodiversity and wildlife habitat).

Use value is comprised of:

1/   *option value* (same as with Barde & Pearce); and
2/   *utilitarian use value*, which is subdivided into *primary use value* (for
     example timber revenues possible from a forest), and *secondary use*
     value (potential employment creation for the management of the forest)

Since there is debate about whether or not values put on ecological phenomena can be
'economised', 'Total Value' (TV) might be amore appropriate label.

In conjunction with 'option value' there is also '*quasi-option value*'. There are two
differing definitions of this form of value. Firstly, it refers to options which if chosen,
would eliminate the resource, or more precisely, they are irreversible options (both by
human interference and natural processes, at least for the reasonably foreseeable
future). Examples might be: the hunting of a species to below viable population
levels, such that the genetic base of the species was undermined and it was 'doomed'
to extinction - or felling the ancient redwood forests of the Pacific north-west of the
US. If they were all felled for timber production, they are not replaceable - at least not
in the reasonably foreseeable future since it would take thousands of years for them to
reach their current size.

Secondly it is understood to mean "the value of preserving options for future use
given some expectation of the growth of knowledge" (Jacobs 1994) and so potential
utility of the 'resource'. This is one of the utilitarian arguments for the preservation of
the biological integrity and diversity of tropical rainforests.

The question of 'irreversibility' is one which ought to be considered in the planning of
any development procedure or options. Often technological developments, which
might at the experimental stage have had relatively benign purposes, have the
potential to be used for ulterior ends. Knowledge is a particularly virile 'genie to be
released from the bottle' since 'forgetting' something significant like 'potent'
technology is not a realistic idea (see also 2.2). Doors of perception, once opened, can
hardly be closed.

4.3 Evaluation methods in environmental economics.

Bateman (1995) provides a diagrammatic breakdown of methods for the valuation
and 'pricing' of environmental goods and services. This has been further modified to
accommodate non-financial numerical methods of environmental economics, and

other techniques absent from Batemans' presentation (see Table 4.2). The starting point is the division between attempts to assemble financial values for environmental phenomena and attitudes to the same, and attempts to form environmental indices that represent degrees of significance or preference which can be compared in similar ways to financial cost/benefit analyses.
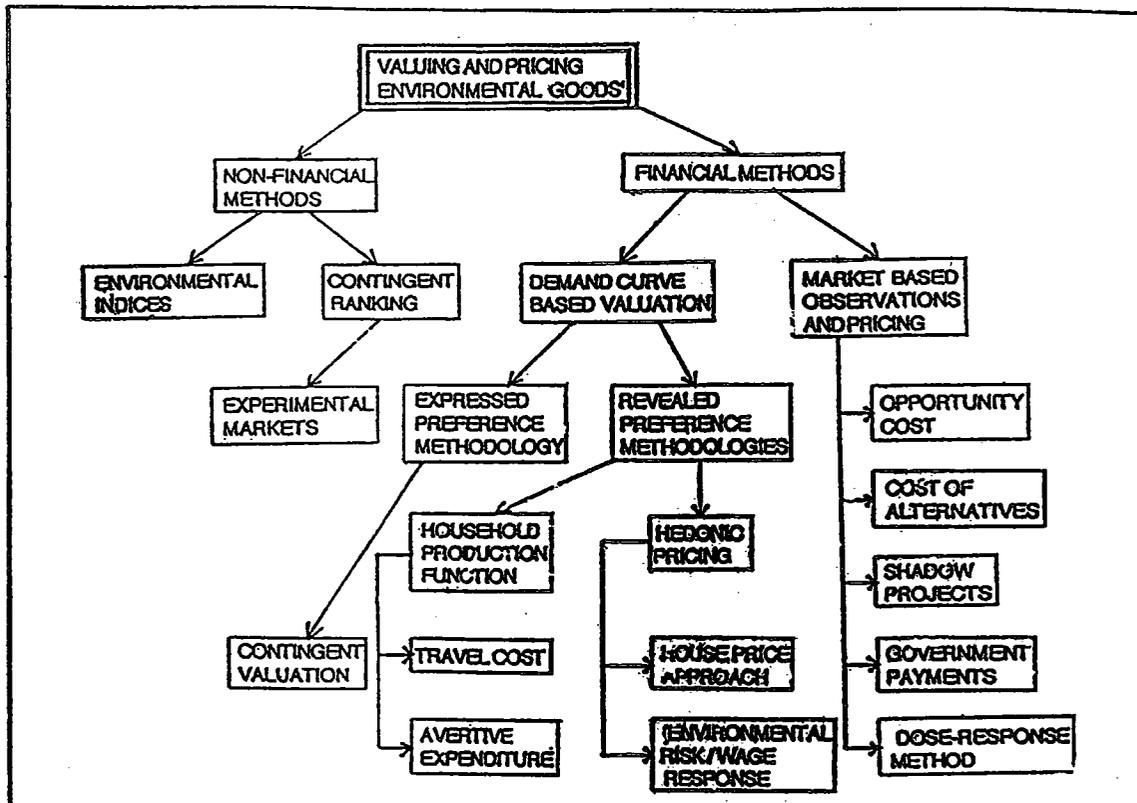
Table 4.2
Methods for Valuing and Pricing Environmental 'Goods'
(adapted from Bateman, 1995)

• Non-financial evaluation methods

Non-financial methods include **contingent ranking** and **environmental indices**. Contingent ranking involves **experimental markets**.

• Financial evaluation methods

These can be subdivided to: demand curve based valuation methods, and market based observations and pricings. Demand curve based valuation methods can function through expressed preference methodologies (contingent valuation) and revealed preference methodologies (household production functions and hedonic pricing methods). Market based

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observations and pricings include five methodologies: opportunity costs, government payments, costs of alternatives, shadow projects, and the dose response method. We shall now proceed through the non-financial evaluation methods.

4.3.1 Non-financial methods.

4.3.1.1 *Contingent ranking.*

Contingent ranking is a straightforward method in which individuals are asked to rank alternatives in order of preference. This differs to another experimental market approach to environmental valuation – contingent valuation – which is detailed below in 4.3.2.1. The methodology has not had much use so far, but in 1991, the Department of the Environment (DoE) thought it had some potential (DoE 1991). It was thought that it could be used in conjunction with the house price approach (see 4.3.2.2: 2a), by ranking house characteristics, anchoring these to house prices, and converting these ranked characteristics into willingness to pay figures for particular characteristics.

It has also been suggested that it could be used in conjunction with the travel cost method (4.3.2.2: 1a), for example to value a site used for recreation (OECD 1992). Differing from the method described below in that it does not try to derive actual money values from the people surveyed, qualities of hypothetical sites similar to ones which do exist can be valued in terms of their popularity. People might be asked how far they would travel in order to visit a site with particular features. They might alternatively be asked to rank hypothetical site characteristics (which can then be used to 'engineer' the qualities of a site being developed for recreational use), or they could be asked to rank existing sites in order of preference. The information elicited might then offer an insight into what the public prefers and could assist in targeting site improvements.

Contingent ranking is a method which could also be used to evaluate many other issues of importance in environmental management, policy and developments since it provides easy access to public preferences. Of course, when surveying, as with all surveys, the questionnaire must be composed in such a way as to allow for consistency checking by having similar questions located in different areas of the survey. This method is thought to be more reliable than *valuation* methods since it is reasonable to believe that:

This raises issue particularly with the contingent valuation method (4.3.2.1), because whereas the CV method can be criticised as being more appropriate for measuring disposable income - and for being open to 'respondent bias price warps' - contingent ranking simply asks for preferences, which are the genuine interests of the respondents. Contingent ranking could also be used in conjunction with CV to establish what biases to look out for in respondents answers to *valuation* methods.

Contingent ranking could be criticised for not providing answers which can easily be included in cost-benefit or rigorous evaluation procedures, but it can be used for weighting indices (as described in 4.3.1.2) and its utility in targeting investment (and disinvestment, for example with regards to future road building in the UK), is without doubt important. It is a method used indirectly on a regular basis when citizens are asked what they think of particular issues and developments - they indirectly state how they would rank one option against another (news reporters and interviewers regularly engineer this type of enquiry).

4.3.1.2 *Environmental indices.*

Environmental indices are numerical representations of environmental qualities and quantities, based on scientific observation. Rather than being a totally new approach to providing figurative descriptions of environmental characteristics, they build on old descriptive methods. To describe an environmental characteristic or a change in terms of quantities and qualities, 'units' have always been used. They began perhaps as simple representation (the Kalahari bushman might have described a distance as 'two days away'), and evolved into more specific and competing terminologies such as pounds, kilograms, miles, kilometres, 'good', 'poor'...in fact descriptive terms are simply a part of daily language, applied to environmental features when these are the subjects.

The purpose of environmental indices is to provide an easily comprehensible record of perceived or measured *changes* in environmental qualities and quantities. Environmental indices are distinct from strict environmental economics as discussed below in 4.3.2 and 4.3.3. Their purpose is different. Their distinction over other descriptive units is that they have a base level, against which qualities and quantities at times before and after that point in time are measured. The scales and rates of

change in environmental qualities can be very clearly presented, even without diagrammatic representation (assuming the observations and measurements are of a consistently high standard - if not then, as with any data, the usefulness of the values quickly diminishes).

The Canadian Minister of the Environment of 1991 likened the goal of environmental indices to a "comprehensive state of the environment index equivalent to the GNP" (quoted in Hope & Parker 1995). As mentioned above, GNP and associated economic presentations are less than courteous to environmental issues. Environmental indices are open to similar criticisms as GNP, that they offer no indication of the *distribution* of the characteristics they are comprised of. In the context of an environmental index, one summed indicative figure might offer the same kind of indication of overall environmental quality and quantity trends (as opposed to economic), but detailed breakdowns of the components of the summed environmental condition would be essential for the index to be any use in policy and practice changes for the future.

The application of economic method to environmental management has produced some potentially valuable procedures. *Environmental accounting* is one component which is simply a logical product of environmental management records-keeping. A simple account might look like this:

Forest area January 1st	1,000 sq. km
Minus: forest area cut down in year	70 sq. km
Plus: area of new forest planted in year	20 sq. km
Equals : area of forest, December 31st	950 sq. km

(from Anderson 1991)

This sort of environmental asset accounting can be adapted to other types of 'resource', some of which will take this form, others would not contain the 'plus' component - those resources which are mined without natural or artificial regeneration capacity (non-renewables). In conjunction with some of the methods of valuing and pricing environmental goods mentioned below in 4.3.2 and 4.3.3 (such as contingent valuation and some market based valuation systems), environmental accounting can be converted into financial terms. In the above example, the deficit of 50 sq. km of forest could be priced through assessing the various use and non-use values of the harvested area (this is complicated by the different values of mature forest and freshly planted saplings).

This value can then be entered into an ecological balance sheet with other relevant and similar types of values (such as accounts of valuable wetland habitats, or high quality beach areas in conjunction with their tourist value). In combination with environmental damage accounts, such as the example provided by Schulz & Schulz (in Barde & Pearce 1991 - see Appendix 2) they contribute to the creation of what Anderson (1991) refers to as an "Adjusted National Product" - one which, to a greater extent than conventional accounting, includes a significant environmental component.

This section will focus on the first part of this process. This in itself is a useful system for improving environmental information availability and comprehensiveness without the 'corrupting' attempts to convert it to economic values. Anderson (1991) and Hope & Parker (1995) offer suggestions as to what the *characteristics* of good environmental indicators would be. They both then propose some environmental indicators. Hope & Parker detail those proposed by the British Labour Party in the 1992 General Election. Anderson focuses on global scale indicators, Hope & Parker focus on nationally relevant indicators. The Labour Party's proposals are specifically geared towards the British experience, with the inclusion of Britain-specific indicators.

Anderson describes four indicator characteristics that he sees as unnecessary even though they might be seen as favourable :

> • They should not have to carry an automatic value (a move in a particular direction should not necessarily mean 'good' or 'bad' - they should reflect reality, not only what is easy to reflect);

> • They shouldn't have to have a policy instrument corresponding to its 'correction' if unfavourable (this would be bias against the recognition and study of more problematic issues);

> • They don't have to be new types of measurement (the most effective ones might be measurements with which we are familiar); and

> • Indicators should not be geared towards assessing particular styles of 'development' (objective needs rather than subjective and culturally variable needs will be more useful, especially since Anderson proposes that it is favourable for indicators to be internationally comparable).

Hope & Parker disagree with the first point, proposing that increases in the index should represent deteriorations, and decreases improvements. This is in line with price indexes but converse to the system proposed by the Labour Party.

Both Anderson and Hope & Parker consider that public consultation in *indicator characteristic* selection is a good thing. Hope & Parker propose that indicators should be *chosen* by expert selection, whilst *weighting* of indicators can be done through public opinion polls. However Anderson highlights a number of problems with public participation in the processes, especially if the public is to have subjective influence on the results (even though he also suggests that an obvious characteristics should be that it is thought to be important - presumably the public is the judge of what is important to themselves). The problems he sees are these:

• Public pride may reduce their willingness to disclose negatives;

• Cultural factors may effect the openness in answering;

• International differences in standards thought to be a realistic basis for satisfaction and expectation;

• Complex or relatively obscure indicators may not be appreciated as important by those for whom environmental concerns are not a particular focus of interest (apparently intangible increases in surface ozone concentrations might be quite meaningless to many - it is for this reason that Anderson suggests that indicators should be relatively easy to understand); and

• Strength of public opinion is often more a measure of how much publicity there has been of something (for example people only became concerned about the enhanced greenhouse effect when they were told there might be enhanced processes of global warming happening, and without the publicity, most people would not notice the near extinction of some insects and whales).

Two other characteristics Anderson (1991) and Hope & Parker (1995) agree on are: firstly, updates should be regular, say monthly, and a short lag time between gathering the information and completing the processing is favourable; secondly, indicators should be region-specific, so that comparisons can be made between areas. Anderson adds that international comparability should not exclude indicators simply because the differences will be huge (even between '0' and '100') and that if possible distinctions between social groups could be made in order to contribute to 'correcting inequalities'.

Overall, Hope & Parker (1995) propose that there should be about 15 indicators, and this is the number they propose, whilst Anderson (1991), coming more from a greening-economics perspective proposes just five environmental indicators. He also proposes eleven social indicators and emphasises that with indicators in general, the aim is more to highlight what is most significant than to produce details of everything. It seems that Hope & Parker agree with this in so far as advocating 'composite' indicators.

The other characteristics seen as important by Hope & Parker are that indicators should have no units (they should be straightforward indices - Anderson does not see this as imperative) and they should be based on physical environmental characteristics (presumably to increase the scope for objectivity). Anderson also proposes that: indicators (or the information they are calculated from) should be *easily available* or easily made so (especially so that poorer countries can use comparable indicators); they should be *measurable* ('dissatisfaction' with environmental conditions is not readily accurately measurable, whereas rates of respiratory disease, and investments in double glazing and water filters etc. are); and they should measure *something believed to be important* - this will make the difference between indicators and mere statistics. Next, Anderson's proposed indicators will be described. After this, those of Hope & Parker (plus the extra indicators proposed by the Labour Party in 1992).

The measurements that Anderson recommends as indicators of the state of the environment (clearly the global environment) - some of which he suggests are not appropriate at the moment for various reasons - are these:

> 1- *rate of tropical deforestation in square kilometres per year (proposed)*. The loss of these forests are a particular problem due to the extinction of species (esp. their medicinal potential); loss of important CO_2 sinks; the disruption of the hydrological cycle (causing flooding and droughts); the reduction of the integrity of the forest as a resource; and by no means least, the effects on the forest components (the plants and animals) and the indigenous inhabitants of the forest.

> Problems exist due to varying estimates as a result of a lack of data, data sources affecting the 'sway' of study estimates (NGO vs government or logging company data), and there is the problem of defining when a forest can be classified as 'deforested'. It is not as appropriate for non-tropical forests since (as Anderson suggests) they are replanted more when felled, and they are not being felled at such high rates. We should remind ourselves here that

'Western forests' are no longer of such considerable magnitude because they were heavily depleted before environmental awareness took off. It is therefore understandable that some countries of the South and East respond with reservations to suggestions that they reduce deforestation rates.

2- *rates of species loss* (*not recommended for now*). This is an important issue since it seems that we are living through a period of massively enhanced rates of species extinction, degrading the base of Ecological life (of which people are a part) and the base of our economies; we under-appreciate the various forms of unseen labour it is easy to take for granted (the absorption of waste, recycling of nutrients, cleaning the air and balancing the gas levels, and the storage and circulation of water). Appendix 3 is a presentation by Gilbert White on unappreciated 'labour'. It is suggested that this *could* be measured as either the numbers lost per year, or as an annual percentage rate.

This is a clearly problematic for a number of reasons: dispute about what is a species and a subspecies; the loss of genera or families is more significant than individual species; counting species equally, though it may be morally favourable, *could* be flawed if some *might* be more important for economic, ecological, evolutionary, or other reasons; and finally extinction is unclear - just because a species has not been sighted, it doesn't mean it doesn't exist (what time period of not being seen is reasonable?).

But more seriously, there is a lack of information - we do not have adequate ability to monitor all species and their numbers (compromising acceptance of studies of only some species we think are important may be crucially flawed as our understanding of the ecological world, though extensive, is still small). Anderson calculates from various estimates of species extinction rates (a professor's estimates, the Brundtland Report estimates, and the estimates provided to the US president in 1980 in 'The Global 2000 Report to the President') that as a percentage they might be about 0.25-1.00 % per year - one every 20 minutes (Anderson 1991).

3- *production of the greenhouse gas carbon dioxide from fossil fuels* (*proposed*). This ought to be taken in conjunction with the rate of deforestation since deforestation compounds the effect not only by production as large tracts of land are cleared and the biotic content exposed for combustion and decomposition (releasing stored carbon as CO_2), but also

because it removes one of the earth's important carbon sinks (though oceanic algae is thought to be much more important, forests are still very significant).

4- *desertification and soil degradation rates* (*potentially useful*, but as there are so many problems associated with it, it is *not recommended*). Desertification occurs through over-agriculturalising the land and encroaching on forest/vegetal integrity. The intensity and rate of cropping in areas all around the globe is taxing the structural and ecological balance as well as agricultural usefulness of soils (Anderson details the forms and regions of soil degradation: soil erosion in North America, acidification in Europe, and deforestation and desertification in Asia, Africa and Latin America). The overwhelming problem with this as an indicator is that there is scarce data available - the only reliable data comes from the US, and again there is the problem of quantifying gradual rates of soil deterioration and loss.

5- *average annual percentage increase in population* (*proposed*). Population growth rates will clearly provide some indication of the demands on the environment but the crucial detail here is the distribution of any growth and lifestyle changes. Since the consumption of a million wealthy Americans will greatly exceed that of a million people in many other countries (for a multitude of reasons), a population growth of this magnitude in the US will be hugely more demanding on the earth's bounties than if the growth was elsewhere (the effects may be spread in all areas, though, by the 'internationalisation of consumption'. Detail of distribution is important. This is not a new indicator - indeed it is a very well established one and relatively reliable figures can be expected. Anderson states that at current rates (1991 being his time of writing), the global population was increasing at about 1.5 million a week.

6- the next is the *number of nuclear reactors* (*proposed*), and the second is *pollution* (*thought to be impractical*). The latter is not proposed due to different systems for measuring pollution. Another problem would be comparing areas or nations with different forms of pollution with their different qualities of information and its availability). The number of nuclear reactors is a useful measure since it is clear and easy to visualise, more so than a more detailed and less easily obtained figure for the quantities of plutonium, etc., which will linger through hundreds of generations as hazardous waste (due to a half life in excess of over 24,000 years).

7- *energy intensity*: to be measured as "energy consumption in metric tons of oil per million [US] dollars of output" (*proposed*). If it is observed that energy intensity is falling, then economic growth (the route seen as most likely to improve life quality to a decent standard for all) can occur in conjunction with a reduction in energy consumption. In other words, it might be seen as something to aim to reduce. The premise is that 'growth' and 'economic development' are necessarily desirable; that they automatically have a capacity for improving life quality (this is considered further in chapter 7); that they will result from a future based on technological determinism, which demands huge amounts of energy for research, production, distribution, use, decommissioning, disposal, and waste monitoring.

Anderson acknowledges that his five key proposals for environmental indicators (deforestation, CO_2 emissions, population increase, number of nuclear reactors and energy use intensity - numbers 1, 3, 5, 6 and 7 above) are internationally significant indicators (due to the gearing of his book). He also invites governments and communities to produce indicators specifically appropriate to them.

The indicators proposed by Hope & Parker (1995) "reflect changes to the state of the environment rather than the actual 'stocks' of environmental resources". From a list of 26 likely indicators they chose 15, the selection being based on the importance assigned to issues by European citizens in the 1982, '84 and '86 European Omnibus Survey (EOS) and two other similar surveys. The use of citizens as well as 'expert opinion' in the choice of indicators, as touched on earlier, was favoured since it was believed that the latter can claim no superior knowledge of environmental states at the aggregate level, and because "the major threats to the environment are socially determined" (Hope & Parker, 1995). The key selection criteria, in conjunction with those mentioned above, were these: data comparability, monthly data availability, environmental problem priority, and scientific credibility. The factors were split into air, water and land based indicators, and were these:

Air
(1)   sulphur dioxide (SOx) emissions
(2)   nitrogen oxide (NOx) emissions
(3)   low-level ozone (O_3)
(4)   carbon dioxide (CO_2) emissions
(5)   particulate emissions

(The Labour Party proposals included 1, 2 and 4, and added volatile organic compounds emissions, perhaps similar to 5, and also lead emissions from vehicles)

<u>Water</u>
(6)   bathing water quality
(7)   oil spills
(8)   fresh water bathing quality
(9)   fertiliser consumption
(10)   pesticide consumption

(The Labour Party proposals included only the number of water pollution incidents, and nitrates in drinking water)

<u>Land</u>
(11)   population change
(12)   numbers of new dwellings
(13)   tourist numbers
(14)   road traffic volumes
(15)   municipal waste volumes

(The Labour Party proposals included 14, and four different indicators: imports of hazardous waste, annual loss of hedgerows, Sites of Special Scientific Interest damaged, and number of noise complaints)

It is clear that the Labour Party included quite 'topical' factors in their indicator selection, issues which have been the subject of public concern such as lead emissions, noise complaints, SSSI damage, and hedgerow loss. It could be cynically suggested that their selections were guided by party political interests as well as the core issue itself: monitoring our environmental impacts. However these are genuine concerns for the public, whether or not they might actually be the ecologically most important issues. The interests of the public are the purpose of the work, so they are of prime importance, but wider consideration and concerns, might well be justified - and perhaps even of comparable importance to other organisms and ecosystems, if not appreciably to people.

As with any method for environmental impact monitoring, it would be easy to reason that they have inadequacies, that the results will be unreliable and relatively lacking in usefulness. But it is only through genuine efforts to work on the problem that good

judgement of the utility of different approaches to this end can be achieved. Criticism is easy, finding solutions or appropriate methods is less so.

At this point it is worth explaining the way composite environmental index graphs for the subject countries were achieved. The EOS assessed the concern of citizens by carrying out a properly prepared and carefully worded survey, taking due care to achieve representative results. The questions asked were answered in terms of degree of worry, rated as 'a great deal', 'a fair amount', and 'not very much'. The measure of concern was achieved by multiplying the proportion worrying 'a great deal' by 3, 'a fair amount' by 2, and 'not very much' by 1, adding the multiplied proportions together, and dividing by 100. So strength of concern was weighted, and where all were very concerned about an issue, the highest score of 3 was measured. Thus perceived issue significances were attained (indicator weights), and indicators could be selected.

To align annual indicator figures against the base year (which in this study was most often 1980), they were divided by the corresponding figure from that base year. Indicator weights were normalised by dividing each one by the total of the index weights which were available for the year in question. The normalised weight was then multiplied by the corresponding normalised environmental indicator and the results for the normalised indicators available that year were summed. Thus an environmental quality index value for one particular year in a particular country was reached. These were then tabulated as a graph so that the trend in composite environmental quality (within the parameters of the chosen indicators) was achieved.

Below is an adaptation of the composite quality of the environment index (QEI) produced by the UK Labour Party in 1992 (Figure 4.1), and a synthesised adaptation of the individual country QEI graphs produced by Hope and Parker (1995)(Figure 4.2). The Labour Party's graph is visually 'favourable' in that an increase represents an improvement in composite environmental quality and a decrease represents a decline, whereas those of Hope and Parker are visually misleading – an increase represents a decline in composite environmental quality, and a decrease represents an improvement.

For easier comparability of the Labour Party's results and graph and the three for the UK, France and Italy by Hope and Parker, they have been placed onto one graph. One other change is the vertical axis scaling. The use of '100' as a base line is useful for representing change from that base date line which is selected, but it is misleading in that it suggests that an increase of, say, 3 is a 3% increase. It is also unfavourable

since it suggests that if the index value was to decline to '0', there would be no further decline possible. Thus the indices from the four graphs have been rearranged to be negative when representing a decline and positive for an improvement, and the values
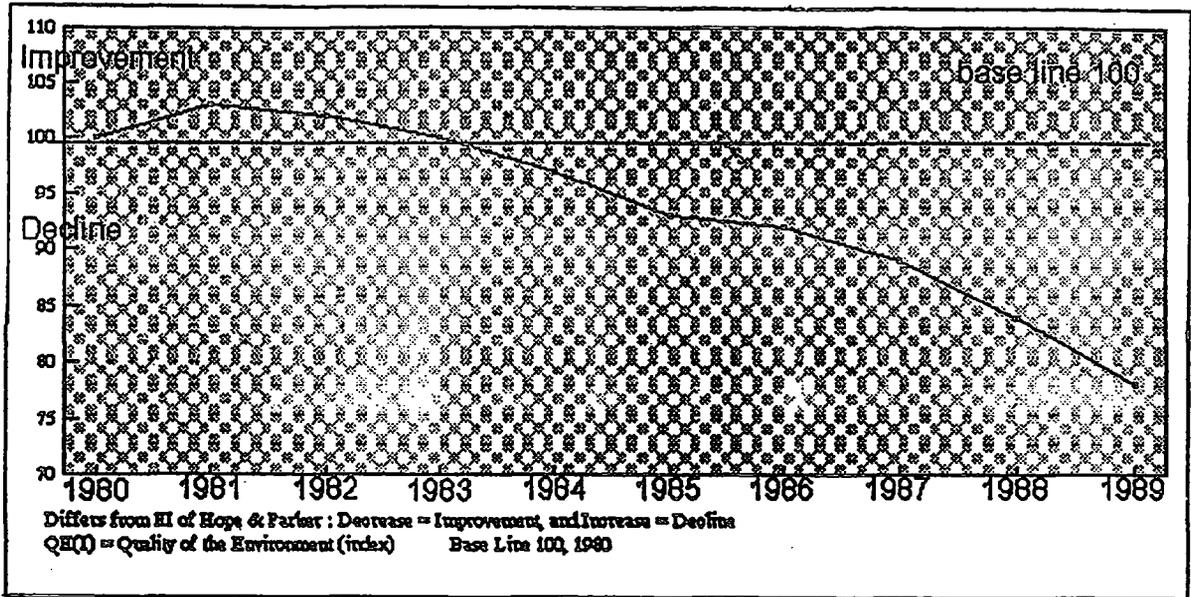
Figure 4.1
The UK Labour Party's QEI (adapted from Hope & Parker 1992)
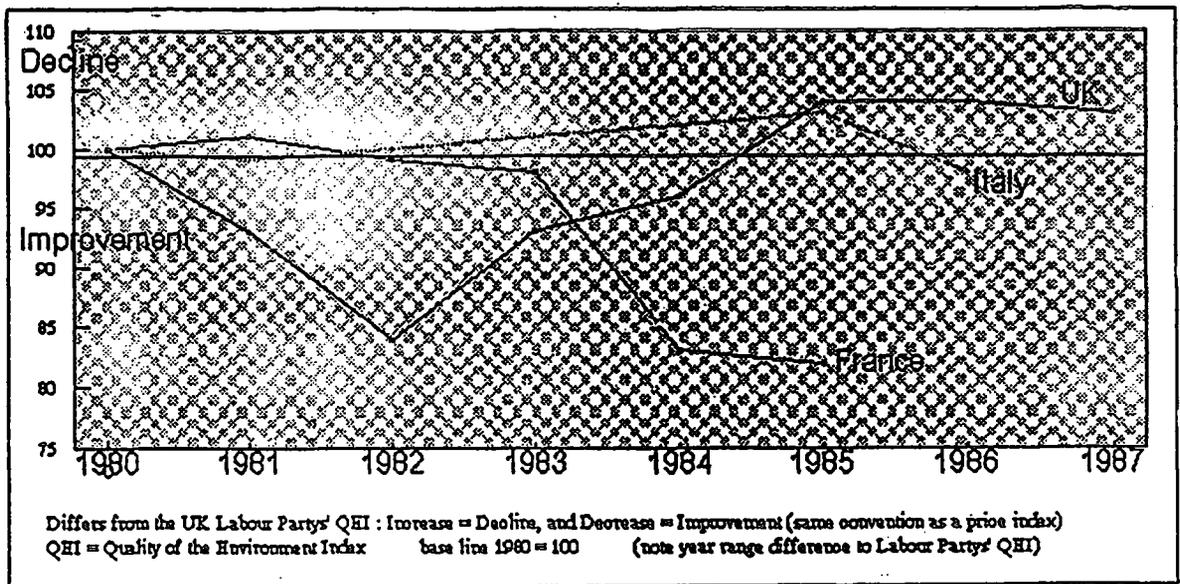
Figure 4.2
QEI for the UK, France and Italy (adapted from Hope & Parker 1992)

unitised either side of '0' instead of '100'. Table 4.3 is the remoulded indices, and Figure 4.3 is the graph produced from them. This is thought to be a more favourable

representation, but this sort of 'preference' is one of the causes of problems associated with *all* statistical presentations: methods of information analysis and presentation differ, allowing scope for different impressions of the way things are.

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Labour Party	0	3	2	0	-3	-7	-8	-11	-16	-22
H & P UK	0	8	16	8	4	-4	-4	-3	n/a	n/a
H & P France	0	-1	1	2	17	18	n/a	n/a	n/a	n/a
H & P Italy	0	1	0	-1	-2	-3	2	n/a	n/a	n/a

Table 4.3
Remoulded Composite Indices from Figures 4.1 and 4.2.
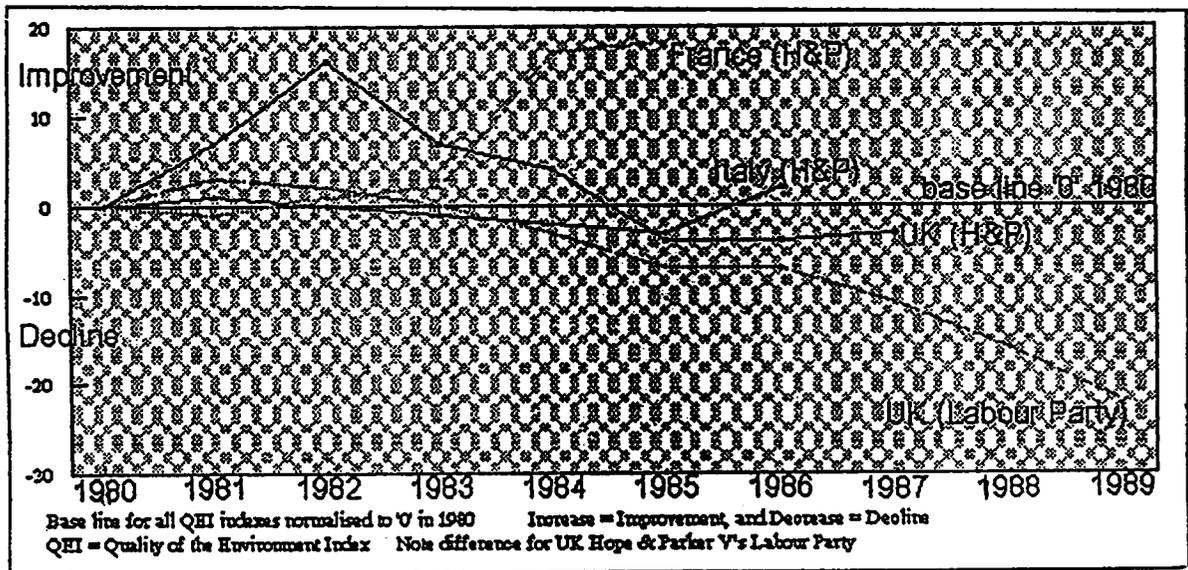
Figure 4.3
Remoulded Adaptation of Figures 4.1 and 4.2 - QEI for the UK (two indexes), France and Italy.

There are a number of problems associated with the collection of environmental quality data. Not only does it depend on knowing what data to collect, availability of resources necessary to gather and appropriately and rapidly process the data, and administrative and organisational coherence, it also requires the collection of *representative* data. This is a problem since variability in qualities of, for example, air

composition, occurs drastically - even within one town or city. Pollution gradients with distance from pollution sources vary depending on the level and consistency of production, and on atmospheric conditions. Wind direction change can massively alter pollution levels in a fixed location. Equally, 'still air pockets' may be found on street or city levels - Sheffield has topography conducive to still-air development.

Variability in findings is apparent too. Hope and Parker state that their index shows a 4 point deterioration in environmental quality in the UK between 1980 and 1987, whereas the Labour party found an 11 point decrease. They both noted an increase in environmental quality during the early 1980's economic recession. The French index only goes as far as 1985 since after that date some statistics were not available, so it would be false to include a different composite index - especially where the missing data is for an index considered 'very important' (for France, it was municipal waste volumes, which attained citizen 'significance' weight/rate of 2.15 where the maximum was 3).

Hope and Parker (1995) conclude that although advances have been made in the development of useful environmental indices methodologies, "they can not be expected to play a major part in the policy process for some time". They emphasise that in order to successfully compete for attention with other economic indicators in the media, the index will need be published frequently, and regularly, and will need to be accompanied by a non-jargonistic interpretative summary.

4.3.2 Economic, demand curve based valuation methods.

These methods centre on the demand curve for different environmental qualities, and the preferences for these variations are captured in the context of actions and choices.

4.3.2.1 Expressed preference methodology - contingent valuation.

This methodology is based on the premise that individuals have preferences for goods, services and environmental conditions and might be willing to forego some financial sum in order to experience or achieve a preferred state. Other forms of 'payment' could play a role in achieving a particular end, "but it makes most sense to talk about sacrificing generalised purchasing power" (Field 1994). Another sort of 'sacrifice' might be the comfort of a car (riding from A to B on a cycle instead), or the whiteness of paper (by purchasing unbleached recycled paper). These might not actually be 'sacrifices' if 'higher environmental goals' or fitness are a priority; they

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may serve to clear a conscience from other environmentally damaging acts (as mentioned in chapter 2).

Contingent valuation (CV) can be used to elicit values where the 'goods' are not normally marketed, and can be used to get preference values for almost any environmental (or other) change. It is the only way to establish non-(human-)use values, and is therefore an attractive system to valuers. The CV procedure is to prepare a carefully worded questionnaire which will ask the relevant and strategically sampled population how much they would be willing to pay (or contribute) (WTP) to *maintain* an environmental condition (such as hedgerows and stonewalls as countryside field boundaries), or how much they would be willing to pay (or contribute) to *achieve* a certain environmental condition (such as improved urban air quality, or the preservation of a rare plant or animal). Alternatively, people may be asked to state how much compensation they would require to accept (WTA) an environmental deterioration (of for example air quality) or to lose a particular favourable condition (such as a peaceful home or pleasing view from the home to a new road or a tall building).

This type of data is open to variability depending on a number of factors other than the respondents' degree of interest in environmental issues:

- their income (esp. disposable income) levels - "willingness to pay depends on the existing income distribution" (Barde & Pearce 1991) [though Diamond & Hausman (1994) observe little income elasticity in WTP];

- their state of mind at the time of the survey (if anxious about more directly personal matters, environmental concerns may subside in importance);

- their relative degree of informedness on the issues (as mentioned elsewhere, strength of opinion on matters environmental can be charged by good advertising by pressure groups - and the resulting opinion might be out of proportion and not indicative of the total environmental problem distribution);

- cultural factors; and

- national economic/social conditions (particularly important when international comparative studies are being conducted).

In order to attain useful and meaningful information, the quality of the survey in terms of 'sample representativeness' is crucial. Even so, in order to apply the values elicited to the general population, a large sample should be taken and an average WTP or WTA calculated - then the figure multiplied by the number of people expected to be affected by the action or policy. So something of a 'total willingness to pay' or a 'total compensation requirement' can be achieved.

Clearly there is a wide scope for error since even a small inaccuracy in numbers of affected people, could severely effect the outcome of a cost-benefit analysis, or a cost-effectiveness analysis for a proposed change or action. As with most of the methods of environmental economics and evaluation, there are numerous possible criticisms of both methodology and the legitimacy in the first place of attempting to achieve a financial value for components of the environment we experience personally or via the media. It is, for example, quite reasonable to respond 'I do not know' when asked how much one would be willing to pay to save a particular type of bird from extinction. It is also questionable whether the values attained are worth anything since if asked for a sum value for protecting all things which might require protecting, and for improving all things which might require improving, most citizens would be stuck for an answer! Yet they are generally happy to provide a sum for one issue.

4.3.2.2 Revealed preference methods.

Unlike the expressed preference methodologies of finding values of environmental goods or conditions, the revealed preference methodologies aim to observe preference values actually manifest in the market culture.

a) <u>Household Production Function Approaches.</u>

Household production function approaches include the *travel cost* method, and the *avertive expenditure* method.

• *Travel Cost Method.*

The travel cost method (TCM) can be used to estimate the value of an environmental amenity to its human users. It is particularly useful when there is no actual use-price, but to experience the amenity people will travel a distance. They are therefore willing to spend a certain amount of money (and

time) to reach for example, a beach or National Park. The travel costs people are willing to incur are taken to indicate the value of the amenity to them.

For this method to be effective, it is necessary to collect travel costs from a large, or at least representative, sample of the users since there will be variations in ability to spend on travel costs. In conjunction with surveys of the numbers of users of an amenity, an estimate of aggregate willingness to pay for a particular environmental amenity can be reached. It is more useful to carry out the procedure for several (competing) environmental amenities, so that comparative values can be examined and relative amenity values observed.

There are a number of problems with this method:

• it requires large/representative population sample;
• it requires a survey of total user numbers in order to be meaningful;
• surveys can be expensive, and must be appropriately prepared;
• users must provide reliable estimates of fuel/other travel costs
• the travel time component of travel cost is awkward to incorporate (even if a parallel study focusing on time is used instead of cost, there is considerable scope for error in speed of journey, directness of route, mode of travel, and accuracy of stated travel time);
• the value of the travelling experience itself can be confused with the value of the environmental amenity;
• competing recreation sites may complicate the assessment, especially when multi-purpose (-visit) trips are made;
• frequency of use questions may reveal visits to be one-offs, so
threatening the representative qualities of the findings for general use;
• visitors on foot or cycle can not be accounted for, so it is more useful for remote sites. Even then, the type of visitor going a distance to visit, for example, a National Park may be more inclined to cycle than drive; and
• unlike the CV method, the TCM can not elicit option, existence and bequest values so a total economic value can not be achieved.

• *Avertive expenditure method.*

The avertive expenditure method is thought to be of use in assessing the values people place on their physical and psychological health and safety, particularly in the home. It is thus related to the 'wage risk premium' method

below, under 'Hedonic Pricing'. It looks at what expenditures people make to offset some environmental risk, danger, or nuisance, such as smoke detectors, water filters, garden perimeter fencing to keep children off the road, or noise abatement procedures - double glazing etc.. It has not been, though could be feasibly used to estimate non-use values, for example payments to wildlife protection groups could be interpreted as payments to increase the likelihood of success in conservation efforts.

This is a complicated method in that it requires econometric modelling to represent the relationships between household expenditures and the scale of demand for the subject environmental good(s). This can be expensive since it is a specialist subject so the method is not very widely used (DoE 1991). It could be useful in assessing the perceived (whether actual or imagined) threat or intrusion of environmental 'hazards' (water pollution, roads, and industrial externalities - smoke, dust and gasses).

Problems arise in that as well as being potentially expensive to process the data through econometric modelling, the gathering of the data is full of complications:

• *ability* to spend on avertive measures may not reflect the *will* to spend;
• house owners may be more willing to spend on avertive measures than tenants;
• a lack of expenditure on avertive measures may also be an indication of a lack of information - as was the case before the personal hygiene revolutions of the late 19th century; and
• there is considerable scope for 'grey' areas in respect of what to count as avertive measures (the car user may not care if it has a catalytic converter or not, though it came with one).

b) Hedonic pricing.

Hedonic pricing methods include the house price and 'environmental risk based wage premium' approaches. They essentially try to assess the value of environmental goods as this is reflected in market prices.

● *The house price approach.*

This method of considering the values people place on environmental phenomena is only applicable to those able to choose where to live due to financial security. It seeks to find the strength of correlations between house prices and environmental characteristics associated with particular houses and house price brackets. So, for example the number of broad-leafed trees, the ambient levels of obnoxious gases from fuel combustion (CO_2, NOx, SO_2, or O_3), the water quality, the ambient noise levels, or the degree of scenic beauty of an area may be the indices against which house prices are observed. It might be expected that cleaner and more peaceful areas would have higher house prices, but they may be isolated. The dominant market, dictated by their location, might be younger age brackets who seek a more cosmopolitan atmosphere.

Again, it is a complicated procedure. A demand curve for the house category against a particular factor can be created. Problems in use can include the following:

• it is confined to property owners who are aware of environmental issues and consider them in house choice;

• house prices are open to many other non-environmental influences such as the state of the local economy, warps in prices due to either a buyer or sellers market (rented accommodation, particularly, for example where student populations are significant, may lead to artificial price inflation even if the ambient environment is unfavourable, due to accommodation availability;

• it ignores the work environments of a town, which also affects the attractiveness of an area. People may choose to make a trade off between good work or living environments;

• job availability is a strong factor in choosing where to live - the degree of discretion to the worker depends on balance between supply and demand of labour. House prices might be pushed up by an abundance of jobs in one town, whilst another town may have a lack of jobs, so pressure on housing stock may be reduced (and so the price). The former may occur if a new large employer moves into town, and the latter, for example, when a coal mine closes down; and

• lastly, since no one factor is likely to be dominant in affecting prices, extensive and potentially complicated statistical factor analysis may be necessary.

● *(Environmental) risk based wage premiums.*

There are two variations to the 'environmental risk based wage premium' approach. Both attempt to assess the extent to which jobs in more risky environments (in terms of health or mortality risk) attract wage premiums. The first looks at the types of work available, individual types of industry for example, and the second observes differences between urban areas alike in all respects except in terms of, say, air quality or another ambient environmental condition - such as perceived radiation threats from a nuclear power station, an old toxic waste dump, or an 'aromatic' sewage works.

At the level of the work place, it is easier to assess the environment-wage effect. Working in a mine poses a greater threat to life than packing chocolates; working in an underground mine offers less favourable atmospheric conditions, posing a greater threat to health -'black lung'- (as well as to life threatening disasters) than a surface mine or quarry; and work in the army is potentially more life threatening than as a bowls instructor. It is expected that these higher risks might be reflected in wages. If in one town there is an adverse environmental condition such as the radiation threat mentioned above, then it is presumed that to attract workers to that town as opposed to another town nearby with similar job opportunities (but without the extra hazard) wages in the first will have to be higher than in the second.

These differential wages are assumed to indicate the extent to which more hostile environments are less favoured. This might assist when there are some proposed improvements to the environmental qualities of an area or work place. Wage differentials can be observed between one area or work place where the environmental quality is approximately equal to what another is expected to become. The degree of preference the improved environment might have over its current state can be gauged; the value of the improvements can be estimated. The cost-effectiveness of the proposed change can be deduced (in terms of peoples preference and the effect it might have on wages - effects which will have secondary impacts, for example, on house prices etc.).

Again, the procedure can be complicated since it uses multiple regression techniques to establish the strength of the effects of different factors on wages since there is rarely just one difference between areas or jobs. This is also the reason why it is more a theoretically sound procedure than it might be in

practice. It is possible to do convergent validity tests, against CV estimates of preference for environmental conditions, to assess the validity of the results of wage premium studies.

As with other methods of attempting to 'price' environmental conditions, there are a number of problems with achieving validity:

- it assumes good levels of appreciation of the environmental conditions and their effects, and of 'competing' jobs or areas;
- it assumes the workers are able to exert worker power. During apartheid in South Africa, mine workers (the vast majority being non-white) could not complain and could not readily move to work in other mines or jobs if they wished to, or, may not have held full information about the environmental threats or other work opportunities. Clearly there are obvious effects on health, especially as older workers reveal symptoms and even die, but longer term carcinogenic and extended respiratory stress might be less visible;
- the degree of mechanisation and skill level variation will affect wages. There are countless variables which may influence wage levels, so to try and select one or even several key factors (using statistical factor analysis) and to gauge the strength of their effect is of dubious validity.
- overall labour demand and supply in an area or community will affect wage levels;
- externally imposed/influenced systems of value can affect regional and community wage levels. A national minimum wage might reduce the validity of the method for lower wage brackets; union activity may have the same effect; political systems of standardised pay can dislocate wage levels from environmental factors; company and other loyalties can over-ride environmental factors, etc..

4.3.3 Financial, market based pricing.

These market based observations and pricings include opportunity costs, replacement costs, shadow projects, government payments, and the dose-response method. They can work quite accurately in terms of accepted values, since they are mostly comprised of actual traded or exchanged financial sums. They do include 'calculated' sums, for example some components of compensation associated with opportunity costs for land taken up in developments, but most values in these systems are directly extracted from 'the market'.

• *Opportunity cost.*

An opportunity cost is the value of the best alternative use of an asset. In this context it relates to the trade-off of one environmental asset for another. Bateman (1995) uses the example of a 'New National Forest' proposed by the Countryside Commission (between Leicester and Burton-on-Trent in the English Midlands). The proposed 40,000 ha site includes a significant area of good agricultural land, the loss of the economic (and other) potential of which would represent an opportunity cost (OC).

Ordinarily the OC would be the net market price of the agricultural products of the land which would be lost with the new forest. Compensation would be paid on the basis of this (added to which may be other losses such as job and home relocation/redundancy sums). This example is interesting in that it contains a fairly common complication: since the profits lost by the farmers would not only be the normal profits to be made in agriculture but also the EC subsidies, these would also have to be included as a component of the opportunity cost.

This system of compensation for lost alternative utility can be used by displaced individuals or groups. For example if a coast road is soon to fall into the sea as the coast erodes and the council is considering replacing it with one 100 metres inland, then the current owners of the land might apply for planning permission for some form of development, such as flats or a golf course. If this is achieved, then the potential earnings would have to be included in the opportunity cost compensation. In this case, the council may conduct a 'cost-effectiveness analysis' to see whether a sea wall might be cheaper. If the new road is chosen then an opportunity cost might exist if it is a particularly valuable stretch of coast-line which will be abandoned to the sea (if for example it hosts some rare plants or ecosystems).

Thus the opportunity cost can include *potential* utility as well as current utility - it might include the loss of the potential agricultural use of the land to the children of the current farmer, the loss of saleable hunting right on the land, or even the loss of a good view from a village, which would be obscured by the forest.

• *Costs of alternatives.*

This is a system of development management which is used in all forms of activity. It is in effect 'shopping around'. If a development or operation is under the auditors' scrutiny, whether it be pre-action or part of project/business performance monitoring, an open and creative board will consider alternative materials, operations or routes to achieve the goal. If, for example, a new road is proposed, multiple routes and alternative solutions (presumably to a problem of traffic congestion) will be considered. Construction cost and strategic and comprehensive environmental impact analysis ought to be conducted for different routes the road could take. Alternatives such as investment in public transport, canal and rail freight transport, and other development foci (to redirect the traffic) must also be considered.

When alternatives have been considered and costed, a decision can be made about what action to take (including the zero-option of no action). Bateman (1995) uses the example of the M3 extension in Hampshire UK to highlight the 'trade-off' process. The alternative to cutting a wedge out of the area of outstanding natural beauty (AONB), tunnelling under the Downs, was costed at £70 million (significantly more than the cutting option). It was decided that this outweighed the environmental and other benefits of preserving the area, and so the first option was decided upon. Thus the trade-offs (the beauty of the area, the ecological value, the intrinsic value of the non-human life there, the recreational value, the cultural heritage etc.) represented the opportunity costs of the road; andminutes saved in journey time for vehicles was the benefit.

• *Shadow projects.*

When an action is proposed and it threatens something or some things of value, a part of the assessment procedure ought to be the consideration of mitigation possibilities to offset adverse effects. This is really a stage beyond the above mentioned alternative-costing procedure. It should be carried out during the preparation of a proposal; if it has not been, or if it has and there is still strong opposition to the proposal, other options ought to be re-considered. If a proposal threatens a particular community or private asset, then there are three possibilities: the asset could be reconstructed on another site; it could be physically transplanted; or another degraded asset could be restored. It is in a sense a form or exchange or trade-off, but can manifest itself as a buy-out - a

powerful company may budget large sums to silence opposition, thus reducing the openly represented cost of a proposal.

• *Government payments.*

This is not a valuing system so much as an adopted-pricing system. It uses the values calculated and ascribed by government departments as appropriate subsidy sums targeting the protection of an environmental asset. For example, subsidies paid to farmers to compensate for crop loss through the adoption of less intensive agricultural practices in what have become classified as 'environmentally sensitive areas' (ESAs or Nitrogen SAs), might be used as proxy environmental values (Bateman 1995). The protection of these areas from the effects of what might be used under 'conventional' arable agricultural practices (herbicides, pesticides and fertilisers) might be considered preferable to the loss of the ecological representativeness or uniqueness of, say, a marsh area. Agents of the government, 'qualified' ecological and financial assessors, will have priced the area according to any number of valuation processes. The figures they deem reasonable and affordable for the protection of the area may be offered in subsidies for the losses of earning potential. They can then be used when valuing the benefits (as compared to the costs) of, for example, the construction or maintenance of a sea wall protecting an area from potentially ecologically disruptive sea water. As above in 'a' and 'b', if the wall is not maintained or built, these can be used to represent components of the total OC (to be priced against the costs of the wall options).

• *The dose-response method.*

'Dose-response' is a method of studying the relationships between different levels of pollution (the dose) and the resulting damaging effects (the response). The procedure can be used at two levels: firstly to assess the effects of different levels of pollutants generally, say over a regional or national area, to determine pollutant effects; secondly, it can be used to assess the effects of particular industries or groups of industries producing the same emissions. For discussion purposes the latter case will be used.

The procedure begins with measuring the emissions of a particular pollutant from a particular source, or measuring the collective emissions where there are multiple local sources of the same pollutant (individual sources can be allocated the costs in proportion to their own outputs of the pollutant). The

ambient presence of the pollutant is then measured (models of the relationship between the emissions and the ambient levels of pollutant are referred as diffusion models (Field 1994)). The next step is to assess the human and other exposure rates - from the ambient levels - as they differ with distance from the source through dispersion. This is linked to the next part of the procedure, an assessment of the *effects* of the exposure on peoples health, their aesthetic environment, their recreational environment, affected ecological aspects of the environment (especially if they are protected, rare or otherwise 'special' ecological phenomena likely to be affected), the effects on local business or industry, and even longer distance effects (such as the effects of acid rain resulting from the long range transport of air pollutants).

The last part of the procedure is to estimate the values of these impacts. This and the previous stage of the procedure will use some of the evaluation methods described in 4.3.2 such as contingent valuation and avertive expenditures etc.. Once an estimate of the value of the damage resulting from the pollutant is established, these costs could be allocated to the appropriate source industry or industries. In the case where the effects of a pollutant are studied on a more general basis, the results can indicate favourable changes for the future as could be demanded by government policy.

There are clearly problems as mentioned in relation to some of the methods in 4.2.2 in that there is rarely a single pollutant or factor affecting any given subject. Again, one could approach this problem with statistical factor analysis to try and determine the importance of individual pollutants. Alternatively experiments in controlled environments can offer more pollutant-specific effects, but there are ethical dilemmas in the use of human or non-human experimental subjects, and models cannot realistically include the cocktail of pollutants and variable weather conditions. Complete ecosystems react differently to pollutants, and may even serve as effective sinks to some components of the polluting factor(s).

CHAPTER 5

THE TROUBLE WITH ENVIRONMENTAL ECONOMICS AND EVALUATION

When establishing financial and index values to represent environmental issues, qualities, and the effects of actions and policies, a number of methodological and principle based problems (or potential sources of problems) were highlighted. The presence of many of these is a feature of *any* evaluation and research procedure. For example, as explained in 4.3.1.2, public participation is a double edged sword in terms of the effects it can have on research: it can be beneficial since it involves more people in the process of evaluation but it can be problematic due to humans' inability to express their needs (due to cultural factors, information deficits, analytical ability deficits, question comprehension problems, priorities, and disinterestedness). A second example is the use of surveys: a survey that fails to capture a representative sample will provide only statistics rather than useful information.

Before further analysis of the problems of environmental economics and evaluation (including the non-financial methodologies), the nature of the (environmental) 'issue process' will be described. Next the *context* of environmental economic theory will be explained. Following this is a discussion of the legitimacy of the methods and their aims. This then splits into the essence of neo-classical (environmental) economics, and it's problems. The question 'is some number better than no number?' is considered followed by the relationship between money and nature. Lastly ecological dependence, dislocation, and the morality of marketing the environment will be discussed.

5.1   The issue process

This will be considered at the individual issue level. It could also be looked at the macro level, say the revival of environmentalism in the 1990's, or in the way that issue/ideological cycles develop from the emergence of a notion (a much simplified summary might be: ridicule, interest, acceptance, spread, establishment). This is not of great importance as the aim here is to display the complexity of a response to a perceived possible problem (such as a pollution problem, traffic congestion, a proposed development or the proposed termination of a currently functioning operation). It also aims to highlight the inseparability of 'financial consideration' and 'action' in response to environmental issues. It is much easier to criticise and list

problems thought to exist than it is to assess their nature, magnitude and appropriate counter-measures.

The process begins with a person or group of people having the capacity to observe or conceive of a problem. That person or those people (TPTP) might then be alert to observing or imagining problems, or they might have a tendency to seek out problems (either through concern, malice, or vested interests). If TPTP then observe or imagine a problem, they may ignore it or decide to approach it. If it is decided to approach it, questions arise (economic components of the issue process are highlighted).

- Who will approach the perceived problem?
- Who will study the perceived problem?
- **Who will pay for the study of the perceived problem?**
- Will experts and/or the public participate in the study?
- Should the efficacy of the study procedure be monitored?
- How can the efficacy of the study procedure be monitored?
- Who will monitor it?
- **Who will pay for monitoring it?**

Then the study procedure needs to be worked out.

- What kind of study is appropriate for the subject under question?
- What depth and length of study is appropriate?
- What type of study will be carried out?
- **What financial and technical resources are available?**
- **What technical resources are affordable?**
- **Will the financial resources cover the favoured length and depth of study?**
- **If not, where might more resources be sought?**
- **How much monitoring of study resource use is necessary?**
- **Who will monitor study resource use?**
- Who will have authority to delegate component study tasks?
- **Who will have authority to allocate study resources?**

Next the study might be carried out, with all due considerations, and some results emerge.

- How reliable, meaningful, accurate, representative and useful are the results?
- Who is to judge their efficacy?
- Who will be informed of them?
- In what detail?
- How will they be told?
- **How much will it cost to inform these parties?**

- What do the study results mean?
- If they suggest a need to act, how urgent is it?
- Does it seem that any other studies are appropriate? [If so, start at the beginning and work through the process again.]

- How might we act on the results of the study?
- **How much will acting on the results of the study cost?**
- Who is to act on the results of the study?

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- Are they willing to act on the results of the study?
- Are they able to act?
- What barriers might there be to them acting?
- How might these barriers be surmounted?
- **How much might this cost?**
- **How much can we afford?**
- **Who is to pay for this?**

- Who is likely to benefit from acting on the study?
- How much will they benefit and for how long?
- Who will be negatively affected by us acting on the study?
- How badly will they be affected?
- Where does the balance of interest lie?
- Should we act on the study at all if doing so will negatively affect some interest groups?
- Do marginal interests of a majority outweigh the more important interests of a few?
- Who will authorise and be responsible for any actions that might be taken?
- Are those negatively affected simply on the down end of a supply/demand exchange?
- Or are they in some way being persecuted or disregarded?
- Who is to judge this?

- What else will be affected by acting on the study results?
- Are the beneficiaries likely to be people or other species?
- To what extent will they benefit?
- What is the balance of interests and regard due?
- To what extent is it legitimate to impinge on either the interests of people or other species that might be affected?
- What might the side effects of acting on the study results be?
- Who/what will the side effects affect?
- How much effect will there be?
- Are they good or bad effects?
- How good or bad are they?
- Do they outweigh the likely direct effects of acting on the results of the study?
- Should we then not act on the study?

- **What might the full cost of deciding to do nothing be?**

5.2   The context of environmental economics

In analysing the use and possible future use of economics based tools for environmental assessment and analysis, it is important to know the context from which the tools are drawn and in which they were therefore designed to function. Jacobs (1994) states that

> ...it is fair to say that most environmental economics is being carried out within [the neo-classical] framework, and, more importantly, that the most influential work in the subject is of this kind.

He suggests that it is important to distinguish between the neo-classical approach to environmental economics and the property rights/'public choice theory' approach. The latter proposes that the best approach to environmental protection is to assign property rights to environmental assets, creating a market for environmental damage

protection: through the privatisation of environmental assets in a free market an optimal level of environmental protection will be achieved. As well as avoiding *sub-optimal protection* of resources, commodification is thought by economists to be the best way to ensure maximum *resource allocation efficiency*. But, as is considered below, in the market context, optimisation most often means 'short-term financial optimisation'.

The neo-classical approach to environmental economics is more committed to creating hypothetical markets than real markets; then through government intervention in real markets (with taxes, subsidies, and tradable permits etc.), appropriate environmental protection is supposed to ensue. It is *market oriented*, but less in favour of the free market, and does not distinctly favour privatisation (ibid.).

In practice, governments and policy do not simply apply one of the above two types of theory but rather a combined approach that employs privatisation - and a relatively free market system - and the neo-classical approach. In the UK there appears to be a trend towards privatisation but it is limited by public discontent and opposition party protest (the bigger picture might bring a different party to power, with the goals of reversing the privatisation process).

In the UK, subsidies for less intensive agricultural practices and restraint in 'environmentally sensitive areas' (ESA's) are in operation, throughout Europe something of a positive incentive rather than a negative push presents cleaner [sic] unleaded fuel at lower prices than leaded, and tradable pollution permits were strongly advocated by the US at the 1992 UNCED meeting.

This leads into the first type of problem with environmental economics, the legitimacy of the methods and their aims - the numerical and financial value results which will be the basis for decision making in environmental management.

5.3 Legitimacy of the (aims of the) methods.

5.3.1 The essence of neo-classical (environmental) economics.

Neo-classical environmental economics has the core aim of commoditising the environment so that it can be analysed with conventional economic tools, as any other commodity. One might suggest suggested that would-be straight economists chose to focus on environmental economics in order to secure their future as the environment becomes more and more of a focus in all circles, but it is irrational to assume that

simply for having economic training, people are oblivious to the importance of environmental issues.

The environment has been viewed by many economists as the provider of free goods. According to G. Hardins' 'tragedy of the commons' principle, all lose out if the environment doesn't have an appropriate price attached. If it did, then it might be appropriately protected for all. Indeed it would be hard to deny that if environmental 'goods' had 'appropriate' prices they *could* be more justly acknowledged in the market economy cultures which prevail. So claims by environmental economists that they are being more 'environmentally friendly' than 'emotional greens' could have substance.

It is worth noting two linked issues here. Firstly, as asserted by Jacobs (1994),

> *...most environmental economists are genuinely concerned to protect the environment, and are engaged in the subject to assist this cause.*

The dominant paradigm at the moment is an economics based one; it is widely believed that it is through economics that effective environmental protection can be achieved (though deeper questioning questions the economic system itself).

The second point, asserted by Hawken (1994) and others, is that the world of commerce is the only mechanism powerful enough to 'save' the global environment. Unless further and more serious degrees of ecologisation take place in big business 'interests', or at least are demanded of them by law, any improvements will be marginal and relatively insignificant (though of course any improvement is *an improvement*).

Jacobs (1994) outlines five premises on which neo-classical (environmental) economics is based:

- Economic activity is comprised of methodologically individual activities (individuals act on their own, with their own psychology, preferences and environmental demands for satisfaction);

- Individuals act rationally and consistently to (perceptively) maximise their own utility;

- The rational person described in '2' operates in free markets with their own equilibrium, and exercises freedom of choice;

- Preferences and technology are static in the economic system (the effects of time on taste and preferences is ignored); and

- Neo-classicists consider themselves to be (or at least aspire to being) morally neutral - conclusions drawn from their methodologies are simply the best policies to fulfil defined societal preferences.

Under these premises, evaluation, as outlined in chapter five, produces values for environmental 'commodities'. The next part of the process is to incorporate these values into the market through policy and economic tools, so achieving the collectively preferred level of environmental protection.

5.3.2 The problems with neo-classical (environmental) economic assumptions.

The key problem associated with the neo-classical approach is that it attempts to analyse what *might* happen *if* components of the environment were exchanged between producers and consumers in the way 'real' commodities (such as manufactured or grown products) are. Yet, as Jacobs (1994) observes:

- The environment often **is not** a commodity traded and consumed by individuals like other goods and services;

- Private ownership of components of the environment is not the norm - it is a source of much controversy when a small proportion of individuals assert 'ownership' of elements of the environment and try to exclude the majority from its use (freedom to roam, camp and gather still exists for example in Norway and Sweden, and 'commons' exist in the UK).

- The consumption of 'the environment' by one person can not be separated from that of another; and

- Preferences are inadequate for valuing public goods since the majority of aware individuals will not pay for a good which 'free riders' (those who use without paying, or use without consideration for other users) will exploit.

Neo-classical environmental economics can provide some measure of the worth of environmental components, albeit deficient in many ways, which could integrate previously under-accounted factors in decision making processes.

This leads to some questions: Is some number better than no number if it allows for some environmental representation? Is the often-perceived gulf between environmental and economic interests a reality, or is it a product of 'green paranoia' /

'economic intransigence'? Is it the case that there are irreconcilable conflicts of interest between ecological and economic interests?

5.3.2.1 *Is some number better than no number?*

To date, more work on the contingent valuation (CV) method of environmental economics has been done than on any other. Papers on it appear regularly and extensively in journals and text books. However in the US, cost-benefit analysis has been extensively researched over the last twenty years, and has played a significant role in environmental evaluation and decisions affecting environmental protection. Diamond & Hausman (1994) discuss the question of whether some number is better than no number. They look at the *quality*, *meaningfulness* and so the *usefulness* of survey results produced by CV.

They conclude that for a number of reasons, CV survey results are not appropriate for defining policy and actions regarding environmental protection. Though some numerical values are produced, they should not be used in the decision-making process that precedes actions. In part, this was because in their use for measuring non-use values, by the nature of the study, there are no direct market values to compare them with (the extreme case of this is the bequest value of an environmental 'asset', or the not-possible time travel necessary to verify future option value estimates), and so their 'validity' is hard to confirm.

As with all surveys, before results can be used for future purposes, it is important to evaluate their qualities. Diamond and Hausman suggest this is done in terms of response credibility, reliability, and precision. Ceteris parabis, precision can be improved with an increase in the size of the survey sample, but *credibility* (referring to whether the respondents are answering the questions the interviewer is trying to ask) and *reliability* (the magnitude and direction of biases in the answers) can not. They found that CV surveys do not measure what they intend, and that this would not change with a change in method.

They find the main anomaly in CV to be the '*embedding effect*' which is:

> ...*the tendency for willingness to pay responses to be highly similar across different surveys, even where theory suggests (and sometimes requires) that the responses be very different.*

> (Diamond & Houseman 1994)

This problem is acknowledged in the literature on the subject, but to date no solutions have arisen. Two other failures in the CV method are that 'willingness to accept compensation' (WTA) values always exceed willingness to pay (WTP) - and WTP shows little income elasticity. Thus there is a contradiction when compensation for the loss of something is greater than the respondents would be willing to pay to protect it. Perhaps unexpectedly, higher incomes do not lead to a greater willingness to pay. This could be due to the hypothetical nature of most CV work, such that 'idealised' values are always offered by environmentalists (perhaps only until they are asked to pay up). Also, a certain psychological base level of (financial) concern will be displayed by those not particularly concerned with environmental issues. But it is not possible to verify these findings against an actual situation since CV is based on hypothetical markets.

Problems are compounded because:

> *...it is not adequate to assume that any response that is not obviously wrong [through misunderstanding the question or other methodological incongruities] is an accurate response to the question the survey designer had in mind.*

(Diamond & Houseman 1994)

The meeting of minds between surveyors and surveyed can never be absolutely confirmed, in part because:

> *...within the confines of the time available for survey instruments, [respondents generally do not have the time to] focus successfully on the identification of preferences, to the exclusion of other biases for answering survey questions.*

(ibid.)

The often rushed and/or unexpected context of answering questionnaires is incongruent with the production of genuine answers.

Finally they conclude that:

> *...the internal consistency problems come from an absence of preferences, not a flaw in survey methodology.*

(ibid.)

That is, they do not believe that people hold views about individual environmental sites so much as environmental sites and species *in general*. Other than for well-publicised concerns (such as rainforests), and endearing species (such as seals), this seems reasonable since *most* subject sites or species are not directly familiar to respondents. It is likely that they hold general attitudes to *all* sites and species they

may be asked about (as suggested earlier, WTP differs little for different sites). Those particularly concerned about environmental issues will have consistently stronger feelings about all sites (though for example bird enthusiasts may have a particular bias towards the interests of birds, and those not particularly concerned or aware about/of environmental issues will show consistently lower interest).

On account of the problems raised here, which also are pointed out in other sources, there do seem to be grounds for serious doubt about whether *some* number is better than no number. It is the nature of 'expressed preference'-based studies that they are open to the vagaries of human unpredictability and unreliability. A spontaneous answer to the question might be that yes, a figure denoting some value for the normally un-priced might be favourable if it can lead to some protection. But deeper consideration might lead to the conclusion that environmental phenomena would be better off remaining 'priceless' than under-priced. This would entail cut-off/absolute standards rather than subjection to the vagaries of financial and market based 'tradability'. To give an analogy, what W. Churchill said of democracy was that although it might be an imperfect system, it may be that others are worse - although market pricing of the environment has its flaws, perhaps it is the best option. Would other systems of environmental protection, such as blanket laws of preservation, be less effective in 'protecting the environment'? This point leads into something that will be discussed in chapters 6 and 7: the nature of philosophical and value positions which are moderate and reformist compared with those which are uncompromising.

The numerous problems of environmental economics were outlined in chapter 4. Generally, although some figures may be achieved, it can be argued that the results - which come from house prices, wage rates, money spent to reach a place or experience, money apparently spent on improving the personal environment, or figures plucked from government subsidy tables - are of limited use in defining the *total value and total cost/benefit* of an in/action or phenomenon.

As suggested in many places throughout this paper, value other than instrumental value to humans go widely unrecognised and is often ignored when recognised. Disregard for the interests of other people is also historically and currently common. The unaccounted costs of 'externalities' - the interests of every critter, plant and complex ecosystem adversely impacted by human actions outside the realm of necessity - are hardly included in environmental economics: it is in fact still a homocentric evaluative process.

5.3.2.2 'Money Vs Nature'.

A recent (May 1995) 'enviroethics' internet newsgroup debate on the subject 'Money vs Nature' serves as a good basis for this discussion. It began with Ellis' suggestion that:

> ...the very root of our global ecological crisis lies in the incompatibility between the Laws of Money and the Laws of Ecology.

He went on to state that this incompatibility revolves around the two value systems: ecology 'values' are based on *optimisation*, whilst money 'value' is based on *maximisation*. Thus in ecology, for every biological value there is an optimum level (too much or too little is un-homeostatic), and "in the artificial world of money...more is always better" (Ellis 1995)). Ignoring that there is a difference in the level being referred to in these two cases (with reference to ecology he speaks of *components of ecology* - "every biological value", of which there are an infinite number, and with reference to money he refers to "the artificial *world of money* " - more general), he furthers with a typical scenario.

He gives the following hypothetical example of a community set in an East Texas wetland with high regional biological value for groundwater recharging, flood control, wildlife habitat, and biodiversity preservation. The community, caught up in a global money system beyond its control, is suffering chronic under-employment and is constantly being tempted by goods advertised on the television. To them it is nothing more than a swamp and a breeding ground for mosquitoes. When a developer offers to drain it, fill it, and make it into a shopping centre, offering jobs in construction and then in the running of the outlets, selling the products they had seen advertised, the community authorities, with the backing of the people, will welcome the proposed change of land use.

Working on the maxim 'think globally, act locally', he suggests that in the money game it *always* pays to transform nature into commodities (or commodity outlets). In consequence, decisions made locally add up to a global ecological crisis since as he indicatively suggests, the scenario can be multiplied by 2 million to reflect the same type of decisions being made all around the globe.

> We add [money] value to land by logging and farming it, then by building houses, shopping centres, and factories, so that the land acquires the highest economic value when it is a biological desert.

> (Ellis 1995)

He concludes that 'The Money Game' is a recipe for ecological disaster.

Ellis' argument is countered by Wandemberg (a Ph.D student of Environmental Economics and Monetary Policy at New Mexico State University), who asserts that money can and should be the only non-utopian means of avoiding "an ecological debacle". He considers the idea of "a rebirth of moral, ethical and spiritual values" (presumably from a currently degraded state) to be unrealistically utopian. Field (1994) suggests that it is more the case that "environmental problems are too important to wait for a long process of moral rebuilding" - the cause of environmentally damaging activities is not a lack of morals so much as "the way we have arranged the economic system within which people go about the job of making their livings" (ibid.).

As Wandemberg sees it, the core of every environmental problem is "an artificially low price of a natural capital stock", much in agreement with Weizsäcker (1994), Hawken (1993) and others. This he suggests is mainly due to two key problems: firstly, powerful vested interests; secondly, an insignificant willingness to pay (WTP) for the protection of a given resource - the way forward in ecological protection is to work with the 'money game'. Calders' (1967) book 'The Environment Game' describes a world view in which everything is a game - sports, ritual, entertainment, knowledge, conservation, and environment games etc. For the environment to achieve an effective status the need is to exchange "money wealth and human power" for "non-monetary wealth and human knowledge". Thus the environment needs to achieve a higher money-value status which would effectively compete with other money sinks.

Moyle (1995) counters Ellis' assertion that the laws of money and ecology are in conflict with each other - indeed he asserts that they have much in common: optimisation behaviour, equilibrium, and dis-equilibrium behaviour, hysteresis etc.. It is here that Ellis' argument is problematic. As mentioned earlier, at the sum *world* level (the macro level) of money or the national level, it may be the case that more is better. However at lower (or 'micro') levels, such as within budgetary constraints, more money in one sector might mean less in another - an un-balanced budget. So, as Moyle asserts, here money might have an optimal level (of sector allocation), just as in ecology excess or inadequacy of nutrients can mean toxicity or deficiency.

Moyle does however agree that there is a fundamental divergence between ecology and the 'money system', (to be referred to as 'economics' from now on) in that in ecology values are objective, whereas in economics values are subjective. He also asserts the flawed notion that anticipatory behaviour (a characteristic of economic

players) is not observed in nature - a squirrel's winter store, and autumnal (fattening) feeding habits before hibernation (perhaps this is instinctive anticipation) of other creatures seem to defeat this notion. He also takes issue with Ellis' and Wandemberg's constructs of the economy, suggesting that:

> ...*subject to certain institutional requirements being met, economics neither guarantees an ecological crisis will occur nor guarantees its solution.*

This sort of premise - that certain institutional requirements must be met - is increasingly appreciated in both development and environmental protection circles - until the human population achieves basic necessity satisfaction (and also has some disposable incomes/assets), environmental protection will come second to (perceived) chances of achieving these needs.

Hawkins appreciates Ellis' labelling our (human) 'artificial' constructs, such as 'economic activity', as 'games'. He takes issue with Ellis' suggestion that the East Texas community was "caught up in the global money game", asserting optimistically that although "it might be quite difficult for individuals to bring about changes in the [economic] superstructure", the money game is a human creation and so is more open to refashioning than the natural world. Goodman and Redclifts' (1991) book 'Refashioning Nature' extensively discusses the link between people, work, food, agriculture, the environment, technology, trading systems, and genetic engineering. They address human efforts to 'direct' nature and 'second nature systems' (such as 'ecosystem structures' and 'market demands' respectively).

One of the questions to arise in the book is whether or not "when the North eats, does it eat the South?" This symbolically suggests that as far as many people are concerned, economic systems (superstructures) might as well be out-of-our-control natural processes in the same way as harsh weather conditions are, because many people have no chance whatsoever of altering them. Hawkins (1995)seems to have a rather utopian outlook when he suggests that "we can show a little more self-understanding and flexibility" than to allow our own creations (economic systems) to force us to destroy ecologically (and potentially and actually to us) valuable natural phenomena. Economic systems, now more than ever with the global economy and trading systems, are beyond the control of the majority.

Nevertheless, observing 'the bigger picture' over time, changes can occur in the economic, social, creative and organisational systems of human agency. Hawkins

points out that we do not have to conceptually extract ourselves from the natural world to accept and work with the notion that we are:

> *...the flexible products of evolution, having a much greater degree of appropriate control over certain kinds of things in our environment - our own conceptual creations [our econo-socio-ecological interfaces].*

Before moving on to the next significant source of problems with environmental economics, a few key points will be made regarding the market system and the environment. Firstly, some suggest that the environment exhibits 'market failure' and that this is a contributing factor to its degradation. It is more the case that it did not have a market in the first place. Use is 'primarily natural', the market is only 'secondarily natural'.

Secondly, in markets people generally make decisions without knowledge of other peoples' decisions or the effects of the aggregate of individual decisions. As mentioned elsewhere, inadequate information denies consumers the possibility of actually making the full moral choices which they might, and indeed which they might prefer to make, given the option.

Thirdly, economic 'resource optimality' is only one version of maximum societal benefit - its aim is to ensure that:

> *...the marginal cost of the last 'bit' of environmental protection equals its marginal benefit, aggregated across all those participating in the market.*

(Jacobs 1994)

But 'resource optimality' is just this: an aggregate instrumental reference with humans as the measure of value. It says nothing of the distribution of the benefits within existing and future generations; it ignores what might be described as 'indigenous rights' - especially since, for example, tribal peoples can hardly be expected to offer competitive bids in a market where they are competing with short-term return minded developers. The interests of other species and complete ecosystems are also disregarded.

It is also worth considering another suggestion made by proponents of environmental economics: that it is as a commodity that people behave towards the environment. Jacobs (1994) details a number of objections to this assumption, some of which have already been mentioned:

• Many people refuse to participate in environmental pricing surveys - he suggests that in a number of surveys, up to 50% refused to participate since they thought it an inappropriate way to express their environmental values;

• As mentioned above, WTP bids depend on the degree of informedness on issues, and biases and incredulity at being asked to value birds or long horned cattle protection are real;

• Aggregation of survey results is problematic since it is likely to lead to sum offerings in excess of what people would actually be happy to pay if asked for one lump sum value; and

• People value losses higher than apparently similar gains.

Psychological 'play' is surely an important aspect in evaluation. If asked to value a whale, people other than whalers might think it an absurd question, and might answer that they value it 'highly' or 'don't know'. If a value was demanded of them, they might state a very high sum to avoid under-valuing it. So values here are an expression of *strength of feeling*. This is the crux of the problem with much of environmental economics. Jacobs (1994) asserts that:

> *...it is not preferences which people have for the environment, but attitudes. The*
> *environment belongs in the sphere not of monetary, but of moral valuation.*

People may have preferences regarding the environment they experience, but in terms of the value they place on environmental components in general, they have a general attitude towards them. This brings us to the next question: of the legitimacy and the morality of pricing and commodifying the environment and its components.

5.4 Ecological dependence, dislocation, and the morality of marketablisation

To describe the environment and its components is (ideally) to try to objectively measure their perceived and physical characteristics. This approaches 'empirical' observation. Standard dimension units of lengths and weights and descriptive terms (colours, smells, shapes, textures, structures etc.) simply serve as communication tools between people. These are things which can be relatively objectively collated. Description elaborated with less objective, judgmental additions is a way of communicating impressions of the physical characteristics and processes affecting (and caused by) components of the environment. When the process is used with ulterior motives, it is the motives rather than the processes which are questionable. From observation and perception emerges "ecological knowledge" as distinct from

"fundamental knowledge" (Goldsmith 1992). Fundamental knowledge is inherited and instinctive/intuitive, whereas ecological knowledge is systems understanding afforded by organising knowledge in the mind (ibid.).

The essential constructs of (neo-classical) environmental economics were outlined in 5.3.1; social development and capitalist emergence was described in 3.1. The latter is particularly linked to the development of social arrangements and contracts between people and attempts at their application to non-human components of the Earth's ecology. Whether one adheres to Darwinian/Kropotkinian evolutionary theory or religious faith/revelation, we absolutely depend as a species on the earth. 'Determination' to persist (through infinite chemical instability and energy differentials and flows) is what Seymour (1989) calls "Life Force". The collective components have a resilience that hugely exceeds the durability of individual species. Biological products (plants, animals and fungi) are vulnerable to breakdown - by physical, chemical and structural erosion. This is our physical nature. As Oelschlaeger (1991) observes:

> *...humankind...can not live without even such elementary phenomena as sunlight and*
> *photosynthesis. In short, the human species is thermodynamically and biologically,*
> *and therefor inescapably, bound with natural processes.*

It may seem unnecessary (or even distasteful) to describe people in terms which point out the essential vulnerability of the human body. Without biological integrity, human life is less favourable (as we all know from when suffering sickness or physical bodily damage), and so it must be in our interest not to violate the essential ecological basis of our biological (and so psychological) well-being. In all these ways (aside from psychological well-being in the case of non-conscious organisms such as plants), organisms other than humans are equal to us. What is more, and as is suggested elsewhere in this paper, too many of us (especially in the West) are not aware of our considerable dependence on the integrity of our surroundings. As Noss & Murphy (1995) state of America, and again, the trend is echoed in other more industrialised areas:

> *So alienated are the majority of Americans from the natural ecosystems around them*
> *that they rarely think about, much less understand, the importance of habitat to the*
> *survival of humans and non-human species alike.*

Differences between humans and other species such as the supposedly defining factor, the ability to reflect on reflection, are simply species characteristics. As considered in 3.4, different species excel in varying ways. Yet the basic biological functions, requirements, and well-being interests remain equal. People and rats both have

interests which can be eroded and violated, and it is purely subjective to suggest that they are not intrinsically equal.

The rest of this section 6.4 will be split into six parts: defining commoditisation and monetarisation; explaining the reasons for having moral concern and for expressing moral regard; why it is not always expressed; the implications of maketablising the previously un-marketed; discussing whether there is a breach of morality in this process, and how it affects people directly and indirectly.

5.4.1 Commoditisation.

Commoditisation is a change in the way in which a given subject is viewed such that it comes to be seen as a commodity that is fair game to be bought and sold by economic players. One scenario might be where a previously present object such as a rock is found to have some use, say as a source of a mineral for which there is an emerging demand. As it gains instrumental value it becomes a 'resource', and once ownership is claimed, it is a 'commodity'. Thus the rock is commoditised.

The change in the status of an object requires no particular previous status: commoditisation was the change in the attitudes of Europeans as Africans were taken to be sold as slaves; commoditisation occurs is when fish ('resources') are caught and ownership of the fish is claimed (commodification) - the process is commoditisation. Commoditisation is attitudinal change which reduces an existing object/subject to an owned and tradable commodity. An object/subject might be a commodity to one and not to another.

5.4.2 Monetarisation.

Monetarisation is the process of giving an exchange value to an object/subject. Thus monetarisation is a part of the process of commoditisation. When a price is set for what an item will be available for purchase for, it is monetarised.

Monetarisation does not require that the subject be an object of matter, it is simply the pricing of a phenomenon or an organism, or a change in the condition of a subject such as air quality, aesthetic qualities of a given area, or the instrumental value of a resource.

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5.4.3 Moral concern.

Moral concern affects the way in which we 'price', judge, and opine values - it manifests itself in our wilful interactions, or conscious non-interactions with our environment and its components.

Moral concern can be either reasoned and/or instinctive, expressed or withheld. When reasoned it can be a product of objective and/or subjective observation/assessment and becomes a philosophy - philosophy can lead to the conceptualisation of an ideology or a faith which may or may not be adopted as a guide in actions. Instinctive morals are best illustrated in the example of 'instinctive moral revulsion' of an act such as brutal killing. They are feelings from deep within, possibly difficult to explain, yet distinct in the urgency with which they come to mind . Instinctive morals may work in conjunction with reasoned morals though they can operate in a split-instant such as when someone grabs a child from the path of a vehicle. Instinctive morals may have an element of reason, since one may hypothesise how one would react in such a situation, so pre-determining to some extent the way in which one would react in a situation.

A form of objective analysis leading to reasoned morals might be studies aiming to conclude whether or not, say, an animal suffers when placed in a confined environment, or analysis of whether the release of particular substances will affect organisms in a adverse or beneficial way. Thus if the conclusion is that the animal will suffer as a direct result of confinement, or that the release of a substance will adversely affect organisms in the receiving space, it might be concluded that it would be immoral to confine the animal or to release the substance.

There is of course a fine line between objectivity and subjectivity (some would even suggest that there is no such thing as objectivity since all understanding filters through our perception faculties). For example, if the effect of nutrient release is that algae flourishes, this is good for the algae, but unfortunate for the vertebrates whose oxygen supply will be depleted by the decay of the bacteria that decompose dead algae. If, for example, a farmer reasons that the interests of the algae and the vertebrates are subordinate (or even non-existent) to his/her interests in crop production (which may require the application of agrochemicals), the farmer may apply the agrochemicals knowing they might cause the algal bloom in order to satisfy his/her interests. (Table 2.1 in chapter 2 considers in detail the consciousness of un/abusive behaviour towards non-human animals. It is often the case that individuals will try to back up apparently subjectively-reasoned moral choices with apparently

objective evidence to support their decision. If originally objectively reasoned moral tendency becomes internalised, it might become instinctive moral tendency (the instinctualisation of belief).

In considering the nature of moral concern, it will be useful to remind ourselves of the 'moral subject' debate. The question of 'who/what is a moral subject?' is too big for this paper, but the often asserted positions will be briefly described.

It is argued that in order to be a part of the moral sphere, a subject needs to be able to engage in moral contracts. Humans are normally granted this status as a birth right (or more precisely, as a right from conception or a decided stage after conception). Even those who are very young, old and experiencing faculty decline, or the mentally handicapped receive rights by proxy. Historically there have been advocates for granting (or rather recognising) 'moral subject' status in non-human animals.

Since the early 1970's there has been an acceleration of interest in the notion of 'animal rights' - 'rights' that ought to be offered to them as moral subjects without requiring them to be moral agents. This is generally thought to have taken off after the publication of P. Singers' (1975) book 'Animal Liberation', which argues for a serious change in the way human society uses non-human animals for food, labour, research and entertainment purposes. He reasons that they have interests, just as we do, that ought to be respected. Others disagree about whether or not 'rights' can be held by animals unable to enter contracts, who though they agree with the conclusion: a need for *interest recognition*. For example R. Ryder asserts that animals don't have rights, but that they have interests and can suffer means they are due moral regard.

More recently, Peter Singer and Paola Cavalieri have instigated something of a strategic movement to raise specifically the status of the 'higher' (non-human) apes to equal status with people, 'The Great Ape Project' (Singer & Cavalieri 1993), in order to gradually break down discrimination towards other animal species. It is acknowledged that it is a compromising proposal, but if successful it could set a morally favourable precedent.

Insincere expressions of moral concern may be sarcastic or strategic - the latter might be, for example, to enhance credibility in the eyes of a morally interested public, or to comply with job requirements that favour *expressing feeling* for what company policy or government law advocates or demands. Thus moral concern might be expressed through 'heart-felt' feeling, considered opinion, expressed opinion, or inter-personal

deception. When it comes to human decision-making, the vast majority of choices involve balancing one set of positives and negatives against another.

In environmental economics, moral concern is presumably a driving forces in an attempt to effectively include non-financial factors in the decision and development process; a reason to invest time, effort and resources into the development of effective and appropriate methodologies.

5.4.4 Why express moral concern?

Expression of moral concern has the aim of asserting greater degrees of *Ahimsa* (peacefulness) between subjects, reducing to a minimum the unnecessary violation of interests and integrities. We express moral regard on the basis of what significance/importance we recognise in things other than ourselves (7.5 considers the expansion of 'self'), and this manifests itself in a hierarchy - the further down the hierarchy another subject is, the more willing we are to discriminate against it.

Expression of moral regard is widely seen as favourable in order to avoid disharmony and conflict. Where moral concern is not expressed, the lowest denomination of character often emerges. With the potency of technology available, even a minority of immoral individuals can be very disruptive. There is therefore an instrumental basis for expressing moral regard - unless we seek to maintain high standards of moral expression, the collective moral receipt will decline.

But how does this relate to an apparently passive nature (in terms of retaliating quickly against negative treatment) or to other animals which can not match the violent force human disregard? When people act unnecessarily violently in one type of situation, they are unlikely to chameleonically alter their character in others - so if we are violent towards other creatures, that same disregard will spill over to people as well, a scenario most people don't favour. As Seymour (1989) states:

> Man's cruelty to his fellows always seems to go hand in hand with his cruelty to the
> rest of nature.

It is ironic then that we still perpetuate meat industries (see 2.4) which 'normalise' bloodshed, incarceration and deprivation.

Non-animal interest groups/phenomena are the basis of existence: if we abuse them, we debase ourselves morally, and in the longer term, the 'services' afforded us by

them may decline - life quality can decline through abuse of the non-sentient. This is against the will of homocentrism (as well as other more holistic outlooks). Thus it is immoral both with the interests of people and the interests of other components of Earth systems in mind, to disregard and abuse any component of the web of the 'Gaian whole' of primary nature.

The fabric of human culture can not readily absorb violent moral anarchy - though natural systems are thought to function in a sort of 'ordered chaos' (a 'directional anarchy'), great and very hard to resolve social dis-harmony which may carry on inter-generationally is the normal outcome of moral disregard. History shows this abundantly.

In environmental economics, since moral concern (as well as resource utility maximisation) is the driving force behind its development, its expression must be welcomed - it seeks to incorporate some weight of argument attributed to intangible concepts such as 'intrinsic value', 'bequest value', and it seeks to effectively include public participation in the valuation process.

5.4.5 Why is moral concern not always expressed?

This has been explained to some extent in other sections, particularly in chapter 3 where certain attitudinal and outlook traits were discussed. But a key explanation is that real financial pressures often do not offer space for moral consideration - conventional economic systems are not even designed to be equitable amongst people, let alone other organisms. As described in 5.3.2.2, there is a strong argument that economics simply seeks to maximise (profits). Pressures to satisfy share-holder expectations and to attract investment and business by being a profitable organisation are very real. Investment made now (for example in conventional banking institutions, the conventional stock market, and government stock) is *simply with the goal of high interest earnings*. Little or no regard is paid to the types of operations being invested in or their morality. Why? Because of information deficits about the investments, a failure to appreciate the implications of some investments, and because investors are often either disinterested when aware, or trust the moral integrity of financial mediators.

But there is a growing movement against this kind of transaction - blind enough to welcome investment in the arms industry, exploitative and ecologically damaging industries, morally questioned 'medical research' etc.. 'Ethical investment' is now a catch-phrase for some financial institutions such as the Co-operative Bank, Mercury

Provident, and the Ethical Investment Agency in Britain. There are also strong movements to establish further Shariah based banking and stock investment systems (pers. com. Dr Sheikh G.S. Abod), which have the goal of distributing more equitably the costs and benefits of investment between the investor and company concern (for example through the termination of 'interest-based investment returnsand loan costs).

There are a number of other explanations for moral regard not being expressed as detailed in Table 3.1 in relation to animal abuse, but which are equally applicable in other activities - conscious abusiveness, naive abusiveness, regretful abusiveness, optional abusiveness. In the wider context of environmental management, the following are examples of how these four abuse conciousnesses might manifest themselves:

1) Conscious abuse might take the form of illegal and indiscriminate arson of forest areas, or release/application of dangerous substances into the biosphere.

2) Naive abuse might result from unquestioning participation in a culture that is wasteful of resources and unconcerned about waste disposal methods and quantities - this is one of the most prevalent forms of participation in morally-questionable systems, since institutionalised and 'normal' processes, such as the decades of unprotected landfill and sea dumping of waste, can not wholly be blamed on citizens participating in a status quo.

3) Regretful morally-questionable behaviours again might come about through the normalised nature of so many actions, such that working to get a prestigious car (such as an ORV for urban living), an over-sized house and to go on distant holidays are symbols of unquestionable success.

4) Optional action immorality is the function of much big business - for example forest clearance for board feet of timber, and huge expenditures and immorality tolerance levels in order to profit from the sale of arms to known violators of human rights.

5.4.6 Marketablisation : implications, a breach of morality?

This issue is at the core of the question of environmental economics: what is the effect of attempting to assign or create values for the previously un-marketed, how meaningful are the values achieved and how useful are they in attempting to widen the comprehensiveness of consideration in environmental management?

When money values are assigned to products, the price is comprised of the costs of raw materials, manufacturing/processing costs (overheads, energy and labour costs), transport costs of inputs and the product itself etc.. Therefore, when a price is set for a level of air quality, or if we attach a money value to a forest or landscape, we are applying a descriptive market exchange tool to a non-market phenomenon. Jacobs (1994) believes that this:

> ...devalues the cultural and the spiritual meaning which the environment has for human society and ignores altogether the rights [read 'interests'] of other species.

What is even more disturbing is when committed environmentalists struggle to find 'new' uses and values for environmental phenomena in order to protect components or sections of our surrounds. A typical scenario is an endangered species. The arrogance of homocentrism often dictates that a last and disrespectful resort for the *preservation* of a species might be to make it pay - turn it into a tourist attraction, build lodges, develop road and other infrastructural supports for allowing paying viewers to look for or at that species and its home, or worse still, to incarcerate it in a zoo. We can only speculate over what a beast might favour if choosing between cramped incarceration and deprivation of the means to pursue instinctive desires to roam, climb or fly - or to perish as a species. Yet this is the proxy situation we so often offer to other species, especially the more complex species. These sorts of notions lead us to consider that perhaps a moral growth process is in order.

It is not to romanticise to suggest that many non-western societies live with a more ecological outlook. But some clearly are attached to a life style which accommodates and indeed consciously respects the environment. This is further considered in 7.3. To haphazardly or decisively dislocate ourselves from the organisms we live alongside, on and because of, must be a mistake. However far we are from the sites of damage we cause, our mental capacity will carry the baggage of our past. Surely there are ethical problems with despoiling natural quality simply because we can make a profit from it, might be able to replant and pretend it never happened - leaving a problem for others now living, and for future generations?

Although environmental economics is for now seen as a tool to legitimise improved protection of primary nature and might strengthen arguments for the ethicalisation of lifestyle, this can change in the future. If financial cases for preservation or protection are the basis for defence of environmental integrity, development interests need only make their operations more profitable to show that the benefits are worth the costs. It is much easier to create a financially profitable business operation than to seek to find

more values for environmental phenomena and complexes. If a road is the subject, its value can be boosted by attaching an industrial estate development or some other money-based perk ('mitigation'). Ecological components do not require financial activity to maintain their integrity - indeed financial activity is more likely to threaten them.

Environmental indices, as proposed in environmental economics, attempt to *describe* rather than *evaluate*, to study human preferences rather than to get people to put prices on things. Thus they are less likely to be morally contentious per se.

The issue is further complicated since study methods and abilities change, so rendering old estimations of environmental quality incompatible, if not obsolete. There is considerable debate about the quality of environmental statistics thought to describe changes in environmental characteristics, such as those pertaining to enhanced climate change. There is strong doubt as to whether the figures presented in association with 'global warming' are credible, or rather, whether they mean much at all, estimates vary so widely.

In conclusion, the sentiments that propone environmental economics are to be welcomed, as is the enhanced social and environmental consideration which might be afforded by the results. But in the longer term, more concrete and unimpeachable ethical standards might be favourable - because they recognise the priceless value of ecological phenomena and, in the longer term, financially-based environmental defence cases are surmountable by development interests, which can relatively easily ratchet up the 'benefits' of a cost/benefit analysis. Environmental economics is a reformist approach - it seeks to work with the current system of reason, rather than to question the wider basis of philosophical, ethical, and life-outlook approaches.

CHAPTER 6

APPROACHES TO THE FUTURE :
ENVIRONMENTALISM / SHALLOW ECOLOGY

There are two broad approaches to resolving the socio-ecological damage of the culture and commerce that has accompanied the industrialisation of societies. Firstly, reformist and secondly a more serious ecologisation. The first seek to work with current systems and orders, so as to move towards 'sustainability'. The second considers the current systems to be essentially flawed. A more radical and serious ecologisation is called for - merely adjusting components of the status quo is inadequate and a futile attempt to arrest the degradation process.

Other approaches to the future including 'business as usual' and further dislocation and attitudinal detachment from primary nature and its systems are not viable options for the future. Most governments now offer environmental platforms geared towards vote-catching, the resolution of acknowledged problems, or a serious reconsideration of strategic systems of culture and development.

This chapter's discussion of reformist approaches is split into three parts: development and strategic reform; corporate and business reform; and popular reform (reform trends by the public).

Reformist approaches can be described as 'shallow environmentalism' (Sylvan & Bennet 1994). One of the cornerstones of the reformist approach to resolving contemporary socio-ecological problems is the 'sustainability' movement. A second is the greening of business. In 5.2.2.2 it was noted that some see big business as the only 'institution' powerful enough to engineer the changes required to arrest the processes of socio-ecological degradation. 'Green business' is a part of the sustainable future looked forward to by proponents of the movement and, as mentioned elsewhere, might be termed a 'growth industry'.

6.1 Development and Strategic Reform

The 1991 'Caring for the Earth: a strategy for sustainable living' (CftE) report produced by the IUCN, UNEP, and WWF is an impressive manifesto and prescriptive guide designed to act as goals in reform and development. It lists and then explains in detail nine basic principles for a sustainable society:

1- Respect and care for the community of life

2- Improve the quality of human life

3- Conserve the earth's vitality and diversity

4- Minimise the depletion of non-renewable resources

5- Keep within the earth's carrying capacity

6- Change personal attitudes and practices from the present

7- Enable communities to care for their own environments

8- Provide a national framework for integrating development and
conservation

9- Create a global alliance

Thse are commendable goals to strive towards. They would bring about considerable 'Earth liberation' if they were to be effected. But as was considered in chapters 3 and 4, there are some profound barriers to this process. Industrial society, as it has developed in what the above report describes as 'high income countries' hardly adheres to many of these principles. In fact it goes directly against the grain of principles 1, 3, 4, 5, and 9. Much potential for improvement is hampered by the competetive and ruthless search for profit, a societal outlook clouded with objects, property, disparity, security measures, crime and ecological disruption. There are real pressures to participate in these systems and organisational frameworks to survive in commercial and private life. 'Green technologies' are blocked by a focus on the residual potential for profit from 'dirty' technologies; and when rich countries move on to cleaner processes, the older dirty ones are sometimes 'dumped' on overseas markets - weapons and agrochemicals are two common examples.

The 1992 UN Conference on Environment and Development (UNCED) was a watershed of sorts. Exhaustively discussed and acclaimed, this gathering of over 170 world leaders to focus on the state of and trends in environmental conditions was significant. The product, 'Agenda 21' (A21), which "envisions a future that will be prosperous, equitable, and sustainable" (Brown (UNEP director) 1994) is thought to carry weight in scientific, political, economic, social, and ethical debate. The 1972 Stockholm Conference "...placed environmental problems on the global agenda" (Conca 1995), and the UNCED gathering was a 20 year anniversary of this event. It is stated that:

Agenda 21 stands as a comprehensive blueprint for action to be taken globally from now into the Twenty-first Century - by governments, United Nations Organisations, development agencies, non-governmental organisations and independent-sector groups, in every area in which human activity impacts on the environment.

(Brown & Quiblier 1994)

It is beyond the scope of this thesis to fully describe and analyse the meeting, the implications of A21, and the local level response to the directional prescriptions that came from it. However, some ethical implications can be mentioned here. Henderson (1994) tells us that the commitments signed by the nation heads at the conference were a fair and realistic bare minimum, as development directions move towards 'sustainability'. She reminds us of the "co-operative agenda for accelerating sustainable development" as is presented in the A21 document, and of the two key agreements:

> 1) *to overhaul economic indicators and systems of national accounts to more accurately value environmental change and costs as well as resources.*

and

> 2) *to institute user fees and other forms of 'green' taxes on pollution, resource depletion, and waste. This overhauling of economic theories, macro-economic management indicators of 'economic growth', as well as general wealth and progress, is vital.*

(Henderson 1994)

So environmental economics is to be the focus of fine tuning and development. The rise of environmental economic investigation and research, not to mention attempts at inclusion into organisational and development procedures, is a welcome answer to the A21 proposals. Henderson (1994) suggests six other implications and observations in relation to A21:

1) Though A21 calls for more international trade, it would further enhance current "social exploitation and environmental destruction" if this was to occur before a reformed system of national accounts, economic and social indicators become accepted as a standard for all trade negotiations.

2) The debt crises, the non-utility effects of GDP as a measure of progress and the emphasis on material growth similar to the "credit-fuelled material consumption" which underpins 65% of the GDP in the US are in serious need of re-assessment. 'Indigenous' measures of status, where the highest regard goes to minimal consumption are models we would do well to re-incorporate. (See chapter 7 for 'Indigenous professorialship'

3) Currently, the 'trickle down' models of centralised economic growth are losing popularity to "local, people centred, 'trickle-up'" development models - leaning towards more equitable and ethical developments. Henderson

describes how Euro-American traditional economists and the politicians they advise have in the past quibbled about such ideas, leading to a state where:

...economics [was] hyped with debt and deregulated, while warfare, 'workfare', and welfare took up the slack.

(Henderson 1994)

4) There is a need for co-operation with the mass media if over-consumption by Euro-Americans and others elsewhere and material values/life-styles are to change.

5) She states, drawing from Chapter 33 of the A21 document that:

...the existing economic system is the core problem in perpetuating old models of economic growth and their externalities: widespread gaps between rich and poor and increasing environmental damage.

(Henderson 1994)

6) She notes the change in the role of money, as information and money have come to be one and the same thing to a certain extent (information ≈ money ≈ power).

Whereas money was originally "*...to track, score, and facilitate the application and exchange of human resourcefulness*" (Henderson 1994), now vague morality surrounds commodity and futures exchanges, and obscure investment in indexes of electronic money. 'Conventional' (Western) economic systems are increasingly questioned and rejected in favour of 'local exchange and trading schemes' (LETS schemes - discussed further in 7.4); widespread rejection by Muslims of unethical dominant systems of capital investment are revitalising drives to establish more equitable Islamic financial trading and banking systems (pers. com., Dr. Sheikh G.S. Abod).

As mentioned earlier in the context of environmental economics, there are calls for pricing with ecological costs incorporated. Ecological taxes are important economic tools which carry growing popularity; inevitably there is huge opposition, for example from automobile interest groups. The suggestion of fuel price rises through increased duty (analogous to carbon taxes) and sustained increases in prices stirred considerable passion (amongst those with vested interests in fuel and combustion engine use) in Britain when a Royal Commission (on Environmental Pollution - RCEP) considering transport proposed such changes.

Recommendation 28:

We recommend that fuel duty be increased year by year so as to double the price of fuel, relative to the price of other goods, by 2005.

Recommendation 29:

We recommend that the government press for revision of the EC Directive on fuel prices so as to ensure a sustained year-by-year increase in fuel prices across the Community.

(RCEP 1994)

Weizsäcker & Jessinghaus (1992) discuss the demand for 'ecological tax reform'. Weizsäcker (1994) further analyses the framework for ethical and ecological consideration-enhancement in the light of massive social, political and ecological disruption and destruction. The economic instrument possibilities include: tradable pollution permits; special charges (such as waste collection charges); ecological tax reform (shifting emphasis to taxing consumption rather than income); and the cutting of subsidies which:

...may have given some momentary relief to social problems but...have failed to attain their long range socio-economic goals.

(Weizsäcker & Jesinghaus 1992)

The 'polluter pays principle' has already become enshrined in law to a considerable extent in Europe, with for example the National Rivers Authority (NRA) and HM Inspectorate of Pollution (HMIP) monitoring and prosecuting for breaches of standards in Britain. However, it is only to prescribed standards that polluters must adhere, and these have been criticised as being inadequate.

Also examined is the importance of price elasticity for pollution abatement charges - thought to be of great importance in determining the likely effectiveness of economic pressures/incentives in reducing pollution. Weizsäcker & Jessinghaus (1992) surmise that:

In reality, static or immediate elasticity is systematically much lower than dynamic, long-term elasticity. And the elasticity in response to a short-term change is systematically lower than with a sustained, calculable price increase over a longer period.

Hard hitting sanctions against pollution will not readily lead to the internalisation of cleaner practices. However, if a business can predict that the cost of pollution will rise, it is more likely to plan to strategically reduce its impact - a more congenial approach, since working together might bring better results than 'confrontational'

policy approaches. This is thought to be the trend in environmental interest group/business relations (Weiszacker 1994).

Weizsäcker and Jesinghaus (1992) consider the objections and obstacles to ecological tax reform including:

1) *fiscal policy objections* - they would either destroy the economic activity which drives the economy and so would be unacceptable to finance ministers, or they would be unacceptably weak in the eyes of an environment minister.

2) *social policy objections* - green taxes would be unfair - they would hit the poor and the small business most heavily.

3) *environmental policy objections* - revenues should have purpose, not be punitive.

4) *economic objections* - ecological taxes would be a burden on the economy.

5) *voter objections* - ecological taxes would be unpopular with many.

6) *efficiency objections* - other instruments might work quicker and with greater precision than ecological taxes.

7) "*inertia objections*" - financial and tax disorder would ensue if ecological taxes were implemented.

8) "*harmonisation objections*" - it would be hard to implement them in blocks of countries such as the EEC.

9) those directly targeted by the taxes would offer *outright resistance*.

Weizsäcker (1994) considers the likely net effect of ecological tax reform to be an economic *gain*, the core reason being that:

..on a world scale new increases in labour productivity bring fewer economic benefits than increases in resource productivity...

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If this is the case then increases in the costs of resources (through resource taxes linked to their use) ought to bring economic benefits as well as ecological benefits - and social benefits ought to accrue from the combination.

Weizsäcker (1994) confirms the reformist nature of his approach by questioning whether bureaucrats can be trusted to chose an optimum path to technology substitution ('green' technologies replacing current ones) and arguing that market forces would be better at finding an optimum path. This can be seen as faith in a (market) system which is questioned for its tendency to focus on profit, but with ecological tax reforms the most profitable actions should be those which are least ecologically disruptive (with the premise that the trade/production should/needs to continue).

It is interesting and relevant to consider the role of the UN in conjunction with NGOs generally in environmental matters. When looking at the roles of different UN affiliates and 'projects', as was suggested in the context of environmental racism, it is difficult to construct dividing lines between environmental and other projects:

> *...it is often impossible to say where an environmental organisation [in the UN] ends and one dealing with a host of other issues - human rights, grassroots development, public health, the concerns of indigenous people, women in development - begins.*

(Conca 1995)

Conca (1995) suggests that:

> *These blurry boundaries and the alliances they make possible can be a source of great strength for environmental organisations and coalitions.*

There are a large number of NGOs which work with varying degrees of affiliation to the UN and many more which work at a local/grass-roots level. Conca mentions the larger UN affiliated bodies whose agendas overlap heavily with environmental concerns - the Food and Agriculture Organisation (FAO), the World Health Organisation (WHO) and the World Bank. These are singled out for particular consideration since they control massive budgets. The World Bank lends something of the order of US$20 billion per year and the IMF, its sister organisation which focuses on shorter-term loans, lends a similar amount. They are at the environment-development interfaces. It is unfortunate then that such organisations:

> *...have standard operating procedures that were formed, and deeply institutionalised, with little attention to environmental considerations. They are also classically bureaucratic entities that exhibit the full range of turf-grabbing, mission-defending and budget-enhancing behaviour common to large buroeaucratic organisations...The*

environment has been a powerful argument for programme expansion, but also a threat to traditional operating procedures.

(Conca 1995)

It is not surprising a much enhanced status (at least in terms of word and apparent intent) has recently been attributed to environmental and ethical consideration since these credentials are demanded by an increasingly interested public, and because environmental flags are 'good for business' and public relations.

There are strong links between the environment and development, and since it is such a prominent and great-development-impact organisation, the World Bank (WB) will be considered in greater detail.

In the WB:

Internal reorganisation has boosted staffing in environmental positions, and created a somewhat greater incorporation of environmental considerations into project evaluation.

(Conca 1995))

The WB created an inspection panel for public accountability in 1994 and has begun to operate projects with specific environmental goals. A 1991 WB Environmental Status Report for Sub-Saharan Africa (ESRSSA)(World Bank 1991a) states that environmental work is increasing rapidly, with more than half of the approved projects in the area being environmentally focused or 'containing environmental issues'. In the report, Christoffersen states that:

There have been concentrated efforts to help integrate environmental analysis into preparation of [World] Bank/IDA [International Development Association] projects.

(Christoffersen 1991)

Christoffersen tells us that at the time of writing (1991), twenty African countries were involved in National Environmental Action Plans associated with Bank projects and that these processes have become linked to the UNDP's Long Term Perspective Studies. There is also a new 'tri-partite' arrangement (the Global Environment Facility - GEF) between the UNDP, the UNEP, and the World Bank aimed at funding environmental activities of high international priority. He states that these 'endeavours' are linked by local participation, but that in order to properly implement environmental action plans, effective Environmental Assessment needs to take place.

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Also in 1991 the WB produced a three volume 'Environmental Source Book' (World Bank 1991b) detailing World Bank policies, procedures, sectoral and cross-sectoral guidelines, and guidelines for environmental assessments of energy and industry projects. This comprehensive document was preceded in 1990 by one entitled 'Living with Wildlife' (ed. Agnes Kiss), a guide for WB projects aimed at 'wildlife resource management with local participation in Africa', complemented in 1992 by a guide intended for linking protected area management with local communities entitled 'People and Parks' (Wells & Brandon).

Clearly the big development agencies such as the WB have taken on board requirements for environmental consideration and in doing so move towards greater ethical consideration (recognising the importance of avoiding encroachment on environmental integrity if human interests are to be protected and enhanced).

Although the above documents and others, such as the 1989 'Sub-Saharan Africa: From Crisis to Sustainable Growth', (World Bank 1989) indicate serious environmental agendas in the operations of development projects, there is still scepticism about the degree of reform achieved and the potential for reforming development bodies such as the WB. Rich (who worked in the Environmental Defence Fund) offers a striking picture of why there is doubt:

> *Environmentalists were guardedly optimistic about Conable's [the then WB President] new-found commitment to reform...Now [1990], three years later, it is apparent that the emperor's new clothes bear only faint traces of green. Instead of becoming an environmental leader, the Bank has become an arena where the political, practical and theoretical difficulties of reconciling economic development with ecological sustainability are most glaring. The Bank continues to stress it's commitment to the environment, but deep institutional and political contradictions prevent it from implementing reform in any meaningful way ...*

(Rich 1990)

Mikesell (1993) strongly encourages caution in observing the effectiveness of these changes in procedure as well, since:

> *Frequently...the EIA [environmental impact assessment] is conducted after the project design is completed, and the environmental team is under pressure to avoid recommending major changes in the basic plan.*

He suggests that this means the EIA becomes more of an environmental impact *statement* which presents a 'rosy' light on the impacts of projects.

Moreover, the WB is considered by many to be a big cog in the engine of 'under' and 'mal'-developments - in terms of the development of debt crises, support for

controversial 'development' methods based on export earnings, their participation in questionable dam projects and the implications of a 'utilitarian' submission to expect 'sacrifice' for a net 'gain'.

The debt crisis and the nature of export based routes to economic development were explained earlier (see 2.1). More can be said of the effects of cash-crop export development drawing on Sutton (1994). She observes a frightening dynamic at work in conjunction with changes towards large agricultural holdings aimed at mass production for export. Her work is based on Brazil where:

> *Of particular concern to many is the position of landless peasants driven into a never-ending downward cycle of deprivation and poverty in a country rich in land and natural resources. In their desperate search for an income to support themselves and their families, they put up with gross exploitation; when this takes the form of forced labour, of immobilisation through debts imposed on the workers, of trafficking of women and children, it is no longer exploitation, it is slavery....many [of the landless poor] are exploited as slave labour.*

(Sutton 1994)

Mass cash-crop agricultural production developments have been one of the cornerstones of World Bank-supported development paradigms in countries dominated by primary product production. Sutton asserts that slavery is a link in the chain of modernisation - disparities of wealth in the most financially inequitable nations such as Brazil portray a serious failure in development utility - here, the richest 10% own over 48% of the countries revenue, whilst the poorest 10% own less than 1% (ibid., figures from a 1992 census). The 'slavery' Sutton observes occurs by virtue of poverty rather than colour, a condition development strategies to date have failed to eradicate and have, arguably aggravated in some instances.

Sutton observes that some of the most violent suppression and abuses of people in Brazil have come about as land speculators and 'land reform' by large land-holders have boosted land prices. Between 1980 and 1990 the rural population in Brazil declined by 23 million due to the impasse of land reform and also to this violent occupation by land speculators. She notes how:

> *When examining this violence one can detect that it is exactly in the areas of large scale 'modernising' developments, such as the World Bank and EC-funded Carajas programme [*] that the incidence of violence has been greatest..The speed of expansion of the agricultural and industrial frontiers, and of the introduction of large scale capital enterprises [such as World Bank funded roads to the interiors] and capital, was not matched by the development of mechanisms within civil society robust enough to defend the interests and rights of the local population.*

(Sutton 1994)

[* - This was part of a huge ore extraction/processing program covering 900,000 square miles of eastern Amazonia. World Bank participation began in 1982 with a $304 million loan.]

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There has been considerable popular resentment of World Bank supported 'Structural Adjustment Programmes' aimed at boosting exports and controlling dependence on imports. The devaluation of currency overnight (for example in Nigeria, the devaluation of the Naira to one twentieth of its previous value) hits the poor most drastically. Though some suggest that the poor with a plot of land are hit less due to their self-sufficiency, the accompanying pressures of land aggregation can soon destabilise them. These land access changes lead to considerable socio-ecological damage (see 2.1). A part of the justification for such economic policies has been that short-term struggle is necessary for long-term health of the economy, which ought to benefit the population: the sacrifice of comfort now will be rewarded in the future.

Population displacement is a particularly problematic effect of many WB-supported development projects. Wilks & Hildyard (1994) state that millions of people in less industrialised countries are forcibly displaced each year. This results from a number of developments including the building of dams (which account for 63% of World Bank-funded displacement): the construction of roads; urban redevelopment; other infrastructure developments; and wildlife parks and land use/ organisation changes towards cash-crop/livestock production on previously agricultural land and also forest lands cleared for the purpose (ibid.).

In 1980, the WB developed a policy for dealing with 'involuntary displacement' - the first major development group to do so. However, as Wilks & Hildyard (1994) report, a 1994 internal review (Resettlement and Development: The Bank-wide review of Projects involving Involuntary Resettlement (1986-1993)(World Bank 1994):

> *...makes clear that the policy is being systematically flouted by bank staff.*
> (Wilks & Hildyard 1994)

Wilks and Hildyard list the four basic requirements that should have guided WB projects from 1980 :

1) baseline surveys of affected people should be conducted;

2) a resettlement plan aiming to restore incomes should be in place;

3) timetables for resettlement should be co-ordinated with civil works construction; and

4) a budget for resettlement should be included in all projects causing this.

Wilks & Hildyard (1994) assess the 'the displacement problem' in projects the WB supports, under a number of headings. Their observations reveal a lack of consideration or concern which at times is extreme and ethically indefensible. The failures they found in World Bank supported projects included these:

- societies torn apart
- chronic miscalculation
- lack of appraisal
- affected peoples last to know of projects
- dismissing local knowledge
- lack of compensation
- obnoxious belief in 'the flexible migrant'

Societies torn apart: displacement results in severe social upheavals and disorganisation, community trading and farming systems are broken up, it causes cultural disruption and even dissolution, and women are disproportionately affected.

Chronic miscalculation: the WB has

> ...consistently overlooked, downplayed or underestimated the number of people displaced by projects it funded.

(Wilks & Hildyard 1994)

The 1994 revue states that between 1986 and 1993, miscalculations ran at 47% (625,000 people), and that there were at the time of writing roughly 2 million people threatened by projects. These figures might be seen as unreliable, since the revue suggests that:

> Given the inadequacy of the baseline data, and the uncertainty of the numbers, it would be meaningless to speculate as to the number of resettled people.

(World Bank 1994)

Lack of appraisal: the 1994 revue states that:

> ...an average of about 55% of Bank assisted projects could claim to have appraised full resettlement plans.

(ibid.)

Last to know: affected peoples often first learn of projects when surveyors arrive and a weeks notice to move is not abnormal - for example, Wilks and Hildyard (1994) note this to have been the case with a $363 million Angot Water Supply project in the Philippines.

Dismissing local knowledge: Wilks & Hildyard state that:

> *When local participation is invited, it is primarily with a view to making the eviction process easier [,]*

and that appraisal is generally done by WB staff experts, whose prime focus is:

> *...the projects potential economic and technical performance, rather than its social and environmental impact.*

The 1994 revue by the WB acknowledges deficiencies in the systems at work, and the failure to adhere even to the standards of conduct which were the 'improved' goals following the 1980 statement of intent:

> *Many engineering consulting firms, responsible for the technical design of major infrastructure projects world-wide, routinely display obliviousness to the adverse social implications of the designs they propose.*

> *...most relocation timetables were driven by construction timetables...rather than resettlement needs.*

These can lead to inappropriate resettlement provision. Wilks & Hildyard give an example from the Chinese Daguangba Multipurpose project, where there was nearly universal rejection of contractor-built housing that was supposed to accommodate the displaced.

Lack of compensation: the Resettlement and Development review (World Bank 1994) concedes that long delays in compensation payment are common and sometimes no payment is made.

Downgrading of living standards: Wilks & Hildyard state that:

> *The World bank lowers rather that improves the living standards of those it evicts who tend to be the poorest sections of society - landless labourers, urban squatters, cultivators with customary rather than legal tenure, indigenous peoples, ethnic minorities and pastoral groups.*

The flexible migrant and the pressure to lend: Wilks & Hildyard state that there had been two previous reviews (in 1983 and 1986) which revealed similar shortcomings to those revealed in 1994. Despite the 'words of concern' in all three:

> *...many [World]Bank employees consider the disruption caused by forced resettlement as a minor inconvenience.*

They suggest that outlooks such as one they quote from a June 1993 report, from a working group considering involuntary resettlement in China, might explain the disregard shown by the WB to those displaced by its projects.

> *The growth of the economy has been aided by the development of a relatively mobile, low cost source of labour - the so-called 'floating population'...[which] is the vanguard of labour market reform. Those individuals must find their own jobs and have no tenure beyond their contract period. All of China is moving toward this model to allow flexibility and incentives needed to enhance labour's contribution to continued development.*

They note that the continuous systematic abuse of evictees suggests deep-seated structural faults within the WB as an institution.

Rich (1994) tells us that from its inception in 1944 at Bretton Woods, the WB suffered from a lack of demand for its services. It had hoped to get involved with the reconstruction of war-torn Europe, but when only four countries took loans they looked to emphasise the development side of their full title (The International Bank for Reconstruction and Development) in the future. This was strategically tackled so as to establish 'nest eggs' as rapidly as possible, by encouraging the formation of semi-autonomous governmental agencies in the member countries (there were 176 by 1993) who would have little accountability politically or financially, except to the WB. They were to be regular borrowers and formed the now renowned political ties the WB has with countries - contrary to one of the original and core principles of operation established in 1944.

A further expansion of political leverage developed through the 1956 establishment of the Economic Development Institute (EDI), which offered development theory and practice training courses to senior officials from borrowing countries. By 1971, more than 1,300 officials had been through the EDI and many had risen to the position of minister of planning or finance or prime minister in their countries.

> *The creation of such patronage networks has been one of the World Bank's most important strategies for inserting itself in the political economies of Third World countries....[this] has given the Bank some of the powers of a surrogate government.*

(Rich 1994)

Another strategy Rich observes to have been used by the WB to increase its influence has been the encouragement of other aid agencies (such as USAID, the GTZ (the German Corporation for Technical Assistance), the UNDP, and the FAO) to become consultative groups:

> *...whose purpose is to co-ordinate and programme all foreign assistance to a given country.*
>
> (Rich 1994)

By 1970, the WB had, by deliberate strategy, established strategic and considerable positions of political and developmental leverage in the internal organisation of borrowing nations.

Rich argues that the WB became deeply involved in 'supporting the insupportable', for example in Brazil. They declined to support the democratically-elected government of Goulart in the early 1960s but after the 1964 military coup, which began a 20 year military dictatorship, lending rose to an average of $73 million per year and reached nearly half a billion dollars per year by the mid-1970s.

> *The predilection of supporting anti-democratic regimes that tortured and murdered their subjects became the hallmarks of the Bank during the 1970's, under the presidency of Robert McNamara*
>
> (Rich 1994)

McNamara was president of the WB from 1968-1981 and is widely acknowledged as the one who 'led the WB to be what it is today':

> *Obsessed with statistical tallies and numerical data to measure progress, his [McNamara's] grandiose vision for alleviating poverty depended on a fatal hubris about the Bank's ability to know, plan and direct the evolution of human societies and the natural systems they depend on.*
>
> (Rich 1994)

It can therefore be seen that the WB has internalised some of what have been argued in earlier chapters to be problematic outlooks, such as discrimination against/disregard for the interests of people and an adherence to systems of economic thought which inadequately (either inherently or in the way they are applied) account for and respond to the interests of other groups. Particularly tangible is the apparent disregard for the interests of some people and the sanctioning (and promotion) of very disruptive social engineering projects in the name of 'development'.

Rich observes a considerable pressure to lend as much as possible an in the same dynamic, *not* to promote logical and favourable environmental and social consideration within the developments. He tells us that by the end of the 1970s, the WB had become a self-serving bureaucracy, driven by 'an institutional culture of expansion' with a will to power for the sake of power. The pressure to lend emphasised quantity over quality: this he believes was accommodated because:

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...the Bank never [had] to answer directly for the disastrous consequences .

(Rich 1994)

Systems developed such that the first priority for 'developing nations' was the repayment of WB and IMF loans, since credibility for future borrowing of any sort depended on good relations with them. Rich observes a dualism that strongly encourages energy *inefficiency* and inappropriate scales of power generation investment: it would be "foolish" for any politically rational energy minister to advocate energy efficient light bulbs and irrigation pumps:

> *...when four or five times as big a loan could be secured for a gigantic dam to produce the same amount of power, with immensely more attractive opportunities for building political patronage. By the same token, a World Bank country director would have to be naive to promote an energy efficiency loan that would alienate the developing country's energy minister he or she is trying to cultivate, and at the same time move only one-quarter the amount of money for a greater amount of staff work.*

(ibid.)

Rich ends his paper assessing 50 years of World Bank endeavours thus:

> *The attempt over the last half-century to superimpose the World Bank's make-believe vision of the world upon the day-to-day lives of real people has had disastrous consequences for hundreds of millions of the poor and marginalised, along with untold numbers of non-human species and their habitats. Fifty years is a short time in the history of the world, but as far as the World Bank is concerned, is has already been long enough.*

Thalif Deen (1995) tells us that there is a role for the World Bank and IMF in the future, but that there is a great need to reform their operations. He reports that:

> *...a coalition of 132 developing nations is seeking to democratise the WB and IMF as a part of the ongoing restructuring of the UN system.*

He quotes the Malaysian Prime Minister Mahathir Bin Mohammed demanding that the WB and IMF:

> *...cease acting as debt collectors for the mighty and rich bankers.*

The call from the indebted nations is for transparency in the internal decision-making processes of the WB and IMF and for the voting systems to become one-member, one-vote, rather than voting power being weighted in favour of 'industrialised nations'.

Mikesell (1993) analyses the trends in environmental/ethical responsibility of the large multi-lateral development banks - suggesting, as was pointed out earlier, that through experience, and the adoption of EIA components in project evaluation:

> *...responsible governmental and external assistance agencies will be sponsoring more successful projects in the future.*

This optimistic prediction makes clear that he shares the reformist outlook and disagrees with Rich, who questions whether there is a legitimate place for the WB in the future.

Mikesell also considers in detail some case studies of 'environmental and resource management problems in development projects'.

> *The failures in these project are not unique, and hundreds of environmentally flawed projects have been found.*
>
> (Mikesell 1993)

To give an example, the Narmada River Project in India: the largest dam project in the world. It includes 30 major, 135 medium, and 3000 smaller dams, to be built over the next 50 years. The total cost of the Sarovar project alone - the first stage of the project - is estimated at $1.9 billion (excluding irrigation and drainage costs) and it is expected to displace roughly 70,000 people. An associated project (the Narmada Sargar) is expected to displaced further 80,000 people. Together they are predicted to flood 43,000 ha of cultivable land and 51,000 ha of forest. Considering the Sarovar dam particularly:

> *No comprehensive EIA for the Sardar Sarovar project was ever conducted before the World Bank loan was made in 1985 and a number of environmental studies still have not been completed.*
>
> (Mikesell 1993)

Mikesell states that the entire project is thought to be flawed because:

> *...the total economic benefits (whether discounted or not) are less than the total monetary costs plus the non-monetary social costs, including the adverse environmental impacts on the land, the river basin, and the people that are displaced.*

Mikesell tells us that many other large multi-purpose dam projects have not achieved their expected benefits in terms of increased productivity of the land, because of a multitude of reasons, including poor management; a lack of training of farmers to the techniques applicable for new farming approaches; salinisation; waterlogging; and in

some cases the soil has not been appropriate for the type of irrigation provided. There has been no comprehensive assessment of the alternative means to achieve the industrial power supply that the scheme is aimed at providing; energy conservation investment could considerably reduce projected future energy demands.

He also importantly indicates that 'dilemma' is the nature of the question over whether the whole project should be stopped, and the numerous uncompleted other development projects completed, or whether the project ought to continue (see 2.5). It is a real problem: so much money has already been invested in the project that it would be politically disastrous to scrap it. But as with other projects, spiralling costs and doubts about the likely net benefits exceeding the costs are real (the costs of the Tawa dam, completed in the 1970's, increased 232% over the initial estimate (Mikesell 1993)).

Another controversial project to be financed by a $30 million WB loan (total investment over a five year period of roughly $136 million) is the Cameroon Forestry Project. The project is based on the recommendations of the UNFAO and the UNDP and aims to open up a large forested area in the South and South-East of Cameroon with a 600km road and a large Atlantic port (see also 2.1). Criticisms are typical of those related to tropical forest management. There is too much emphasis on commercial logging for export, and that it:

> *...gives insufficient attention to natural resource conservation, the provision of fuel wood, and the impact of logging on indigenous people.*

> *The major interest of the Cameroon government is to exploit the forests for export income, which the country greatly needs because of its large external debt and its projected decline in foreign exchange earnings from petroleum.*

(Mikesell 1993)

Other criticisms are that there is little intention for involvement of local communities, indigenous peoples, or NGOs, either in the planning or operational stages:

> *The only role for the people living in the forest will be that a few of them will serve as labourers for the timber companies.*

(ibid.)

Also, land tenure and community land rights are ignored, both for the farming community and the large population of 'semi-nomadic' Pygmies. There is inadequate planning towards sustained yield management, and doubts about the economic justification of the project, in terms of expected revenues, once comprehensive cost

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assessments have been conducted. It is thought that the $136 million could generate more jobs through investments other than this, which is expected to generate up to 100,000 jobs.

Mikesell considers five other development projects: the 'Brazilian Northwest Region Development Program', the 'Resettlement of Persons Displaced by the Manantali Dam in Mali', the 'Indonesian Transmigration Program', the 'Ok Tedi Mine in Papua New Guinea', and the 'Carajas Iron Ore Project in Brazil'. All of these of give rise to concerns related to the effects of projects on local people; wildlife; environments; the economic utility of the projects; the comprehensiveness of the assessments of these factors in the planning stages; the long-run management proposals for them; and the notoriously inaccurate projections of costs and effects.

Clearly, then, at the development and strategic level there is movement towards reforming systems and actions in terms of socio-ecological and ethico-environmental consideration. Both in ecological tax reform, and reform in large project systems there is far to go before words of intent will match actions.

6.2 Corporate and Business Reform

There is growing faith in the idea that business and commerce can and are 'greening' approaches and operations. Elsewhere in this thesis the ideas of Hawken (1993) have been referred to in this context. He points out that big businesses are recognising that there are multiple benefits to be accrued from environmental awareness in business. The CftE report also provides evidence that it is in the interests of business to strive for sound environmental consideration in terms of operational efficiency and financial gain. The ethical benefits, if not a direct concern in the operations, can serve as good public relations (PR) and corporate image upgrading tools. Many in the business world are genuinely concerned about environmental matters and ethical considerations:

> *Recently we have seen the dominant ideology among senior management in industry shifting towards a less ruthless view of the planet in which we live.*
> (Welford & Gouldson 1993).

What has caused this change in attitude? Smith (1993) observes a struggle in corporate groups "to maintain their legitimacy in the face of more stringent public demands" and thus a need for business educators to provide current and future trainees with the necessary skills to cope with this 'new environmentalism'. However

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Welford & Gouldson (1993) project a more complex source of pressures to 'green up' from a web of stakeholders:

1) the customer increasingly demands environmental credentials for goods; for example, the EC's eco-labelling scheme introduced in 1993 is aimed at providing the information required to make informed decisions on products (practice may differ from aims);

2) trading partners may pass on end customer concerns about environmental credentials of products. General awareness of environmental concerns means that increasingly companies prefer to associate with others that adhere to certain standards of environmental performance, such as the British Standard on Environmental Management Systems (BS7750);

3) local communities in the vicinity of industry are increasingly demanding higher levels of environmental performance and assurance that they are not being exposed to dangers;

4) employees increasingly demand safe and secure working conditions, and health and safety regulations and inspections serve to enforce such concerns;

5) investors and insurers are now highly aware of legal liability for negative environmental effects of business operations. Coupled with the aforementioned growth in demand for 'ethical investment', companies unable to demonstrate high environmental performance standards face spiralling costs and difficulty in attracting operational financing; and

6) media and pressure groups can put great pressure on companies to perform with higher environmental standards.

Acknowledging the increased pressures on business to clean up processes and products, what is to be gained from such moves? CftE reports the findings of an evaluation of 500 industrial case studies representing old industries and new high-tech enterprises. Waste reduction rates were 85-100%; a host of other benefits were accrued from preventing pollution:

1) lower raw material costs;
2) lower energy costs;
3) lower waste disposal costs and reduced dependency on waste

4) treatment and disposal facilities;

5) reduced or no future liability for clean-up of, or contamination by, buried wastes;

6) fewer and lesser regulatory complications, lower operational and maintenance costs;

7) lower employee, public and environmental risks and expenses, both present and future;

8) reduced liability insurance costs; and

9) better employee morale, productivity and product quality.

Welford & Gouldson (1993) note that the benefits to companies achieving higher environmental standards are both directly financial (consistent with principles of profit maximisation) and also in terms of ethicality. They suggest that the latter is an integral part of doing business and assert that managers must work towards sound long term ethical rectitude since:

> *...the environment is too important an issue to be treated as a gimmick for short term advantage.*
>
> (Welford & Gouldson 1993)

In order to take on the environmental consideration aims effectively, it is thought to be necessary to develop a strategy. The International Chamber of Commerce offers a 'Business Charter for Sustainable Development' which recommends 16 key aims geared towards prioritising 'environmental managerialism' (section 2.3 considers this in more detail) including: process; product; employee and customer considerations; research; precautionary approaches; readiness for emergency situations with regard to environmental or person danger exposure; corporate transparency; and positive participation and contribution to the common 'good' of the business world and its community neighbours (Welford & Gouldson 1993).

More loosely, Davis (1991) proposes 6 key aims:

1) discriminating development towards more benign resource use;

2) conserving resources;

3) maximising repair, reconditioning, reuse and recycling;

4) favouring 'creative work' in terms of skill enhancing and user friendly technologies;

5) gearing to accommodate and appreciate non-material growth; and

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6) transparency to allow for self-directed personal investment (the ability of the investors to know what they are investing in and its ethico-environmental impact).

Davis (1991)also proposes eight points of reference for ethical and environmental managerial realignment in business, which will "profoundly" challenge companies at all levels:

1) a corporate vision of stewardship;

2) an appropriate scale of development;

3) the measuring of Sustainability;

4) flexible work arrangements;

5) an 'orchestral style' of management (a move from autocratic and paternalistic management towards more laterally consultative based management systems);

6) enduring quality (maximisation of reparability and resource efficiency in terms of packaging, processing and preserving);

7) just forms of ownership, a revival of inter-business ethics; and

8) systemic technology (moves towards more congenial technologies and bio-fuels and materials).

Some broader proposals put forward by Davis incorporate 'global community accountability", 'total quality management' (effectively a recommendation of comprehensive operational analysis) and lastly, that whatever the deficiencies of current 'improvement' proposals, business interests ought to start the process now and answer to the possible urgency of environmental, social, and lack of ethical consideration that is increasingly the subject of critical assessment.

Such are the pressures to evolve towards 'sustainability', the benefits to be accrued by business and proposals of what to aim for. Smith (1993) offers a diagramatical representation of the structural dynamics of the issues related to business, the environment and corporate responsibility (see Table 6.1).

This may seem simplistic, but the responsibility and ethical concerns (which Smith suggests ought to be core concerns) have historically been more peripheral. Within this framework, increasingly environmental and ethical considerations in the management of business gravitates towards social obligations. Anticipatory, precautionary actions ought to push business towards sound corporate responsibility

ahead of customer demand and assist with the desired, but frustrated, 'environmental orientations' of some shoppers (see section 4.3) - and lead other consumers towards greater environmental and ethical responsibility.

core belief		corporate responsibility / business ethics
∧		∧
organisational assumptions		politics and technical expertise
∧		∧
organisational rituals		functional areas of business
∧		∧
Organisational plans		corporate response to environmentalism

Table 6.1
Business/Environment Structural Dynamics
(adapted from Smith, 1993)

Weizsäcker (1994) sees scope for business to move forward towards a 'sustainability consensus':

> It is largely up to business to bring about a new support and European consensus in our rudderless society; by helping to shape and support a European consensus for a sustainable model of prosperity, it will help bring an end to the present lack of direction.

Forrester (1990) observes a movement towards partnerships between corporate and environmental groups. Even those which have historically shown themselves to be radical and direct in their actions for environmental protection - and who remain so (such as Greenpeace) - are moving towards working with business interests. Forrester wonders whether they are a natural partnership.

As an example Greenpeace is quite useful in the reformist framework. Their focus is expanding, from identifying, publicising and protesting against environmental abuses with the addition of:

> ...a solutions agenda giving positive support for new technologies, products and companies where appropriate...we will do whatever it takes to get results, even if it means becoming fridge engineers as well as boat drivers.

(Greenpeace 1994)

For example they have promoted ozone-inert fridges with food retailers and a "win-win" situation is thought to be on the cards (Greenpeace 1994):

> New technology providers are expanding, retailers will benefit from sounder environmental practices, and the ozone layer will begin repairing itself more quickly. Only chemical producers of HCFC and HFC replacements are losers on this issue.

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This is right in line with the 'reform' outlook which seeks to 'green' current systems with no drastic change.

Weizsäcker (1994) also considers co-operation between business and environmental groups as the way forward. He notes that the environment movement emerged out of conflict with business. Industry is cautious of interactions with environmental groups, who are seen as a threat. He suggests that:

> *One of the essentials of common interest between environmental groups and far-sighted business leaders is structural change towards a sustainable economy.*

He provides a useful diagram showing the effects of different approaches to environmental advocation, which clearly shows a positive correlation between consensus politics and higher environmental quality (see Table 6.2).

Weizsäcker suggests that conflict is necessary in the initial stages of environmental advocation but once issues are recognised in principle, more effective environmental protection is likely to derive from seeking a consensus.

ICI proudly proclaims that : "Good safety, health and environmental performance is essential to the long term success of the ICI group" in their 1994 environmental performance report (the fourth year of its production). The same report presents the four objectives set by ICI in 1990 to effect environmental improvement (or rather reduced environmental impact):

> 1) All new plants should be built to standards that meet the regulations it can reasonably anticipate in the most environmentally demanding country in which it operates that process.
>
> 2) It aimed to reduce waste by 50% by 1995, using 1990 as the baseline year. The company is to pay special attention to hazardous waste. It also planned to attempt to eliminate all off-site disposal of environmentally harmful waste.
>
> 3) It planned to establish a revitalised and more ambitious energy and resource conservation programme, with special emphasis on reducing environmental effects so that they could make further progress by 1995.
>
> 4) It was to encourage recycling within its business and with customers.

This appears to be a very forward looking agenda from one of the largest global producers of paints, chemicals, polymers etc.. It must be welcomed for the general socio-ecological effects (or effect removal) as well as economic effects within the

	conflict	orientation	consensus
1/			Japan
2/			Netherlands
3/			Luxembourg
4/			Sweden
5/			Switzerland
6/			Austria
7/		Denmark	
8/			Norway
9/	USA		
10/		West Germany	
11/		Finland	
12/		Belgium	
13/		France	
14/		United Kingdom	
15/	Italy		
16/	Canada		
17/	Portugal		
18/		Ireland	
19/	Yugoslavia		
20/	Spain		
21/	Greece		
22/	Turkey		

conflict <<<<<<<<< orientation >>>>>>>>> consensus

Note: the numbering is a rank order of environmental quality for the period 1970-86.

Table 6.2
Consensus Politics Correlation with Higher Environmental Quality
(adapted from Weizsäcker, 1994)

company that it ought to have. Also in the 1994 environmental report ICI records considerable reductions in both hazardous and non-hazardous waste - for example a 40% reduction in hazardous inorganic gases to air; an 82% reduction in hazardous waste to water, a 48% reduction in non-hazardous waste gases to air; and a 44% reduction in non-hazardous waste to water (to 51,000 tonnes, 700 tonnes, 154,000 tonnes, and 1,879,000 tonnes respectively). But the waste and the products, many of which are ecologically obnoxious, are still a part of the process in this reform approach. Vehicular support, and the infrastructure for road freight etc., are still in operation.

Weizsäcker (1994) and Hawken (1993) provide another good example of corporate greening. 3M, an American company, introduced policy '3P', meaning 'Pollution Prevention Pays' (replacing the older version of '3P' which referred to the polluter-pays principle). In fifteen years from 1975, the company saved roughly US$535 million by reducing air pollution by 120,000 tonnes, waste water by 1 billion gallons, and solid waste by 410,000 tonnes per year. More than 3,000 separate initiatives contributed both to the company interests and environmental interests. Now known as '3P+', the plan requires the incorporation of environmental consideration of issues at

all levels of business planning and is used as a factor in employee performance review. That a company listed in the Dow-Jones '30 biggest in the US' should set such an example is without doubt a welcome and forward move. Environmental efficiency 'streamlining' is now a common goal in business/industry, though environmental education and awareness drives amongst employees are crucial to effectiveness.

Business has also 'welcomed' the notion of recycling; increasingly out-of-town supermarkets have recycling facilities in the parking areas. But again, superficial 'greening' is the sum of changes (such as the ozone-inert refrigeration system). What is more, people are lulled to excusing driving a few miles by supermarket provision of recycling facilities, easing the conscience of *driving a few miles to purchase foods from countries scattered around the globe*. It greys the issue - obscuring the more fundamental questions of the direction culture is moving in terms of normalised socio-ecological disruptiveness (see also 2.3).

The same systems are at work with a car-based shopping orientation, mass production for mass sale and bulk dealings deleting small competitor viability.

The trend towards large out-of-town retail outlets is increasingly perceived to have negative effects on the urban environment, with the closure of many shops pushing town centres towards barrenness. Some cities have suffered drastically from these changes, particularly as the convenience of a one-stop-shop for any combination of products, with free parking, has poached demand from other local stores so that their economic viability is threatened.

> *Superstore dominance has destroyed local shopping centres, making it difficult for those without a car...the number of smaller shops [continues] to decline.*

(Guardian 13/4/96)

Lang & Raven (1994) succinctly describe the nature of the supermarket shopping paradigm:

> *The ability of supermarket chains to provide a range of products at competitive prices has enabled them, over the last 30 years, to secure a stranglehold over the food industry from seedbed to dinner table. Supermarkets keep their prices low through their control over producers, economies of scale and through transport and packaging strategies for which the industry does not pay the full costs - while the consumer choice they offer is not accessible to everyone [as they gravitate to out of town locations].*

In spite of the problems associated with 'edge-of-town grocery temples', a 1992 Department of the Environment literature review, commissioned to BDP Planning and the Oxford Institute of Retail Management, found that:

> *There is little substantive research that can demonstrate an adverse [economic] impact of large food stores. As yet little has been done about the impact assessment of large non-food stores or regional centres.*

> *Social impact of major developments has been largely ignored. [Research and shopper surveys] have not gone on to indicate how such trade impacts manifest themselves in the social roles of town centres.*

and

> *The environmental impact of major developments should be the most obvious form of impact, but it is least well researched. Effects are difficult to identify or quantify because of the long time scale over which effects need to be identified and researched. In traffic terms, out of town shopping is regarded as generally reducing town centre congestion.*

(DoE 1992a)

Apparently little in the way of official social and economic impact assessments has been made; there is little official evidence of negative effects. This goes against the grain of observable demise in city centres. The last extract is particularly interesting: environmental impacts least well researched, hints at soft terms for shifting the traffic problem laterally, and the sapping of town centre trade described as 'reduced town centre congestion'. The Guardian (13/4/96) reports that:

> *While mass buying [by the supermarkets] favours factory farming, national distribution systems are also blamed for an increase in food transport and thus pollution.*

As the supermarket has taken on the role of countless smaller outlets, economic clout has been concentrated. The pressure supermarkets are able to place on producers is considerable, so downward pressure on prices have played into the hands of more intensive, larger producers, capitalising on economies of scale to produce cheaper products. Animal food-stuffs are more viable to produce in intensive conditions, for example, battery poultry products. Thus ethically unsound operations become fortified in the agri-food industry. In the past, as will be confirmed by anyone over the age of 50, foods were local, foods were seasonal, and more ecologically-sound fertiliser materials were used - compost, bird lime (guano) etc..

One welcome move is towards a more efficient and less wasteful car culture: more efficient engines; better filtering systems for the fumes produced by 'cleaner' fuels;

lighter vehicles; body and engine recyclability made easier by coding and using less types of metals (BMW have pioneered this move in Germany) and stricter emission regulations to reduce pollution. Nevertheless, the car culture that industry favours demands more, and maintained, roads. Although pollution from the production, distribution and use of vehicles is declining per vehicle, the remaining pollution is far from 'residual'. The growth in numbers of vehicles to an extent negatively compensates for the cleaner units.

Before moving on to 'popular reform' it is worth considering the business interest backlash against environmental movements. Stauber & Rampton (1995) describe how 'public relations companies':

> ...can package for their clients a global campaign that includes not only advertising, news stories and video footage but also crisis management, industrial espionage, organised censorship, infiltration of civic and political groups, and the manufacture of synthetic 'grassroots movements'. Their work is central to the strategy of 'divide and conquer' which the corporate world has adopted against the environment movement.

They explain with extensive examples how the public PR industry uses a multitude of methods to manipulate public opinion in favour of destructive corporate interests: smear tactics to discredit writers critical of polluting companies; 'dirty tricks' campaigns to 'divide and rule' (or defect) environmental campaigners and organisations; the formation or support of pro-industry groups that: "...forment hatred and physical harassment of green activists" (Stauber & Rampton 1995).

Stauber & Rampton state that business in the US now spend an estimated $1 billion per year on the services of anti-environmental professionals whose purpose is to 'green-wash' the corporate image through 'astroturf' lobbying (ibid.). They observe 'greenwashing' campaigns to have begun when Rachel Carson's book 'Silent Spring' to be published. This was the one of the most prominent books corporate interests tried to stifle the publication of. Stauber & Rampton state that PR firms are:

> ...waging a war against environmentalists on behalf of their corporate clients in the chemical, energy, food, automobile, forestry, and mining industries.

The goal of their work is to achieve anti-environmental activism that outsizes environmental lobbies through the cultivation of a caring and community minded image, such that opposition to 'dirty' business operations at the community level is diluted (also by achieving relationships with large environmental groups and schools through small 'eco-project' donations). Strategic planning allows corporate interests to insert 'moles' into some groups and dilute potential campaign strength through

financial dependency. Corporate sponsorship of, for example, the WWF, Nature Conservancy Council, the Audubon Society, and the National Wildlife Federation as examples. Even the annual 'Earth Day' in the US has attracted sponsorship from otherwise unscrupulous corporate groups.

At the broader level, a so-called 'good cop-bad cop' strategy which undermines and courts at the same time explains the observed fact that corporate interests:

...fund anti-environmental extremists [as well as] mainstream environment groups.

(Stauber & Rampton 1995)

This strategy leads environmental groups to compromise through 'win-win' agreements with industry. Again, financial donations allow industry to 'guide' their future campaigning.

Stauber & Rampton observe the 'battle' being fought in the classroom and the community meeting hall - as well as the boards of directors of mainstream environmental groups, journalist and radio circles. Lennard (1995) provides a good example of the kind of cheap but potentially very effective publicity that corporate interests can achieve. Under the heading 'McEducation Packs Target Kids', he tells how over 1,000 'education packs' had been sent to teachers in the UK, many of whom (especially in financially hard-up schools) have accepted the free packs for teaching maths, geography and English. The teaching packs are 'crammed' with references to the fast food chain; for example maths questions ask children to add up baskets of fries, geography questions ask where one might find McDonalds outlets, and English questions ask children to identify key words in text, such as Chicken McNuggets, Happy Meals, and milk shakes - humorous, but sinister as it effects a form of 'McBrainwashing'!

Stauber & Rampton (1995) report that about 40% of 'news' in the US flows virtually unedited from PR offices and that less than twenty corporations own over half of all US media. They point out that the distribution of 'engineered' and 'favourable' footage, both visual and audible, to television and radio, can be very effective.

They conclude that corporations and governments spend billions every year manipulating the information the public receives. They liken the systems at work to 'democracy for hire'; (synthetic) grass-roots movements can be created by PR strategy backed by corporate investment.

6.3 Popular reform.

Since the 1970's there have been some considerable changes, especially in terms of environmental/ethical awareness at the popular level. As a result, a lot of work has gone into at least psychologically appeasing the conscience that is prodded by ethico-environmental considerations. The public has been exposed to large amounts of information, on the basis of which ethico-environmental considerations in lifestyle and consumption could be made. They have been urged to exert purchasing power to demand reforms in the practices of industry and other services which they consume and to act at the domestic level as well. In the past recycling was the catch word but now the call has gone out to 'reduce, re-use, *then* recycle'.

The information and pressure has come from NGOs working at different levels - at the international level, groups such as Greenpeace, FoE, Survival International, Amnesty International, IFAW etc. have been hard at work, whilst at the national and local level, hundreds of groups in any given country are working towards 'a cleaner environment' and greater ethical consideration. There are 'ethical consumer guides', 'animal-free shopping guides', 'guides to greener living' and considerable deliberation and work on 'eco-labelling' schemes for products.

National and local authorities have moved with the times and now local authority recycling facilities are widely available, as are private and community/organisation deposit points - this in response to public demand as well as authority initiatives. Recycling has become a growth industry, the good economics of household environmental consideration in terms of energy efficiency and maintenance product choice has expanded, and increasingly people gravitate towards actions offering the environmental 'feel-good factor'.

The UK DoE (1992b) publication 'UK Environment' details public attitudes towards the environment which are the collated results of a number of organisations (including MORI, Gallup, and the British Social Attitudes Survey). Though the degree of sympathy expressed, the actions claimed and observable realities may not directly suggest ethical consideration, it is nevertheless implied in the expression of environmental concerns.

From the mass of statistics, some indicative ones will be extracted. Between 1986 and 1989, the proportions of respondents who said that the environment/pollution was the most important issue the Government ought to be dealing with rose from 8% to 30%. Between 1971 and 1989 the proportion of respondents concerned with pollution of

the seashore and beaches, water pollution, and air pollution rose by 31% (to 77%), 26% (to 76%), and 19% (to 55%) respectively. Two surveys in 1989 and 1993 provide useful insight to the level of concern of the public for particular issues; it is interesting to note the issues where concern increased and diminished (see Table 6.3).

Global issues such as the pollution of rivers and seas, ozone-layer depletion and global warming, etc., (with the exception of nuclear waste) became less of a concern, whilst issues closer to home such as factory fumes; road traffic; countryside encroachment; the decay of inner cities; vacant and derelict land/buildings; and noise increased in terms of public concern. This is likely to be related to the perceived 'economic depression' of the early 1990's but there are other possible explanations - such as environmental group publicity drives strategically tapping potential (and justified) local concerns rather than less tangible global issues (see below).

A 1989 survey of England and Wales enquired into what people were either doing or willing to do to 'help the environment' (see Table 6.4).

In a large number of areas people are doing (and more would consider doing) things to reduce their ecological impact - a move which, as already mentioned, implies a form of ethical consideration even if it is thought to be of benefit to the self as well. A 1991 survey in Scotland found that 45% and 74% do buy and would buy (respectively) one product over another because it was 'better for the environment'. If the above proportions of people were already doing things, and the considerable proportion of people would consider doing them, then something of a 'feel-good factor' may have resulted from environmental awareness. This might also help explain reduced interest in global issues, since as well as the issues being less tangible, personal actions in response to them offer less immediately tangible results.

Another explanation could be 'issue fatigue' - where people grew bored of being concerned over intangible issues such as global warming and ozone layer depletion.

Further, public concerns over issues often bring about 'political speak' of all that is being done to resolve problems, or 'business speak' that raises doubts about the justifications for the concerns. In this light, 'pressure group speak' can not be excluded. As the 1990's began, urban encroachment of the countryside and green-belt issues came into the media limelight through pressure group campaigning. Out of town supermarkets were springing up all over the country. This became a focus of lobbying for environmental groups. It meant that public awareness *of a fresh issue* expanded and concern followed.

ISSUE	(1) 1989	(2) 1993	TREND
Pollution of rivers and seas	64%	63%	-1%
Sewage in seas/on beaches	59%	56%	-3%
Nuclear Waste	59%	60%	+1%
Ozone Layer depletion	56%	41%	-16%
Pesticide use	46%	36%	-10%
Global Warming	44%	35%	-9%
Drinking water quality	40%	38%	-2%
Acid rain	40%	31%	-9%
Factory fumes	34%	35%	+1%
Wildlife protection	45%	-	-
Road traffic	32%	35%	+3%
Countryside developments	27%	35%	+8%
	(2)	(2)	
Traffic/exhaust fumes	33%	40%	+7%
Decay of inner cities	22%	26%	+4%
Vacant/derelict land/buildings	16%	19%	+3%
Noise	13%	16%	+3%

1 - DoE 1992b
2 - Government Statistical Service (GSS) 1995

Table 6.3
Public Concern Over Environmental Issues
(adapted from DoE and Government Statistical Service).

	Doing	Doing + Would Consider
Use ozone friendly aerosols	61%	90%
Pick up other peoples' litter	50%	72%
Avoid using pesticides in the garden	42%	80%
Take bottles to the bottle bank	34%	85%
Cut down on electricity use	33%	83%
Collect old newspapers	34%	80%
Use alternative transport to the car	25%	58%
Use recycled paper	25%	85%
Make compost out of kitchen waste	25%	58%
Use unleaded petrol	22%	73%
Buy phosphate-free washing powder	10%	70%

Table 6.4
Public Actions/Willingness to 'help the environment'
(adapted from DoE 1992b)

That concern over ozone layer depletion declined 16% between 1989 and 1993 (Table 6.3), and 90% are using/would be willing to use ozone-freindly aerosols might be indicative of the persuit of a clear conscience through the easiest route; and also that feelings and understandings are a 'hot-pot' - one small reaction to awareness seems to solve any concerns about an issue.

Common phraseology which the public uses, such as 'to help the environment' or 'for the environment', is misleading. What differential product choice actually means is not *help for* the environment, but *'reduce impact on the environment'*. This is a part of the 'reformist' and 'conscience clearing' environmentalism which must be welcomed from the general public, but which is considered by many to be seriously inadequate in terms of actually redressing ethico-environmental problems.

Whose knowledge and opinions count in decisions about 'progress', change, development and urgent issues? Purdue (1995) considers responses to public demands to play a greater role in these issues. Succinctly summing up the complex questions he asks:

> *Who is consulted? Who participates? Who decides who is consulted and participates? Who decides what the issues are that people shall be consulted on? What counts as relevant knowledge and expertise? Is anyone obliged to pay attention to the consultation, or is the simple process of consultation considered sufficient?*

He opines that unless these questions are seriously considered, 'consultation' and 'participation' are likely to be nothing more than: "...new ways of containing - or even silencing - popular environmental concerns" (Purdue 1995).

A 1991 DoE survey found that about 25% of the public ('incorrectly') thought that the depletion of the ozone layer was the most important cause of global warming (DoE 1992b). This suggests an awareness of issues, but an absence of understanding that causes some confusion.

Some demographic characteristics of environmental concerns are interesting to note. Throughout the UK, women are more concerned about environmental issues than men. In England and Wales retired people are more concerned about local issues such as 'fouling by dogs', litter and noise (DoE 1992b), and they are backed up by 8-12 year olds, who also consider litter a most important issue (GSS 1995). Children between 13 and 15 are more concerned about traffic fumes (ibid.).

Another gauge of public feelings about environmental issues, and the desire to act in response is their membership of environmental organisations. Between 1981 and 1993, the total membership of the 16 most prominent environment-related groups in the UK (including the National Trust, the RSPB, Greenpeace, WWF, FoE, the Ramblers Association, etc.) increased from 1.95 million to over 4.8 million (GSS 1995). Particular growth figures that stand out are Greenpeace (whose membership grew from 30,000 to 410,000, and the National Trust which grew from 1.05 million to

over 2.18 million. This doubtless includes some cross-over/multiple membership, but shows a willingness to spend *some* money in order to either 'help the environment' or to publicise current issues.

Between 1982 and 1988, there was a distinct increase in the belief that priority ought to be given to the environment over economic growth: those favouring environmental priority increased from 50% to 70%, whilst those favouring economic growth declined from 36% to 17% (ibid.). This is again clear evidence that environmental consideration, and by implication the degree of ethical consideration, is on the rise. An American Enterprise Institute survey in April 1995 found that 53% of Americans thought economic growth should be sacrificed for the environment, whilst 23% thought the reverse (Ravitz 1995). Obviously there are significant differences between countries but overall environmental awareness is increasing. Whether there is a serious determination to resolve the problems or whether people, on a more basic level, seek to clear their conscience, is much harder to gauge - if asked, they would surely say that they are genuinely concerned. The *willingness* to consider altering one's lifestyle significantly exceeds rates of actually doing so, partially because of information deficits and the difficulties of change in a society which has not been designed for environmental beninignity, but also through laziness.

Lastly, some responses to questions about who should pay for increased environmental consideration, and who is responsible for it (these responses are from Scotland). Just 5% thought that nothing should be spent on environmental protection because it is not affordable, while 75% thought that environmental considerations should be presented to the public through product pricing (GSS 1995) - a 'vote' in favour of ecological tax reform and pricing, as described earlier in this chapter. A very important observation is that:

> *People who were better informed about the environment supported in particular, controlling industry, paying more for environmentally-friendly products and paying higher taxes to protect the environment.*

(GSS 1995)

This implies that environmental education is a crucial goal for the environment movement. WWF, for example, produce education packs such as their 'Kiss it better or kiss it good-bye: community action pack for environmental awareness'. Schools have started to include environmental studies as a regular part of the curriculum; school-based 'environmental awareness' projects are increasingly common. Ravitz (1995) observes that "environmental education, one of the key ... strategies of the environment movement, is a huge success" - a positive observation from (the US) one

of the most important countries in terms of its need for improvement in ethico-environmental consideration.

In the 1991 Scottish survey a considerable majority of 79% (13% strongly) thought that industry ought to be prevented from causing environmental damage even if it meant higher prices, while 54% (20% strongly) thought that companies which seriously damage the environment ought to be shut down (GSS 1995). The same survey revealed that about 85% (33% strongly) thought that it was up to individuals 'to protect the environment' by changing their own behaviour; 80% (25% strongly) thought the government could do a lot more than they are now to protect the environment (ibid.). We are not informed of how many were not sure how much the government *was* doing, but it is likely that many would not be in possession of any details of current actions and legislative trends in environmental protection by authorities.

It was described earlier in this chapter how 'greenspeak', 'greenwashing' and product package appearance have come to be used as marketing strategies and that 'environmental/y aware' products/production is considered by many in business as a growing niche market. It is therefore reasonable to suggest that a 'partially informed' public is to a significant extent unable to distinguish between 'bluff' greenness of products and actual ecological/ethical benignity. It is a fact that even with strict trading standards enforcement, customer deception and product 'misrepresentation' persists. For example, a product may state that it does not contain an environmentally damaging ingredient, even though it never has; an obnoxious garden chemical may be sold in a Spring green, proudly announced 'recycled cardboard' box. As a 1992 Commission of the European Communities (CEC) states: "Good intentions will not produce the desired results unless alternatives exist" (CEC 1992).

Some of the statistics available are of dubious provenance (these examples come from DoE 1992b) - what does it mean that 55% of people occasionally (35% often) avoid using pesticides in the garden? How is it that 36% of people occasionally (32% often) use unleaded petrol? What is the commitment level of 46% of people who occasionally (28% often) take bottles to the bottle bank, and 37% who occasionally (14% often) cut down on use of electricity/gas in the home? If these are occasional actions for a minority, and more frequent actions of a smaller minority, then what is the overall level of commitment to environmental/ethical consideration at the popular level? Perhaps more useful is that 18% occasionally (8% often) request information about green issues. Even this does not indicate accurately the level of commitment to environmental consideration, since the parameters of 'what is environmental' are

extremely wide - a 1993 Institute of Environmental Sciences 'Environmental Careers Handbook' considers jobs with large construction firms and chemical companies to be 'jobs in the environment'. At the popular level the scope of 'environmental' is so wide as to demand careful scrutiny. The 1992 edition of 'Who's Who in the environment - England' is, ironically, sponsored by the oil giant Esso. Lastly, Ravitz (1995) reports a paradoxical fact: an April 1995 survey by the American Enterprise Institute found that 79% of Americans consider themselves to be environmentalists - yet the collective human society of the country is a model of unsustainability.

CHAPTER 7

APPROACHES TO THE FUTURE :
ECOLOGISATION, PSYCHOLOGISING ECOPHILOSOPHY
AND SOCIAL ECOLOGICAL RESURGENCE

The last chapter considered environmental reformism, which is characterised by 'shallow ecological' approaches. They were mainly referred to as 'reformist' since this is the most common terminology used to describe them. Ecologisation, the subject of this chapter, refers to deep ecophilosophical principles. The following frameworks will be considered: deep ecology; social ecology; education from the non-industrial; community organicisation; and transpersonal ecology. These outlooks involve a process that Fox (1995) refers to as "psychologizing ecophilosophy". La Chapelle (1986) clarifies what inevitably will be noted in this and other chapters of this thesis, that (occasionally cumbersome) new word formulations are sometimes favourable in discussions concerning 'Environmentalism', particularly when discussing more radical frameworks such as deep ecology: "to write about such a holistic subject as Deep Ecology it frequently is necessary to invent awkward new words...".

Bookchin outlines clearly what he sees as the failings of shallow ecological approaches to socio-ecological restoration when he states that:

> *Conventional reform efforts, at their best can only slow down but they cannot arrest the overwhelming momentum toward destruction within our society. At their worst, they lull people into a false sense of security. Our institutional social order plays games with us to foster this passivity. It grants long-delayed, piecemeal, and woefully inadequate reforms to deflect our energies and attention from larger acts of destruction. Such reforms hide the rotten core of the apple behind an appealing and reassuring artificially-dyed red skin.*

(Bookchin in Bookchin & Foreman 1991)

Bookchin offers another observation regarding the reformist approach (which at a general level is accurate), that it focuses on single issues. This means that the resolution of complex and intricate problems will be deferred, or will never be achieved (Bookchin 1990).

Foreman (1991 in Bookchin & Foreman) states that:

> *...[reform approaches], by themselves, are simply not enough...Today the conservation movement's strategy is to bargain away huge portions of the wild world in order to protect a dwindling core of 'untouchable' wilderness areas.*

Foreman is particularly concerned with the protection of the remaining wilderness/semi-wilds, but the same criticisms can usefully be extrapolated and applied to the 'shallow' environment movement. One of Foreman's current projects, which obviously is a huge and ambitious goal, is The Wildlands Project, which aims for the 're-wilding' of North America through a continent-wide network of large bio-region based wilderness cores linked by broad habitat corridors. Devall and Sessions (1985) state that they see reformism as essentially attempting to:

> ...address some of the environmental problems in this society without seriously challenging the main contradictions and assumptions of the prevailing world view.

Reformist movements and organisations are also seen to have 'sold out' and become like any other large organisation with 'power goals'. Manes (1990) informs us of the magnitudes of (1985) salaries of the leaders of the large US environment organisations: the Sierra Club and The Wilderness Society (executive directors $70-90,000), the Audubon Society (over $100,000 for the executive director), and the National Wildlife Federation (the leader was in receipt of $120,000 plus expenses, car and apartment). These high salaries to individuals working for causes which generally work on tight budgets derived from memberships, merchandise and legacies were defended, as Manes tells us, "...by saying they were necessary to attract the kind of leadership qualified to run what amounted to multi-million dollar corporations". Such ideas are compelling evidence that the larger environmental organisations or individuals within them have confused 'value' with 'material goals'. As Foreman (1991) observes from his US perspective:

> Many see their jobs with conservation groups as stepping stones to jobs with prominent politicians or to high positions in the next presidential administration. Too many take care not to ruffle feathers in order to preserve their opportunity to be considered later for Director of the National Park Service or Assistant Secretary of Agriculture.

Foreman (1991) lists ten characteristics of the composition, priorities, and motivations of conservation groups. These points, it should be stressed, are observations in the US context (though similar trends are observable in the UK as well). They are instrumental to the successful growth of 'environmentalism', and the subsequent professionalism in environmental organisations.

> 1)Many of the people who work for environmental groups today are not conservationists but technicians.
> 2)Until the mid-1970's, the route to a job with an environmental group was by proving oneself first as a volunteer activist.
> 3)Conservation groups look for potential employees who will fit smoothly into their particular organisation..
> 4) Fewer and fewer staff members of conservation groups are outdoors persons.

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5) Staff members of conservation groups today are often career-oriented.
6) Many people working for environmental groups today have a higher loyalty to the political process than to conservation.
7) The viability of the group itself has become more important than the conservation mission of the group.
8) Efficient operation has become the main concern of environmental groups.
9) Professional staff are frequently unfamiliar with the intellectual discussions going on in the movement.
10) There is a growing divide between grassroots volunteer activists and professionals.

Surely competent administrators are needed to run the operations of multi-million pound/dollar operations, but "they must be guided by the vision of Muir, Edge, Marshall and Leopold - not by the Harvard Business School" (Foreman, 1991).

Foreman (1991 in Bookchin & Foreman) criticises reform environmentalism for its propensity to compromise and weaken its goals, jeopardising its potential impact in the process of change:

> *Trying to fit in, to not seem too radical or extreme, to always seek to compromise obviously keeps you pretty damn manageable. It is no wonder that the mainstream conservation movement has been outmanoeuvred [by anti-ecological interest groups] over the last fifteen years because of its timid vision and tactics.*

At this point it is worth presenting briefly the essential distinctions between shallow and deep ecological outlooks. Fox (1995) made a comprehensive study of published and unpublished works and conferences on ecophilosophy, and noted eleven "typologies" which distinguish between shallow and deep eco-philosophies (see Table 7.1).

Perspective of:	Shallow Eco-philosophy	V's	Deep Eco-philosophy
Marx	Conservation	vs	Ecological
Worster	Imperial	vs	Arcadian
Roszak	Expedient	vs	Sacramental
Rifkind	Engineering/technological	vs	Ecological/empathetic
O'Riordan	Technocentric	vs	Ecocentric
Drengson	Technocratic	vs	Person-planetary
Meeker	Homocentric	vs	Holistic
Bookchin	Environmentalism	vs	Social ecology
Toumlin	Anthropocentric	vs	Cosmological
Grange	Dividend	vs	Foundational
Rodman	Resource conservation	vs	Ecological sensibility

Table 7.1
Typologies of Shallow V's Deep Eco-Philosophy (adapted from Fox, 1995).

It should be made clear that some who argue for a deep eco-philosophical future, and against 'thin environmentalism' do *not* subscribe to 'deep ecology' as a favourable

philosophical approach, though this and ecocentrism are the most dominant phraseologies in terms of breadth of adoption for both advocates and critics alike (Fox 1995). Bookchin in particular has been critical of 'deep ecology', seeing it as biocentric and occasionally anti-human (Bookchin 1990), while for example Devall in the early 1980s stated that 'social ecology', the (deep) eco-philosophy Bookchin favours, was "just another 'old paradigm', leftist ideology that falls short of a genuinely ecological philosophy" (Chase 1991). Another description of the differences between ecology movement visions is 'wilderness' and 'garden' ecology - the latter favour a more managed ecological picture, whilst the first opposes this interference. Chase (1991) observes that there is a 'garden ecology tendency' in the social ecology movement.

But 'factional' dispute within the radical environment movement is not a priority debate even if, for example, Bookchin concludes that social and deep ecology are fundamentally antagonistic. The debate between Foreman and Bookchin which is the basis of their 1991 book clearly brings to the surface the fact that there is only a marginal conflict between social ecology and deep ecology, when set against reformist and particularly 'business as usual' advocations. Foreman states that "contradictions among [radical ecologists] are different from the contradictions between [themselves] and the guardians of the imperial status quo" (ibid.). One explanation for the fact that "few...would disagree that there are some significant differences between social and deep ecology" (Chase 1991), might be that the key writers on deep ecology generally come from naturalistic and/or philosophical backgrounds, while prominent social ecology writers such as Bookchin come from 'labour movement' and left libertarian backgrounds. As a consequence their balance of emphasis gravitates more towards, or emanates from, ecological and social constructs respectively. Another might be what Foreman observes, that:

> ...too often when you fight regularly with powerful and intransigent institutions you can't get out of that mode of interaction when you are among [actual and potential allies].

(ibid.).

Bookchin observes unifying developments in the space between eco-gravitational and social-gravitational eco-philosophies, and so the complimentary futures of deep and social ecology in socio-ecological terms:

> We should never lose sight of the fact that the project of human liberation has now become an ecological project, just as, conversely, the project of defending the Earth has also become a social project. Social ecology as a form of eco-anarchism weaves a way of thinking that I call dialectical naturalism; second, by means of a mutualistic

Bookchin here makes clear the value of a diverse movement for change, and indeed the strength of such a movement, when complemented by co-operative inclinations, in that it can offer a collective projection that incorporates distinct but strongly linked changes to organisational and life-style systems. McLaughlin (1995) observes that deep ecology is a common ground for those beginning with interests weighted more towards either human-social or non-human interests. From this point on a more detailed description of deep ecology, social ecology, education from the non-industrial, community organicisation, and transpersonal ecology will be attempted.

7.1 Deep Ecology.

In 1984, Sessions and Arne Naess drew up eight principles of deep ecology which have come to be recognised as embodying the core of an ecologically integrated future. Table 7.2 outlines these principles.

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1) The well-being and flourishing of human and non-human life on earth have value in themselves (intrinsic/inherent value). These values are independent of the usefulness of the non-human world for human purposes. [this is essentially a rejection of anthropocentrism]

2) Richness and diversity of life forms contribute to the realisation of these values and are also values in themselves. [essentially a rejection of the notion of 'superior' life forms]

3) Humans have no right to reduce this richness and diversity except to satisfy *vital* needs.

4) The flourishing of human life and cultures is compatible with a substantial decrease of the human population. The flourishing of non-human life requires such a decrease.

5) Present human interference with the non-human world is excessive, and the situation is rapidly worsening.

6) Policies must therefore be changed. These policies affect basic economic, technological, and ideological structures. The resulting state of affairs will be deeply different from the present.

7) The ideological change is mainly that of appreciating *life quality* (dwelling in situations of inherent value) rather than adhering to an increasingly higher standard of living. There will be a profound awareness of the difference between big and great.

8) Those who subscribe to the foregoing points have an obligation directly or indirectly to try to implement the necessary changes.

Table 7.2
Basic Principles of Deep Ecology (adapted from Devall & Sessions, 1985).

In point '3', 'vital need' is deliberately left vague since there will inevitably be differences in judgement - due to climatic and cultural factors which will effect biological and psycho-cultural needs. A part of the founding of point '4' is the notion, supported by the conclusions of a 1984 UN State of the World Population report, that human population growth rates are diminishing the quality of life "for many millions of people". With regard to point '5', the catchword 'non-interference' does not imply that humans should not modify some ecosystems but that the nature and extent of this interference is 'out of control'.

They state that current industrial forms of economic growth are incompatible with points 1-5 (point 6), and that there is a considerable gap between 'ideal sustainable forms of economic growth' and the policy goals of modern industrial societies, for whom 'sustainability' still effectively means 'in relation to humans'. This is perhaps changing, slowly: since 1984 there have been some considerable developments in understandings of the meaning of 'sustainability' - since the Brundtland report, the 1991 'Caring for the Earth' report (by IUCN, UNEP, and WWF) and the 1992 UNCED conference, descriptions of and strategies to achieve a more comprehensive version of 'sustainability' have emerged. The 1991 New Zealand 'Resource Management Act', a very progressive piece of legislation, clearly defines 'intrinsic value' and demands respect for this as well as considerably expanded regard for the indigenous Mauri population and their interests/values. Finally for point '7', McLaughlin (1995) states that this is particularly relevant for "...industrial peoples enmeshed within an ultimately unsatisfying consumerism", while Devall and Sessions (1985) provide a clear summary of the explanation Sessions and Naess provided:

> Some economists criticise the term 'quality of life' because it is supposed to be vague.
> But on closer inspection, what they consider to be vague is actually the non-
> quantitative nature of the term. One cannot quantify adequately what is important for
> the quality of life as discussed here, and there is no need to.

This idea that "there is no need" to quantify important aspects of life quality was considered in chapter five in relation to the 'difficult to quantify' aspects of attempts to achieve indices or valuations in environmental economics. There it was suggested that it might degrade what one is trying to 'evaluate', and that it is perhaps better *not* to put a value onto something than to undervalue it. A good example of the absurd and indeed obscene results that can derive from evaluations is provided by Raghavan of the Third World Network (1995). He related some details of a report being prepared by the Third Working Group of the Intergovernmental Panel on Climate Change, in which for the purposes of evaluating the likely damage to result from global warming, the 'value' of human life was to be estimated. Partly through the

influence of OECD economists, the 'value' of one human life in North America and the European Union was put at $1.5 million, and in other countries at $150,000. Exchange rates and price levels may *explain* this result, but at the same time it makes clear that economics of this form can be repugnantly discriminatory

Devall and Sessions (1985) quote Arne Naess on the meaning of 'deep ecology' from an interview. Naess states that the essence of deep ecology is "to ask deeper questions". He believes that people do not generally question deeply enough, that their 'world view' is very much dictated by external framing. "Most people follow the trends and advertisements and become philosophical and ethical cripples". His 'ecosophy' (a philosophy of ecological harmony or equilibrium) advocates (presumably for the disproportionately resource-intensive industrialised communities) a drastically reduced material standard of living in conjunction with an enhanced of or maintained *quality of life*. He states that in deep ecology there is a basic intuition that "we have no right to destroy other living beings without sufficient reason"; that when humans reach a stage of maturity, they will experience joy and sadness when other creatures, landscapes and ecosystems flourish or are damaged respectively. At present our means of destruction are vast and there is "extremely little maturity in our feelings...Only a very narrow range of feelings have interested most human beings until now".

It is interesting that although Naess is widely assumed to have coined the phrase 'deep ecology', and the one responsible for planting the seeds of current lines of deep ecology, Naess is himself in no doubt that the ideas existed long before he first used the term in the early 1970's, whilst Zakin (1993) suggests that "...the lineage of deep ecological thought ...has probably been around since the days of cavemen". Naess states that:

> *Many of those who emphasise the breadth of ecology tend, simultaneously, to limit it somewhat. When concentrating on the relations between things, of course many aspects of their limited separateness are ignored. Ecologism is excessive universalisation or generalisation of ecological concepts and theories. The attempt to fully replace the theory of knowledge with certain ecological theories about behaviour and survival leads to very great difficulties ('labyrinthine epistemology') or, one encounters great inconsistency and paradox.*

(Naess 1989)

Perhaps Naess here refers to the 'ecological survival of the fittest ' excuses for unscrupulous and socio-ecologically anti-social business activities.

Naess (1995) presents what he acknowledges to be only one of the possible "condensed codification's" of deep ecology (see Table 7.3). He states that contrary to the dominant trend in attempts by ecologists to influence decision makers, which is to present 'factually' (scientifically) based ecological threats - deep ecology accommodates normative preferences as well. That is to say that some wider norms and value characteristics can compete with scientifically based argument. He also notes that ecological movements are in fact ecophilosophical rather than purely ecological - ecology being "a limited science which makes use of scientific method".

The seven points for a deep ecological outlook in Table 7.3 do not clash with, or reduce the importance of, the basic principles of deep ecology outlined in Table 7.2 - they are one version of the core foci in the deep ecological framework which Naess believes may alter depending on climatic location and culture etc..

Naess (1986) presents a clear case for accommodating the 'normative experiential' (expressions of "spontaneous experience") in scientific presentation. He asserts that it is a useful product of our perceptive capacities; to *not* do so is to play into the hands of nihilism:

> *Spontaneous experience is not limited to so-called pure sense experience. It has cognitive elements, but elements of acquaintance and insight rather than of abstract knowledge. These must not be left unexpressed in the name of science. There may of course be biologists who suspect that an expert who uses spontaneous language is incapable of scientific rigor. But we should not neglect our linguistic abilities from fear of such misunderstandings. When biologists refrain from using the rich and flavourful language of their own spontaneous experience of all life forms - not only of the spectacularly beautiful but of the mundane and bizarre as well - they support the value nihilism which is implicit in outrageous environmental policies.*

This argument is a part of the 'deep ecological case', but is implicitly in conflict with dominant scientific, or authoritative, presentation approaches. It welcomes the literal vitality of our faculties as well as the "...grey and flat...language of scientists" (Naess, 1986). Seymour (1989) reminds us of the 'left and right lobes of the brain' theory, that one is the *thinking half* of the brain and the other the *feeling* part. Modern scientific and industrial people are trained from birth to suppress the feeling half - the creative and intuitive half - and it is this which ought *not* to be excluded or suppressed as is demanded by a 'fact'-based scientific analysis paradigm.

Bookchin (1991) (who as Fox (1995) notes has variously described deep ecology as "a vague, formless, often self-contradictory and invertebrate thing", "a goulash of notions and moods" and "a deluge of 'Eco-la-la'") criticises the deep ecology outlooks as being "quasi-religious, often misanthropic" ecological world views which are an

understandable response to "a grow or die capitalistic economy on the biosphere", but which will not be effective in arresting our negative impact on socio-ecological integrity. This sort of objection is a typical one. But it seems that the most common consensus is that 'spiritual awakening' is no less legitimate a means of thought development than reasoned/scientifically-based routes. It is also increasingly acknowledged that the suppression of emotion in relation to what are clearly emotive issues is not a pre-requisite to sound case and argument. Bookchin does, however, have reservations about spiritualism that is 'supernaturalist', but not when it is more 'naturalist'. Bookchin maintains that 'social ecology' rather than 'ecology-centrism' is the way in which developmental ecologisation can occur, and that to ignore the social context of human society in attempts to resolve the stressed condition of human/rest-of-nature relations is to set a poor foundation for the future.

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1) **Rejection of the man-in-environment image** in favour of the 'relational total-field' image.

2) **'Biospherical egalitarianism'** in principle (the 'in principle' clause allows for the fact that "any realistic praxis necessitates some killing, exploitation, and suppression". To the ecologically aware individual, the equal right to live and blossom is an intuitively clear and obvious value axiom).

3) **Principles of diversity and symbiosis.** Diversity welcomes the enumerate 'products' of evolution, and the potentialities of equilibriate survival. Symbiotic principles of orientation favour interpretations of 'survival of the fittest' in terms of abilities to "coexist and co-operate in complex relationships, rather than the ability to kill, exploit and suppress".

4) **Anti-class posture.** This opposes differences in the qualities and standards of living based on exploitation and/or suppression on the part of certain groups. Linked to ecological egalitarianism, discrimination and exploitation of other people is divisively anti-ecological.

5) **Fight against pollution and resource depletion.** "This goal ought to be pursued within vigilant observance that the resolution of one problem ought not to cause or aggravate other problems - to reduce pollution in one area only to cause it to grow elsewhere [see chapter 2 for the maquiladora scenario, that tighter environmental regulations (amongst other factors) can simply shift a dirty practice over a national border], and the enhancement of class differences as pollution abatement pushes prices up are objectionable policy impacts which ought to be avoided".

6) **Complexity, not complication** - "[humility in the face of] the profound human ignorance of biospherical relationships and therefore the effect of disturbance" of natural systems. Applied to humans, it favours division of labour, not fragmentation of labour - "...in integrated action in which the whole person is active, not mere reactions". The latter opposes de-humanising menial and repetitive un-skilled occupations such as are so much a part of industrial production line techniques.

7) **Local autonomy and decentralisation.** "The vulnerability of a form of life is roughly proportional to the weight of influences from afar, from outside the local region in which that form has obtained an ecological equilibrium". This principle argues against the patterns that emerge through 'dependency theory' as described in chapter 3. It favours local self-governance (as is advocated by Bookchinian social ecology) and material and mental self-sufficiency. Local autonomy is enhanced the more "hierarchical chains of decision" are broken away, and the greater local independence of resource consumption, the greater is resource efficiency - this directly conflicts with conventional economic theory, which includes un-ecological anomalies such as comparative advantage theories.

Table 7.3
Summary of Naess' 1995 Seven Points for a Deep Ecological Outlook (adapted from Naess, 1995).

Fox (1995) quotes an unpublished (1982) paper ('Deepness of Questions') by Naess in which he suggests that:

> *The difference between the shallow and deep movement is one of deepness of argumentation and of differences in conclusions. In the Shallow movement in favour of decreasing pollution and economy of resources, positions are tacitly assumed valid which are questioned by the deeper movement. But the differences in conclusion are largely due to certain questions, especially of value priorities, not being seriously discussed and answered in the shallower movement.*

And that:

> *...when the deeper issues are introduced in a debate, the conclusions tend towards those of the deeper movement, even among those who at the start of the discussion favoured shallow policies or who did not hold any definite view...*

It is observable that when more 'moderate environmentalists' discuss issues in a serious manner, if defensive or 'political sensitivity' barriers do not emerge, they tend to verge towards more radical ideas, and to agree with what in a more abrupt public situation they may reject as 'unrealistic' or 'utopian'. To consider an ideal 'utopia' and then to ignore it is to deflate potential. It is paradoxical then that moderates depend on the radicals they condemn in order to appear moderate and more acceptable, since without them, their own views would be the extremes.

McLaughlin (1995) begins his paper concerning the 'role' of deep ecology by stating that it is one perspective that leads us to question expansionary industrialism, whether it be capitalist or socialist based. Both of these political shades "routinely require the destruction of species and ecosystems", and the transformation of industrialism towards a less destructive condition is a paramount necessity for human and non-human interests. Though deep ecology may be idealistic, it is a necessary component of the 'environmental consideration spectrum'. Again, it should be remembered that as mentioned above, with more radical sections present in the environmental media/education picture, the moderate positions gain greater acceptability sooner, and so progress with the collective 'ecologisation project' is likely to be hastened.

The deep ecological framework has learned from historically and currently less destructive cultural traits than industrialism. It is widely acknowledged amongst advocates of radical ecological frameworks for living that we of the more industrialised nations have much to re-learn from what are arrogantly sometimes referred to as 'primitive' cultures (Devall & sessions 1985, Naess 1989, Bookchin 1990, Oelschlaeger 1991, and Fox 1995). La Chapelle (1995) observes a correlation between cultures incorporating ritual as an important part of living and less

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destructive human societal impacts, and between ritual-free cultures and severely destructive human impacts. She refers to "native cultures". Thus:

> *...they had an intimate, conscious relationship with their place; they were stable 'sustainable' cultures, often lasting for thousands of years; and they had a rich ceremonial and ritual life. They saw these as intimately connected.*

We should remember though, that as with all analysis, blinkered adherence to any one form of approach can have a negative effect. Naess' acknowledgement of "nutritional" (read 'intellectual') deficient gravitation towards any one 'world view' (whether it be maths, physics, history, *or even ecology* (Naess 1989)) places him in agreement with Bookchin who, as mentioned earlier has heavily criticised 'deep ecology' as being too narrow a focus. Earlier it was mentioned that Naess described 'ecologism' is an unhelpfully narrow focus through 'ecology eyes'. He urges further wariness of this in a way that would ward off blind praise of ritualistic outlooks: "hundreds of wars which we now consider more or less crazy were glorified in the name of God..." (Naess 1995). Christianity has often been implicated as sanctioning and promoting destructive and disruptive acts, whilst at the same time urging forgiveness and celebration.

La Chapelle describes various cultures including the Tukano Indians of the Northwest Amazon River basin, the !Kung people of the Kalahari Desert, the Tsembaga of New Guinea, the Hopi Village of Oraibi in the US, and the people of Santa Ana Pueblo in New Mexico State (US); how their evolved cultures had developed deliberately 'minimal impact' conditions. Turner (1995) describes how the home territories of the North American Plains Indians were:

> *...entirely mapped by song and story, myth and lore, filled with critical information about distance, water, animals, plants, weather, shelter - a string of ecological and economical connections between human being and place, an interdependence that resulted from necessity, the 'life and death lesson of subsistence economies'.*

And a rich non-destructive human society it was. Turner then lucidly describes the cultural condition which has most significantly replaced it in the US:

> *Urban inhabitants, freed from producing their own food, clothing, warmth, and shelter, ignorant of where their water comes from and where their garbage goes, released from educating their children and deprived of community, are blinded to biological continuities and dependencies. At the same time, wild nature - forest fires, earthquakes, drought, disease - is seen as a malevolent intrusion on the human world. Our reaction is to seek more control, our way of measuring progress, regardless of the pernicious effect on the planet or even our own destruction.*

This brings us to the crux of the deep ecological message: it challenges the dualistic 'man - rest of nature' (Man - Nature-not-Man as Seymour (1995) refers to it) paradox, asserting that we are *part* of a natural system; that we are morally obliged to reverse the current trend towards destructive, disruptive and ultimately unsatisfying conditions of human culture.

7.2 Social Ecology

The most prominent 'social ecology' proponent is Murray Bookchin. It is not possible in this paper to review all of his extensive writings on society and its relationship with the rest of nature, but the essence of his argument will be outlined. What particularly drove his thoughts in the 1970s was his observation that the environmental movement was "rather narrow, pragmatic, [and] often socially neutral" (Bookchin 1991). That this condition maintains a 'pre-eminence' today remains a source of frustration. He considers that most environmental groups have focused on single issues, a charge levelled today at many groups by both environmentalists and anti-environmentalists alike.

Bookchin believes that it is the societal and cultural dimensions of civilisation which are the cause of adverse impacts of some sections of the human species. It is *particular sections* of the human species which are causing the 'ecological haemorrhage'. Discourse of population levels not infrequently generalises 'humans', when it *is* a minority proportion of them who precipitate disharmonious actions *disproportionately per capita*. He surmises that:

> *...[it is] our particular society, our particular civilization [western-style industrial society],* **with its hierarchical social relations** *which pit men against women, privileged whites against people of colour, elites against masses, employers against workers, the First World against the Third World, and, ultimately, a cancer-like 'grow or die' industrial capitalist economic system against the natural world and other life forms.*

(Bookchin in Bookchin & Foreman 1991)

Bookchins' emphasis on social relations as the source of our destructive and disruptive cultural paradigm explains why the ecophilosophy he adheres to is named 'social ecology'. Chase (1991) reminds us of the strong influence of Peter Kropotkin on the development of social ecology insights and outlooks in his writings on:

> *...eco-anarchist ideas of communitarian democracy, de-urbanisation, industrial decentralisation, alternative technology, organic agriculture, limits to growth, and a renewed naturalist sensibility.*

Bookchin (1990) closely echoes the subjects of Kropotkin when he states that human society needs to develop towards:

> *...an ecological society based on non-hierarchical relationships, decentralised democratic communities, and eco-technologies like solar power, organic agriculture, and humanely scaled industries.*

Chay (1993) seems to be much in agreement with Bookchin regarding societal organisation. He describes the situation in Guatemala, where the Mayan people:

> *...believe that any proposal aimed at finding a solution to the problems of the environment must recognise changes in land ownership patterns. The most important is to preserve and revitalise what remains of the indigenous communal ownership, which the state wants to do away with so that it can throw what little land remains onto the market.*

He makes clear the favourability of local community autonomy for the maintenance of the integrity of low (negative) impact rural society:

> *There has to be a decentralisation to combat the constant centralisation of power, services and investment that runs counter to the interests of rural communities.*

Chase (1991) observes that deep ecologists have also built on Kropotkins thoughts. Perhaps the distinction between social and deep ecological adoption of these ideas is that social ecologists such as Bookchin are less suspicious of technology, believing that it might be able to serve the interests of radical societal ecologisation/re-harmonisation (Bookchin 1991) - deep ecology ecophilosophy is more in favour of extensive abandonment of technological/industrial endeavours which have collectively proven to be negative impactors on socio-ecological integrity.

Social ecology argues that there is a strong connection between the way people treat each other and the way they treat the rest of nature. Hence the aforementioned linkage of ecological problems being "...fundamentally social problems requiring fundamental social change" (Bookchin in Bookchin & Foreman, 1991). Bookchin (ibid.) believes that the source of the current human society structural problems go back a long way:

> *Society is poisoned. It has been poisoned for thousands of years, from the Bronze Age. It has been warped by rule by elders, by patriarchy, by warriors, by hierarchies of all sorts which have led now to the current situation of a world threatened by competitive, nuclear-armed, nation-states and a phenomenally destructive corporate capitalist system in the West, and an equally destructive, though now crumbling, bureaucratic state capitalist system in the East.*

Regarding technology and genetic engineering, Bookchin (1991) considers human society to *not be morally capable* of dealing with bio-technology, and to be:

...so immoral that it can't be entrusted to invent anything until [it is] able to...decide, as a socially responsible, ecologically sensitive community, how [it is] going to design and use [its] technology.

7.3 Non-Industrial Education.

It was suggested earlier that industrial societies have much to re-learn from 'indigenous' populations in order to re-harmonise human society. Appendix 4 contains extracts from papers written by representatives of tribal cultures which could act as a part of the 'cultural professorialship' from which we could proceed. The perspectives are those of representatives of communities and cultures that have suffered considerably as imperial and religious conquests have encroached on the integrity of very old, yet stable, 'permacultural' societies. Please take the time to read them.

It is impossible to do justice to what we could learn from traditional societies - Soulé (1986) explains this omission from his broad book on conservation biology, claiming that "it...deserves a book of its own". For this reason, in the context of this thesis only an insight will be provided. Doing so is subject to criticism: Piacentini (1993) states that "...both the diagnosis and the search for solutions are defined within the framework that also gave rise to the problem in the first place". As a Western student in a Western university, one can hardly expect to adequately present the words and wisdom of other cultures. For this reason, the bulk of this part of the chapter has been placed as an appendix of extracts as mentioned above.

Piacentini (ibid.) believes that "taking the scientifically oriented approach ...more concern is given to rectifying the excesses and mistakes [in human societal developments] of the model rather than questioning the model itself". He observes that non-Western cultures:

> *...have not had any noticeable influence on either the dominant development paradigm or on the deterioration of nature as a direct result of the application of that paradigm. On the contrary, traditional cultures view nature as sacred, and their value systems are light years distant from the consumerism that has dragged the environmental crisis along in it's wake.*

The Prime Minister of Norway (GH Brundtland) expands on this:

> 1) *Indigenous peoples are amongst those most affected by environmental degradation.*
> 2) *Interaction with modern society has often left indigenous peoples out of the process of general economic development.*
> 3) *Indigenous cultures have become victims of what could be described as 'cultural extinction'.*

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4) *The eradication of poverty is a precondition for environmentally sound development, this will require some form of growth which must be a new kind not based on over-exploitation of natural resources - it should not mirror western growth ethics.*

5) *The market alone can not promote environmentally sound behaviour, and socio-environmntal concerns should be integrated into every level of economic planning, performance, and accounting.*

6) *Protectionism in the North costs the less industrialised countries more than they receive in aid.*

7) *Less industrialised countries are strongly influenced by international economic conditions, but they are unable [less able] to influence them.*

8) *The marginalisation of traditional cultures is a symptom of a cycle of development that tends to neglect both human and environmental considerations* - [ethical consideration in the management of environments for the purpose of development has been negligible, or at least it has had negligible impact on developments].

Although tribal and other long established cultures are increasingly believed to hold clues to sound human society organisation, industrial imperialists have for a long time shown wanton disregard for, and extreme forms of exploitation of and violence towards traditional societies.

Seabrook (1993) observes that when the West talks of sustainability, it (most often) means sustaining its own patterns of living and privilege. He quotes Indian environmentalist Anil Agarwal who states that:

> *Those who say the present system is unsustainable are talking nonsense. It is sustainable. The only question is, who will pay the price for the powerful to sustain their riches and their privilege? This is why questions of environment are also questions of social and distributive justice. But there is no objective reason why the present system can not go on dispossessing the poor, with more and more casualties of environment, more and more urbanisation, social dislocation and degradation in every sense.*

The limits of growth may well be a long way off, but things will get increasingly unpleasant as they near. It would be arrogant and narrow-minded to suggest that the adverse effects of Western style development on traditional cultures, and on other socio-ecological interest groups, are *not* a clear sign that this process is already in place. Those who deny that life in New York, Paris or Hong Kong does not effect overseas socio-ecological integrity are either blind to or ignorant of the internationalisation of trade and political manipulation. If those who are aware of the problems caused by these processes do not consider them important, then they are guilty of the same arrogant discriminative and selfish outlooks which accommodated slavery and imperialistic colonialism.

Corrupt elite beneficiaries who have been complicit in the processes that have shaped disharmonious development bear equal responsibility with the MNCs, development bodies, and Western governments which have sought profit and power without

effective regard for the impacts of their endeavours. Though there have been some considerable benefits from Western development paradigms, much of what is transferred is nothing less than cultural pollution. It is not surprising then that, for example, certain North African, Middle Eastern, and Asian communities vigorously seek to exclude western cultural imperialism.

'Riches and privilege' are a definitively mixed circumstance. As has been suggested elsewhere, and as Durning (1995) argues, consumerism (which offers the material 'wealth' and 'privilege' of the powerful) is failing to deliver the contentment (the emotional and spiritual 'wealth' and 'privilege') it promised. By extending work time and stress, and by distracting people from social relationships, it often makes people less happy ('happy' is to mean 'good quality of life'). That the 'privilege' of consumerism is a negative impactor on the life quality of the consumer is all the more tragic since part of the uncounted costs of this are the extensive and considerable adverse impacts on the lives of the non-wealthy and the rest of nature. Even where the consumer culture does offer potential or actual benefits in terms of improved life quality, the marginal increment of 'life-quality-improvement' through greater levels of 'resource' and product consumption diminishes rapidly.

Perhaps the most important thing which can be re-learnt from traditional cultures is our place in nature and human society - both of which are due considerably greater regard in terms of ethical consideration and respect.

7.4 Community organicisation and the equitablisation of culture.

Visions of how human society could reorganise itself through community organicisation and social ecological resurgence will be considered. The ideas of social ecologists Bookchin and Morrison (1995) provide two directions which will be outlined, followed by Fox's (1995) step forward from deep ecology to a 'transpersonal ecology' (in 7.5), achieved through 'psychologising ecophilosophy'. All three aim towards ecological community resurgence - a process that would re-link humans, non-humans and place.

A useful grounding for understanding Bookchin's (1991) outlook and cultural vision is his view that:

> *No one has a right to own property on which the lives of others depend, - either morally, socially, or ecologically. Nor does anyone have the right to design, employ or impose privately-owned technological equipment on society that damages human health and the health of the planet.*

Bookchin believes that for example a widespread switch to organic gardening and agriculture would serve more than just the conventional stated aims (a superior inventory of nutrients, improved soil quality and an end to the adverse impacts of agro-chemicals). It would also enrich daily life, sharpen our appreciation of growth and decay, introduce us to 'ecological ballet', and "greatly improve upon the current fad for jogging on concrete and asphalt sidewalks" (ibid.). He suggests that other eco-technologies, practices such as the use of wind and solar power, re-use/recycling, household composting, season-awareness, transport such as cycling, mixed farming permaculture etc., can work to redress the broken appreciation of linkages between 'first and second (human) nature'.

Bookchin observes that alongside mass production, mass cultural training has degraded our individual uniqueness and so personality.

> *Loss of individuality and personal uniqueness, with its ultimate result in the 'liquidation' of personality itself, begins with the loss of our ability to contrast a more human-scaled world that once was; another world, approximating complete totalitarianization, that now is; and finally a third one, human-scaled, ecological, and rational that should be.*

(Bookchin 1991)

These points are part of the footing for Bookchins' 'ecological society' vision. The details of this and the 'ecological democracy' envisioned by Morrison (see below) are outside the scope of this thesis and so will be outlined only very briefly. More emphasis will be put on the psychological, outlook, and attitudinal sides of their ideas and observations since this answers the 'ethical consideration' question in terms of management of the environment.

One theme that Bookchin emphasises again and again is that *humans and their managed spaces are natural*. The psychologically-internalised dualistic outlook which places people as separate from the rest of nature and views them as supernatural is a damaging fallacy. He also criticises the view that people are totally equal to all life forms and ecosystem complexes, or conversely 'a plague on the earth': he believes that we are distinct from other animals, that impact is inevitable and legitimate. The hierarchical frame of mind allows people to be perceived as superior to each other and the rest of nature and leads to disregard or lack of acknowledgement of the interests of other people and the rest of nature. It also leads to grandiose aspirations and egotistical material desire.

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If such arrogance and hierarchy are rejected, responsibility is placed back in the hands of the individual; the individual is responsible for respecting the interests of other individuals and other parts of nature; and something of an ecological society emerges. This form of society favours:

- re-empowerment in the fullest personal and public sense (not as a psychic experience in 'psychological energetics');

- libertarian peopled institutions "...structured around direct, face-to-face, protoplasmic relationships, not around representative, anonymous, mechanical relationships" (Bookchin 1991);

- a direct democracy that is free of sexual, ethnic, and hierarchical biases; and

- a breakdown of the distinction between policy formulation and administrative implementation.

Active citizenship is ultimately "...the most advanced form of direct action" (ibid.). Direct action is often misconstrued as being a *strategy* when in fact it is "...the reclamation of the public sphere by the ego, its development towards self-empowerment, and its culmination as an active participant in society" (ibid.). The media has done damage to the phrase 'direct action', associating it only with its more controversial side rather than including the (perhaps) more mundane components such as participation in community projects such as LETS schemes (see below), 'green living' and union based worker protection.

Bookchin states that:

It is not a 'retribalisation' that an ecological society is likely to seek but rather recommunalisation with its wealth of creative libertarian traits.

(ibid.)

Other features of Bookchins vision of an ecological society include: Communes composed of many smaller communes; the larger Communes would be networked confederally through ecosystems, bioregions, and biomes and would be artistically tailored to their surroundings. Communities would be decentralised and scaled to human dimensions; work would become more craft-like than industrial and would be as readily rotated as positions of responsibility; "...the fetishisation of needs would

give way to the freedom to chose needs, quantity to quality, and mean-spirited egotism to generosity" (ibid.).

These transformations would introduce ethical consideration into the psychological ball-park. It would bring with it ethical consideration in environmental management in the social, ecological and economic spheres. Bookchin believes that "humanity can never afford to lose its sense of ecological direction and the ethical meaning it gives to its projects" (ibid.).

To introduce Morrison's (1995) vision of an 'ecological democracy', it will be useful to state his view of industrial civilisation:

> *With astonishing arrogance, industrial civilisation reduces all the world's substance to 'resources' to feed the production machine, all the world's people to 'customers' and 'workers'. The attempt to continue forever the growth of production and consumption is deeply contemptuous of life...The negative consequences of industrial practices are called 'externalities', as if the poisoner had not intended the death of the victim.*

As Morrison sees it, an ecological civilisation "...is based on diverse life ways sustaining linked natural and social ecologies" (ibid.). In such a civilisation, people are not at war with nature, they are knowingly a part of it. It would not develop through an act of government or by an authoritarian decree, it would rely on humans being willing to make new social choices. The economy would be community-centred and comprised of "small businesses, co-operatives, community-based non-profit groups, and local government organisations". (ibid.). Education, business and banking would be owned and controlled in the community. An internalised appreciation of 'ecological commons' would mean that a sound balance would emerge between the right to use the commons and the responsibility not to degrade it. The social systems of commons use would be based on participation and agreement, "not on the notions of state monopoly of force and exclusivity of citizenship" (ibid.).

Morrison notes how globalisation has weakened the nation state, inviting diverse community assertion (presumably in defence against cultural and heritage extinction - through, say, the 'Americanisation' of culture). Like Bookchin, one of the cornerstones of his ecological society are 'associations', which are "the basic venue for moving power away from the state and corporate bureaucracies" (ibid.). Community autonomy is important: a reduction of state-based control is in order (responsibility of the individual and community is assumed and encouraged). Indeed Morrison likens 'association' to Bookchin's libertarian municipalism, where there is an expansion of local power and self-sufficiency. Multiple alliances between

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associations (or confederations) further weaken the power of distant government, and enhance community autonomy. An ecological associative democracy aims to bring about a change from large firms and government bureaucracies to a "local, co-operative, and responsive social and economic order" (ibid.).

The importance of this explanation is that it erodes the hierarchical dominative paradigm and works towards a mutually assisting culture, away from competitive conflict. Morrison observes that ecological values can inform our actions and choices, but that "value finds meaning through action - the practice of association, co-operation and confederation" (ibid.). Again in agreement with Bookchin, such a social condition (eroded hierarchical, top down, state authority), which would make space for mutual assistance, would at the same time open the collective mind to greater consideration - ethical consideration - towards the non-human world.

Morrisons' plan for an ecological democracy is more an *aim* than a form of approach whereas Bookchins' social ecology is a *frame of analysis* leading towards an ecological society. He gives three core components of the task to reach the ecologisation goal which reveal a slightly awkward human-centred slant to an otherwise sound plan:

> 1) *To transform the existing market and planning system to one conditioned by ecological social choices;*
> 2) *to nurture and co-ordinate the grand expansion of freedom and community stimulated by ecological transformation; and*
> 3) *to develop durable means of communication and decision making to create and protect the ecological commons.*

What is awkward is the term 'ecological commons'. It places people at the centre of things and ignores wider interests - it is as if the area to which he refers *belongs* to people.

> *The earth, like the sun, like the air, belongs to everyone [and everything] - and to no-one [and nothing].*

> (Abbey 1970)

It is the *social contract* between people which demands respect for the interests of others (and their 'possessions'), whilst *moral rectitude* demands respect for the interests of both human and non-human integrity. As Oelschlaeger (1991) describes the 'homo-sapiens distinct by culture' outlook:

> *...natural or evolutionary process led to human nature, and human nature led to culture; but culture has paradoxically enabled behaviour that impairs the integrity of nature.*

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Great intellectual capacity is not inherently 'good' or 'special' - if it allows us to do that which degrades the integrity of Earth ecology and of human society, it is a handicap.

> *The earth is not a mechanism but an organism, a being with its own life and its own reasons, where the support and sustenance of the human animal is incidental. If man in his new-found power and vanity persists in the attempt to remake the planet in his own image, he will succeed only in destroying himself - not the planet. The earth will survive our most ingenious folly.*

(Abbey 1970)

Morrison (1995) also offers several 'elements and venues' for a more ecological approach. They are further detailed in Appendix 5 with adaptations from other related sources, and include the following:

- democratising finance
- building community economics
- revaluation of the future
- creating a social wage
- pursuing disarmament and demilitarisation
- developing an industrial ecology
- developing a 'solar economy'

7.5 Transpersonal Ecology.

Fox (1995) provides another vision of the future of societal interactionary evolution. He argues for what he refers to as a 'transpersonal ecology', that is to say 'trans-' (as in *beyond* as opposed to across) '-personal' - extending the psychological functions of concern, respect and defence beyond "...the limits of one's egoic, biographical, or personal sense of self". He makes a distinction between 'transpersonal ecology' and 'transpersonal psychology': the latter is limited to thought and sentiment which can *consider* the non-human (though not necessarily); the former also includes the interaction processes. Fox argues that transpersonal psychology is not inherently anthropocentric, but that to date it has had this tendency. Thus he calls for "'ecologizing' transpersonal psychology" - in other words a 'transpersonal ecology'. Foxs' approach is based around 'ecopsychology' (covered to depth in Roszak et. al. 1995), geared more towards psychological change (that this may redress the negative-impacting condition of industrial imperialistic outlooks), rather than the more clearly-defined human social arrangements considered by Bookchin and Morrison. It rests on the assumption that what the mind reasons, the body will effect.

To 'psychologise' is to internalise psychologically. Thus 'psychologising ecophilosophy' is the process of psychologically internalising ecophilosophy. Fox believes that there is a great need to allow and encourage transpersonal ecology; that sound ecophilosophy may be more widely internalised, eroding or replacing the current dominance of anthropocentric instrumental ecophilosophy. It would open the doors to a more holistic ecophilosophy which accommodates intrinsic values in the equation of living.

Fox (1995) describes nine arguments that underlie instrumental value theory:

1) life support system argument

Point 1 emphasises the *physical nourishment* value of the 'non-human world to humans' (NHWTH) - food, water and shelter.

2) early warning system argument
3) laboratory argument
4) silo (genetic information storage) argument

Points 2, 3, and 4 emphasise the *informational value* of the NHWTH - sources of knowledge etc. (observation, example, medicine sources, gene bank...)

5) gymnasium argument
6) art gallery argument
7) cathedral argument

Points 5, 6, and 7 emphasise the *experiential value* of the NHWTH - aesthetics and entertainment.

8) monumental argument

Point 8 emphasises the symbolic instructional value of the NHWTH - reminds people of the power and grandiosity of nature, and 'our place' in nature. It provides 'scales of grandiosity' to compete with.

9) psychogenic argument

Point 9 emphasises the psychological nourishment value of the NHWTH - relates to the sum of points 1-8, the physical and intellectual nourishment that allows humans to be what they are.

Table 7.4 shows the concept of the 'tripartite self' (the whole person being comprised of a 'desiring-impulsive', a 'normative-judgmental,' and a 'rationalising-deciding' self). It relates the three selves to their psychological role, the ecophilosophical accommodations they allow - a Freudian analogy. In the Table the rationalising-deciding self is paired with accommodating intrinsic values and theory. It should be noted that this is a *potential* accommodation, and that the rationalising part of the label is also the source of the many 'elaborate justifications' people have historically produced to justify their lack of moral concern for some sections of the human species and generally all non-humans (Fox 1995).

WHICH SELF	ROLE	ECOPHILOSOPHICAL ACCOMODATION	FREUDIAN ANALOGY	'SELF' NATURES
desiring-impulsive	wants much - NOW	unrestrained exploitation and expansionism	childlike self / id	I Irrational / I non-rational / I unrealistic - I >>>> I too much
normative-judgemental	sets standards of expectation/ behaviour on our	resource conservation & development, and resource preservation	adult like self / ego	I emphasis on I own demands, I fail to take I sufficient I account
rationalising-deciding	decision maker / locus of control of the 3 selves - mediates other 2. Also the guardian of self-image	intrinsic values and theory	parent-like self/ superego	rational / realistic

Table 7.4
Tripartite Self Conception & Ecophilosophy (adapted from Fox, 1995).

The 'rationalising-deciding' self specialises in explanations and justifications, acting like a conscience or 'contentment nerve centre' - when personal rationality seems not to be in charge of personal actions, it has to explain, excuse or justify the consequences of actions. As Fox states, it is the self that says "I don't know what came over me", "totally out of character", or "didn't really want to do it". It is the place where bravado lies to the conscience, conscience is suppressed to please or conform and knowingly exploitative actions are excused or rationalised. It is where honesty, consistency, and deep self-dissatisfaction and guilt sit. It is often suppressed

or hidden by those practising socio-ecologically damaging lifestyles who are aware of the nature of their actions - and the possible source of ecologisation instincts. Environmental education and ethical awareness need to sow themselves in this corner of the mind.

In fact, the three selves of the mind seldom work in isolation. Inconsistent and 'psychically uncomfortable' combinations of, for example, resource conservation and intrinsic value approaches may be more common than purely conservation or intrinsic value reasoning. 'Real world' pressures of time, budget, perceived scarcity, materialism, 'hotch-potch' belief complexes, legal and tradition intervention, career aspirations, fear of media and appearing 'unconventional' or 'radical', and many more, mean that compromise, inconsistency and 'hybrid' goals and guiding principles' are common. Fox (1995) states that:

> *Objectivist intrinsic value theory approaches...show that it is morally wrong to do some things to certain members or aspects of the non-human world and morally right [or acceptable] to do other things; that one's personal likes and dislikes -one's personal prejudices- are neither here nor there with respect to the validity of these judgements; and that, where conflict occurs between intrinsic value based concerns (i.e., moral concerns) and either appetitive, desiring-impulsive concerns or anthropocentric, 'responsible management' concerns, it is the intrinsic value based concerns that should be given over-riding priority.*

This sort of moral consistency is rarely adhered to. More often it is the case that ignorance or confusion interfere with *the possibility of* moral rectitude and consistency.

Above it was stated that the 'rationalising-deciding' corner of the mind was where environmental education and ethical awareness need to/can sow themselves. It is the individual, not external rules to which the individual adheres, which dictate that the person does not breach 'sound morality' in actions.

Fox argues, congruent with the deep ecology thesis, that a psychologically internalised expansion the concept of 'self' to a wider me, the environment, and its components 'Self' is possible. It is from the narrower (self) conception that philosophy proceeds to moral *demands*. If an individual psychologises a transpersonal ecophilosophy (ecologisation of the mind), then ethics "(conceived as being concerned with moral '*oughts*') is rendered superfluous"(Fox 1995, emphasis added). Fox describes this mind ecologisation as extending the 'self' to include "family and friends, other animals, physical objects, the region in which I live...". He quotes an unpublished lecture by Naess to explain how with a transpersonalised ecological outlook, morals and ethics become obsolete, since respecting and protecting the 'Self'

includes respecting and protecting beyond the physical 'I', an 'I-and-my-internalised-interests':

> *Care flows naturally if the 'self' is widened and deepened so that protection of free Nature is felt and conceived as protection of ourselves...Just as we need not morals to make us breathe...[so] if your 'self' in the wide sense embraces another being, you need no moral exhortion to show care...You care for yourself without feeling any moral pressure to do it - provided you have not succumbed to a neurosis of some kind, developing self-destructive tendencies, or hating yourself.*

<div align="right">(Naess, from an unpublished lecture, quoted in Fox 1995)</div>

Numerous sources (such as Manes 1990) describe the realisation by Australian environmentalist John Seed when protesting the logging of New South Wales rain forest, that he realised "...through all [the] chaos I realised that I was part of the forest - that I was the rain forest defending herself" (Manes 1990). This realisation is analogous to a Zenian 'transformation of personality' (Fox 1995). Naess' (1989) ecophilosophy has a core of "Self-realisation" - a condition in which benevolent actions are performed through inclination rather than duty (not inclination consequence of fear of reprisal by law or intimidation). Naess also believes that there is a need to be reminded of our ethical shortcomings but that if people feel they sacrifice their interests in order to show respect for Nature: "this is probably in the long run a treacherous basis for conservation" (Naess, quoted in Fox 1990).

Fox is not impractical: he asserts that in interpreting ideas such as the above 'Self', we should not: "get carried away in flights of imaginative fancy but rather...understand what is being said as far as possible in a down to earth, ordinary, everyday sense". It should be interpreted as appreciating a sense of 'similarity', or 'commonality' - not in a literal sense of "I am that tree over there" (which is plainly absurd to most people), but though interlinked interests; the moral obligation to respect intrinsic values is of paramount importance in morally sound living. Thus 'identification' with the interests of the non-human and their inherent value is where complicity with their interests can develop. Advocates of the expansion of self as the manifestation of ecologisation are in no doubt that this is "a difficult ridge to walk: to the left we have the ocean of organic and mystic views, to the right the abyss of atomic individualism" (Naess 1989). It is perhaps worth recalling the view of Terena of Brazil (Appendix 4, Terena point 6), that the indigenous people consider themselves "citizens of the forest". This is very close to the transpersonal ecological advocation, since as citizens of the forest, the protection of all 'citizenry' interests is close to mandatory - here through internalised (widened) citizen companionship.

As a final paradox in the Self-realisation and transpersonal ecologisation line of thought, Fox notes another perspective of Naess' 'ridge treading': there is positive effect to be accrued from the transpersonal ecologisation approach but there is a fine conceptual line between this and the *possible* negative effects of "exclusive or primary reliance on this form of identification (*my* self first, *my* family and friends next, and so on)" (Fox 1995). The latter "...underlie the egoisms, attachments, and exclusivities that find personal, corporate, national, and international expression in positiveness, greed, exploitation, war, and ecocide" (ibid.). So the vital symbiotic identification with Self-realisation, of the internalised appreciation and respect for non-instrumental value in the non-human, need to become established and prevail between the goal posts of living.

CHAPTER 8

CONCLUSION

The level, nature and potential of ethical consideration in environmental management have been considered. Environmental management includes parameters of context that are not inadequately recognised, for example environmental racism is a historical and contemporary problem of considerable proportions. Legacies from the past can explain historical problems of this sort, but contemporary trade and political structures, and naive (though well meaning) responses to socio-environmental problems, have allowed new recipes to continue the infrastructure of discrimination, exploitation and abuse.

Homo sapiens, the most intellectually gifted species, has developed technological capacity and ecological impact potential that far exceeds their understanding and control of the same. As societies move down the channels of western style industrialisation, so 'growth', 'consumption' and 'control' become culturally fetishised - there is a ratchet system in the psychological normalisation of socio-ecological impact growth. The capacity of technology is hardly under the restraint of moral reason, and attitudinal 'formulations' consequence of social environment conditioning and the ruthless pursuit of personal desires, promote socio-ecologically destructive and divisive traits.

One of the most problematic products of social development is the hierarchical social order which stratifies ego fulfilling 'status'. Historically white men have dominated the apex of these social divisions, and through the extension of this insidious psychology, non-human nature has been put at the base (though sometimes bigotry has placed *some* humans below animals). Human endeavours at managing and engineering the 'evolution'/direction of composition/structure of ecosystems and landscapes is a gamble with vital Life integrity. Our understanding of nature is rudimentary and partial: "Nature is not only more complex than we think, it is more complex than we can ever think" (Miller 1993).

Excessive consumption (and thus by implication waste disposal) is of paramount significance and in part this problem derives from the break-up of the sources of socially structured community. The assertion of personalised space, the pursuit of personal profit and property, the expectation of rapid and distant travel/'escape', and the normalisation of geographically and seasonally exotic consumables and

experiences has catalysed a collective psychology which ignores, denies, and often does not even recognise the extensive and dramatic adverse socio-ecological impacts of these goals.

Currently responses to realisation that 'throwing waste over the garden fence' is both socially and ecologically damaging in this age of *mass* consumption and waste, coupled with economic sanctions that have been introduced to deter irresponsible waste disposal (including inadvertent disposal/loss of 'resources'), and communications allowing awareness and vocalised opposition to more distant (out of sight) disposal of industrial society waste, are reactive rather than pre-emptive.

There are cultural development *explanations* for current socio-ecologically disruptive and damaging conditions. But it is particularly 'the West' and more industrialised countries, and strivations to mimic western socio-industrial paradigms, that are most responsible for the erosion of bio-integrity and diversity. Parallel to the erosion of 'community', scales of activity have grown. 'Resource' consumption has expanded dramatically towards 'high mass consumption' for a large proportion of people, and production, promotion, and distribution have gravitated towards impersonal and unnatural scales of operation.

Streamlining production and distribution has brought with it the standardisation of consumption patterns. This is paralleled by the spread of what is often referred to as 'cultural pollution'. Just as US hegemony has dominated in other spheres of socio-economic development, so "Californication" (Abbey 1977) has denuded cultural diversity and richness as well as the individual human, animal and ecosystem.

At the global and national strategic level, the level of corporate and business interests, and also at the popular level, responses to an expanding awareness of the socio-ecological costs of recent changes in community and lifestyle has been dominated by 'reformist' discussion, proposals and action - that which seeks to modify current systems and orders to effect changes towards the highly acclaimed goal of 'sustainability'.

There is much heated debate about domestic environmental policy out of which come proposals, deliberations and more proposals for future research/monitoring of environmental change, and 'environmentalism' has perhaps reached a stage of 'acceptance'.

The linkages between politics, commerce and research are so strong as to provoke serious questioning about *who/what* ends government seeks to serve.

At the strategic level, it seems that international development bodies are struggling to apply reformed and embryonic commitments to social and environmental responsibility.

Ecological tax reform/'green taxes' have potential, but there are numerous social, procedural, strategic, and logistical barriers in the path of their widespread application.

The growing trend of 'directional migration' from corporate unaccountability (to 'the 'polluter pays principle', then to the 'pollution prevention pays' principle) has a further step to take: production reduction pays socio-ecologically.

With public interest and concern, as well as some 'carrot and stick' incentives from governments, the dependence of business on a satisfied customer has brought *a will to satisfy* demands for greater socio-ecological responsibility (so as to maintain sales). In practice if the goal (reform) is achieved, then it does not matter whether this is through genuine corporate will, or to maintain sales.

At the popular level there is a core of informed people pressing for and living more benign lifestyles, with ethical consideration either explicit or implicit in this assertion. The general public is also increasingly aware of environmental issues and expressing concern over collective human impact. Ethical consideration is implied in this concern.

However there are two key sources of barriers to widespread lifestyle adjustment geared towards environmental consideration:

> a) the public is in possession of incomplete, often confused, and sometimes misdirected information about environmental issues; and

> b) human character traits that restrict the potential for lifestyle modifications, and shark away from anything that seems as though it might threaten individual liberty.

Environmental education is a crucial goal for the environment movement.

Environmental economics and evaluation are some of the more prestigious reformist responses to environmental concerns, and implicit in the attempts to incorporate environmental criteria more effectively into decision making for development and management is ethical consideration.

Methodologies for environmental valuation that seek to achieve stated 'preference' and 'environmental index' gauges have merits and demerits - both methodological and principle based.

Some core flaws in the application of neo-classical economic theory to environmental issues are that: the environment is not a commodity traded and consumed by individuals in the same way as other goods and services are (though for example the private access to clear fell public forests, and the absorption of commons for private developments are relevant quirks to this theme); and private ownership of environmental phenomena is not the norm - exploitation of 'environmental commons' by some people affects the care that many more express towards these commons, and also the observable consideration people show towards *components* of the environment.

Environmental economics has some potential to assist with reducing adverse impacts on socio-environmental integrity. But attempting to put a price on the priceless is questionable and homocentrically arrogant. It is arguable that it is better for a subject to remain *un*-priced than to be *under*-priced - categorical and unimpeachable standards of regard for some phenomena may well be justified, and strategically this may be the only way to ensure their protection.

Another predicament in attempts to apply neo-classical economic theory to environmental concerns is that the latter must then 'compete' with profit motivated development interests in order to be protected. Environmental integrity is greatest when human impact and economistic application is minimal or non-existent, and so environmental interests (which benefit people as well - people are a part of the environment) can hardly be expected to compete with corporate/development interests whose expressed purpose often necessitates environmental damage, with profit as the motive. Equally, it is insidious to attempt to impose capitalist systems on indigenous cultures. Costs can be written off against predicted earnings, and profits (benefits in the cost/benefit balance sheet) can be ratcheted up by attaching more development to proposals.

The prices attached to environmental components and complexes are only one small part of their value. Although people are 'the centre of the world' they personally experience, so too the Elk or Wolf are 'the centre of the world' that they experience. Humans are not the measure of all that is of value; their intellectual and technological capacities do not grant them a disproportionately special place in the natural world.

Reformist approaches to environmental issues are generally motivated by ethical consideration as well as instrumental goals, but they are timid, compromising, often inconsistent, and avoid real depth in questioning. This is the distinction between them and more radical outlooks.

Radical outlooks are defined by their deeper questioning and by their willingness to confront tough and sometimes uncomfortable questions. Reformist approaches are characterised by *thought within the status quo* which addresses some socio-environmental problems, or rather symptoms of problems, without seriously challenging the contradictions and assumptions of the (impactually) dominant world view. Bookchin (1991) succinctly and accurately sums up the nature of reformist outlooks:

> *Conventional reform efforts, at their best can only slow down but they cannot arrest*
> *the overwhelming momentum towards destruction within our society. At their worst,*
> *they lull people into a false sense of security. Our institutional social order plays*
> *games with us to foster this passivity. It grants long-delayed, piecemeal, and woefully*
> *inadequate reforms to deflect our energies and attention from larger acts of*
> *destruction.*

Although there is some 'factional dispute' between sections of the radical environment movement, this pale to insignificance next to the gulf between them and the prevailing mechanistic and instrumental outlooks. These are most distinctly 'prevailing' in terms of impact and the 'power' of those who hold them; but they also prevail in the quantity and breadth of the damage and divisiveness they wreak on socio-ecological integrity.

Now more than ever, the relief of adverse impact on environmental integrity is bound up with the relief of the degradation of human social environment integrity. Equally, widespread awareness of the conflict of interests between short-term egoic-greed motivation in conjunction with the potency and impact of technology, and an ethically considerate human component of the Earth, defines a watershed of human society's

relationship with the rest of nature. People must chose whether to continue eroding the Earth's biosphere, or to begin redressing the damage.

A majority of what people do that causes damage and division is optional; other choices can be made. When discussing issues to greater and informed depth, even the moderate and indifferent tend towards the conclusions of deeper ecophilosophy. Because people are *optionally* responsible for massive adverse distortions of Earth system, structure and composition integrity, they are morally obliged to reverse the trend towards these destructive, divisive, and ultimately dissatisfying conditions of human culture.

More industrial societies can learn much from the less industrial - and particularly 'indigenous' - cultures which are the antithesis of the consumer culture which has dragged the socio-environmental crisis condition in its wake. Deep questioning of culture is in order: 'the market' can not resolve socio-ecological dislocation, although as a very short term transition stage, the potential of environmental economics might be one part of the process. Consumerism is failing to deliver the contentment it promised.

The most important thing to be learnt from traditional cultures is the place of the individual in nature and human society. Mass consumer culture denudes personality and individuality. Human society was once 'human-scaled' by virtue of tradition, the level of 'technological know-how, and 'restrictions' consequence of the marriage of both of these; it now resembles almost complete totalitarianisation by state and the consumption/manipulation fetish, fuelled by media-exposure psychological 'guidance'; and it is possible to choose a future that is once again human-scaled and also ecologically rational.

Deep ecology, social ecology, and transpersonal ecology are three distinct but linked fields of reason which offer considerable and comprehensive suggestions of how human society could evolve henceforth, if people had the courage to go against the grain of docile, rudderless, acceptance of the status-quo. Such changes would not happen through any form of authoritarian decree, for this is an unreliable basis for cultural change or maintenance: it would rely on people being willing to make new choices, to internalise an appreciation of a just balance between the 'right' to use the 'Ecological Commons' (in the widest sense of *all* interest groups, both human and non-human), and the responsibility not to degrade them.

Human intellectual capacity is not inherently 'good' or 'special' if it allows us to do that which degrades the integrity of Earth's biosphere - it then becomes a handicap. Human violation of the ecosystems ultimately degrades their own 'life style' (foul their own nest), as well as the condition of the rest of nature; the comfort and 'services' afforded to people by the rest of nature can be drastically eroded, but people are a fragile and dispensable component of Nature from the perspective of the Gaian whole.

Ignorance, confusion, tradition and a 'herd' mentality interfere with the possibility of moral rectitude and consistency. Physically, people are a part of the earth, and just like the destructive industrial machine, are ultimately destined to decompose back into the earth from where they came. However humans are vitally aware of living, as we must assume are other animals. In this respect people can appreciate the value of life for other species.

The core of transpersonal ecology is the extension of the narrow appreciation of 'self' to a wider appreciation of 'Self' - an internalised, indeed psychologised appreciation of, and respect for, a broader contingent of interest groups. This Self-realisation and opening up to respect for non-instrumental value in the non-human would improve the quality of life for people at the same time as reducing the scale and total cost of personal consumption.

If people feel that they must sacrifice their interests in order to show respect for nature, then "this is probably in the long run a treacherous basis" (Naess in Fox 1990) for ecologisation - the rationalising-deciding component of personality must gravitate towards this end. It is therefor vital that environmental education and ethical awareness take root in this corner of the mind.

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* All internet newsgroups, world wide web sites and e-mail addresses are correct at the time of writing.

APPENDIX 1

The European Community and North Sea Degradation.
Adaptive summary of a June 3rd 1995 Guardian Report.

While it seems likely that commercial extinction due to pollution and overfishing threatens the marine fishing industry, its global fleet receives $54 billion (£34 billion) in subsidies annually, encouraging it to fish for smaller fry and to go further to do so. Social conflict emerges as fishing grounds are fought for - up to 50 countries are in dispute over fishing stocks, creating disputes in every major fishing ground (for example in the Irish Sea between Spain and the UK and off Canada (between Canada and Spain)).

In the North Sea (and others) pollution in the form of nutrient run-off from sewage, forestry and farming leads to the death of marine life through lack of oxygen caused by the decomposition of algae that flourishes in the nutrient rich conditions; sedimentation from mining, forestry and farming clogs fish gills, smooths and buries coastal ecosystems, and carries toxins and excess nutrients; pathogens from sewage and livestock contaminate seafood and coastal bathing areas, spreading diseases; persistant toxins from industrial discharge, and pesticides from farms, forests, and home use poisons marine life and contaminates sesa food; oil (46% from cars, heavy machinery, industry and other land based sources and 32% from ships and oil tanker workings) can, even at low level contamination, kill larvae and cause disease in marine life, while oil slicks kill marine life; plastics (from landfills, industry, beach litter, fishing nets, and agriculture - where disused plasti-culture ('glass-house') materials are abandoned extensively) litter the oceans; thermal pollution as cooling water from power plants and industrial sites kills off corals and other species sensitive to temperature; radioactive isotopes from discarded submarines and military wastes and from atmospheric fallout create hot spots of radioactivity and can enter food chains causing disease in marine life and polluted seafood. These are the striking facts of the seas.

The same report describes how the then UK Environment Minister (John Gummer) "diluted" what had been strong words against overfishing after correspondence with the then Agriculture Minister (William waldegrave) who encouraged not to offend the EC as its support would be needed in another foreseen "Atlantic tuna war" with Spain.

The European Union, with "the most sophisticated regulation of trade and waste", where theoretically catch size controls are in place, 'technical expertise' is abundant, less corruption is experienced [?], and there is a concentration of strong economies, is unable to construct and effectively implement environmental protection even within its own superficially united territory.

APPENDIX 2

Environmental Damage Balance Sheet
for the Federal Republic of Germany

Damage category	Damage costs (in billion DM per year)
Air pollution	about DM 48 billion
Human health damage	greater than 2.3-5.8
Material damage	greater than 2.3
Damage to fauna	greater than 0.1
Damage to flora	greater than 1.0
Forest damage	greater than 5.5-8.8
Water pollution	much greater than DM 17.6 billion
Loss of earnings from fishing	greater than 0.25
Cost of drinking-water supply	much greater than 9.0
Decline in leisure and recreational value	greater than 7.0
Loss of aesthetic appeal/value	greater than 1.0
Other "calculable" damages (eg. injury to water birds, oil spills by tankers)	greater than 0.35
Soil contamination	much greater than DM 5.2 billion
Chernobyl and "Chernobyl avoidance costs"	greater than 2.4
Waste disposal	greater than 1.7
Biotope and species preservation costs	greater than 1.0
Other types of soil contamination ("pro memoria" figures")	much greater than 0.1
Noise	greater than DM 32.7 billion
Decline in productivity	greater than 3.0
Noise compensation	greater than 0.4
Decline in value of residences	greater than 29.3
Total "calculable" damages	much greater than DM 103.5 billion

[Note : it appears that there was a printing error in the *Air pollution* section (in Barde and Pearce, 1991). However the total of DM 48 billion is thought to be correct.]

Adapted from Barde and Pearce, 1991.

BARDE J-P. & PEARCE, D.W., (eds) 1991. *Valuing the Environment*. London, Earthscan Publications Ltd.

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APPENDIX 3

Gilbert Whites' letter of May 20th, 1777 (in Wall 1994) is a fine example of how 'pests' and other components of ecosystems can be misunderstood and their contribution to stability not recognised. It is an amusing and lucid plea to the people of his day.

Letter XXXV: Selbourne, 20th May, 1777

Dear Sir,

Lands that are subject to frequent inundations are always poor; and probably the reason may be because worms are drowned. The most insignificant insects and reptiles are of much more consequence, and have much more influence in the oeconomy of nature, than the incurious are aware of; and are mighty in their effect, from their minuteness, which renders them less an object of attention; and from their numbers and their fecundity. Earthworms, though in appearance a small and despicable link in the chain of nature, yet, if lost, would make a lamentable chasm. For, to say nothing of half the birds, and some quadrupeds which are almost entirely supported by them, worms seem to be the great promoters of vegetation, which would proceed but lamely without them, by boring, perforating and loosening the soil, and rendering it pervious to rains and the fibres of plants, by drawing straws and stalks of leaves and twigs into it; and , most of all, by throwing up such infinite lumps of earth called worm-casts, which, being their excrement, is a fine manure for grain or grass. Worms probably provide new soil for hills and slopes where the rain washes the earth away; and they affect slopes, probably to avoid being flooded. Gardeners and farmers express their detestation of worms; the former because they render their walks unsightly and make them much work: and the latter because, as they think, worms eat their green corn. But these men would find that the earth without worms would soon become cold, hard-bound, and void of fermentation; and consequently sterile: and besides, in favour of worms, it should be hinted that green corn, plants and flowers, are not so much injured by them as by many species of *coleoptera* (scarabs), and *tipuloe* (long-legs), in their larva or grub state; and by unnoticed myriad's of small shell-less snails, called slugs, which silently and imperceptibly make amazing havoc in the field and garden.

These hints we think proper to throw out in order to set the inquisitive and discerning to work.

A good monography of worms would afford much entertainment and information at the same time, and would open a large and new field in natural history. Worms work most in the spring; but by no means lie torpid in the dead months; are out every mild night in the winter, as any person may be convinced that will take the pains to examine his grass-plots with a candle, are hermaphrodites, and much addicted to venery, and consequently very prolific.

In WALL, D., 1994. *Green History: a reader in environmental literature, philosophy and politics*. London, Routledge.

'Non-Westernised' Voices on Man and the Rest of Nature.

Section 7.3 suggests that there is much to be gained from re-learning appreciation of our place in nature; to learn that we are a part of it, *not* something outside of it, threatened by it; nor with a moral right (even less a fulfilled-survival need) to attempt to dominate and abuse it. This would represent a shift (in general terms) from a Western to an Eastern philosophical way of viewing the world. The many fragmented and on-defensive tribal cultures can teach us through their own voices, rather that through global anthropologists who historically - and often still - misrepresent cultural constructions.

The insights presented here are extracts from the book 'Story Earth: Native Voices on the Environment', which is comprised of papers writen by representatives of indigenous peoples and edited by Pablo Piacentini on behalf of the Inter Press Service Third World News Agency.

Bruchach (1993), an authority on his North American Indian heritage, provides some lucid insights into the psychology of pre-European-invasion life of one of the hundreds of different cultures there. He shares the following insights with us:

- If we see 'the earth' as the web of life that sustains us, then there is no question that the web is weakened, that the earth is sick. But if we look at it from another side, from the view of the living earth itself [Gaian inference], then the sickness is not that of the planet, the sickness is embodied in human beings [Foreman's 'cancer' analogy], and, if carried to it's logical conclusion, the sickness will not kill the earth, it will kill us.

- Human self-importance is a big part of the problem. It is because we human beings have one power that no other creatures have - the power to upset the natural balance - that we are so dangerous to ourselves.

- The rattlesnake is deadly and dangerous, the grizzly and the polar bear have been known to hunt and kill human beings, but in native traditions those creatures are honored even as they are feared.

- [As mentioned in chapter 2] ...for Europeans, wildness was something to be tamed. To the native people of North America, wilderness was home and it was not 'wild' until the Europeans made it so.

- It is a simple fact that the native people of New England, for example, were better fed, better clothed, and healthier than the European colonists. They also had more fun. European chroniclers of the time often wrote of the way in which the Indians made even work seem like play. They turned their work, such as planting a field or harvesting, into a communal activity with laugh and song.

- The lot of native women was drastically different from that of the colonial women. Native women had control over their own lives.

- The whole idea of wildlife conservation and ecology, in fact, was common practice among the native peoples of this continent...There was not, therefore, the European idea of devastating your own backyard and then moving on to fresh ground - to a new frontier (the backyard of your weaker neighbour).

- There was no clock time, but cyclical time. The seasons completed a circle, and so too did our human lives...The circle is the way to see. The circle is the

way to live, always keeping in mind the seven generations to come, always asking: how will my deeds affect the lives of my children's children's children?

- If you see things in terms of circles and cycles,...you do not think in terms of a four-year presidency or a yearly national budget - artificial creations that mean nothing positive in terms of the health of the Earth and the people.

Chay (1993), a member of the Quiche Mayan group, and a communal leader, provides insights to the psychology of Central American Guatemala Mayan 'ecophilosophy':

- The Mayan culture...has managed to survive five hundred years of colonization, a process that started with the conquistadores and continued at the hands of their descendants. Over all these years, we have been on the receiving end of a constant offensive against our forms of production and social organisation, our culture and our religion, in reality a cult of nature.

- The Guatemala of today is a country torn by serious conflicts rooted in two very different forms of life, two cultures tied together by a bond of domination-subordination [recall Bookchin's concern about the effects of hierarchical culture]. The aim of the conquistadores was to introduce Christianity as a form of ideological control and justification for new forms of oppression and exploitation of both man and nature.

- Mayas believe that all nature is life: each animal, stone, and river has its own *nahual* or 'divine personification' [intrinsic value as deep ecology recognises]

- The earth and water are considered superior to all elements of nature because they are the orogins of life.

- Man bends to the design of nature, which he does not consider alien to himself [counter to the dualistic people-in environment referred to elsewhere] and which he cannot exploit without mercy. The irrational use of the natural resources made available to man is a sin.

- A Mayan year is divided into 260 days, further divided into thirteen months, representing the cycle of corn in the bowels of the earth and the gestation cycle of the human being in the womb....Corn is omnipresent in all human activity, as food, as decoration, and as religious symbol. Most meals are based on corn, which, with beans and chilli, makes up the basic diet.

- ...the fundamental core of the religion consists of the cult of nature and respect for and subordination of man to nature (not the reverse, as happens with the culture imposed by the conquistadores).

- The early 1870's saw the introduction of some industry and the exploitation of coffee in Guatemala, and with it the start of the process of capitalistic industrialisation that has since governed attitudes to nature....Coffee cultivation requires extensive surface area, and this inevitably led to the abolition of communal ownership of land. This in turn led to a strengthening of *latifundios* (large estates) where previously *minifundios* (smallholdings) had flourished. The best land ended up in the hands of a few and the indigenous people were forced to expand their agricultural frontiers using methods that ran counter to their cosmo-vision, such as the burning of forests and the use of mountains to replace the forests from which they had been expelled. Feudal-type agriculture and the defective process of industrialisation

constituted the base of an economy that privileged the search for maximum profit and was thus insensitive to nature.

• There is a common denominator...: the worst affected are those whose view of nature and its resources are based on respect.

• As long as the Mayas are a demographic majority but a political minority, the longed-for development tied to environmental preservation will not be possible.

Terena (1993) provides a valuable insight into the experience and visions of the 4% of the original indigenous populations of Brazil still alive. As the founder and president of the Union of Indigenous Nations of Brazil he offers harsh truths and facts on the impact of 'civilizing' Europeans over the last 500 years.

• We take seriously current world concern over what we have always warned about [socio-ecological degradation].

• Indigenous man has been able to decipher the greatnesss of nature and set down a code of life 'civilized' man could never understand, whether in its materialist or spiritual aspect.

• White man's civilization...forced our people to adopt comercial, economic and social values that we knew nothing about, like the difference between richness and poverty. Later, we discovered how deceitful and despicable these new ideas were, because the end result was social misery and degradation: the development forced on us benefited the few at the expense of the many.

• Today the Parakana resist, but it is probable that as each sun goes down they are thinking about the distant lake that now stands in the place that was once the center of their history and traditions. There rises the huge hydroelectric plant of Tukirui, which has not only flooded the land of the indigenous people but has led to the loss of various biological and wood species of the region.

The same happened to the Paratintins, thanks to the trans-Amazonian highway, and to the Nambiquaras, as a result of the BR-364 highway - arrogant progress that generates a form of development that impoverishes and degrades the natural habitat of men, animals, and plants.

• Five centuries have forced a harsh silence on us. Now is the moment to break that silence. We can no longer remain dumb. The big powers talk of industrial development and richness. But it is a richness that brings with it poverty and hunger, increases social marginalisation, and division between brotherly ties.

• We Indians consider ourselves citizens of the forests. That is why we have fought so hard to obtain a government decree that provides official recognition of our territory.

• Despite all the massacres (physical, spiritual, and cultural), we resist. And we will continue to keep alive the teachings of our fathers. Rational management of the environment and cohabitation with nature form part of the ancient wisdom of our people. That's why, in the past, we were rich. Thanks to our deep understanding of nature [consider Naess' call for deeper questioning], our forefathers were able to produce medicines with no side effects and no commercial value, healthy food and architectural and engineering forms adapted to the forests. We are reliving the dreams of our prophets and fimly believe that one day AIDS, cancer, and simple allergies will be cured using

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plants that come from our land. [Cox and Balick (1994) however state that "many funders of drug research still perceive the ethnobotanical approach [to drug research] as archaic, unscientific and unworthy of attention" even though their own research of more than a decade, and also that of many others find "a striking precision [in] the knowledge posessed by many healers".]

Next the harsh truths and inspirational possibilities for re-learning sound socio-ecophilosophy come from Palomino (1993), who is a teacher of the Quechua language and Andean culture at the university of Lima, Peru. He is a coordinator of the Indian Council of South America.

• In the Quechua language, the words 'religion' and 'god' do not exist, but we use them in Spanish to indicate our relationship with the divine beings that are the holy forces of nature.

• We believe that the dual, horizontal, and complimentary relationships always generates collective and communitarian organisations. This is the concept that gives rise to the Indian institution that can be expressed in the words 'mutual harmony' [recall Kropotkinian reference to 'mutual aid' as opposed to Darwinian competitivism]...*tinku* [is] translatable as 'the dialectic of the complimentarity of opposites'...[it] is the primary law regulating the cosmos and endowing it with harmony...When applied to the organisation of peoples, the principles of *tinku* turn into social forms that can only be collective and communitarian [recall social ecology's call for decentralised communitarian democracies].

• [We are informed that all land belonged to the community, that at marriage couples received lifelong access to a non-hereditary *tapu* of land (calculated to satisfy the needs of newly formed families), all including the chiefs and priests were expected to be primarily farmers (their other tasks being secondary specializations), the cultures knew of 1,080 types of potato and 800 varieties of corn (offering stability against partial crop decimation by natural causes): that terracing engineering up the slopes of the Andes, coupled with trenches also to prevent erosion, offered extensive stable cropping opportunities and water bodies offering fish and edible algae].

• The result of being a conquered people is that our socio-cultural universe has been buried under the theories and concepts of experts who have misinterpreted our value system [the aim of these extensive quotes is to avoid this failure, to allow the voices of cultures to speak for themselves], either through prejudice, or through a lack of understanding of that which is different, or as a means of imposing an 'inteligent decodification' of our culture in line with the demands of the oppressor's culture .

• What is unquestionably real is the survival of both cultures, albeit in a relationship of inequality: the Western in a position of domination, the indigenous in the position of the dominated. This conflict is at its most visible in the forms of oppression that have always been our daily bread: yesterday the destruction of our temples, the persecution and slaughtering of priests, the banning of ancestrial rituals, the burning of sacred objects; today, much more subtle and deceptive measures [recall the change from colonial imperialism to more discreet economic and cultural colonialism]. For example, in almost all countries of America, only the Catholic religion [one which historically has 'justified' imperialistic and domination actions] is recognised as an official religion, and it is prohibited to use substances we consider sacred, like coca and peyote, which have been declared 'narcotic substances'.

• Only Western religious thinking conceives an invisible world, populated by gods who are themselves invisible, that is over and above the cosmic reality. For us, it seems unthinkable that man - who as the 'beloved offspring', the 'son of God', is also divine - should be superior to other living beings and do as he pleases with the Earth, regarding Mother Nature as an object of consumption, to be conquered, suppressed, transformed, violated, poisoned to the point of destruction just to satisfy whims and not needs .

• We believe that a conceptual pollution hangs over indigenous culture, history and ways of life that has caused us serious damage: it has attempted to make us forget our people's collective forms, to lead us toward individualism and a class structure, *to distance us from communion with the holy Pacha Mama [Mother Earth], while at the same time it has incited us to become its enemies, in the image and likeness of Western behaviour.*

• [In terms of agricultural arrangements] With the estates [latifundios] came the introduction of extensive single-crop farming geared toward the market, a system that started immediately to destroy our indigenous system of multicrop farming in favour of self-consumption...The abandonment of Andean technology (for the last five hundred years) has contributed to the opening up of rifts and deep gullies on the slopes of the hills...But the biggest threat...is the gradual loss of our natural seeds thanks to the invasion of imported seeds.

• We don't agree with [the Western]...model of development because it is precisely this that has led to the current environmental crisis, in Peru and in the world at large. Either we change tack, or we are headed toward a holocaust, destroying Mother Earth and her offspring.

• The wood dwellers have developed a system based on cohabitation with nature. Their system of agriculture uses seeds that blend in naturally with the forest-based plants. You can hardly even see their agriculture, hidden by the immense beauty of the forests [an age old version of permaculture].

PIACENTINI, P, (ed.) 1993. *Story Earth: Native Voices on the Environment.* SanFrancisco, Mercury House.
BRUCHAC, J., 1993. The Circle is the Way to See. In PIACENTINI, P. as above.
CHAY, R.Q., 1993. The Corn Men Have Not Forgotten Their Ancient Gods. In PIACENTINI, P. as above.
TERENA, M., 1993. Sing the song of the Voice of the Forest. In PIACENTINI, P. as above.
PALOMINO, S., 1993. Three Times, Three Spaces in Cosmos Quechua. In PIACENTINI, P. as above.

Seven channels for a more ecological approach - based on Morrison (1995) and other related inputs.

1) Democratising finance.

This essentially aims to arrest the prerogatives of both the private and the public entities of "largely unaccountable industrial powers" which control the instruments of global finance. A particularly interesting process which tends towards equitable financial arrangements is the application of Islamic principles in the organisation of money. This for example excludes 'interest', proposing rather that the investor and borrower share the burden of loss or gain on investment in ethically guided and so permissible endeavours (LETS projects as in point '2' are interest free).The likes of insider share dealings, and divisive 'speculative investment' (gambling) are also problematic, as are the phenomenal dealings in electronic money and investment in indexes of 'real money' (investment in what doesn't exist). Democratising finance means the growth of co-operative commercial banking, community development corporations and banks, credit unions, and co-operative savings banks. The Co-operative Bank in the UK is a step towards democratising finance, excluding from it's creditor portfolio many abusive, exploitative, or socio-ecologically disruptive operations, and indeed it offers a sort of 'proxy' democracy to non-human interests through 'environmentally considerate' conditions being attached to loans.

2) Building community economics.

Morrison describes with examples the way this can develop, based around co-operatives, individual businesses, partnerships, and corporations etc.. But there are significant differences between this and the current condition. It involves an integrated market and planning system "informed by democratic and ecological values". "It strengthens grassroots social bonds and self-organisation through mutual aid and the growth of democratic associations in day-care, education, home building and repair, food growing, fire and police protection, recreation, elder care...".

In community economics, exploitative wage labour is unacceptable, whilst corporate forms, and wage labour are not so much unacceptable as subject to transformation in terms of their nature, size and conduct. Neither the individual firm nor the community would be left 'adrift' in "the capitalist market sea".

Morrison does not include in his community economics an increasingly significant and indeed important form of community economics. LETS projects (local exchange and trading projects) are a rapidly growing phenomena in the UK. They are not ideologically new (trade and exchange are ancient social processes and persist today in less money dependent areas), but as they grow now in the UK they are re-emerging from dormancy. They are a not-so-media-talked-about form of direct action, the reclamation of community autonomy in the face of often externally caused economic depression. As well as being interest free as mentioned in point '1', once organised, scarcity is rarely an issue, and the benefits of any exchange stay local - defeating the within-nation capital flight and profit sapping as described in chapter 3 under 'dependency theory'. LETSLINK UK state that between 1991 and 1994, the number of operating LETS projects increased from just a few to almost 300, with more than 15,000 participants. They also report that similar systems were being organised in 15 other European countries as well as in the US, Canada and Australia. Their 'Infopack' is a comprehensive and detailed study and 'how-to'].

LETS projects are systems through which skills and abilities are exchanged amongst a pool of participants. They give autonomy from local or national economic depression (the 1930's saw a rise in LETS type trading) and are much more flexible

than 'real' money trading. Projects function with credit and debits of invented currencies. The pooled credit/debit exchange system means that A can do a job for B, who may pay for it by doing a job for C, who then uses the credit earned by having D do a job for her (C). Money and government are not required, just a community based, and collectively agreed terms of project, and an integrated, ecological, and local trading system is in place.

3) Re-evaluation of the future.

Redefine accounting, for example to make the GNP a *real* index of social, economic and environmental health. Another questionable tool of evaluation is the 'net present value', which for example when evaluating human life loss, devalues future lives. Morrison also asserts the need for 'ecological accounting'. [This is a vote in favour of the aims of environmental economics. See chapters 4 and 5].

4) Creating a social wage.

Establish a liveable minimum wage

5) Pursuing disarmament and demilitarisation.

This is a self explanatory direction, but approaches to it are beyond the scope of this thesis.

6) Developing an industrial ecology.

Three particular components of this he suggests are: the elimination of products and production processes that are destructive, poisonous, and unsustainable, and the replacement of them with sustainable and beneficial processes and products; the ongoing pursuit of efficiency and the elimination of waste in resource and energy use; and the development of production and consumption patterns based on re-use and recycling, where 'waste' products are reclaimed and used as inputs for further productive processes. [This is clearly a reformist goal, though other components of his societal ecologisation are more radical.]

7) Developing a 'solar economy'.

This he describes as transforming society such that it depends on renewable energy sources. He also favours greater efficiency and reduced materialism in production goals. But Morrison warns against damaging manifestations of 'renewable energy' sources such as huge hydro-electric dams "and other mega-projects", and the scenario where for example solar water heaters and photo voltaic cells are mass produced in sweatshop factories - this would perpetuate the industrial social scenario that is so violent to integrity.

LETSLINK U.K.. 1995. *The Lets Info Pack* (6th edition). Warminster, LETSLINK U.K..
MORRISON, R., 1995. *Ecological Democracy*. Boston MA, South End Press.