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ENVIRONMENT DIRECTORATE
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Working Party on Environmental Performance

OECD SEMINAR SOCIAL AND ENVIRONMENT INTERFACE

PROCEEDINGS

Paris, 22-24 September 1999

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WORKING PARTY ON ENVIRONMENTAL PERFORMANCE
PREPARATION OF SECOND CYCLE OF
OECD ENVIRONMENTAL PERFORMANCE REVIEWS

OECD SEMINAR

SOCIAL AND ENVIRONMENT INTERFACE

22-24 SEPTEMBER 1999

PROCEEDINGS

OECD SEMINAR
SOCIAL AND ENVIRONMENT INTERFACE
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SOCIAL AND ENVIRONMENT INTERFACE
22-24 SEPTEMBER 1999

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***** Seminar supported by grant of the European Commission.

PART I.
ENVIRONMENTAL AND SOCIAL DIMENSIONS OF SUSTAINABLE DEVELOPMENT

INTRODUCTORY NOTE

Background

In November 1998, the Environment Policy Committee examined the report entitled "Environmental Performance Reviews: Second Cycle Work Plan" [ENV/EPOC(98)21], which laid out the main orientations for carrying out the Second Cycle of Environmental Performance Reviews at the OECD, and outlined a work plan for these activities. On the background of The Shared Goals adopted by Environment Ministers at the EPOC meeting in April 1998 and the OECD Sustainable Development Initiative, the EPOC stressed the need to focus on the environmental dimension of sustainable development and its links with the economic and social dimensions.

It was foreseen that more specific methodological work to prepare the second cycle would proceed over 1999, including work on "the link between the environment and the social aspects of sustainable development". It was also made clear that the treatment of the environment/social interface should include the following aspects: demographic aspects, health and environment, employment and environment, distributional aspects ("environmental justice"), access to environmental information and public participation, as well as environmental education and training.

The OECD Seminar on the Social Environment Interface

Following an internal seminar with participation of staff from various OECD Directorates (ENV, ECO, DELSA, TDS), the Environment Directorate organised an OECD Seminar on the Social Environment Interface, on September 22-24, 1999. It was supported by the European Commission and brought together about 40 experts from a range of Member countries.

National experiences as well as case study evidence was presented and discussed with the aim to identify relevant issues and practical approaches for better achieving sustainable development objectives. The main themes addressed by the seminar were: environmental justice, environmental implications of poverty both in urban and rural settings, access to natural resources, as well as links between employment and the environment. In addition, several options for the design of conceptual frameworks and indicators were discussed. The Seminar also provided an opportunity for exchanging views among experts with different backgrounds and experiences.

Figure 1

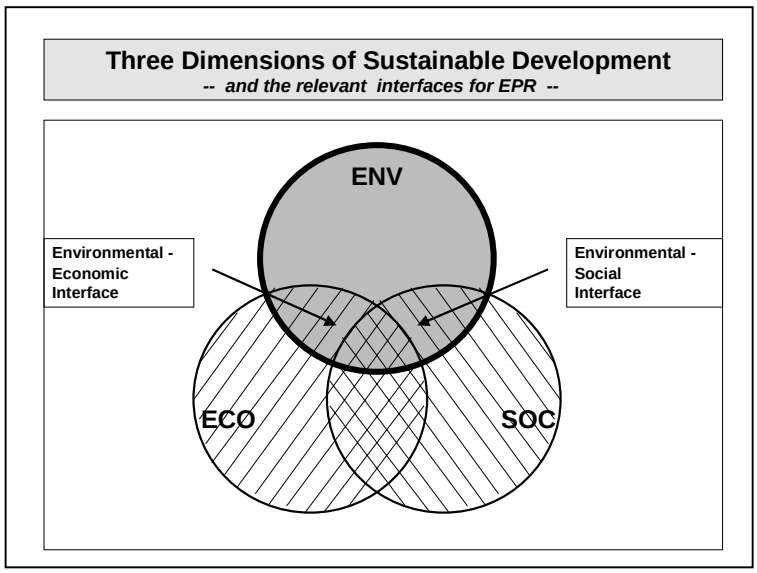
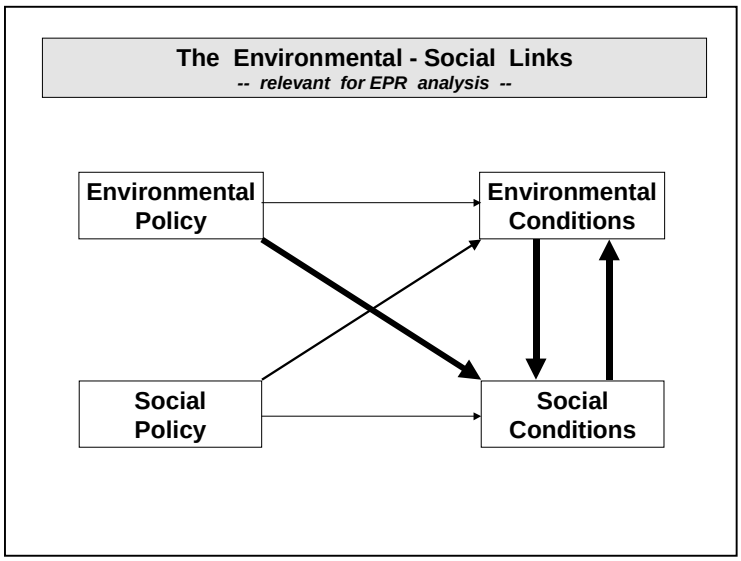


Figure 2



Seminar main findings

The main orientations are as follows:

(1) Environmental Performance Reviews should address both the economic and the social dimensions of sustainable development in a systematic and compatible manner, focused on their respective environmental interfaces.

(2) With regard to the social environment interface, Environmental Performance Reviews will have to analyse (i) the relevant social conditions shaping environmental quality and policy, and (ii) the social implications of environmental policies.

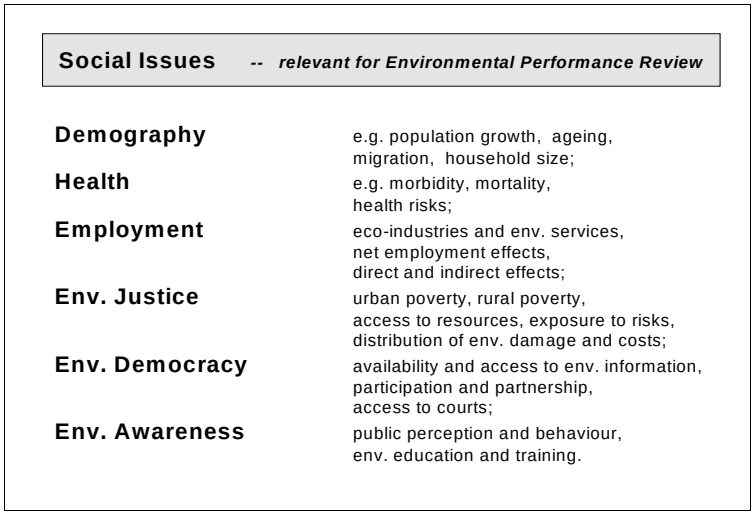
(3) The scope of social issues addressed should not be limited to an analysis of the social wellbeing of individuals but should also embrace social conditions and concerns related to households, communities (e.g. NGOs, trade unions, indigenous populations, minority groups) and territories (e.g. rural or urban areas).

(4) The range of social topics covered by Environmental Performance Reviews should include: basic demographic and health aspects, as well as issues of i) employment and environment, ii) environmental justice (urban poverty, rural poverty, access to resources and exposure to risks, distribution of environmental damage and costs), iii) environmental democracy (availability of and access to environmental information, public participation, access to courts) and iv) environmental awareness and education (public perception and behaviour, environmental education and training).

(5) Given the diversity of social conditions, traditions and perceptions in Member countries, it is essential to allow for a certain degree of flexibility and to adjust the analyses to the respective country conditions. Here, particular reference should be made to explicit social objectives (aims, goals or targets) as expressed in environmentally relevant legal texts or policy documents (constitutions, laws, regulations, plans, etc.).

Concerning the design of EPR reports, it is proposed to continue to treat demographic and health issues throughout the report when and where needed in direct association with environmental issues. A separate “social chapter” would focus in most reviews on the social implications of environmental policies on employment, distributional, democracy and education/awareness issues. Such a chapter would benefit from past and ongoing work within the OECD concerning these four areas.

Figure 3



Relevance of social - environmental issues

Demography and environment

Population growth and changing demographic patterns can have major environmental consequences. In some OECD countries, population growth is still very significant, leading to increased resource uses, pollution pressures and infrastructure demands. In countries with low overall population growth, demographic changes (ageing and migration) shape environmental conditions and the context for environmental policy making. International and, in particular, sub-national migration from rural to urban regions, or conversely back from city centres to rural suburbs and the hinterland, can have major environmental repercussions.

Even where population numbers are stable, the number of households tends to be increasing at a significant rate due to age structure and income effects and changing social attitudes. As household size is decreasing in all OECD countries, there tends to be an increased in housing demands in terms of space and equipment, and commuting distances between the place of residence and place of work with the resultant consequences for environmental infrastructure demands, transportation patterns and related environmental pressures.

Health and environment

Relationships between environmental quality and public health have long been recognised. Many environmental standards are in fact derived from human health considerations. For air and water quality the links are most obvious. These standards should not only be assessed on the basis of mortality or morbidity figures, but also in terms of health risks relating to deficits in adequate water supply or wastewater treatment, in waste management or in air pollution control. Furthermore, a number of environmental issues involve uncertainties and relate to the implementation of the precautionary principle. The 1999 London Ministerial Conference “Environment and Health” provides an update of the knowledge and issues in this field.

Employment and environment

The links between employment and environment have been investigated by OECD for a number of years (e.g. 1985 Conference, 1995 EPOC High-level Meeting, 1997 Publication, First cycle of EPR). While direct employment effects of environmental policies in eco-industries or environmental services can be measured with some accuracy, other employment effects (negative effects, indirect effects) have been assessed. The latter result from structural changes and adjustments in the economy, and often depend on innovations.

Overall available evidence shows that negative employment effects are compensated by positive effects. Taking innovations and adjustments into consideration, the net-

employment effects of environmental policies are positive in the short run, but relatively small in magnitude. Some efforts have been made to use environmental job creation as part of employment policies. Furthermore, the employment significance of some environmental policy actions (e.g. energy taxes) have to be carefully assessed.

Environmental justice

Many OECD Member countries are facing problems of rural or urban poverty, that have important environmental implications. These can not be reduced to a matter of income (re-)distribution. They are often closely related to issues of access to natural resources, environmental goods and services, to the exposure to actual and potential threats, or to property rights. The environmental performance reviews of the first cycle provided many examples where environmental problems were closely related to disadvantaged communities or less developed territories within Member countries, or where the implementation of effective and efficient policies was hampered by such disparities. Examples studied in the OECD Seminar (Paris, September 22-24, 1999) came from the USA, Mexico, Turkey, Australia, Belgium and the UK.

The specific settings vary, however. While in some countries the concern for disparities is addressed primarily as a matter of communities, ethnic minorities or indigenous populations, in others, the approach is more territorial, focussing on distressed urban neighbourhoods, brown fields, remote rural areas, or less developed regions. In most cases, experience from the first cycle has shown that positive solutions are more likely to be achieved where the environment-social issues were addressed in a pro-active logic of economic development and environmental management.

Concern for distributional aspects of environmental quality and policy must not lead to neglecting efficient resource allocation and cost-effective policy design. This implies, however, that the legal and institutional framework is appropriate and that the transaction costs of administration and implementation are properly revealed. In fact, environmental policy in OECD Member countries operates with very different property and user-right arrangements. Some have chosen, even at constitutional level, to explicitly codify environmental rights, such as access to clean water, while others have opted for less explicit regulations. One example is land ownership in national parks, where solutions vary greatly from country to country.

Burden sharing and fair treatment are important aspects, but there are also plenty of opportunities and options for arranging and managing synergies that are in everybody's interest and which should be explored and developed in greater detail. Typically, such synergetic "win-win-win" options are best identified if all three dimensions of sustainable development (environmental, social and economic) are taken into account.

Environmental democracy

An important precondition for triggering and fostering integrated, pro-active approaches to environmental management and sustainable development is environmental democracy, understood as encompassing the availability and access to environmental information, opportunities for participation and partnerships of individuals, firms and NGOs, and the capacity to have access to courts. As the first-cycle reviews have shown, this varies significantly nationally and locally across Member countries. Recently a number of international agreements (e.g. 1996 and 1998 OECD Council Recommendations on PRTR and on Environmental Information as well a the 1998 Arrhus Convention) have been adopted.

Environmental awareness, education and perceptions

Environmental conditions and policies are shaped by public perceptions and behaviours. Opinion polls and other sources can provide insights into the state of and changes in the public's assessment of environmental matters, and their relevance compared to other societal and economic issues. Further, significant gaps may occur between stated opinions and actual behaviour. Environmental education and training have become an important part of public policies and professional organisations actions.

ENVIRONMENTAL POLICY AND THE SOCIAL DIMENSION OF SUSTAINABLE DEVELOPMENT

MR. HARM VAN DER WAL AND MR. KLAAS JAN MONING

Ministry of Housing, Spatial Planning and the Environment
Division for Strategy and Programming, The Hague, The Netherlands

Introduction

At this moment the relation between environment and social welfare is for us one of the challenges of broadening environmental policy in the next decade. The fourth National Environmental Policy Plan is coming out in 2001 and by that time we want to have some answers for questions we are having about this relation. We have to underline here that in this field and at this moment there are more questions than answers.

We started our search for answers at the beginning of 1999. On the 15th of January we organised a seminar in The Hague with civil servants and scientists. Joke Waller from OECD was also there. We discussed the balance between environment, economy and social welfare. Since that seminar, we have started some research projects and a pilot-project in the city of The Hague, which try to resolve environmental, economic and social problems at the same time.

The format of this paper is:

- First, to tell you something about the context of the relation between environment and social justice, and the concept of sustainable development;
- Second, to introduce a simple analytical model that we use in our search for relations between the two dimensions, environment and social welfare;
- In the third place, to provide some examples of possible relations between these dimensions and the indicators we are looking for;
- Finally, pose some key questions that we consider paramount.

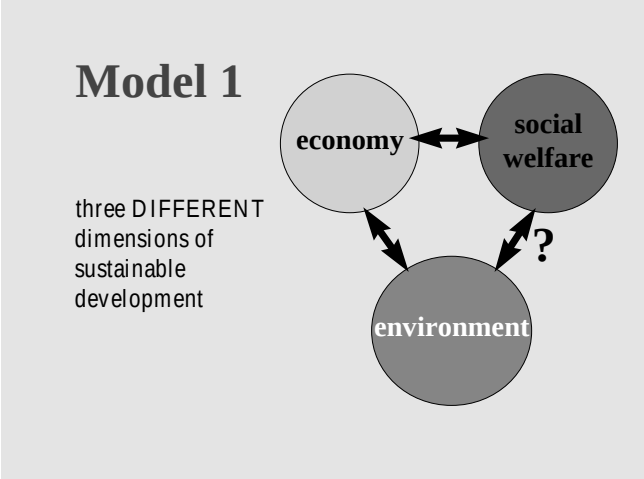
What is sustainable development, what dimensions are we talking about and what kind of relations are there between these dimensions?

An important premise for us is that the concept of sustainable development is about the quality of life now and in the future. The World Commission on Environment and Development (1987) formulated it as follows: “meeting the needs of the present without compromising the ability of future generations to meet their own needs”. Usually we talk about three dimensions (or perhaps conditions or qualities): environment, economy and social welfare. Other classifications are possible. For example: what about the political and cultural dimension, or are these integrated in the social dimension? Or do we have to call it the third dimension of sustainable development? What matters is that the dimensions cover all the needs of human beings. For the time being, the three usual dimensions - economy, environment and social welfare - will do.

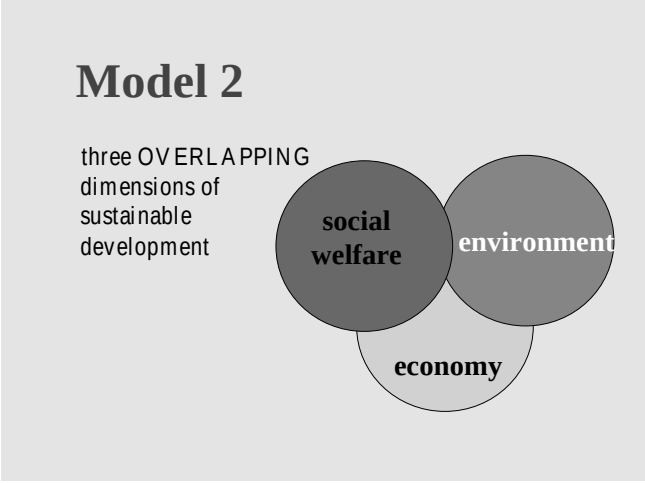
In the beginning, dealing with sustainable development meant that most of our attention went to the physical (biotic and a-biotic) environment because of our concern about disasters and running out of natural supplies. The concept of eco-space underlines this attitude. After this the economic dimension became an important issue, because of its immense impact on environmental quality and vice versa. We didn’t solve the problem, but we are busy finding some solutions. A good question in this context is: Does economic development in terms of economic growth always take into account all the needs of human beings or, in other words, quality of life?

The question which is puzzling us nowadays more and more, is what position the social (or third) dimension has in sustainable development and in our profession as environmentalists. What impact does it have on the quality of the environment and vice versa? Social quality has an undeniable impact on sustainable development in terms of wealth and poverty, health, safety, war and peace, self-esteem, etc. However it is more difficult to recognise what that has to do with environmental quality and environmental policy. When we started our research by interviewing 15 respondents, they mentioned a lot of social issues, but hardly any of them indicated a relationship with the environment.

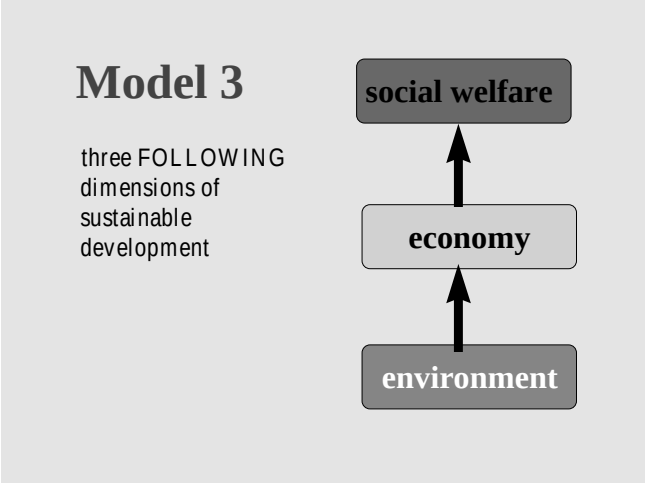
We would like to give you now three possible models of sustainable development to illustrate the different ways the concept can be worked out. Of course other models are possible, but this is a basic approach.



The idea in this model is that there are three separate dimensions: economy, environment and social welfare. The dimensions are described by different indicators. Sustainable development (or sustainable quality of life) depends on the quality now and in the future of the dimensions. The measure of satisfaction defines the desired level of quality. There are many positive and negative relations between economy and social welfare and between economy and environment. We are looking for possible direct relations between social welfare and environment. We'll discuss that later on.



In this model the three dimensions overlap each other. The indicators in the overlapping area are the same for both dimensions. Economy has a big overlap with both other dimensions, social welfare (labour, income) and environment (energy, raw materials). Social welfare and environment overlap, but we don't know yet how much. The overlap between social welfare and environment has to do with for example liveability, or the direct environment of human beings.

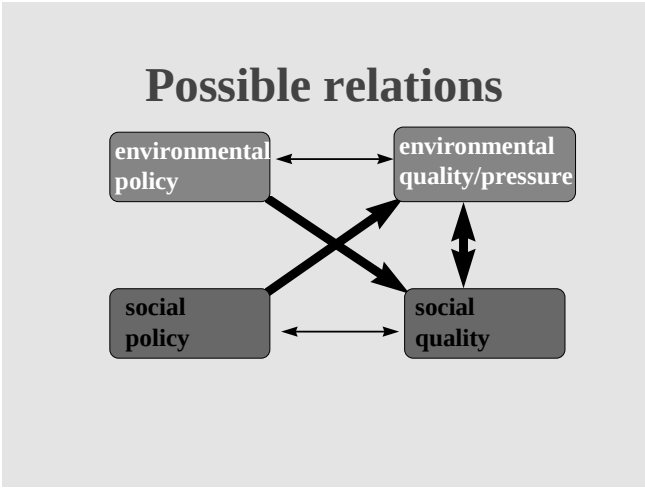


The notion in this model is that the three dimensions are different and have linear relations. The quality of the environment is an important condition for the economic system, which satisfies in its turn the social values we wanted. In this model there are no direct relations between environment and social welfare.

All three models presented here are simple, but help in structuring our thoughts. It is not clear yet which model is the most useful for explaining the different relations in sustainable development. Therefore we are still elaborating our thoughts on this. We expect to have some results by the end of this year. To keep it simple, we use model one here.

Which relations can be identified between environment and social welfare?

In the research project on the relation between environment and social welfare in the Netherlands, that we mentioned already, we tried to work out this relation. This is done with a simple scheme of possible relations.



- For us the most interesting relations at this moment are the ones between:
- environmental policy and social quality;
- social policy and environmental quality; and
- in both directions, between social quality and environmental quality.

The following questions can be asked:

- Which impact have environmental policy and environmental quality on social quality? Perhaps we can call it Social Impact Analyses;

- Which impact have social policy and social quality on environmental quality? In this case we can call it Environmental Impact Analyses.

Of course the relations between, on the one hand, environmental policy and environmental quality and, on the other hand, social policy and social quality in general, are also important but not in the context of our discussions here, as we have defined the object as the relation between environment and social welfare.

Before we can look for relations between the two we have to pay attention to the question: what is the social dimension? What are the different elements that form this dimension?

For the environmental dimension this is not such a big problem. It has been described may times in the first country reviews (air quality, water quality, soil, waste, etc.).

In our interviews and research project that we mentioned before, we noticed that everybody has his own interpretation of the words social quality and social welfare. But bringing together all these interpretations the following picture arises, which should be seen as an example and not as a complete list:

Elements of the social dimension

A just (level and distribution) of :

- **Prosperity (level of income)**
- **Employment (job security)**
- **Well-being (freedom in behaviour, lifestyle)**
- **(Social) Housing (quantity and quality of residences)**
- **Health and Safety (public health, working conditions)**
- **Democracy (participation in decision-making)**
- **Liveability (quality of the domestic surroundings)**
- **Education (quantity and quality of provisions)**
- **etc. etc.**

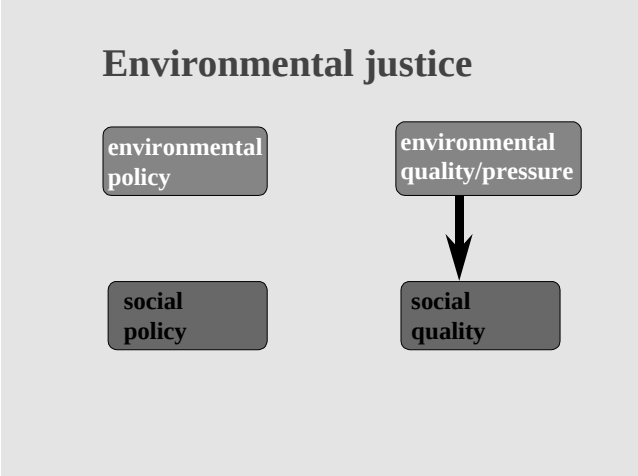
The social dimension contains a lot of elements: traditional elements are level of income and job security, but also housing, well being, health and safety, democracy, etc., belong to the dimension of social welfare.

Examples of the relations we investigate and which are the connecting indicators that can be used in the second cycle?

Now that we have an idea of the different elements of the relation-scheme for environment and social welfare, the next step is to investigate between which elements there are relations. It goes too far to spell this out here entirely, and besides, we also don't know it in detail yet. An important notion here is that the relations may differ in different countries.

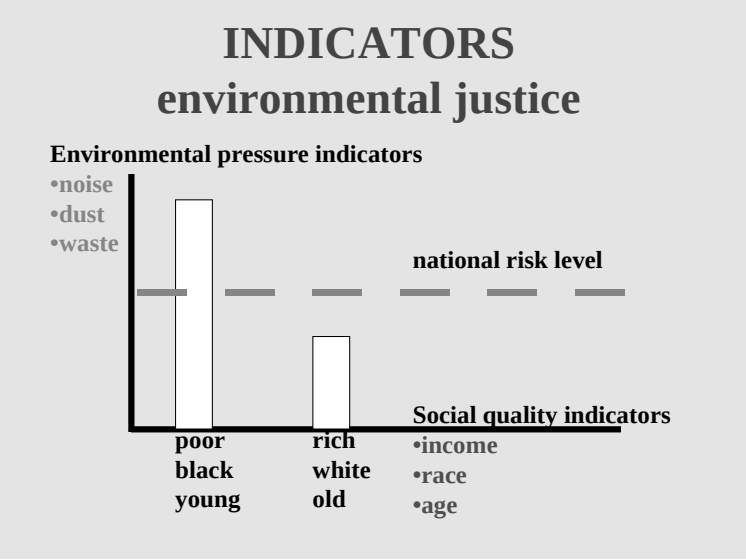
We would like to provide four examples of possible relations between elements of the two dimensions. After the description of the example, we would like to give an idea of the indicators for quantification of the relation. The examples and figures are not based on empirical data; they are just illustrations.

Our first example is about the impact of environmental quality on social quality.



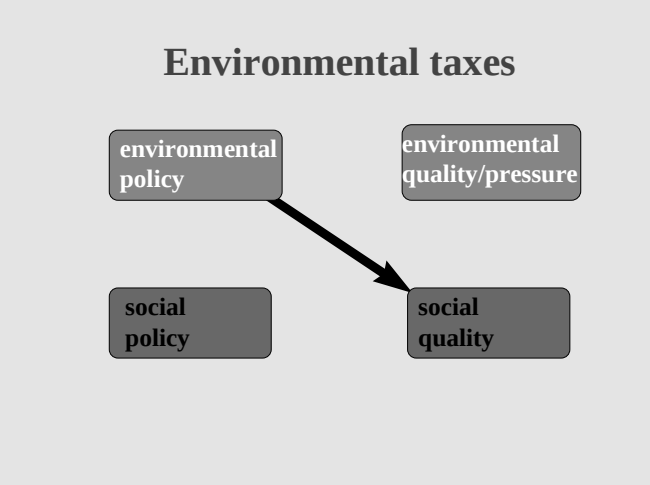
Environmental justice focuses on distributional inequities in the exposure to environmental risk. The concern that specific groups in society, in particular minorities and poorer households, systematically encounter higher levels of environmental risks first became an issue in the United States in the 1970s. Since then, environmental justice has received much political and scholarly attention. First, research has found that environmental inequities are not just a function of race, but at very least also of income or socio-economic status. Some scholars also identify certain demographic groups, such as children, that are particularly exposed to environmental risk. Empirical evidence on environmental justice is, though, still somewhat controversial.

Next step is the choice of indicators for the relation described.



In this figure you can see that environmental risks in terms of noise, dust and waste are not equally distributed over population groups as old and young, black and white and poor and rich. The social impact depends not only on the distribution but also on the national risk level, too. The social quality indicator connected with this relation is socio-economic status in terms of income, race and age.

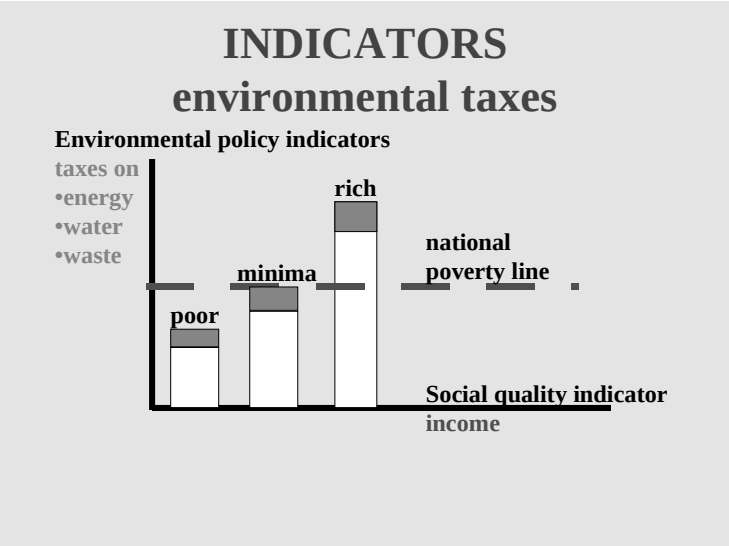
Our second example is about the impact of environmental policy on social quality.



Environmental economic instruments often encounter strong opposition from social justice advocates in the policy process because of their potential distributive implications. The fear is that economic instruments are socially regressive. Indeed, studies generally find that environmental taxes on energy, water and to some degree waste and fuel are regressive or with other words: the percentage burden is greater for low income households than for higher income households. On the other hand, economic instruments can always be designed in ways allowing for different distributive outcomes.

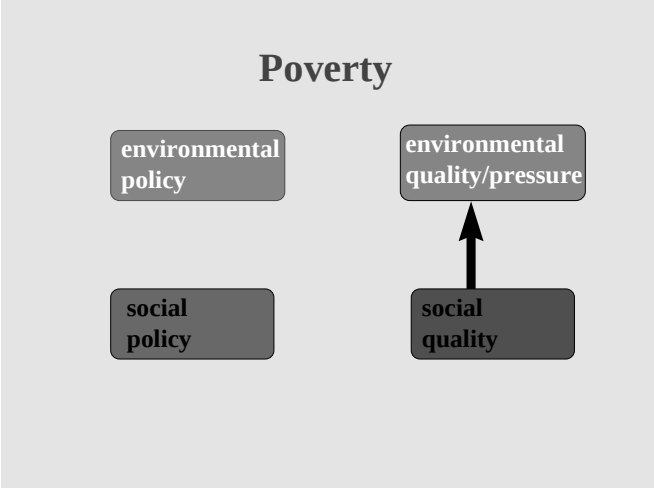
Another potential impact of the use of economic instruments on social quality results from the implications for democracy and civil society. Some scholars argue that market-based instruments reduce the powerful and symbolic appeal of pollution control. As a consequence they may lead to a weakening in the public commitment to a shared environmental ethic.

What are the possible indicators here?



This figure shows what taxes on energy, water and waste (the top of the income bars) can do with income of poor, minima and rich. The social impact depends here on the national poverty line. The social quality indicator is income.

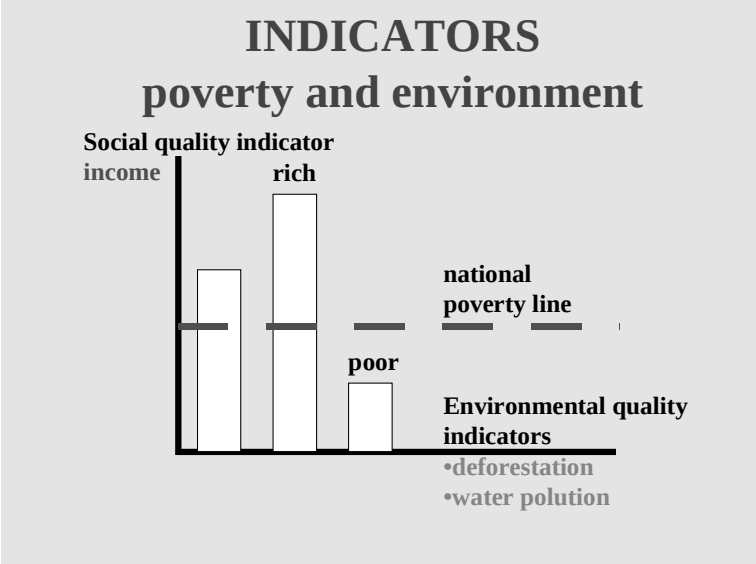
Our third example is about the impact of social quality on environmental quality.



Poverty has a big impact on environment. The World Commission on Environment and Development formulated it as follows:

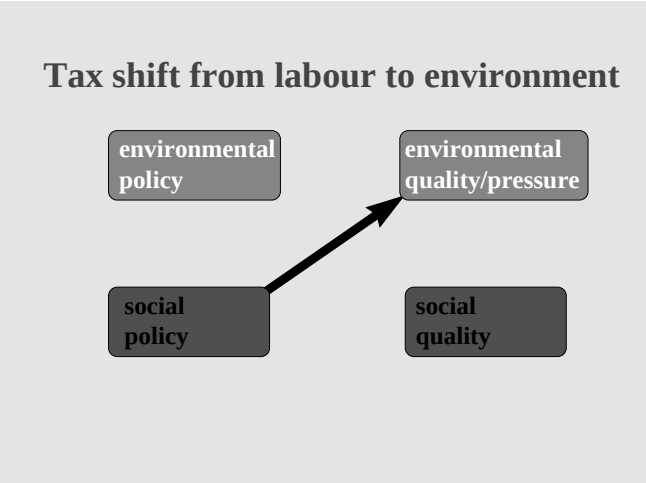
"Many critical survival issues are related to uneven development, population growth and poverty. They all place pressures on the planet's land, waters, forests, and other natural resources, not least in the developing countries. The downward spiral of poverty and environmental degradation is a waste of opportunities and of resources. In particular, it is a waste of human resources. These links between poverty, inequity, and environmental degradation formed a major theme in our analyses and recommendations. What is needed now is a new era of economic growth – growth that is forceful and at the same time socially and environmental sustainable".

Let's have a look at the indicators.



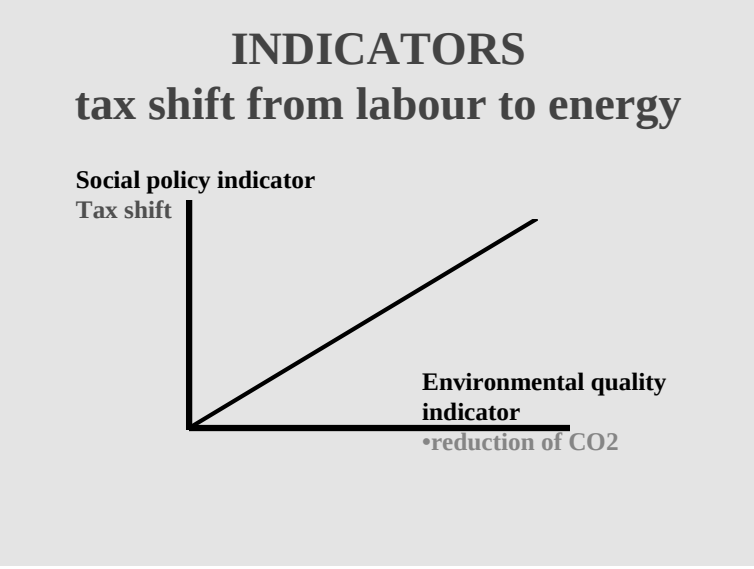
This figure shows a possible relation between income and environmental damage. When people are poor (that means under the national poverty line) the chance is big that they give not much attention to environmental damage such as deforestation and water pollution. The social quality indicator here is income.

Our fourth and last example is about the impact of social policy on environmental quality.



It was very difficult to find an example of a direct relation between social policy and environmental quality. Social policy instruments such as unemployment benefits do have effects on environmental quality but mostly by way of changing the economy first. The best example we could think out is a tax shift from labour taxes to environmental taxes such as fuel, waste, groundwater and energy. Studies by the Netherlands Economic Central Planning Agency have not lent much support to the traditional double dividend theory - employment gains come out fairly low - but it's just an example here.

What are the possible indicators here?



A possible relation between a tax shift from labour to energy (as an indicator for social policy) and environmental quality is showed in this hypothetical figure. The assumption is that a bigger tax shift will lead to a bigger reduction of energy use and with that of carbon dioxide.

Before we give you our idea about the key questions for this seminar we'd like to give you one conclusion of our experiences. We did some brainstorming sessions with colleagues and our overall conclusion was that it is not easy to find relevant direct relations between environment and social welfare. We hope this seminar will help us to find some more.

Key questions for this seminar

- Which model gives, for the time being, the best description of the process of sustainable development?
- Do we study the social dimension at large or do we focus on those elements that have a direct relation with environment?
- Which are the most important direct relations between environment and social welfare?
- Which are the connecting indicators that can be used in the second cycle?

PART II.
ENVIRONMENTAL JUSTICE

ENVIRONMENTAL JUSTICE IN THE UNITED STATES

MR. BARRY E. HILL

Introduction

I have come here with various purposes, to share important information with you related to: (1) environmental justice in the United States, and how it fits in with sustainable development goals; (2) how the Environmental Protection Agency and the United States government seek to integrate environmental justice goals into policies, programs, and activities; and, (3) strategies to help communities that are exposed disproportionately to environmental harms and risks.

Therefore, what I would like to do in my prepared remarks is: (1) to discuss the issue of environmental justice in general terms; (2) to briefly discuss how this issue is part of the basic fabric of environmental policy at the Environmental Protection Agency and of the federal government, as a whole; (3) to talk briefly about one aspect of the role of the Office of Environmental Justice; (4) and to discuss, in general terms, how environmental justice is, indeed, a tool for sustainable economic development. Whatever I do not cover in my prepared remarks, I will address those outstanding issues during the discussion period.

As I sat in the lonely confines of my office trying to collect my thoughts for this presentation, I asked myself, "What words could I use to bring the issue of environmental justice to life for my colleagues? What words could I use to help you understand the situation in the United States which could help you draw parallels for your respective countries?"

I concluded that the best way of doing this was to talk about real people with real environmental problems.

Altgeld Gardens

Therefore, let me discuss the situation that currently exists at a particular housing project, which is located in Chicago, Illinois, the third largest city of the U.S. with a metropolitan area of more than 8 million people. Chicago is a major commercial, financial, industrial and cultural center: Chicago is a city that embodies the diversity and energy of human pursuits. It is a truly remarkable engine of economic and social progress. It offers employment opportunities, entertainment and other amenities, as well as advantages in the delivery of quality education, health care, and other social services. Its International O'Hare Airport is the busiest in the nation. All of this lets us know that this is a very economically developed city. But in the middle of all this reality strikes, the Altgeld Gardens housing project; the name itself – Altgeld Gardens – suggests a beautiful neighborhood, a bucolic setting.

However, Altgeld Gardens is a 10,000-person housing project where the residents have experienced: (1) a high rate of children born with brain tumors; (2) a high rate of fetuses that had to be aborted after tests revealed that the brains were developing outside of the skulls; (3) a higher than normal rate of children and adults with upper respiratory ailments; and (4) higher than normal rates of cancer, puzzling birth defects, asthma, ringworm, and other ailments. In fact, a 1984 study by Illinois public health officials concluded that the area had an excessive rate of prostate, bladder and lung cancer.

The toxic nightmare of Altgeld Gardens has taken a heavy toll on the health of the residents who live direction on top of a landfill that began operating in the 19th century by the capitalist tycoon, George C. Pullman, whose company manufactured elegant railroad sleeping cars for the rich but who allegedly dumped for 50 years human and industrial wastes from his railroad sleeping car company. Since then, many other companies, and the city of Chicago itself have continued the "tradition" by locating landfills nearby, giving Altgeld Gardens and its environs the dubious distinction of being the location of the country's largest concentration of

hazardous wastes. To the residents of Altgeld Gardens, their situation is not anecdotal. It is real — very real.

The Environmental Protection Agency has described Altgeld Gardens as being in the middle of the "toxic donut" since the community is surrounded by, at least, 12 pollution-generating facilities. Looking at the screen, it is clear that the residents live in the midst of landfills, contaminated lagoons, steel slag beds, a huge chemical waste incinerator, buried metal drums, and piles of loose trash. Nearby are also metal-plating shops, a paint company, and a sewage treatment plant. There are 50 abandoned dumps of toxic factory waste in an area six-by-six square miles. And, "So potent are the discarded mixtures that stunned Illinois environmental inspectors aborted an expedition in a dumping lagoon in 1990 when their boat began to disintegrate." (National Law Journal special issue, "Unequal Protection: The Racial Divide In Environmental Law" (Sept. 21, 1992).)

However, the residents of Altgeld Gardens are not being relocated to another public housing project in spite of the obvious environmental harms and risks. Therefore, the environmental problems will continue and may be addressed intermittently because they do not fall neatly within the ambit of existing environmental laws, which are each focused on different media, e.g., the Clean Air Act, the Clean Water Act, and other laws that deal specifically with the treatment, storage and disposal of hazardous wastes, etc.

Allegations of environmental injustice

The situation at Altgeld Gardens is not unique. It is happening all across the country. Instances of alleged environmental injustices are many and varied. They include, but are not limited to, situations that involve:

(1) A dispute over the method of cleanup or the cleanup standards and operations at a contaminated site;

(2) A community's lack of access, generally speaking, to environmental lawyers and technical expertise;

(3) A community's lack of meaningful participation in the government regulator's decision-making process;

(4) Arguments regarding whether the approach to cleanup and/or enforcement should address single versus multiple sources of contamination at a site;

(5) Disputes over which segments of the population bear the burden, i.e., the resident population, the seasonal agricultural workers in the fields, or transients (individuals at shopping centers, or people participating in recreational activities);

(6) The notion of proximity, e.g., the effects of pollution on the proximate populations versus the adverse health effects on the populations living downstream from the industrial plants, or the populations affected by off-site operations;

(7) Allegations that the government regulators are not enforcing environmental laws, regulations, and policies equally; or

(8) A dispute over the siting of a pollution-generating facility in a community, already inundated with such facilities.

The common thread running through all of the above situations is that minority and/or low-income communities are disproportionately exposed to environmental harms and risks. And when we in the United States use the word "minority," we are referring to African Americans, Asian Americans, Pacific Islanders, Hispanic Americans, and Native American citizens.

Massive urban transition

With respect to the rest of the world, cities like Chicago play a central role in degrading the physical environment and in shaping the social environment in which most of the world's people will soon live. Within the next decade, according to the United Nation's Population Division, more than half of the world's population, an estimated 3.7 billion people, will be living in urban areas. We are living in the midst of a massive urban transition because

as recently as 1975, just over one-third of the world's people lived in urban areas. By 2025, the proportion will have risen to almost two thirds. (Source: United States Population Division, "World Urbanization Prospects: The 1994 Revision" (U.N., New York 1995, pp. 86-87, 102-103)).

Environmental problems are quite severe in developing world cities experiencing rapid economic growth. Economic growth, unquestionably, brings needed revenues to cities, but if proper environmental safeguards are not in place, it all too often occurs at the expense of environmental quality. It is estimated that more than 1.1 billion people live in urban areas where air pollution exceeds healthful levels. (Source: Dietrich Schwela, "Public Health Implications of Urban Air Pollution in Developing Countries," paper presented at the Tenth World Clean Air Congress, Erjos, Finland, May 28 to June 2, 1995 (World Health Organization, Geneva, 1995). In cities across the world, domestic and industrial effluents are released to waterways with minimal or no treatment, threatening both human health and aquatic life. (for example, Valpariso and Concepcion, Chile, treat only 10% of their waste, and 90% of their raw sewage goes directly into the Pacific Ocean). These cities still harbor huge populations of the urban poor who are shut off from the benefits of economic growth. Many live in vast squatter settlements, where they are exposed both to the hazards resulting from economic growth, such as industrial emissions, and to the hazards that accompany poverty.

Thus, there are consequences of the massive urban transition of the world's people and there are universal determinants of urban environmental problems which range from the:

- Lack of adequate water and sanitation services;
- Lack of treatment plants to dispose of wastewater;
- Indoor air pollution;
- Urban air pollution; and
- Uncollected and improperly disposed of solid and hazardous waste.

The existence of these urban environmental problems strongly suggests that there is a direct correlation between the environment and the public health problems of the residents of urban communities.

The question, however, is whether the residents of the Altgeld Gardens of America and of the rest of the world's urban areas deserve clean air, clean water, and clean soil like everyone else. Aren't they entitled to fall within the sweet embrace of the protective environmental laws of the United States or any other country of the developing world?

Environmental justice

But, before we answer those rhetorical questions, let me back up a moment and ask, "What exactly is this thing called environmental justice from the Environmental Protection Agency's point of view?"

Simply stated, environmental justice is the goal to be achieved. According to the Office of Environmental Justice, "environmental justice" means: "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including a racial, ethnic, or socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies."

Thus, the definition of "environmental justice" is based on the following 4 premises: (1) the definition acknowledges that it is a basic right of all Americans to live and work in environmentally protected surroundings; (2) the definition recognizes that it is not only an environmental issue but it is also a public health issue because these communities are subject to disproportionate impacts from one or more environmental hazards; (3) the definition suggests that it is forward-looking and goal-oriented because it seeks to include these communities in the decision-making process because they have been, generally speaking, deprived of the full and fair implementation of environmental regulations, requirements, practices, and activities; and, finally, (4) the definition indicates that it is also inclusive since it

is based on the concept of fundamental fairness, which includes the concept of economic prejudices as well as racial prejudices since the communities at risk are generally minority and/or low-income.

Moreover, this definition is compatible with the mission of the Agency, which is to protect human health and to safeguard the natural environment - the air, land, and water - upon which all life depends.

According to the Agency's 1997 Strategic Plan, the Agency's purpose, among other things, is to ensure: (1) that "All Americans are protected from significant risks to human health and the environment where they live, learn and work;" (2) that "Federal laws protecting human health and the environment are enforced fairly and effectively;" and (3) that "All parts of society - communities, individuals, business, state and local government, tribal governments - have access to accurate information sufficient to effectively participate in managing health and environmental risks." In many respects, the Agency acknowledges that there is a community Bill of Rights which includes the:

(1) Right to clean industry;

(2) Right to be safe from harmful exposures;

(3) Right to know;

(4) Right to participate;

(5) Right to protection and enforcement;

(6) Right to compensation; and

(7) Right to cleanup.

Finally, President Clinton's February 11, 1994, Executive Order No. 12,898 "Federal Actions To Address Environmental Justice In Minority Populations And Low-Income Populations," which states that all executive branch agencies are required to integrate environmental justice and public health matters into their programs, policies, and operations:

- By focusing attention on the human health and environmental conditions in minority and low-income communities with the goal of achieving environmental justice;
- By fostering non-discrimination in their programs that substantially affect human health or the environmental; and
- By giving minority communities and low-income communities greater opportunities for public participation in, and access to, public information on matters relating to human health and the environment.

That is what the leadership of the Environmental Protection Agency and the United States government have publicly said is our mission/our responsibility. Therefore, environmental justice is clearly part of the basic fabric of environmental policy at EPA and for the Federal government, as a whole.

So now that site visits to the Altgeld Gardens of America have taken place, and there is little question as to the validity of the allegations of the residents of these affected communities as it relates to being exposed disproportionately to environmental harms and risks, what now? What happens to them? That, my friends, is where my role as a federal government employee comes into play.

First, let me discuss my role and the role of my office. William Penn, the Quaker who founded the State Of Pennsylvania, stated in 1693 that: "The public must and will be served." I have chosen at this stage in my career to serve the public as a public servant. I and the staff of the Office of Environmental Justice have taken oaths to serve the public.

Now, as the Director of the Office of Environmental Justice, I believe that it is absolutely essential that the Office serve the public to the best of our abilities, and the public necessarily includes all stakeholders involved in the environmental justice dialogue. The Office must be viewed as a conduit for all stakeholders to participate as equals in that dialogue. The Office must be considered an honest broker within and without the Agency. We

must be great listeners, a sounding board, and, equally important, problem-solvers. In fact, the mission/philosophy of the Office is to facilitate collaborative and constructive problem-solving.

EPA's brownfields program

With respect to sustainable development of these urban communities and the role of government in addressing the environmental and source problems simultaneously, let me use the redevelopment of brownfields as an example of the importance of having all stakeholders at the table.

In the United States, the poor, especially poor minorities, have become increasingly concentrated in urban city neighborhoods. These inner-city neighborhoods were once the anchors of the industrial manufacturing base which contributed to making the United States a world economic power. However, these inner-city neighborhoods are now paying the price of years of environmental abuse and neglect. Businesses have moved to the suburbs, which we call "greenfields," and plants have shut down, leaving behind "brownfields" which EPA defines as "abandoned, idled, or under-used industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination." (Source: EPA's "The Brownfield Economic Redevelopment Initiative" (1998) p. 1). In other words, empty buildings on contaminated lots that no one wants to develop. This legacy of industrial pollution contributes to the poverty in their communities and impedes revitalization: it leads to communities that literally cannot sustain themselves.

In 1993, the Environmental Protection Agency launched a multi-million dollar nationwide Brownfields Redevelopment Initiative, which is an organized commitment by the federal government to help communities revitalize such properties both environmentally and economically, to mitigate potential health risks, and to restore economic vitality to areas where brownfields exist. Although the Environmental Protection Agency has removed tens of thousands of brownfields sites from the National Hazardous Waste Inventory because they did not pose a real serious threat to public health and made it easier for prospective purchasers to buy and clean up these properties, the Agency has found that there are common problems at these sites. Two of the major impediments in resolving environmental disputes at brownfields redevelopment sites are: (1) the fact that the affected communities are not engaged early and often in the decision-making process; and (2) the fact that environmental justice concerns are not taken into consideration early and often in the decision-making process.

The communities, indeed, are interested stakeholders since brownfields redevelopment offers communities opportunities to create jobs, increase tax rolls, and improve the lives of residents of these communities. Whether they are major cities with large tracts of former industrial lands or towns with smaller abandoned sites, few communities can afford to let potentially productive properties remain vacant. Therefore, the communities' residents must be intimately involved in the assessments, cleanups, and/or redevelopment of the brownfields sites. There must be meaningful public participation which:

- Means that people should have a say in decisions about actions which affect them.
- Includes the promise that the public's contribution will influence the decision.
- Communicates the interest and meets the process needs of all participants.
- Requires that the participants seek out and facilitate the involvement of those potentially affected.

But how do you do this? How do you get the communities engaged in the process? First, the company considering redeveloping a brownfields site should have a proactive (rather than a reactive) community relations initiative that is developed early in the planning process. Second, an experienced, professional, neutral facilitator should be hired by the company very early in the process to assist the stakeholders in identifying and addressing their needs and concerns. The stakeholders include: (1) the company; (2) the local community; (3) the government (federal, state, tribal, and municipal); (4) the environmental community: and (5) the local politicians. All are viable and important stakeholders and must

be treated as such. The Agency has found that early and meaningful involvement can increase the overall pace of brownfields redevelopments, and early investment in community involvement ensures that all parties are informed and their concerns are addressed.

Successful brownfields cleanup and redevelopment are proof that economic development and the protection of the environment can, and, indeed, must coexist. While the rewards can be great, reuse of contaminated properties is often a complex endeavor. As many of you may already know, brownfields redevelopment often involves such complicated issues as legal liability, financing, cleanup standards and insurance. Unquestionably, it also involves the issue of meaningful community involvement, and the issue of environmental justice.

Conclusion

If I can leave you with three thoughts, it would be that economic development and environmental protection are inextricably linked. They go hand-in hand. The second thought is that there is no need to equate environmental injustice with economic development. They do not go hand-in-hand. No community should be forced to make such a difficult choice. The third thought is, “Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it is the only thing that ever has.”

OFFICE OF ENVIRONMENTAL JUSTICE FUNCTIONAL STATEMENT

The Office of Environmental Justice (OEJ) was established in November 1992 with a broad mandate to serve as a focal point for ensuring that communities comprised predominately of people of color or low income populations receive protection under environmental laws. The Office is charged with providing oversight on these concerns to all parts of the Agency. This involves reviewing how the Agency conducts its business and recommending changes where necessary. The Office works closely with the other elements of Enforcement and Compliance Assurance (OECA) to ensure that enforcement and compliance assurance address environmental justice concerns and that these activities are coordinated to more effectively address the needs of impacted communities. OEJ is an independent staff office reporting through the Principal Deputy Assistant Administrator to the Assistant Administrator. It advises the Administrator on the impact of environmental risks, programs, regulations and legislation on socio-economically disadvantaged communities and serves as the centralized clearinghouse and dissemination point for environmental justice information to the public, other federal agencies and to EPA staff. There is no duplication of effort within OECA since OECA's environmental justice coordinators will continue to represent their individual offices and divisions on the OECA Environmental Justice Committee, and the OECA Environmental Justice Coordinator will continue to represent the OECA on the Agency's Environmental Justice Workgroup managed by the Office of Environmental Justice.

The Office of Environmental Justice coordinates communication and public outreach activities; provides technical, scientific and policy advice to outside groups investigating environmental justice concerns; facilitates environmental justice efforts with the regions and headquarters programs, and provides financial assistance to outside groups through its grants program.

The Office helps to improve the technical and scientific aspects of the Agency's efforts in the area of environmental justice through rule-making and policy development. The Office works with regions and program offices to identify projects for addressing data gaps, to establish uniform agreement on the application of GIS tools to local problem identification, to identify outside projects related to environmental justice which may have agency application. The Office participates in Agency-wide and interagency workgroups addressing the scientific aspects of environmental justice; provides policy support, development and coordination for EPA environmental justice efforts. In particular, the Office provides support for the National Environmental Justice Advisory Council, the Interagency Working Group, the EPA Steering Committee and Policy Workgroup, and the Regional and Program Office Coordinators. In addition, it coordinates with the American Indian Environmental Office on cross-cutting issues. A key responsibility is the identification of policy issues in the regulatory development process and in legislation, and providing case or policy issue support to Programs and Regions. The office is organized around major stakeholder categories which are described below.

State and Local Governments Team

The goal of the State and Local Governments Team is: (1) to provide information on environmental justice; (2) to assist the decision-makers in preventing instances of environmental injustice. The Team will also assist, as necessary, the state and local government officials in gathering information through state-sponsored studies, commissions and task forces. The Team will serve as an information clearinghouse on federal environmental justice initiatives for state and local government officials. Finally, the Teams will vigorously promote the OEJ's grants program for state and local governments to these entities.

Grants Program Recipients Team

The goal is to provide assistance to communities, universities, state governments, local governments, tribal governments, grassroots organizations and non-profit organizations so that they will become empowered and be able to implement environmental justice concepts at all levels of government and organizations.

Community and Grassroots Groups Team

This function includes the outreach service programs to increase awareness and knowledge about environmental justice implications. These programs include: addressing major businesses, industries, colleges and universities, federal, state, local and tribal governments, church groups, and other non-governmental organizations and associations as well as community and grassroots groups. The goal is for the office to serve as a conduit to all stakeholders, providing information exchanges and a clearinghouse for environmental justice information.

Federal Government Team

The goal of this team is to "jump-start" all of the activities of the federal government in the area of environmental justice within and without the Agency. The team assures that the Agency has fully integrated environmental justice into all of its activities and works to address the disproportionate exposure to environmental harms and risk in socio-economically disadvantaged communities.

Major Business and Industries Team

The primary goal of this team is to reduce the adversarial relationship among the Agency, the communities, and businesses and industry on the environmental justice issues. There are a variety of ways that this may be approached Whatever method is used, it requires that everyone understand and recognize that mutual respect is essential. The team will facilitate discussions concerning potential environmental justice issues between impacted parties and to serve as the central clearinghouse and dissemination point for environmental justice information.

OFFICE OF ENVIRONMENTAL JUSTICE VISION AND VALUES

ENVIRONMENTAL JUSTICE VISION

We the members of the Office of Environmental Justice are diverse, professional, creative and committed to protecting all communities and citizens from environmental degradation. To do this, the Office coordinates communication and public outreach activities; provides technical, scientific and policy advice to outside groups investigating environmental justice concerns; facilitates environmental justice efforts with the regions, headquarters and other federal agencies; and provides financial assistance to disadvantaged communities, universities and associated organizations with the goal to benefit affected populations.

Working in partnership with our customers and other stakeholders, we constantly strive to improve our efforts to reach more impacted communities and move decision-making to the local level. As change agents, we lead the way in identifying and applying new methods which will develop strategies to bring justice to Americans who are suffering disproportionately and to ensure that low-income and minority communities have access to information about their environment and that they have an opportunity to participate in shaping government policies that affect their health and their environment.

ENVIRONMENTAL JUSTICE VALUES

We work to ensure equal environmental protection to all Americans.

Our work serves the good of all people and ensures protection from environmental harm.

Our organization is a great place to work. We are all committed to our effort toward cultural diversity for all and are honored to be the stewards of environmental justice.

We value and prize every member of our team and have a commitment to everybody's advancement.

We value partnerships. Listen to customers. View nothing isolation. We constantly evaluate our techniques to look toward improving services to our customers.

Everything we do provides a service which directly supports EPA's mission.

We operate as honest brokers with openness and candor at all times.

INDIGENOUS PEOPLES' INTERESTS AND THE ENVIRONMENT IN AUSTRALIA

MR. PHILLIP TOYNE

The OECD has correctly identified the need to devote greater attention to the relationship between social and environmental considerations in sustainable development, when conducting its second round of country environment reviews.

Australia, in addition to the usual issues raised by the interface of social questions with environment, faced by all OECD countries, has the significant, added dimension of involvement of its indigenous people. Australia is not unique in this regard, and many of the issues raised in this paper, will resonate with those from the USA, New Zealand, Canada and others with important indigenous populations of their own.

This paper does not attempt to detail all Australian developments in the attempt to reconcile indigenous and non-indigenous interests in the environment. Rather, it highlights some of the more significant examples, likely to be of value to the OECD in its present deliberations.

Introduction

Since European settlement of Australia two hundred and eleven years ago, the continent has been transformed, by the many, often destructive, influences of development. Much attention was given to this in the first OECD Environment Review of Australia and has been detailed in many publications[1]. As the Aboriginal scholar, Professor Marcia Langton, from the Centre for Indigenous Natural and Cultural Resource Management, has accurately summarised it[2]:

> "Non-Aboriginal land use in Australia proceeded from the earliest colonial times by radically altering extant environments, by extensive land clearing, water capture and other means. The British settlers perceived their new environments as harsh and inhospitable and they actively supplanted these "wild', uncultivated lands with familiar European land use and management systems which they believed they could control, regardless of the suitability of these imported management regimes to local conditions. As a result, settlers engaged in wide scale clearing of vegetation, suppression of fire, the development of irrigation systems, widespread use of pesticides and the attempted eradication of native animals such as dingoes."

She goes on to describe the 76 of Australia's 20,000 or so species of plants considered to be extinct with a further 5000 rare or threatened. She cites a similarly worrying picture of losses amongst native mammals, reptiles, amphibians, birds, freshwater fish and marsupials. She explains the causes:

> "Land and water resources have been degraded: agricultural land is plagued by salination, caused by clearing and irrigation, while fish and other aquatic are at risk in inland waterways from the effects of toxic algae, inbreeding and through the removal or degradation of some of their natural habitats."

To this I would have added the profound impact brought about by the introduction of species such as rabbits, foxes, cats and many weed species, with their devastating impact on both landscapes and the survival of species.

The history of Aboriginal and European interaction over the past two hundred years has generally been an unhappy one for the original inhabitants, with many studies, commissions and inquiries pointing to

[1] Australia State of the Environment 1996, Commonwealth of Australia

[2] Indigenous Social, Economic and Cultural Issues in Land Water and Biodiversity Conservation—A Scoping Study for WWF 1999. Centre for Indigenous Natural and Cultural Resource Management

the dispossession, disease and violence which were common hallmarks of the exchange[3]. Especially in the south and east, Aboriginal people were displaced, as country was taken up for cities, agriculture and grazing. It was only those areas in the remotest deserts and tropics deemed unsuitable for agricultural or mining pursuits, which remained largely unaffected by these sweeping changes and where traditional Aboriginal associations are likely to be at their strongest. Even here, disruption was widespread, with the concentration of once dispersed populations into missions or government settlements. Cultural practices, such as ceremonies and regular burning of country, were interrupted, often for decades. Many children were forcibly removed from their parents and raised in institutions. Aboriginal people, even today, have the highest per capita rate of incarceration, the shortest life span, the highest infant mortality rate, all of which point to ongoing disadvantage compared to the broader Australian community.[4]

Indigenous land rights

For 204 years (from British settlement in 1788 to the High Court's Mabo decision in 1992) official policy proceeded on the basis that Aboriginal people had no rights to land surviving from pre-British times. The only concession to their presence in the country over which settlement spread was the setting aside of some reserves, mostly few and tiny in the areas of intense settlement, but including a few large areas in the arid centre and rugged north that were not attractive to European settlement.

No Aboriginal title was recognised even to these reserves until the land rights legislation passed from the 1970s on by the Commonwealth for the Northern Territory, and by some of the States. There were significant differences between the various regimes, but they all proceeded on the assumption that Aborigines had no existing legal rights to land, and laid down procedures by which some of the more fortunate communities might acquire some rights. The regimes differed considerably in the land made available for claim and the strength of the title given to successful claimants.

Usually they allowed Aboriginal communities to get a legal title to such of the old reserves as still existed and, subject to conditions of varying strictness, to make claims to vacant Crown land. The nature of the title and the degree of effective control that could be acquired also varied from one jurisdiction to another.

A profound change came over the treatment of indigenous entitlements to land with the historic decision of Australia's High Court in 1992. In the Mabo Case the Court rejected the long held assumption that no traditional rights to land had survived the acquisition of British sovereignty. Where rights to land were recognised under the customary system of an Aboriginal community at that time, they continued to exist so long as that customary system continued to be acknowledged by the members of the community, unless and until the new sovereign extinguished them. If today an Aboriginal group can trace its title back to such pre-settlement rights and the Government has not in the meantime extinguished the native title by granting an inconsistent title or putting the land to inconsistent use, the group can establish native title.

Subsequent legislation has in some respects circumscribed native title, but has in other respects enhanced its legal status. Given the extent of the dispossession and social disruption, and the high degree of private rights in the more closely settled south and east, native title was most likely to survive in the vast areas of the arid interior and less hospitable parts of the tropical north. Major conflict emerged over the possibility of native title coexisting with the rights of pastoralists who held pastoral leases.

From a conservation point of view a major challenge was the possible survival of native title in land set aside for national parks and other conservation areas. Although the issue was not up for decision, the Mabo judgments gave considerable support to the view that such actions did not destroy native title, although the rights of the Aboriginal title holders would be subject to the provisions of the laws under which the conservation areas had been declared.

[3] Royal Commission into Aboriginal Deaths in Custody (1991)
[4] ATSIC *As a Matter of Fact: Answering the myths and misconceptions about Indigenous Australians.* Canberra 1998

As I said at the time:

> "The recognition of an ancient Native Title, which may have survived the past two hundred years, and on the view of one judge, may co-exist with National Parks, injects new possibilities for joint management of protected areas. Unlike previous arrangements where land was granted under Land Rights legislation, Native Title rights exist and are only to be identified and recognised.[5]"

The optimism of my comment, has not been justified by action in the intervening years. State governments have remained surprisingly unwilling to move to negotiated outcomes to settle native title over whole regions, as a means of bypassing convoluted and costly court cases over individual claims. The sole example of an attempt at a comprehensive agreement is discussed below.

There are now hundreds of Native Title claims awaiting resolution in the courts.

The areas under Aboriginal and Islander control, has been further expanded with the establishment of an Indigenous Land Corporation. Set up as part of the negotiations between the Commonwealth and Indigenous leaders, centred on legislation clarifying the application of Native Title, the fund was established to assist dispossessed indigenous people to acquire and manage their land. It was aimed at those who, due to their historic circumstances, were not able to establish Native Title or to claim land under Land Rights legislation. This, in practice means a strong focus on those in the populous south east agricultural lands and the huge areas of pastoral lands in the interior and the north.[6] By 2004, the fund will be approximately A$1.3 billion.

Although only 2% of the population, Indigenous people now hold approximately 15% of the land area of Australia.

The expansion of conservation areas

The second influence was the rapid expansion of the National Parks and lands managed for conservation purposes. This was in large measure, a result of the readily apparent damage to the environment referred to above. As a more environmentally conscious community, led by a sophisticated NGO Environment Movement, pressed governments to significantly expand the conservation estate.[7]

Ironically, the urgent moves to establish a comprehensive and adequate reserve system posed a new threat to Indigenous Australians. Further areas of lands of traditional significance were taken up and, in the name of conservation, Aboriginal people were excluded or at least prevented from hunting, fishing or using these areas in a customary way.[8] This, together with wildlife protection laws, some of which also prevented the taking of traditional food species, left many indigenous people in breach of laws if they conducted the activities central to their lives over centuries. Conservation was, increasingly seen by indigenous people as the latest wave of dispossession.[9]

To add to their difficulties, the Conservation Movement was fiercely divided in its attitude to indigenous people owning National Parks. I described the situation this way:

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[5] Phillip Toyne in the Foreword. *Competing Interests –Aboriginal Participation in National Parks and Conservation Reserves in Australia.* Australian Conservation Foundation 1992

[6] See the *Land Fund and Indigenous Land Corporation (ATSIC Amendment) Act* 1995 and the ILC web site www.ilc.gov.au.

[7] It is important to understand that under Australia's Federal arrangements, it is the State governments, which have primary responsibility for land and its use, including both agriculture and conservation. An important exception is the Northern Territory, which is self-governing, but over which the Commonwealth Government still exercises significant powers, over both Aboriginal lands and national parks. It is here, that both Uluru and Kakadu National Parks being some of the few national parks in the country, (most are state parks) are located.

[8] A good example of this was the Pitjantjatjara peoples attempts to regain title to an Unnamed Conservation Park in the northwest of South Australia. Their traditional land for millennia, the area was denied to them because scientists argued the need for a "pristine" area as a reference zone to compare the ecological damage caused in the pastoral lands immediately to the east.

[9] Another issue of great contention, were the attempts by some conservationists to have areas declared as Wilderness. Marcia Langton and others have forcefully argued that to protect areas as remote and untouched by the influence of man is to deny the reality that indigenous people interacted with their entire environment, and modified it through fire and other means. They bitterly rejected their exclusion from or use of such areas and clashed frequently with Wilderness advocates.

> "Others were struggling with the major shift in the concept of National Parks as places primarily for the preservation of the natural environment to that of 'cultural parks'. Here the culture and presence of indigenous people is seen not only as acceptable and compatible but as a positive value to the ecology of the park, adding a rich, new dimension to the visitor's experience. This was especially hard for many conservationists to accept, with their long held view that a National Park is a "natural' environment, substantially untouched by the influences of humans. In addition they saw National Parks as community assets of the highest importance which should be owned by the community, not just a small group within it.[10] "

Indigenous people were making a compelling case for a "special' status when it came to the conservation management of their lands. Michael Dodson, first Aboriginal and Torres Strait Island Commissioner put it forcefully when he said[11]:

> "There is another dimension that invests land with meanings and significance – which transforms land and the environment into landscape, and into 'country'. That other dimension is culture. Culture is what enables us to conceive of land and environment in terms that are different to conventional European notions…."landscape" and "environment" are human constructs – they are terms that are inherently shaped by the way in which humans perceive, or think about the world around them."

He goes on:

> "What I am suggesting is the need for integrating the views, approaches, and experiences of indigenous peoples into national strategies for environmental and conservation management. What I am suggesting is a partnership …between Western knowledge and "scientific" approaches to land and environmental management, and indigenous knowledge and approaches. Such a partnership, I suggest, should provide the basis for sound, sustainable environmental management and protection."

The Aboriginal ownership of national parks

Nothing brought the issues raised above to a head more than the agreement by the Hawke Government in 1983, to return the Uluru National Park to its traditional owners, for whom I acted as legal counsel. There can be no natural feature in Australia to equal Uluru as an icon and an entrenched part of our national psyche. Known internationally as the tourist destination Ayer's Rock National Park and inscribed on the World Heritage List, it has also been the land of the Pitjantjatjara and Yankunyatjatjara people for at least 10 000 years.

This pre-dated Native Title considerations, but resulted from a political campaign by Anangu (the name the traditional owners call themselves) to have the Commonwealth owned National Park granted back to them by amending the existing land rights laws covering the Northern Territory.

The deal was a complex one[12], but in essence, the 132 566-hectare, park was deeded as inalienable freehold land to a Trust of Traditional Owners. In return, Anangu leased the Park back to the Director of National Parks and Wildlife (ANPWS) for a period of ninety-nine years. The Park was to be jointly managed by a Board of Management with a clear Aboriginal majority affording substantial powers of control, which would also have representatives of tourism, conservation and science. In addition, the lease also ensured the rights of Anangu to reside in the Park; and set out the terms of an annual rental payment and proportion of the "gate money."

The Uluru Lease, in summary, requires the Director of ANPWS to promote Aboriginal interests in the Park by:

- Encouraging the maintenance of Aboriginal tradition within the Park through the protection of areas, sites and matters of significance to the traditional owners;

[10] Phillip Toyne *The Reluctant Nation* ABC Books 1994, p49
[11] Marcia Langton *Burning Questions -emerging environmental issues for indigenous peoples in northern Australia.* Centre for Indigenous Natural and Cultural Resource Management 1998, p7-8
[12] See Phillip Toyne *The Reluctant Nation* ABC Books 1994, Ch 4.

- Taking all practicable steps to promote Aboriginal administration, management and control of the Park, and to urgently implement a program for training Aboriginal people in skills needed to do so;
- Involving as many Aboriginal people as possible in the operations of the Park and adjusting working hours and conditions to the needs and culture of Aboriginal people employed in the Park to facilitate this;
- Maximising the use of traditional skills in the management of the Park;
- Promoting among non-Aboriginal employees in the Park (and where possible among the visitors to the Park and residents of Uluru) a knowledge and understanding of the traditions, language, culture and skills of Aborigines, and to arrange for proper instruction by Aborigines engaged for that purpose;
- Regularly consulting with the traditional owners and their organisations about the administration, management and control of the Park;
- Encouraging Aboriginal business and commercial initiatives and enterprises within the Park.[13]

The newly convened Uluru Board of Management resolved that a new Plan of Management[14] should be prepared as soon as possible to reflect the fundamental changes to ownership and management which had occurred and also to clearly inform the public that:

> "...this is an Anangu place, Anangu Park and that Anangu people are going to be involved with the management and work of the Park."[15]

ANPWS reported of this Plan that it was:

> "…unique and innovative in that each chapter is summarised in the Pitjantjatjara language. The Plan details the development of Aboriginal living areas within the Park; it defines the concept of an Aboriginal National Park; and in a detailed introduction, gives readers an understanding of the significance and history of the Uluru area."[16]

In the sense of the public message it conveyed concerning the positive values of an Aboriginal national park and of the positive stance with respect to Aboriginal special rights to be involved in management, it was at the time unique.

Despite the divisive and, at times, acrimonious debate that raged at the time of the hand-over, the Aboriginal ownership of Uluru has been an outstanding success and surprisingly uncontroversial. The Park was awarded UNESCO's prestigious Picasso Medal for its groundbreaking management approach. Visitors overwhelmingly endorse the promotion of the Park's Aboriginal cultural significance. Anangu are actively involved in work as rangers, wildlife research and in maintenance of country through controlled burning.

Uluru wasn't the first Aboriginal owned National Park and a number of others have been created since, but it was the one which brought the debate about the appropriateness of this concept to a head. Since then, several State governments have initiated similar arrangements over some of their parks. The precise conditions vary, and not all provide freehold title, lease back and majority control for Aboriginal owners, and to this extent, are usually considered to be an inferior version of the "Uluru model'.

Cape York Heads of Agreement

In an attempt to resolve the then, new and confused questions of Native Title over the vast area of Cape York in far north Queensland, Aboriginal, Conservation and Grazier Organisations came together to negotiate an agreement to accommodate each others interests. These groups had long been locked in what seemed like irreconcilable conflict. It was a bold and completely unexpected outcome and done independent, of government.

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[13]Uluru *Memorandum of Lease*, 1985. See also ANPWS, (1986), page 2 and Uluru - Kata Tjuta Board of Management and Australian National Parks and Wildlife Service, (1991), pages 6-7.
[14]ANPWS, (1986).
[15]Uluru Board of Management *Minutes*, 22-23 April, 1986, page 12.
[16]ANPWS, (1987b), page 4.

Under the 1996 Agreement[17], the cattlemen would gain security in relation to Native Title; involvement in negotiations on conservation initiatives on the Cape; the restructuring of their leaseholds and improved tenure and improved economic security.

Aboriginal people would gain resolution of native title issues by negotiation rather than litigation; access to pastoral leases as a condition of restructuring the leases; title to pastoral leases purchased for their high conservation value and an improved economic base.

Environmentalists would gain assessment of World Heritage values throughout the Cape; environmentally sustainable land use; a Commonwealth fund to purchase land with assessed high natural and cultural values and money to manage land purchased through the fund.

The concept was that pastoral leases would be evaluated, and the boundaries consequently redrawn, to exclude areas of high cultural or environmental value which would become conservation areas, usually under Aboriginal ownership. The pastoralists would have more economically valuable holdings under more secure title.

The fund referred to was A$40 million provided by the Commonwealth, initially for a detailed evaluation of the natural and cultural values of the Cape, and later for acquisitions and management.

The Agreement was met with mixed reactions. The conservative Queensland State Government responded to attacks on it by cattleman's organisations elsewhere, by freezing activity to give effect to its provisions. They saw it as conceding rights to Aboriginal groups, which would establish undesirable precedents for the resolution of Native Title elsewhere.

The agreement showed a new maturing of environmentalists' attitudes to Aboriginal ownership of conservation areas. This was all the more remarkable because north Queensland had seen some of the most virulent opposition by conservation groups to Aboriginal owned National Parks.

Implementation of the agreement is far from complete, and there is growing anger on the part of the signatories at the lack of progress to date. In particular, they reject the failure to reassign land as part of the moves to resolve native title and to set aside areas for conservation, but a new Queensland Government has now identified six pastoral leases to pilot the changes set out in the in the original agreement.

It is the process of reaching the agreement, which is of greatest significance. It shows what positive outcomes can be reached to achieve social environmental and economic benefits, even by traditional opponents, when goodwill is combined with creative thinking.

Indigenous protected area program

The IPA Program was created as part of a broader national objective to establish a comprehensive, adequate and representative National Reserve System. The Commonwealth, State and Territory agencies concerned with biodiversity conservation are working to identify good samples of Australia's ecosystems, which can be conserved and managed effectively in a National Reserve System. A scientific approach is being used to identify priorities for the establishment and management of new protected areas across Australia. This has identified major gaps in the existing system of protected areas across Australia. It has shown many types of landscapes and ecosystems across Australia are poorly represented in the NRS, and that many such areas occur only on indigenous owned lands.

The Commonwealth Government believes that the IPA Program can accommodate the cultural priorities of indigenous people with the biodiversity conservation objectives of the nature conservation agencies and so contribute to the NRS.

There is international recognition that indigenous and customary management and use can live in harmony with and contribute to biodiversity conservation objectives on protected areas.[18]

[17] *The Cape York Heads of Agreement* ,5th February 1996

[18] The World Conservation Union (IUCN) defines a protected area as:
"An area of land or sea specially dedicated to the protection and maintenance of biodiversity and associated cultural resources and management through legal and/or other effective means."

Indigenous people have their own strong view on what IPAs should be about. Aboriginal delegates at a [19]national meeting on IPAs declared:

> "An Indigenous Protected Area is governed by the continuing responsibilities of Aboriginal and Torres Strait Islander peoples to care for and protect lands and waters for present and future generations."

Area may include:

- Areas of land and waters over which Aboriginal and Torres Strait Islanders are custodians; and which
- Shall be managed for cultural biodiversity and conservation, permitting customary sustainable resource use and sharing of benefits.

This definition includes land that is within the existing conservation estate, that is or has the ability to be cooperatively managed by the current management agency and the traditional custodians.

The goals of the indigenous protected areas program are to establish partnerships between government and Indigenous land managers to support the development of a comprehensive, adequate and representative national system of protected areas. This is to be done by:

- Assisting in the establishment and management of protected areas on indigenous lands; and
- Assisting Commonwealth, State and Territory agencies to develop partnerships and agreements with indigenous groups for the cooperative management of protected areas, not owned by indigenous people.

This program is specifically aimed at promoting and integrating indigenous ecological and cultural knowledge into contemporary protected area management practices in accordance with internationally endorsed protected areas guidelines.

The IPA program was met with guarded support by indigenous land holders. They were attracted to the idea of funding for the management of their lands. They had long objected to the fact that while they owned 15% of the country, they receive only 2.8% of the national funds allocated for land protection programs. They also saw it as long overdue recognition of their own expertise in the environment. They were wary of requirements to offer lands as Protected Areas, in perpetuity, when government was only willing to commit funding for the year or two of a budget cycle.

There now appears to be a quickening in the up-take of the program, with the first area, Nantawarrina in South Australia, being declared in 1998. There have been two further declarations since, with a further nine in the final stages of negotiation.[20]

Indigenous people and the environment: Some considerations for the OECD environment review process

If the OECD is to accurately reflect developing trends in a number of its member countries, to redefine the role of their indigenous peoples in the management of the environment, it must add this as a new facet to the review process. It will note progress

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In general these protected areas are what most of us know as national parks, nature reserves and marine parks. The IUCN definition is different to the traditional view of national parks in two important areas;

- the words *associated cultural resources* recognises there is a human component to the natural world we aim to protect; and
- the words *other effective means* imply that protected areas need not be seen as purely government business dependent on statutory definition and legal enforcement. For instance Indigenous and other private landholders may have, or may develop, effective means to manage their protected areas in such a way that can contribute to the National Reserve System (NRS).

[19] National meeting on IPA's held in Alice Springs in April 1997

[20] Environment Australia – Ministerial Brief June 1999.

towards mutually acceptable regimes for accommodating both the cultural interests if indigenous peoples in their environment and the broader environmental goals of the nation at large.

It will provide for positive comment on those countries where the following criteria are met:

- The country has policies and programs for the involvement of its indigenous people in environment management and has involved those peoples in their development.
- The country has adopted special measures, which recognise the special circumstances of indigenous people in the use of wildlife, access to and ownership of conservation areas.

Indicators of successful implementation of these measures might be inter alia:

- The areas of the conservation estate of a country under the control or ownership of indigenous people;
- Special arrangements in place for the use of wildlife by indigenous people for cultural purposes;
- The number of indigenous people in influential positions in government, especially, in environment policy roles and in protected area management and;
- The adoption of appropriate cultural interpretive material in National Parks and other conservation reserves.

ENVIRONMENTAL INJUSTICE IN THE UNITED STATES: REALITIES & MYTHS

MR. JAMES P. LESTER AND MR. DAVID W. ALLEN

Introduction

Environmental justice, broadly defined, gives rise to at least two testable propositions; the environmental racism hypothesis, which maintains that unbalanced proportions of environmental hazards maybe located in minority communities, and the environmental classism hypothesis, which focuses on whether the same problem affects poorer communities. Both hypotheses are important. Yet, because of the environmental racism hypothesis, the topic of "environmental justice" has been called the "civil rights movement of the 1990s," and the growth of this movement in the United States, primarily because of its focus on race, has surprised even seasoned policy makers with the speed and magnitude of its impact on national policy (Cutter, 1995; Goldman, 1992; Grossman, 1991). Given the speed with which the issue has appeared on the policy agenda -- and specifically, given the emotional connotations associated with racial discrimination in the United States -- continued study of the incidence of environmental racism is, and should be, a priority among students of public policy.

We have several reasons which justify the continued examination of this hypothesis. First, we focus on race simply because social class has been a well studied concept, both in terms of general policy research and in terms of environmental policy. Thus, much has been known for some time about the constancy and magnitude of this concept's place in the scholarly canon. Conversely, the constancy and magnitude of the race/risk nexus across different types of environmental hazards constitutes a source point for continued inquiry wherein "new" findings are possible. Second, it is important to focus on environmental racism because, unlike social class, individuals cannot move out of a racial classification; therefore, the race/risk nexus forms part of the corpus secundum of racial discrimination -- a social harm that has been labeled the American dilemma (Mrydal, 1944). A third reason for focusing on environmental racism deals with the nature of the research designs that have been employed in many existing studies . These designs usually take one of the following forms:

$$\textit{Eq. 1: } y_{Env.\ Harm} = a + b_1 Race$$
$$\textit{Eq. 2: } y_{Env.\ Harm} = a - b_1 Social\ Class$$
$$\textit{Eq. 3: } y_{Env.\ Harm} = a + b_1 Race - b_2 Social\ Class$$

(Adeola, 1994; Anderton et al., 1994, 1994a; Asch and Seneca, 1978; Attah, 1992; Been, 1994; Berry, 1977; Boerner and Lambert, 1995; Bullard, 1983, 1990a; Burch, 1976; Clean Sites, Inc., 1990; Colquette and Robertson, 1991; Costner and Thornton, 1990; Davies et al., 1972; Dorfman, 1979; Fillon, 1992; Freeman, 1972; Gelobter, 1987, 1992; Gianessi and Peskin, 1980; Gianessi, Peskin, and Wolfe, 1979; Gould, 1986; Greenberg, 1993, 1994; Handy, 1977; Holm, 1994; Kohlhase, 1991; Krieg, 1995, 1998; Lavelle and Coyle, 1992; Mohai and Bryant, 1992; Shaikh, 1995; Shaikh and Loomis, 1998; Szasz et al., 1993; United Church of Christ, 1987; U.S. Council of Environmental Quality, 1971; U.S. General Accounting Office, 1983; West, 1992; West et al., 1992; Zimmerman, 1993, 1994; Zupan, 1973).

Initially, these designs fail to account for known alternate explanations for environmental pollutants; thus, results provide a limited understanding of the determinants of a variety of environmental hazards. Second, Eq. 1-3 coefficients could over or under estimate the race/risk nexus because of the absence of other variables. Coefficients could be overestimated because of the lack of relevant controls. Coefficients could also be underestimated because omitted variables may combine with included measures to create conditions of classical suppression. Finally, the absence of additional concepts preclude testing for conditional relationships that may exist either among the excluded variables or between included terms and any excluded measures. Under these conditions, estimators could be inaccurate and an incomplete explanation pro-offered for the race/risk nexus.

A fourth reason for this study is linked to the fact that a number of earlier environmental racism investigations were based on case studies of individual sites where environmental racism did indeed exist.

However, these idiographic studies do not allow for generalization to a broader range of cases. While research in the 1990s was more sophisticated -- breaking away, as it did, from reliance on qualitative and quantitative case studies -- more work was, and is, still called for. Indeed, given the complexity of forces at play, no single study -- regardless of its level of sophistication -- is likely to determine, conclusively, whether any specific race-based environmental inequity is prevalent, spurious, or sporadic across a full range of divergent environmental harms.

Finally, we study environmental racism in order to provide a sound basis for policy design. For example, the Environmental Protection Agency is developing an Environmental Justice Plan, interim guidelines for investigating complaints of environmental racism are a fact of life, and several bills have been introduced in Congress to deal with the issues associated with environmental justice. Yet, this new policy is being crafted before all the evidence is in. While this is not usual in the annals of policy making in the United States, it does not represent the most rational and efficient way to proceed. Our view is that policy should be designed on the basis of a competent understanding of the forces at play in any area of societal concern. The precondition of a competent understanding of relevant aspects of a societal problem allows design of policies that do reach to the heart of the problem instead of merely raising false expectations that harms will be ameliorated.

Examining the environmental racism literature

The environmental racism literature has been organized by some authors (Allen, Lester, and Hill, 1995; Cutter, 1994) under four headings: early descriptive literature (primarily case studies); normative and prescriptive articles; reviews and critiques of the extant corpus; and, data-based quantitative studies.

Early descriptive literature

This literature outlines the movement's origins and illustrates, primarily through qualitative and quantitative case studies, a relationships between environmental disparities of various types and communities of color. The earliest pieces focused on a protest, in Afton, North Carolina, over the siting of a polychlorinated biphenyl (PCB) contaminated soil dump site in a largely African-American community. Afton's population, more than 84 percent African-American at the time, was within Warren County -- which, in turn, had the highest percentage of African-Americans in North Carolina (Bullard, 1990a, 1990b, 1993a, 1993b, 1994a; Beasley, 1990a, 1990b; Carroll, 1991; Cohen, 1992; Colquette and Robertson, 1991; Coyle, 1992; Ervin, 1992; Geiser and Waneck, 1983; Hurley, 1988; MacLean, 1993; Maraniss and Weisskopf, 1987; Meyer, 1992; Spears, 1993; White, 1992). Other case studies of Texarkana, Arkansas, Los Angeles, California, Detroit Michigan, St. Louis, Missouri, and Buffalo, New York also serve to exemplify environmental racism as it applies to African-Americans (Attah, 1992; Boerner and Lambert, 1995; Burke, 1993; Jetter, 1993; Krieg, 1995, 1998; Lee, 1993; Mann, 1991; Szasz et al., 1993). However, questions have also been raised regarding inequitable sitings of locally unwanted land uses (LULUs) in Latino and Native American communities (Angel, 1992; Beasley, 1990a, 1990b; Geddicks, 1993; Goldman, 1992; Ong and Blumbenburg, 1993; Rameriz, 1992; Russell, 1989; Satchell, 1992; Schneider, 1994; Siler, 1991; Small, 1994). Latino claims regarding environmental inequities stress the need for examining the western and southwestern United States which has large resident Hispanic ethnic communities (Martinez, 1992; Southwestern Organizing Project, 1983). In a different fashion, Native American claims about environmental inequities focus on extant legal relationships -- idiosyncratic to the junction between Native Americans and the federal/state governments -- as the root cause of environmental injustice (Geddicks, 1994). Further, other Native American claims with regard to this subject are in a more traditional realm of land use/takings issues (Angel, 1992; Beasley, 1990a; Geddicks, 1993; Rameriz, 1992).

Other concerns raised by these studies focus on the health problems arising from toxic threats (Brown and Masterson-Allen, 1994; Grossman, 1992; Rees, 1992; West, 1992; West et al., 1992). Responses to these toxic threats most often occur after some type of health problem is noted in the community and attributed to the existence of a site (Brion, 1988; Bullard, 1990a; Cable and Benson, 1993; Environmental Health Coalition, 1993; Freudenberg and Pastor, 1992; Inhaber, 1992; Sexton and Anderson, 1993; White, 1992). The literature maintains that the adverse health problems attributed to various LULUs have a profound impact on families. As a result, women have risen to the forefront of the movement's community mobilizing efforts (Chiro, 1992; Easton, 1992; Taliman, 1994; WIN News, 1992). In addition to the health concern studies, this literature investigates the proposition that

people of color are more likely to be exposed to environmental hazards in the work place (Edwards, 1992; Gottlieb, 1992; Hair, 1993; Lampe, 1992). In the area of health/safety case studies, establishing a nexus between a LULU and health problems is difficult in that national health statistics, collected mainly by the Centers for Disease Control, did not categorize health findings along the lines of race. Therefore, a historical examination of rates of disease, such as cancer, in conjunction with race-based inequities in LULU distribution patterns were not possible. This compounds the difficulties of providing evidence for the existence of systematic environmental injustice (Johnson, Williams, and Harris, 1993; Lewis, Keating, and Russell., 1992).

Normative or prescriptive studies

Normative/prescriptive studies stress means to ameliorate a race-based disproportionate distribution of environmental hazards. For example, one strain in this literature provides guidance to grassroots organizations by explaining how they can achieve environmental justice goals within the current political system (Bruce, 1993; Bullard and Wright, 1992; Camacho, 1998; Taso, 1992). Another strain in this corpus reviews the history of litigation directed at countering environmental racism and reveals reliance on civil rights suits brought under section 1983 of the Civil Rights Act (42 U.S.C. 1983) and the Equal Protection clause of the Fourteenth Amendment. In relatively early legal actions, with the burden of proof resting with the affected community, discriminatory intent was difficult to establish because of inadequate historical data -- although some federal law suits did bring remediation in some circumstances (Austin and Shill, 1991; Brown, 1992; Bullard, 1993c; Chase, 1992; Cole, 1992a, 1992b, Coleman, 1993; Collin, 1992; Colopy, 1994; Colquette and Robinson, 1991; Dubin, 1993; Godsil, 1991; Jones, 1993a, 1993b; Lazarus, 1993; Reath, 1993a, 1993b). Early lack of uniform results in federal court lead some authors to recommend using state and local laws and procedures for remedying inequities (Cole, 1992a, 1992b; Keeva, 1994; Lyskowski, 1994; Mitchell, 1993; Reich, 1992). However, more recent developments involving Title VI of the Civil Rights Act of 1964, expanded action under interim guidelines by the Environmental Protection Agency Office of Civil Rights, and a recent grant of certiorari in Chester Residents Concerned for Quality Living v. Seif (132 F2d 925 [3rd Cir. 1997], cert. granted 97-1620, U.S. June 8, 1998) may result in a new precedent which will allow for environmental justice concerns to become a more permanent facet of Environmental Protection Agency enforcement/compliance action (Chamber, 1998).

Another strain in this genre examines prevention, instead of amelioration, of race-based inequities (Bullard, 1994a, 1994b, 1994c). Some recommend that risk assessment during the siting process would allow officials to determine whether people of color would be disproportionately affected by potential risks, including assessment to ensure that environmental inequities do not result from a high concentration of sites, rather than from one particular site (Goldman, 1991, 1992; Harding and Holdren, 1993). Indeed, this seems to be a current strategy on the part of the Environmental Protection Agency, carried out under Title VI of the Civil Rights Act of 1964 and a set of interim guidelines issues by that agency (Chamber, 1998). Prevention through proactive policy making has also been advocated in other literature, as well (Chase, 1992; Collin, 1992; Jones, 1993a, 1993b; National Conference of State Legislatures, 1995; Ward, 1994).

Critiques and reviews

Extant critiques range from examinations of methods employed by existing empirical studies (Bowman, 1996; Cutter, 1995; Kamieniecki and Steckenrider, 1996; Mohai and Bryant, 1992) to criticisms of the movement's stakeholders and extant policy solutions.[21]

Along methodological lines, critiques argue that sample selection is a crucial consideration; in particular samples should include areas with/without environmental harms so that findings are not biased toward conclusions of environmental racism (Boerner and Lambert, 1994; Gelobter, 1992; Waters, 1993). However, some also note that the socio-historical context of these different areas must also be considered (Krieg, 1995; 1998). Moreover, Cutter (1995) argues that extant findings tend to depend on a mix of conditions: the time frame of the analysis; the nature of the environmental threat studied; the groups

[21] Reviews include interviews with movement leaders (Almedia, 1994; Camia, 1993; Multinational Monitor, 1992; Truax, 1990) and brief summations of the history of environmental racism (Allen, Lester, and Hill, 1995; Cutter, 1995; Doyle, 1994; Greenberg, 1993; Lester, Allen, and Lauer, 1994; Zimmerman, 1994).

included in the analysis (e.g., global measures of percent minority versus only African-Americans and Hispanics versus other ethnic groups); and, the level of analysis employed (states, counties, cities, SMSAs or zip codes) -- and that all these conditions should be considered when designing studies to assess evidence for or against environmental racism.

Non-methodological critiques assert that people of color have been excluded from the traditional environmental movement, including the fact that persons of color were not represented in either leadership positions or on established committees of national mainstream environmental groups. The perception of elitism by people of color about the traditional environmental movement extended into the late 1990s when several grassroots organizations publicly criticized the 10 largest national environmental organizations for failing to represent minority concerns as legitimate environmental issues (Hahn-Baker, 1994; Lewis, 1992; MacLachlan, 1992; Rees, 1992; Sierra Club, 1993).

Further, as environmental justice garnered national attention with the establishment of the EPA's Office of Environmental Equity and EPA's issuance of a report examining the fairness of environment protection efforts (U.S. Environmental Protection Agency, 1992a, 1992b), critics began to question the effectiveness of the Environmental Equity Office and the seriousness of the Office's efforts on behalf of minorities (Collin, 1992; Lavelle, 1992a; Mohai, 1993) while others examined Congressional hearings on environmental justice legislation (Lavelle, 1992a, 1992b, 1993).

A final interesting examination of the subject that emerged in the early 1990s was one that incorporated the perspective of the business community. These reviews stated that concerns about race-based inequities must be addressed by the business community regardless of the lack of empirical proof uniformly substantiating the claims (Jones, 1993a, 1993b; Warren, 1991).

Quantitative studies

Quantitative studies tend to focus on either process or outcome equity. The process based studies look at the causal mechanisms of inequity by examining the political mobilization of minorities with regard to siting decisions. Some of these studies suggest that often minorities are politically inactive until a LULU becomes a problem in the community (Collin, 1992, Taylor, 1989). This may be due, in part, to either concerted industry effort to place LULUs in areas where individuals lack the resources to oppose the siting decision or a result of "environmental blackmail" (Bullard, 1990b; Kazis and Grossman, 1983). Environmental blackmail occurs when a community, in desperate need of economic growth, is presented with an opportunity to host a LULU without being fully aware of associated risks. Other studies reveal that race-based inequities occur not only in the process of the siting decision, but also in connection with the enforcement of environmental laws (Cole, 1992a, 1992b, 1994; Colquette and Robertson, 1991; Lavelle and Coyle, 1992).

Outcome studies, like our work, look at the spatial-temporal distribution of environmental problems in relation to communities of color and have generated the majority of the quantitative literature on environmental racism (Greenberg, 1993; Kasperson, 1994). These studies divide into two general categories: market dynamics; and, cross-sectional correlates/multiple determinants of environmental harms.

Market dynamics studies account for the volatile U.S. housing market. This literature first determines an areas demographic composition prior to becoming a LULU host. After establishing this baseline, the researcher determine if minorities suffer disproportionate exposure to real/ potential environmental hazards because of inequitable siting decisions or due to other circumstances, such as housing discrimination or the location of jobs, which caused individuals to move into such environmentally undesirable areas (Hurley, 1988). Although the literature addressing this issue is considerably underdeveloped, studies that examine market dynamics report mixed results.[22]

[22] A brief comparison of two studies exemplifies this point. Been's (1994) reanalysis of the GAO (1987) four site data and Bullard (1983) seven site data determined the increase/decrease in minority population before/after siting. While Been found no evidence of market dynamics in the GAO data, she did find evidence of market dynamics in Bullards' Houston data. However, in the latter instance Been notes that she had to combine SMSAs because of redistricting and because some of the sites in question fell at the boundaries between SMSAs. There is some evidence that the necessary combination of SMSAs are correlated with increases in minority population which Been finds. Additionally, Been was unable to compare the market dynamics of SMSAs with sites to SMSAs without sites. Thus, no conclusion can be drawn as to whether population changes in the areas studied by Been were greater than or less than the shifts in minority populations in SMSAS where there were no LULUs. More recent studies of Denver, Colorado addressed the comparison issue (Shaikh and Loomis, 1998). The authors compared zipcode areas with stationary air pollution sites

Quantitative outcome equity studies, which have produced the majority of the quantitative environmental racism studies, test whether persons of color are disproportionately exposed to environmental harms in terms of either correlation or regression analysis using a cross-sectional design. Under these conditions, a positive relationship between race/risk is said to establish a race-based environmental inequity which is the result of environmental racism. These studies have been classified into pre/post 1992 time periods (Allen, Lester, and Hill, 1995; Mohai and Bryant, 1992). Pre-1992 research generally determined that race (either in the presence or absence of a control for social class) was associated with higher rates of exposure to environmental hazards for a variety of geographic areas, such as region, counties, SMSAs, or zip codes, and for a variety of environmental harms -- such as air pollution, solid waste, pesticides, hazardous waste, and toxins (Asch and Seneca, 1978; Attah, 1992; Berry, 1977; Bullard, 1983, 1990a; Burch, 1976; Clean Sites, Inc., 1990; Colquette and Robinson, 1991; Costner and Thornton, 1990; Davies et al., 1972; Dorfman, 1979; Fillon, 1992; Freeman, 1972; Gelobter, 1987; Gianessi, Peskin, and Wolfe, 1979; Gianessi and Peskin, 1980; Gould, 1986; Kohlhase, 1991; Kruvant, 1975; Lavelle and Coyle, 1992; Mohai and Bryant, 1992; United Church of Christ, 1987; U.S. Council on Environmental Quality, 1971; Wernette and Nieves, 1992; West, 1992; West et al., 1992; White, 1992). Some pre-1992 research did point to the environmental racism hypothesis as the predominant explanation for the frequency, distribution or severity of environmental hazards, that is, in eight of the studies cited in this paragraph, where a determination about the relative importance of race and class is provided, race was the most important predictor of risk in six studies (Freeman, 1972; Gelobter, 1987; Gianessi, Peskin, and Wolfe, 1979; Mohai and Bryant, 1992; United Church of Christ, 1987; West et al., 1972).

Post-1992 research continued the inquiry (Adeola, 1994; Allen, 2000; Allen, Lester, and Hill, 1995; Anderton et al., 1994a, 1994b; Been, 1994; 1995; Boer et al., 1997; Boerner and Lambert, 1995; Bowen et al. 1995; ; Bowman and Crews-Meyer, 1994, 1997; Burke, 1993; Crews-Meyer, 1994; Cutter, 1994; Downey, 1998; Greenberg, 1993, 1994; Hamilton, 1993, 1995; Hird, 1993, 1994; Hird and Reese, 1998; Holm, 1994; Krieg, 1995, 1998; Lester, Allen, and Lauer, 1994; Lester and Allen, 1996; Perlin et al., 1995; Pulloch and Vittas, 1995; Ringquist, 1995, 1996, 1997; Shaikh, 1995, Shaikh and Loomis, 1998, Szasz et al., 1993; Yandle and Burton, 1996; Zimmerman, 1993, 1994). Some of this research points out additional explanations for environmental hazards, such as industry/manufacturing, political mobilization, population density, severity of the communities overall environmental crisis, and transportation grids (Adeola, 1994; Allen, Lester, and Hill, 1995; Anderton et al., 1994; Bowman and Crews-Meyer, 1995, 1997; Burke, 1993; Hird, 1993, 1994; Hird and Reese, 1998; Holm, 1994; Lester and Allen, 1996; Lester, Allen, and Lauer, 1994; Ringquist, 1995, 1996, 1997). Even with ancillary explanations, a set of basic conclusions remain constant. First, post-1992 research that analyzes only race/class correlates of environmental risk found that race is the most important predictor of risk. Second, post-1992 research which includes a battery of additional explanations finds that race is still one of a set of statistically significant predictors of risk even though it may not longer be the most important predictor.[23]

Major conceptual issues

A central conceptual issue focuses on defining what is meant by "environmental racism." Does environmental racism exist when minorities knowingly rent or purchase homes near toxic hazards? If full information is available about the environmental risks associated with the location, but minorities either do not take advantage of this knowledge -- or they simply ignore it -- then does a condition of environmental racism exist? The countervailing response to this scenario would ask whether the decisions by minorities to locate in environmentally undesirable areas are corrupted by such items as "redlining," wherein, regardless of environmental hazards, persons of color are restricted in their choice of housing locations due to housing discrimination.

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to areas without such sites. The authors found that the minority population increases within zip codes with LULUs, but this population increase was not statistically different from similar minority population increases in zip codes without LULUs. Anderton et al. (1994a, 1994b) reported results similar to Shaikh and Loomis (1998) for TSDFs. See also Kohlhase (1991).

[23] Some post-1992 research reports the absence of clear race/risk relations for some environmental harms (Allen, Lester, and Hill, 1995; Greenberg, 1993; Shaikh, 1995; Shaikh and Loomis, 1998, U.S. General Accounting Office, 1995; Yandle and Burton, 1996). Cutter (1994) reports that there was a relationship between "racially mixed" neighborhoods and the harm she studied. Hird (1993, 1994) reports a race/risk nexus between the percentage non-white population and the distribution of NPL sites, but finds no relationship between race and the speed of NPL cleanup.

A second definition of environmental racism, and the one we employ in our research, stems from cross-sectional outcome equity studies. This definition is based on the assumption that if environmental racism exists then a statistically significant positive relationship should be evident as between some measure of race and some measure of an environmental harm, when all other explanations are held constant. To use this definition, two issues must be addressed: the definition of race; and, the conceptual model which is employed (e.g, what controls will be imposed on the relationship between risk/race?).

The definition of race, given the exigencies of existing data, tends to be fixed by major U.S. census categories: African-Americans, Native Americans, Hispanics, and Asian-Americans. Some research combines these categories into a "percent minority" variable. We think this strategy is flawed. Combining all four census categories into a global percent minority measure presents two problems. First, the census classifies Hispanics as being of any race, including Black. Combining all four census categories into a global minority measure therefore creates an over count, and in some cases, leads to population figures in excess of 100 percent. Second, and perhaps more importantly, a global percent minority variable creates a situation wherein it is not possible to determine if one minority group, subsumed within the global measure, is experiencing either more or less discrimination.

Some research solves this problem by using, as individualized measures, all four racial/ethnic census categories. While this strategy improves on the global measure it too present problems. Including the four separate measures in an equation analyzing a restrictive sample may lead to problems associated with multicollinearity. Further, this strategy does not account for the over counting problem associated with the Hispanic population. Our solution to this problem was to focus on two racial classifications: African-Americans and Hispanics. Further, we assess the environmental racism hypothesis, independently, for each group.

The decision to focus on these communities was not an arbitrary decision. First, both groups were included in an early seminal study of the subject (United Church of Christ, 1987). Thus, our research provides a point of comparison to that earlier work. Second, African-Americans have been the object of pernicious and long term discrimination in a variety of other forums (Mrydal, 1944). Thus, we can ascertain whether this group is similarly situated with regard to environmental hazards. Third, we focus on Hispanics because this group constitutes, according to census projections, the fastest growing ethnic group in the United States. It makes sense to assess whether this segment of the population is bearing a disproportionate burden of environmental risk. Fourth, discrimination follows a serial lexicographical ordering in the United States such that groups which physically resemble Caucasians are subject to less discrimination (Meier and Stewart, 1991; Meier, Stewart, and England, 1989; Ringquist, 1995; Terkildsen, 1993). The groups in question, on a more-to-less discrimination continuum, are African-Americans, Native Americans, Hispanics, and Asians. By selecting the African-American/Hispanic populations for study we employ a "skip-a-step" strategy to see if different effects are evident for these marginally separated (in terms of discrimination potential) racial/ethnic groups.[24]

The conceptual model

Most conceptual models are too limited in that they tend to take the form noted in Eqs. 1-3, supra. At minimum these models fail to take into account the concerns about political mobilization advanced by the "process equity" strain in the literature. It should be noted that some of the extant literature has made

[24] We do not mean to imply that environmental racism is absent for Native Americans or Asian-Americans. These groups were excluded from our study for several reasons. The distribution of Native Americans, coupled with their distinct legal situation within the United States, does not make them a good study subject given our method of data analysis -- ordinary least squares regression. Other research designs would be more effective for assessing the race/risk nexus for this ethnic classification. Further, the distribution of Asian-American through-out our samples would have lead to statistical problems that we could not counter. As noted in extant literature, these groups are deserving of study and we encourage other researchers to undertake the task.

allowances for this indicator in the conceptual model (Allen, 2000; Allen, Lester, and Hill, 1995; Hamilton, 1995; Hird, 1993, 1994; Lester, Allen, and Lauer, 1994; Lester and Allen, 1996; Crews-Meyer, 1994; Ringquist, 1995, 1996, 1997). As a consequence, a minimalistic conceptual model would take the following form:

$$Eq.\ 4:\ y_{Env.\ Harm} = a + b_1 Race - b_2 Social\ Class - b_3 Political\ Mobilization$$

However, while the minimalist model is an improvement on Eqs. 1-3, it is still too limited. General environmental politics literature suggests that additional measures (pollution potential or severity, public opinion -- partisanship and ideology, political culture, fiscal capacity, legislative professionalism, and organized interests) affect pollution levels.[25] Thus, at minimum, a properly specify model would require the addition of these known relevant variables. Thus, we use a model as specified below:

$$Eq.\ 5:\ y_{Env.\ Harm} = a + b_1 Race - b_2 Social\ Class - b_3\ Political\ Mobilization +/- b_n X_n +/- I_n X_n$$ [26]

Where X_n = additional variables from the general environmental policy literature; and $I_n X_n$ = an exhaustive set of two way interactive terms constructed from the pool of independent variables.

Methodological issues

There are also a set of methodological issues which have affected the study of environmental racism. We present the issues involved and the decisions we have made to deal with each of them in the following section.

First, there is a problem that some of the early research which supports the environmental racism thesis is based on case studies. Case studies are a valuable first step in any research agenda, but they are limited in that one cannot generalize beyond the case under study. In order to bypass this problem we employ the following samples: the contiguous 48 American states -- although in some instances the number of states was reduced because of statistical anomalies; 2080 counties in the United States for which Toxic Release Inventory data was available (a sample representing approximately 66 percent of all counties in the United States), and 410-414 American cities over 50,000 population for which Toxic Release Inventory data was available (approximately 82 percent of all cities within the cited size parameter.)[27]

Additionally, there is a problem of what geographic areas are selected for study. This problem contains at least two dimensions. First, some extant literature focuses on SMSAs or zip code areas (see, for example, Anderton et al., 1994a; Attah, 1992; Been, 1994; Boerner and Lambert, 1995; Bowman and Crews-Meyer, 1995, 1997; Gould, 1986; Hamilton, 1995; Mohai and Bryant, 1992; Szasz et al., 1993; Ringquist, 1995, 1996, 1997; Shaikh, 1995; Shaikh and Loomis, 1998; United Church of Christ, 1987; Wernette and Niever, 1992). While this strategy does establish proximity to a hazard it does entail a flaw with regard to policy making. The units capable of designing or implementing policy solutions below the federal level are state, county and city governments. There are no zip code, census tract, or SMSA policy generating/implementing structures. Thus, it makes sense to study geographic entities that will have to oversee elimination of environmental racism.

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[25] Due to space limitations, a detailed justification of this model is not presented. It is sufficient to say that the literature review which justifies inclusion of the items is quite extensive.

[26] For our state level analysis we created state specific measures for race, class, political mobilization, pollution potential, fiscal capacity, partisanship, ideology, political culture, and organized interest groups. For the county level analysis, we created county specific measures for Race, Class, Political Mobilization, Pollution Potential and Fiscal Capacity; however, because counties are located within states, we also included the remaining state level measures noted above. We also found it necessary to include an additional battery of measures in the county level analysis in order to fully specify the model. The measures included dichotomous measures of Region (Sunbelt States, Western States, Northeastern States, and North-central States) and the Land Area of the county. The city level analysis contained city-specific measures of Race, Class, Political Mobilization, Pollution Potential, and Fiscal Capacity. We also found it necessary to include an additional city-specific measure -- Form of City Government, a dichotomous measure which reflected the Mayor-Council and Council-Manager forms of government prevalent in American cities. To this battery of city-specific measures we added the state level measures.

[27] Missing data on the Toxic Release Inventory was primarily responsible for the reduction in the number of cases for the county and city analysis. However, missing data on the public opinion and political culture variables also eliminated counties and cities within Alaska and Hawaii. The effect of the missing data on the noted variables on reduction in number of cases was marginal.

The selection of geographic entities involves another problem. Research based on states (e.g., Lester, Allen, and Lauer, 1994), counties (e.g., Allen, 2000; Hird, 1993, 1994; Hird and Reese, 1998), cities (e.g. Greenberg, 1994, Lester and Allen, 1996), or zip code areas (e.g., United Church of Christ, 1987; Ringquist, 1995, 1996, 1997) are likely to contain "aggregation errors" which can mask exposure patterns (Kamieniecki and Steckenrider, 1996). We recognize that our use of state, county, and city data may contain aggregation bias. However, by being able to compare results across all three geographic areas we can at least lay claim to a commonality of results. Further, because we have taken care to specify our model as completely as possible, we should -- to some degree -- be able to minimize the problem of aggregation bias. Additionally, we want to point out that with any analysis a trade-off problem exists between aggregation problems (variation within the region of analysis) and the availability of data (the finer the resolution, the lower the availability of region-specific data). The geographic areas selected are large enough to include the effects of hazards, small enough to record significant socioeconomic variation,[28] and generate sufficient data sources to operationalize and test the Eq. 5 model.

Another problem associated with extant research is the number of environmental threats included in any specific study; in other words, existing studies have used too few dependent variables.[29] To deal with this problem we selected multiple measures of environmental harm for each of our three samples. Use of a broadened range of dependent variables, across the tripartite geographic division we employ, should give us a more robust sense of the forces at work with regard to the race/risk nexus. A list of these environmental problems, divided according to our three geographic areas, is shown on Table 1. Table 1 also arrays, in narrative form, our research findings with regard to race.

An additional problem associated with isolating environmental harms is the decision regarding their measurement. We are faced with two choices, use either the number of facilities associated with pollutants or the actual rate of pollution discharged to air, land, and water. Insofar as possible, we tried to measure our environmental harms in terms of the rate of discharge. The following hypothetical example clarifies this problem. Assume the existence of three counties: County A, six facilities producing 50,000 pounds of pollutants per year; County B, five facilities producing 40,000 pounds; and, County C, five facilities with 100,000 pounds per year of releases. Using the number of facilities as the measure of an environmental hazard lists the counties, on a more-to-less continuum, as B-A-C. However, if pounds of releases are measured then the ranking is C-A-B, that is, the high and low cases reverse as between the two measures. Given this example, the number of facilities and level of releases could be inversely related, and since the level of releases is what causes environmental degradation and related human health problems, it appears that the level of release, not the number of facilities, would be a very valid measure for purposes of our research.

A final methodological problem which has plagued this body of research is its heavy reliance on cross sectional, as opposed to longitudinal, analysis. Evidence of environmental racism for a given point in time does not mean that one can generalize across time . While it is possible to read the extant literature in cumulative fashion and compare the results of the different studies conducted in different time periods, the cumulative effect of the literature cannot be taken as a determinative solution to this problem. We try to solve this problem by selecting different time periods for each analysis. Thus, our state data is set in the late 1980s. The country level data is taken from 1995 and the city data from 1993. If we can obtain a commonality of results across the different time periods we feel that we will, in part, have minimized this methodological problem.

Thus, our research accounts for the conceptual and methodological problems inherent in extant research by studying the issue within a content of multiple levels of analysis, multiple dependent variables, an expanded conceptual model, and across time.

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[28] Hird (1993:323 at n.1) advances a similar argument to justify his study of environmental racism at the county level. We feel that we are on safe ground by employing a similar justification.

[29] We do not mean to imply that the corpus of extant research has studied only one or two environmental harms. Overtime the corpus has considered a broad range of environmental risks, including, air pollution, solid waste, noise pollution, pesticides, hazardous waste, toxic fish, land fills, superfund and NPL sites, hazardous waste generators, TSD facilities, TRI sites, and water pollution. However, existing work tends to focus on one hazard at a time and a complete understanding of the race/risk nexus varies according to research design and sample.

Table 1. Summary of State, County, and City Research Findings Regarding the Relationship Between Race and Environmental Harms[30]

Environmental Harm	Black Population	Hispanic Population
State Air - Nitrogen Oxide, Carbon and Sulfur Dioxide Releases to the Atmosphere	No	No
State - Solid Waste	No	No
State Toxic Waste - Degree of Toxic, Birth Defect, and Cancer-Causing Chemicals in Environment	Yes	No
State Toxic Air - Ozone Depletion and Toxic Chemical Releases to Atmosphere	Yes	No
State Toxic Water - Degree of Toxic Chemical Pollution of Surface and Groundwater Supply	Yes	No
State Hazardous Waste	Yes	No
State Water System Violations	No	Yes
County Global Toxic Releases - Toxic Releases to Air, Land, and Water	Yes[31]	Yes
County Air - Toxic Stack Air Releases	Yes	No
County Air - Toxic Fugitive Air Releases	Yes	No
City Global Toxic Releases - Toxic Releases to Air, Land, and Water	Yes	No
City Toxic Air - Toxic Stack Air Releases	Yes	No
City Toxic Air - Toxic Fugitive Air Releases	Yes	No
City Lead - Toxic Lead Releases to Air, Land and Water	Yes	No
Totals	11/14=78%	2/14=14%

A brief review of the results[32]

Our summary of our findings regarding the state, county, and city level analysis are arrayed on Table 1 insofar as they address this question: when other explanations are taken into account, does race matter with regard to the severity of environmental harms?

State-level results

We begin with the negative findings. We find no relationship between the Black or Hispanic population with regard to one measure of air quality -- the level of nitrogen oxide and carbon and sulfur dioxide released to the atmosphere -- or with regard to solid waste. In these instances, other explanations -- the level of organized interests, pollution potential, and political culture -- explain the extant levels of these environmental harms in the American states. These findings differ from other literature (Asch and Seneca, 1978; Berry, 1975; Burch, 1976; Council of Environmental Quality, 1971; Cutter, 1994; Freeman, 1972; Gelobter, 1992; Gianessi, Peskin, and Wolfe, 1979; Handy, 1977; Harrison, 1975; Kruvant, 1975; Shaikh and Loomis, 1998; Zupan, 1973). The

[30] "Yes" means a positive and significant regression coefficient between race and the environmental harm when all other measures in Eq. 5, supra, are held constant.

[31] Particularly in sunbelt states. This region includes the following states: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, New Mexico, North Carolina, Oklahoma, South Carolina, Tennessee, and Texas.

[32] We did separate runs for the African-American and Hispanic Populations for Eqs. 4 and 5. Eq. 5 results were reduced and form the basis of this section of the report.

reason for the divergence could be multi-dimensional. Existing literature used far more discrete units of analysis -- mostly urban and sub-urban areas -- and does not seem to differentiate air pollution into our two dimensions. However, the cited literature also tends to only looks for a race/risk relationship and does not include our expanded pool of explanations.

Our state level findings also stand in opposition to existing solid waste findings (Berry, 1977; Bullard, 1993; Lester, Allen, and Lauer, 1994). Possibly a distinction can be made on the basis of differently constructed measures of this particular environmental harm -- a factor scale containing several measures of solid waste. However, Lester, Allen, and Lauer (1994) did include a measure of municipal landfills in a state -- a measure included in our factor scale. And while they report the existence of a race/risk relationship, our current research does not. Further, work by Bullard (1983) and Berry (1977) used urban areas as the units of analysis while our current research focuses on the states. Thus, it is plausible that the different units of analysis account for the different solid waste findings.

There is another plausible explanation for our solid waste finding. Existing articles (Berry, 1977; Bullard, 1983; Lester, Allen, and Lauer, 1994) used a very simple model to establish a relationship between race and solid waste facilities. We investigated this problem using Eq. 4, supra, and the results from this analysis did conform to the existing literature -- however, when we reanalyzed the data using Eq. 5, supra, the relationship disappeared. Possibly, the results of the initial formulation of the environmental racism argument -- as it pertains to solid waste -- were spurious.

While our negative state findings differ from existing research, our remaining findings do reveal a noticeable degree of similarity to other investigations. We discuss the most uniform set of findings first. The African-American population is related, in a positive fashion, to toxic air, land, and water pollution in the American states. In two instances of toxic pollutants -- the degree of toxic, birth-defect and cancer-causing chemicals released to the environment and degree of toxic chemical pollution of surface and ground water -- the evidence is startling: the African-American population was the most important predictor of the level of environmental harms. These findings coincide with and expand upon previous research (Cutter, 1994; Lester, Allen, and Lauer, 1994; West et al., 1992). Additionally, the United Church of Christ study (1987) -- which looked at hazardous waste -- indicates that race was also the most important predictor of environmental harms. Our results lead to a more robust finding -- when set in competition with other explanations of environmental harms, the African-American population is the single most important predictor of exposure to toxic air, land, and water pollutants. Additionally, we found that the relationship between this measure of race and toxic waste is conditional. First, the exposure of this sector of the community decreases given the presence of highly organized environmental interests; and, conversely, the exposure of African-Americans to this environmental harm increases given the presence of a conservative bias in a state.

While findings regarding the African-American community with regard to toxic waste is consistent with previous research, our separate investigation of the Hispanic population produced divergent results in all but one instance. The positive findings for this ethnic group is that states with larger Hispanic populations evidence a higher degree of water system violations. On the other hand, we found that states with smaller populations of Hispanics have higher concentrations of air, land, and water toxic pollutants, higher levels of ozone depletion and toxic chemical releases to the atmosphere, greater levels of toxic waste, and a higher degree of toxic chemical pollution of surface and ground water. These findings point up the need to study different racial/ethnic groups independently of each other -- and in relation to several environmental harms. Apparently, all racial/ethnic groups may not be similarly affected by all environmental harms. However, we must also note three corollaries to this statement. First, this section of the analysis was carried out at the state level and some of our measures of environmental harms are substantially different than those employed in other research., Second, we did find some evidence which supports the environmental racism hypothesis in relation to five out of seven dependent variables -- and in two instances race (the African-American population) was the single most important predictor in the equation. Finally, because the state level toxic waste measure of environmental harm produced the most startling results -- and, further, because this environmental harm has profoundly adverse health consequences -- we switched our study of the race/risk nexus at the county and city level of focus to toxic releases.

County-level result

We report our results for the black population first, followed by the results for the Hispanic population. Our global measure of toxic releases to air, land, and water (a factor scale) indicates that the relationship between the black population and toxic releases is conditional. In sum, the relationship between the black population and this environmental harm is greater in the Sunbelt states. This pattern is also reflected for the relationship between the black population and toxic stack air releases. Once again, this relationship is strongest in the Sunbelt states. For toxic fugitive air releases, a pair of conditional relationships are present -- again, one based on the Sunbelt, but an additional conditional relationship is present based on ideology. In sum, the exposure of the black population to toxic fugitive air releases in the American counties in highest in counties in Sunbelt states and in counties where the state has a definite conservative bias.

For the Hispanic population, we find the there is a small but statistically significant relationship with regard to our global measure of toxic releases to air, land, and water. However, the relationship is decreased because of several conditional effects. In sum, the relationship between the Hispanic population and this measure of environmental harm is significantly reduced given the Sunbelt region, the northeastern region, the presence of high social class, and a high level of county fiscal capacity. With regard to our other measures of environmental harm -- toxic stack air and toxic fugitive air releases -- we find no relationship between the Hispanic population and the relevant environmental harm.

Our current results -- as they pertain most specially to the Black population, compare favorably to extant research which also reports race/risk relationships with regard to toxic releases (Burke, 1993; Gould, 1986; Lester and Allen, 1996; Lester, Allen, and Lauer, 1994; Szasz et al., 1993). We reach a similar conclusion, but our report of conditional relationships also indicates that the situation is far more complex that heretofore reported.

City-level results

We used four different measures of environmental harm for our city level analysis -- total TRI release, Stack Air TRI releases, Fugitive Air TRI releases, and Lead TRI releases to land, air, and water. We found no positive significant relationships between the Hispanic population and the four types of environmental harms studied at the city level. Instead, in all instances, as the percent Hispanic population increases the level of environmental harms studied decreased.

However, we did find evidence to support the environmental racism hypothesis for the percent Black population. In all four instances, increases in the percent Black population was mirrored by increases in the levels of environmental harm. While these findings are similar to extant research, they also move beyond existing reports. First, we have included a measure of lead pollution -- a cause of serious health problems. As such, we expand the range of knowledge about the relationship between race and risks involving lead in a broader sample of cities than has heretofore been studied. Second, our findings were generated using very complex equations which took into account more explanations for environmental harms. Under these conditions we feel very confident about our city level findings.

Conclusions

Our findings clearly lend support to the environmental racism thesis -- especially for the African-American population in the United States. In eleven out of our 14 tests, we did find race-based inequities for the African-American population. Conversely, our findings with regard to the Hispanic population were not as strong -- in only two out of 14 instances did we find race-based inequities for this minority group. While we are confident of our findings, we also feel that in subject areas as politically sensitive as this, it is exceedingly important that scholarship be held to the highest standards of testing and verification. We have done our best to maintain these standards. Where we encountered a conceptual or methodological problem, as outlined in previous research, we established -- and clearly articulated -- our strategy for minimizing the problem. We have tested the thesis rigorously -- and we feel, more rigorously than has been the case in some of the extant or previous literature. Finally, our findings should be replicated by other scholars and we hope that the broad ranging procedures that we have used will be incorporated into other future projects.

PART III.
URBAN POVERTY
AND THE ENVIRONMENT

URBAN POVERTY AND THE ENVIRONMENT IN THE UK

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Introduction

Earlier this year the UK Government published "A better quality of life: a strategy for sustainable development in the UK". This explained that sustainable development "at its heart is the simple idea of ensuring a better quality life for everyone, now and for generations to come".[1] This emphasis on the conditions of the present generation is very much in line with one of the two key concepts contained in the 1987 Bruntland definition of sustainable development, namely "the concept of needs, and in particular the essential needs of the world's poor, to which overriding priority should be given".

This seminar is timely. Tackling poverty goes hand in hand with improving the quality of life not only for the present generations but for the future. Sustainable Development and Sustainable Communities go hand in hand.

Urban poverty

Compared with many other OECD countries the UK is predominantly an urban society. Urban is defined as places with settlements of more than a 1000 people and where the area of built up land extends for more than 20 hectares or more. 90% of the population lives in urban areas and 80% live in towns of more than 10,000 people. It therefore follows that poverty is overwhelmingly an urban issue.

In the UK poverty exists where people:

- Lack educational and employment opportunities to develop their full potential;
- Lack opportunities to live healthy and active lives, in good quality housing and in clean and safe environments; and
- Are trapped on low incomes for long periods of time.

Poverty and Social Exclusion are closely linked terms which are often used interchangeably. Social exclusion has been defined by the Prime Minister as:

"A shorthand label for what can happen when individuals or areas suffer from a combination of linked problems such a unemployment, poor skills, low incomes, poor housing, high crime environments, bad health and family breakdown."

Characteristics and trends in poverty and social exclusion

The number of people in households below the median income after housing costs in absolute terms has remained roughly constant since 1979. But because there has been an average income growth of over 40% during the period the relative numbers of people living in households below the average has more than doubled in the same period. In 1996/7 30% of the population had incomes 50% below the median.[2]

One of the reasons that so many people are not sharing in the national increase in prosperity has been the growth in the number of households where no one is working. This peaked at 18.9% in 1996 and declined by Spring 1998 to 17.7%. 13% of all working age adults now live in workless households. This has contributed to just under 3 million working age people now claiming income replacement benefit for more than 2 years.[3]

The proportion of working age households where no one has a job has doubled since 1979. Lone parents, older workers, people from some ethnic minorities and people with disabilities are at particular risk of being out of work.[3]

Another contribution to low income has been the increase in the proportion of families with dependent children with one parent which rose from 8% in 1971 to 22% now.[4]

People with lower incomes are less likely to have a car, making access to key amenities difficult. 38% of those without a car say it is difficult to get to a hospital, 17% to a supermarket and 16% to the doctor.[5]

The rise in income inequality has been steeper in the UK than in many other OECD countries. 19.5% of families with children have no working adults compared with 8.8% in France 8.6% in Germany and 7.6% in Italy. We also have a smaller share of 17-18 year olds in full time education than most other major industrial nations.[6] 18% of working age adults have no qualifications. Our excess winter mortality rate of between 30 and 40,000 deaths per year is the highest in Western Europe.

The concentration of disadvantaged

One trend that is similar in all OECD countries is the increasing concentration of disadvantaged people living together in areas with poor environments.[7]

There are 353 local administrative districts in England yet almost two fifths of unemployed people live in the 44 most deprived districts. In these 44 districts housing benefit receipt is nearly twice as high and mortality rates 30% higher.[7]

Educational under-achievement which exacerbates disadvantage is also more pronounced. 30% of school leavers have no or low grade qualifications. Moreover this is highly concentrated in a small number of schools. Of those with no qualifications at 16, 20% were from just 203 schools. Over half of these were located less than two miles from one of 320 deprived social housing estates.[8]

Crime and fear of crime is more prevalent in poor neighbourhoods. The risk of being burgled is four times higher on deprived council estates than in established rural communities.[9] In one survey of seven deprived areas in receipt of regeneration funds 23% said that drugs were a serious problem in their area compared to a national figure of 3% reporting a problem.[10]

Housing

On the whole the population is well housed. The Housing policies of successive governments have given priority to providing subsidized housing with subsidized rents to poor people and those with special needs such as elderly and disabled people. Rising incomes have also enabled a growing population of people to own their own homes – now at 69%. Nevertheless there are still 14% living in poor standard homes of which half are classified as unfit. There is also an estimated 6 million households occupying homes where the average temperature of the rooms is below the threshold of 16°C required to safeguard health. Households with people who are unemployed, long term sick or disabled, lone parents, students or from ethnic minorities are more likely to be living in poor housing.[11]

It is likely that poor housing is exacerbated by and contributes towards wider social and economic deprivation and this is reflected by the fact that it is disproportionately concentrated in the 56 most deprived local authority districts. This is further compounded by poor housing being in areas where there is a poor local environment.

The relationship between deprivation and the environment

Quality of surroundings is fundamental to a good quality of life. Noise, litter, graffiti and vandalism may be a symptom of problems but can themselves promote a spiral of deprivation. Crime and fear of crime reinforces social exclusion and decline.

Deprived people as we have seen are more likely to live in areas with concentrations of disadvantaged people. These deprived areas characteristically have:

- Housing in substantial disrepair;
- Serious problems of vacant or derelict housing or sites;
- Neglected buildings;
- Litter;
- Rubbish or dumping;
- Vandalism;
- Graffiti or scruffy buildings or garden.[11]

The people who live in these deprived areas compared with the national average are more dissatisfied with their housing and neighbourhood and more likely to report problems in their areas with:

- Crime;
- Noise;
- Cars;
- Neighbours;
- Dogs;
- Children out of control;
- Verbal abuse;
- Drugs;
- And to want improvements to:
  - Housing;
  - Availability of jobs;
  - Local amenities and shops;
  - Health service;
  - Quality of the local environment[5].

Problems of low demand areas

Dissatisfaction with some deprived areas not surprisingly leads to people not wishing to live there.This is not only because of the poor conditions, but because of the stigma associated with the areas. This has led to the increasing phenomenon of areas of low demand where both public and private sector landlords find it difficult to rent out their property, and owner occupiers find it difficult to sell their homes for a price which will cover their costs. In very acute situations housing is simply abandoned.

A recent national study for the Department[12] has revealed that 61% of local authorities report low demand problems with their own public sector stock, and 28% in the private sector. Overall 11.5% of the local authority stock, 8% of the housing association sector stock and 3% of private housing is affected.

This has serious environmental consequences. Firstly, the dereliction and abandonment it causes accelerates and accentuates the problems of deprived areas, providing a spiral of decline, further reducing the quality of life of the residents. As one resident in the survey from Salford put it “we are not slums, and we are not scum, we deserve a better life”. It is also a great waste of resources. Often the only answer is demolition of what is often basically good quality housing, some of it very modern, and rebuilding elsewhere. This goes against the Government’s aim of the prudent use of resources.

There are also economic consequences – rent income is reduced and owner occupiers are unable to move, for instance to take up better jobs, or to pay off their mortgage debts.

Poverty and the future environment

One of the key environmental goals of the Department is the effective protection of the environment. It is recognized that the Government and its agencies are major players in this through example, legislation and regulation and through prudent planning. Nevertheless individuals are also important players, for example through turning down their heating, using their cars less and recycling their household waste.

Poor people living in deprived areas are keenly aware of the effects of poor environment. They are more likely to live in places close to factories, dirty inner city canals and rivers, and noisy roads with exhaust fumes. Not surprisingly therefore being worried about a wide range of environmental issues ranging from chemicals in rivers, sewage on seaside beaches to traffic exhausts and toxic waste is more prevalent for those in lower social groups.[13]

But compared to people from better areas, their concern is less likely to be translated into action either by them as individuals or as part of their local community. There are three reasons for this.

Firstly time and energy is taken up with the daily struggles of living with limited means in poor environments and facing the problems outlined in the sections above. Secondly, people in deprived areas are more likely to be poorly educated and the least educated are less likely to know environmental facts and figures. For instance they are less likely to know what is global warming, to know about the functions which contribute to it and to have an awareness of individuals own contribution to creating it.[13]

As a consequence, the least educated compared with the better educated are also least likely to:

- Use energy in the home efficiently;
- Recycle glass, cans etc;
- Make sure their home is properly insulated;
- Persuade others to control CO^2 emissions;
- Keep down car use;
- Know where to obtain information on air pollution[13].

And thirdly, lack of individual action is less likely to be compensated for by joining with other local people to improve environmental conditions. People living in deprived areas are the least likely to participate in local voluntary work. A fifth of those from affluent and suburban areas compared with 7% of those living from council estates and low income areas take part in voluntary work mainly to improve local, cultural, sports and health activities and activities for children and youth. Improving the environment accounted for only a fifth of voluntary activities.[14]

However, to some extent action is partly related to opportunity. Some of the most deprived types of area had a greater proportion of people interested in volunteering than people from affluent suburban areas.

The policy response: tackling poverty and social exclusion

This week the Government is launching its first report on its strategy to tackle poverty and social exclusion.[15] Its vision over the next two decades is to create a society in which no child lives in poverty.

Its approach is to:

- Tackle the causes of poverty and social exclusion as well as alleviating the symptoms;
- Create a fairer society;
- Invest in individuals and communities to equip them to take control of their lives based on
- Long term solutions;
    - Flexible action based on local needs;

- Co-ordinated "joined up" government;
- Emphasis on partnership between Central and Local Government, the voluntary sector, the business sector and individuals and local communities;
- Targeting extra resources on deprived areas.

The action includes

- £3.5 billion investment in the **New Deal for work programme**. Over 284,000 people have joined the New Deal for 18-24 year olds and of these, over 105,000 have moved into jobs and over 1280,000 people have joined the New Deal for long-term unemployed peopled aged 25 and over and of these 14,800 have moved into jobs;
- **£19 billion investment in education** with ambitious targets to raise standards in all schools:
- **£540 million investment in Sure Start Pilots** to bring together early education, health services, family support and advice to disadvantaged families with children under four.
- A programme of **reform of the tax and benefit systems** to boost support for families, encourage work and lay the foundations for secure income in old age;
- **£21 billion investment in health service** and new targets to reduce deaths rate from: cancer; heart disease and strokes; accidents; and mental illness;
- **£800 million New Deal for Communities** programme to regenerate deprived areas; and
- **£5 billion additional investment in housing** over the lifetime of this Parliament.

Sustainable development strategy

The emphasis on joined up Government is illustrated by the approach to sustainable development where a better quality of life is the central theme. The main aims of the strategy are:

- Maintaining high and stable levels of economic growth and employment;
- Social progress which recognizes the needs of everyone;
- Effective protection of the environment;
- Prudent use of natural resources.

An integral part of this strategy is the development of indicators which will quantify and illustrate the issues, help to explain how things are and how they are changing. Targets will be set against which performance in meeting objectives can be measured. These targets are applied across Government Departments and closely link to the targets and measure to eradicate poverty and social exclusion. They are:

- Total output of the economy (GDP);
- Investment in public business and private assets;
- Proportion of people of working age who are in work;
- Qualifications at age 19;
- Expected years of healthy life;
- Homes judged unfit to live in;
- Level of crime;
- Emissions of greenhouses gases;
- Days when air pollution is moderate or higher;
- Road traffic;
- Rivers of good or fair quality;
- Population of wild birds;

- New homes built on previously developed land;
- Waste arisings and management.

The Government's objective is for all these indicators to move in the right direction, which will provide as assessment of our success in finding integrated policy solutions including our success in tackling the causes of poverty and social exclusion.

Environment task force

One direct example of the meshing together of social and environmental objectives is the Environment Task Force (ETF). The Environment Task Force (ETF) is one of four options available to unemployed 18-24 year olds under the New Deal for young people which is the responsibility of the Department for Education and Employment (DfEE). The aim of New Deal is to help young people find and remain in sustainable employment. The ETF and Voluntary Sector options aim to achieve this by improving employability through a combination of quality work, training or education towards qualification and help with job search. Work done by the ETF participants will contribute to the improvement of the environment and be compatible with the development.

The Department of the Environment Transport and the Regions (DETR) has overall responsibility for setting the environmental impacts. The responsibility for the type, extent and geographical location for ETF proposals lie with the Local New Deal Strategic Partnerships. The ETF projects and placements are developed and delivered via locally based ETF providers.

Conclusion

This paper has concentrated on the role of poverty and deprivation in the social and environment interface. It has argued that eliminating disadvantage will go a long way to creating sustainable communities.More affluent and better educated and more confident people will not only have more control over their own lives but will have more time, inclination and knowledge to help to protect the environment.

But a word of caution. The relationship between affluence and the environment is the other side of the coin. Better off people use more resources. Even where energy efficiency measures are carried out there is evidence that the benefits are taken in higher thermal standards rather than fuel savings. They use cars and aircraft more, and buy more non renewable goods and appliances. Affluence drives household formation and the demand for more spacious homes – putting the countryside at risk.

The challenge for the future is to embrace affluence while preventing damaging side effects to the environment.

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URBAN POVERTY AND THE ENVIRONMENT IN BELGIUM[33]

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Introduction

The best known definition of sustainable development comes from the report, *Our Common Future* of the World Commission on Environment and Development or the so-called Brundlandt report. *Sustainable development is development that meets the needs of the present without compromising the ability of future generation to meet their own needs. It contains within it two key concepts:*

The concepts of "needs", particular the essential needs of world's poor, to which overriding priority should be given; and

The idea of limitations imposed by the state of technology and social organisations on the environment's ability to meet present and future needs. (WCED, 1987).

Particularly the concept of "needs" and poverty are often forgotten in elaborating and analysing sustainable development policies. Linking social and environmental problems are essential for elaborating, putting into practice and analysing sustainable development policies. The First Federal Report on Sustainable Development of Belgium – on which this discussion paper is inspired – recognises this (Federal Planning Bureau, Task Force Sustainable Development, 1999). It argues that the social, economic and environmental component of sustainable development are all aspects of the same reality (see also OECD, 1999). The integration of these components is therefore fundamental.

The integration of the social and environmental component is the subject of this discussion paper. It highlights possible links between urban poverty and environment. The first paragraph clarifies the concept of poverty and it presents some key figures on poverty and urban poverty in Belgium. Hereafter, the federal Belgian and Flemish policy combating poverty in the nineties is explained, paying special attention to urban poverty. The final paragraph is a reflection on some recommendations concerning linkages between urban poverty and environment, based on the information given in the preceding paragraphs.

Description of the situation

Clarifying the concept of poverty

When searching for links between urban poverty and the environment a exact definition of poverty is needed. The here-proposed definition is as follows. *Poverty is a network of social exclusions, which extends to several domains of the individual and collective existence. It separated the poor from the commonly accepted patterns of living. The poor can not bridge this gap by their own means.* (Vranken J. e.a. 1997). This definition contains three important elements.

- Poverty is a network of social exclusions.

Being excluded from e.g. the labour market does not necessary implies that one is poor. A situation of poverty only arises when this exclusion appears in several domains (such as housing, access to health services, education, work, etc.) The social exclusion in one domain is often linked to exclusion in other

33 . This paper is not an official standpoint of Belgium. The sole responsibility of the expressed viewpoints lies with the author.

domains. These can reinforce each another (poverty spiral). This implies that the operationalisation of poverty in only financial terms -which in itself is a very important aspect of poverty and a useful tool for measuring it - is in contradiction with the multidimensional nature of poverty itself (UNDP, 1997, UNDP, 1998).

- Poverty has a meaning in relation to the commonly accepted patterns of living of society.

Satisfying the essential needs of a person (which are universal) is insufficient to prevent situations of poverty. The policies to prevent and combat poverty imply more. Poverty can only be comprehended when it is placed in its social context which is specific in space and time. The policy for combating poverty and poverty itself has therefore always to be considered in relation to the commonly accepted patterns of living of a specific social context or society. These patterns of living include the consumption patterns.

- Bridging the gaps is not easy.

Poverty does not only supposes the existence of gaps (between rich and poor, slums and residential suburbs, etc.) but it implies a hierarchical ordering of the two elements on each side of the gap. The poor do not possess sufficient socially accepted means (education, financial means etc.) to overcome this gap. Therefore breaking the poverty spiral requests for special policies.

The Belgian situation

The Belgian **Social Security system**[34] ensures claimants against social risks. The risks are events that limit the possibility of persons to earn an income out of an occupation (e.g. sickness) or events that can reduce the standard of living (e.g. family burden).[35] The social security system is the first dam against poverty in Belgium. Recent survey results show that about 35% of the Belgian households escapes from poverty thanks to the social security system and that 7.7 % of the households and 6.4% of the individuals could be considered as poor in 1997, despite social security transfers[36] (Cantillion e.a., 1999).

The **Public Centres for Social Welfare** Act of 1976 is a second dam against poverty. It says that "*Each person has the right to social welfare. Its aim is giving the possibility to every person to live a life that complies with human dignity*"[37]. The Public Centres for Social Welfare (PCSW), which are organised on municipal level assure this assignment. The most known social assistance of the PCSW's is the Minimum Subsistence Level (MSL). Persons without sufficient means of subsistence can claim the MSL.

The PCSW's operate at a crossroad of different competencies. The local municipal board assigns the PCSW-council. Since the state reform of 1993 the communities are responsible for policies affecting personal assistance such as family policy, the policy concerning the organic rules of the PCSW's, the welcome and integration of immigrants, handicapped persons, elderly and youth protection. The federal authority is principally competent for the rules affecting the adjuration rules and the finance of the MSL. The MSL's is financed by the federal and municipal authority, each their contribution varying according to the status of the beneficiary and size of the PCSW.

[34] The social security is one of the competencies of the federal state. The federal level is also competent for the revision of the constitution, justice, national defence, public order (including traffic safety), labour law, industrial relations, price and income policy, the monetary and fiscal policy, trading and company law, most taxes and development aid. The communities can regulate following policy domains: culture, education, personal matters and in some cases the use of languages. The regional policy domains are environment, town and country planning, water policy, land use, nature conservation, housing, agriculture, economy, energy, local authorities, employment, public works and transport. For community matters the federal authority is also competent in some personal and educational matters. For regional matters the federal authority can regulate certain aspects of environment (e.g. product norms), economy (e.g. protection of the consumer), energy (e.g. national equipment programme for the electricity sector), employment (e.g. the regulation of the unemployment benefits).

[35] The social risks covered by the Belgian social security system are as follows (Task Force Développement Durable, 1999). Between brackets the social security measure covering this risk is mentioned: medical expenses (indemnification of medical expenses), children burden (family allowance), loss of income due to sickness, maternity or invalidity (disability benefit), old age or early dead (retirement or survival pension), industrial accidents (industrial accident allowance), occupational diseases or sickness (occupational diseases allowance) and unemployment (unemployment benefit).

[36] Depending on the objective of measuring poverty (duration of poverty, characteristics of poor persons etc.), one method can be preferred over the other. To calculate these findings the EU-norm of poverty is used. According to this method the poverty threshold is established at 50% of the median equivalent disposable income.

[37] Art. 1 Public Centres for Social Welfare Act of 8th of July 1976 (Law Gazette, 5th of August 1976).

Table 1. Evolution of the beneficiaries of the Minimum Subsistence Level in urban and non-urban areas (1990=100)

	1990	1991	1992	1993	1994	1995	1996	1997
Urban areas*	100	105%	108%	113%	128%	144%	159%	171%
Non-urban areas	100	104%	109%	114%	126%	139%	148%	157%
Total	100	105%	109%	113%	127%	141%	152%	162%
Total (a.n.)	49.479	51.759	53.874	56.059	62.724	69.740	75.183	80.200

**Urban areas are defined as the five largest cities of Belgium (Antwerp, Brussels region, Gent, Liege and Charleroi). Source: Ministry for Social Integration (1998), own calculations.*

The number of beneficiaries of the MSL, as presented in Table 1, is certainly not a exact indicator of poverty. The number of beneficiaries is influenced by changes in the regulation, the social acceptance of exercising the right on the MSL and the publicity of the system. Nevertheless, it is a useful indicator of poverty, known in Belgian as the legal poverty threshold.[38]

Because the MSL is attributed by the PCSW-board at municipal level, the MSL-data can be used to compare different sub-regions.[39] In table 1 a distinction is made between urban areas and non urban areas. The urban areas are defined as the five largest cities of Belgium (Antwerp, Brussels region, Gent, Liege and Charleroi). In 1997 about 40% of all MSL-files was settled by the PCSW-board of these urban areas. The table shows that the growth rate of the MSL-beneficiaries in urban areas is higher than in non-urban areas.

In the Flemish region a set of ten indicators was used to manage the so-called **Social Impulse Fund** (SIF), which primary aim is to reduce poverty in urban areas. The objectives of this fund are described in the paragraph, *The Flemish policy combating poverty.* Here only the SIF-indicators are presented. The originality of these indicators is that they not only use the above described MSL-beneficiaries, but a set of indicators that cover different aspects of urban poverty.

The full list of criteria and their weight is as follows.

- Foreigners living in Flanders from a country with a GNP per head of less than 3718.4 Euro (plus persons with a Spanish, Portuguese, Italian or Greek nationality);
- Claimant of the MSL (paid by the PCSW) in a period of three years before the indicators of SIF are calculated;
- Children (0-19 years) living in a one-parent family
- Number of widows, orphans, invalids and retired persons with an income lower than the lowest employee pension;
- Young persons (per municipality of origin) receiving ambulant, semi-residential or residential care from the Special Youth Assistance Committee;
- Unemployed (younger than 25 years) in a period of three years before the indicators of SIF are calculated;
- Unemployed (longer than one year) in a period of three years before the indicators of SIF are calculated;
- Children born in poor families (typology of Child & Family);
- Houses without comfort (typology National Institute for Statistics);
- Number of social flats (to rent).

In the table presented in the annex the Flemish average of each indicator is presented. Using a system of weighted averages and points, municipalities and cities are selected with a higher score than the Flemish average (the so-called SIF+municipalities). These municipalities and cities are also stated in the table. They are entitled to receive extra financial support from the SIF for projects combating poverty and promoting welfare.

[38] Legal, in the sense that the Minimum Subsistence Level is established by law.
[39] Other surveys or data do not contains a geographical variable.

Policy

In the following paragraph the federal policy combating poverty is explained. Special attention is given to policies that focus on urban areas. Then the policy combating poverty in Flanders is explained. This policy is particularly interesting because it is focussed on urban poverty. Due to reasons of simplicity and to limit the size of this discussion paper the policies of the Brussels region, the Walloon Region, the French Community and the German Community are not discussed. For the same reason the different social security measures from 1992 onwards are not discussed. However, as explained in the previous paragraph the social security system is the first and most important policy measure for combating poverty.

The Federal policy combating poverty

The federal policy combating poverty in the last decade of this century is characterised by one major event: the General Report of Poverty (King Baudouin Foundation e.a., 1994). The federal government announced in 1992 the General Report of Poverty (GRP) and stated that the report will be the frame of reference of the policy combating poverty. The GRP is not a scientific study of all aspects of poverty. The report is "*the reflection of the dialogue and mobilisation process between the persons who experience poverty on a day to day bases and the citizens who, due to their occupation, are confronted with poverty and social exclusion"*[40]. The report does not contain a set of clear policy measures: it confronts the reader with all aspects of poverty, such as experienced by the poor themselves. The GRP was presented at the end of 1994.

Between 1995 and mid 1998 four Interministry Conference on Social Integration (ICSI) and one special Federal Government Council on poverty where held. On those ICSI's all governments of Belgium where represented (federal, regional and communities). Policy measures aiming at resolving the problems as stated in the GRP were prepared in collaboration with organisation that represent people living in poverty and then discussed in the ICSI. The subjects covered in the ICSI are of very different nature. They range from family policy to the simplification of administrative documents and from employment measures to the accessibility of cultural events. All competent authorities committed themselves to put the decisions of the ICSI's into practice.

The last phase in this process was the signing in 1998 of a co-operation treaty between the federal authority, the communities and the regions on the policy combating poverty. This treaty aims at institutionalising the dialogue and mobilisation process as experienced during the elaboration of the GRP and the ICSI. The treaty creates a Focal Point on Combating Poverty (FPCP), which should continue this dialogue process and present a bi-annual report evaluating the policy combating poverty. The treaty also stipulates that at least twice a year a ICSI should be organised.

Separately from this GRP-process two other important measures focussing on urban poverty should be mentioned .

In 1992 so-called "Society and Prevention Contracts" were signed between the federal state on the one hand, and several large cities and urban municipalities on the other hand. The objective of these contracts is to ensure the safety of the citizens in cities and large communities, to restore the quality of living in urban areas and to met local demands for safety and protection of citizens. Several project are financed on domains such as crime prevention, the accompany of victims, alternative punishments and politionary measures. Since 1996 this prevention policy was further developed in the context of Interministry Conference on Urban Renewal, where several authorities collaborated.

In 1993 the Solidarity Society Act[41] increased the federal intervention for financing the MSL for cities with an abnormally high concentration of MSL-beneficiaries. Indeed, several large cities were confronted in the beginning of the nineties with rising numbers of MSL-beneficiaries and the financial burden on these cities proved to be very high.

[40] King Baudouin Foundation e.a., 1994, p. 5.
[41] Urgency Programme for a Solidare Society Act of 12th of January 1993 (Law Gazette, 4th of February 1993). The here discussed measure is only one aspect one this act. Also other measured were introduced, but these are not directly linked with urban poverty and have more general scope.

The Flemish policy combating poverty

The Social Impulse Fund decree (SIF) of 14 May 1996[42] is the central instrument of the Flemish authority for urban renewal. The objective of the SIF is to *"support the municipal policy to restore the quality of living and the environment of deferred neighbourhoods and to support the city and municipal policy to combat poverty and to promote welfare*".[43]

On top of the budgets of prior funds aimed at combating poverty, the SIF receives each year an extra financial support. All municipalities can claim a basis donation, the sum being equal to the budget of these prior funds.[44] The so-called SIF+ municipalities or cities get an extra share, the sum being equal to the extra financial SIF-means. The SIF+ municipalities are selected using a set of ten indicators measuring social exclusion in different domains as explained earlier. Municipalities or cities with a higher score than the Flemish average are considered as SIF+. In other words, the SIF focuses on poverty and urban renewal in all municipalities and gives special attention, by granting a SIF+ status, to (sub)urban regions that are more confronted with problems of social exclusion.

The general objectives of the SIF are the following.

- Inclusive policy:

A set of co-ordinated measures are needed for dealing with problems regarding urban poverty, living quality and the protection of the environment. The interlinkages of these problems are affirmed.

- Integrating all policy measures at the local level:

All measures that have to do with the SIF-objectives or influence it – regardless of the level, be it European, federal of communal – should be integrated at local level, as well for organisational aspect as for the objectives of these measures.

- A pact with the municipalities.

The SIF-decree only gives a general frame of reference. Convenants between the municipalities and the Flemish Government fill up this framework. In this convenant is explained how the municipality or city itself and the PCSW are involved in the SIF-policy. At local level a Steering Committee is established to co-ordinate all the SIF-projects. Municipalities and cities only have access to the SIF-budget if a convenant is signed. A consequence of this decentralisation is that local SIF-policy can vary from one municipality to another or between a SIF+ city and a city with no SIF+ status, depending on the specific needs of the region.

- A planified and result oriented approach:

The convenants explain which projects are planned for the period 1996-199945, and which results should be obtained.

- Information and participation.

The decree stipulates that sufficient information and participation of all concerned actors should be assured. The decree does not say how this has to be done but guarantees are needed so that the local SIF Steering Committee has a sufficient public support.

Table 2. Distribution of the drawing rights of the SIF-budget 1997-1999 over the SIF+ and not SIF+ municipalities or cities.

SIF+ (30 municipalities or cities)	Not SIF+ (243 municipalities or cities)	Total (in EURO)
92,8%	7,2%	378.500.723

Source: Ministry of the Flemish Community (1998), p. 65.

Based on Table 2 one can say that the large majority of the SIF budget goes to urban areas, which are especially confronted with different poverty and different aspects of social exclusion.

[42] Law Gazette, 1 of June 1996.
[43] Article3 §1 Social Impulse Fund Decree.
[44] A separate arrangement is made for Brussels, due to its bilingual status and distribution of competencies.
[45] At the moment the preparation is started for a new decreetal basis for SIF in the following years.

On which projects the SIF-drawing rights are spent in the SIF+ municipalities or cities? Table 3 gives an answer.

Table 3. Distribution of the drawing-rights of the SIF-budget 1997-1999 spent on different policy domains in the SIF+ municipalities or cities.

Domain	%	Domain	%
Housing	20.76	Health-care	0.31
Employment	20.56	Welfare	25.06
Economy	1.39	Safety	1.01
Town and country planning	10.19	Community development	8.45
Education	3.36	Co-ordination and information	4.93
Culture	3.98	Total	100%
		Total (in EURO)	351.091.346

Source: Ministry of the Flemish Community (1998), p. 65-66.

Focussing on the SIF and municipalities or cities, one can see that the SIF budgets are used in a variety of domains, which all are confronted with social exclusion. Welfare projects take up 25% of the total budget. Projects in the sector of housing and employment take each about 21% of the total budget. Town and country planning takes up 10%, followed by community development with 5%.

Reflection on recommendations

In this paragraph some reflections on recommendations for linking the social and environment component of sustainable development, or more precisely urban poverty and the environment are presented.

Linking urban poverty to the environment supposes a structural definition of poverty.

The above proposed definition of poverty stresses the exclusion of poor from different domains such as work, health etc. Besides these well-known domains there is no argument not to add the access to environmental public and private goods to the list of domains from which poor are excluded. This could be particularly relevant for urban areas because there the pressure on the environment is greater than in rural areas. (access to parks, the collection and treatment of garbage…). This is a first conceptual link between poverty and environment.

Secondly, in the proposed definition of poverty the attainment of the accepted living patterns of society (from which the poor are excluded) is seen as the ultimate goal of a policy combating poverty. These accepted living patterns of society, or more precisely the consumption patterns, have an influence on the environment. If, for whatever reason, a specific consumption pattern is considered damaging for the environment and therefore public action is undertaken, the ultimate goal of a policy combating poverty also changes.

When for example applying the polluter-pays-principle, thus internalising externalities, the price is a more correct indicator of environmental costs. This can be a useful instrument for changing consumption patterns. But this principle can produce some baleful side-effects. Some goods harming the environment, e.g. coal, are more consumed by persons with a low income. The application of the polluter-pays-principle can put these social groups in a difficult situation if financially accessible alternative energy resources are not available for them. This second link depicts the field of tension between the attainment of the commonly accepted living patterns of society by the poor on the one hand and the sustainability of these living patterns on the other hand.

Linking urban poverty to the environment supposes a participatory approach.

For introducing sustainable development policies and linking urban poverty to the environment a participatory approach is central. The participation of local groups and citizens is one of the principles of the Rio-declaration. In Belgium during the ICMI-process the participatory approach proved to be successful: it gave the policy a grassroots support and it gave the local organisations and citizens the

opportunity to put subjects on the decisional agenda, that without this participatory process perhaps would be forgotten.

In itself this participatory approach is no guarantee that links between urban poverty and environmental problems are put on the political agenda. Indeed, the measures decided in the above described GRP-process do not refer to environmental problems. But the SIF-example can be inspiring. The SIF in itself only provides a general framework. The contents of all the local SIF-projects have to be decided by the local SIF Steering Committee, where participation of local groups is an important aspect. In this local and urban context, the "environment" is partially seen as financing projects concerning housing (e.g. renovating of deprived quarters) and town and city planning (e.g. pedestrian zones). This link with environment is probably not an explicit one: these projects are seen aspects of urban poverty or urban renewal. But it has to be said these types of projects contribute both to the combating poverty and the protection of the environment in an urban context, thus improving the quality of living.

This participatory approach should be accompanied by a new type of policy analysis. The following recommendation deals with this.

Linking urban poverty to the environment supposes a new way of analysing and preparing policies.

The First Federal Report on Sustainable Development of Belgium presents a methodology for analysing sustainable development policies. It can be useful for linking urban poverty to the environment. A distinction is made between core and supporting policies. The core policy focuses on actions undertaken by the administration or ministry competent for a specific matter, such as combating urban poverty. The supporting policies give an overview of all the measures on other policy domains which affect, influence and some times even hamper the core policy[46]. The notion of interlinkages between the core and supporting policies is central.

First, the core policy combating (urban) poverty should be described. Then all other supporting policy domains (employment, transport … not forgetting the policy to protect the environment itself) should be scanned with one specific question in mind: "How do these supporting policies influence the core policy combating (urban) poverty?". This analysis asks for a "de-departmentalisation" or co-ordination of the elaboration of policies. The department preparing or changing e.g. a land use legislation should see which are the consequences of the proposed changes on urban poverty. It is plausible that on technical matters the participatory process in itself is not sufficient to prevent or depict counterproductive effects. The SIF-policy showed for example that in the SIF convenants only sporadically referred to the municipal policy on land use. The evaluation report of 1997 of SIF therefore recommends therefore that in new convenants the interlinkage between the local policy and projects combating poverty and the local land use policy should be explained. (Ministry of the Flemish Community, 1998). The same applies for changes in the regulation of the social security system. Also here consequences of the proposed modifications on poverty in general and urban poverty in particular should be analysed.

A consequence of these recommendation is that also clear indicators should be used. Here a lot of work needs to be done. Not only new indicators need to be developed, but also used in the elaboration of the policies. The SIF-indicators (covering different aspects of poverty, as described earlier) can be a starting point to further research and an example of policy-oriented indicators.

Linking urban poverty to the environment can reveal that policies combating poverty can be profitable for policies concerning the environment.

The Act of 13 February 1998[47] is an example. This act introduces the possibility to fit in MSL-beneficiaries in federal employment programmes, where until then only unemployed were eligible for these programmes. Also the possibility of the PCSW's to hire temporary MSL-beneficiaries in own or municipal services is enlarged. The general philosophy of these programmes is to give the participants under an adapted guidance scheme, sufficient working experience and qualification.

[46] This twofold distinction can be further developed based on the distribution of competencies in Belgium. Core and supporting policies can be identified on the federal level, the communities, the regions and the municipalities and cities. Because the Federal Report on Sustainable Development of Belgium only describes and examines analyses federal measures this distinction is not further analysed.

[47] Law Gazette, 19th of February 1998

These programmes can also be used as an instrument for dealing with environment problems – also in urban areas – and not only as an instrument to reintegrate MSL-beneficiaries in the labour process, thus creating a double-dividend. This idea is merely in an embryonic phase but with some inventiveness and in close co-operation with the regional and local authorities several projects could be considered.

An example could be found in the social housing sector. The environmental performances of houses and apartment owned by the PCSW's and that are rented to MSL-beneficiaries or other specific social categories could be screened. Here, for example a specific project aimed at training MSL-beneficiaries and other disadvantage groups for the renovation of these houses could be considered. These projects could then install toilets consuming less water or install a heating system for different houses or apartment blocks using alternative energy resources, of course when this is possible. These projects give the possibility to these groups to learn new techniques which are in constant evolution and for which there are opportunities on the commercial market. This is an example of a win-win situation: the project can reintroduce persons on the labour market and reduce the consumption of energy.

An other example of a double dividend is the linking the a CO2-tax to the social security. A CO2-tax could be an instrument for improving the quality of the environment, but the revenues of this tax could be used for financing the social security, which is an extremely important instrument for combating poverty.

Such examples need to be further developed. Local Agenda 21's can be useful instruments for elaborating new policies creating not only a double but a multiple dividend.

Linking urban poverty to the environment through Local Agenda 21's?

An instrument for linking urban poverty to the environment could be a Local Agenda 21. Since RIO+5 in 1997 there have been some interesting but modest developments in cities and municipalities in Flanders concerning (Local) Agenda 21. Some cities contracted a sustainable development officer, in others the responsibility of sustainable development policies was given to the officer dealing with environment protection. A recent survey with cities and municipalities (Devuyst e.a., 1998) shows that a coherent policy concerning sustainable development, the development of a Local Agenda 21 process and the monitoring of local developments concerning sustainable development are lacking. The reasons for this failure are twofold: local authorities do not have the sufficient knowledge of international initiatives such as (Local) Agenda 21('s) and only some public officers at local level follow and consider sustainable development as a central policy objective.

This constatation leads to the recommendation that local, urban sustainable development policies need to be guided by a national campaign informing the public and the concerned public officers. This is certainly important for linking social and environmental components of sustainable development. Indeed, the same survey shows that cities and municipalities that developed sustainable development policies restrict sustainable development to environmental problems (such as garbage collection). Projects combating urban poverty are not identified with sustainable development.

This does not mean that the currently developed projects and policies dealing with poverty and urban poverty are incompatible with sustainable development. Particularly the participatory dimension and the integration of different policies influencing poverty are well developed. But before these policies can be considered as (local) sustainable development policies a lot of work needs to be done. A Local Agenda 21 can be a useful instrument for reaching this objective.

ANNEX: SIF-indicators used for selecting the SIF+ municipalities, 1996.

	Inhabitants	*Children born in poor families compared to children born in '94 & '95 (%)*	*Children of one-parent families compared to the number of inhabitants (%)*	*Special Youth Assistance compared to the # of inhabitants (%)*	*Unemployed (< 25 year) compared to the number of inhabitants (%)*	*Unemployed (> 1 year) compared to the # of inhabitants (%)*	*Claimant of the MSL compared to the # of inhabitants (%)*	*SIF-foreigners compared to the # of inhabitants (%)*	*Number of social flats (to rent) compared to the # of inhabitants (%)*	*Houses without comfort compared to the # of inhabitants (%)*	*Widows, orphans, invalids and retired persons with an income lower than the lowest employee pension compared to the # of inhabitants (%)*
Flemish Region	5.866.106	3, 77	1,78	0,18	0,65	2,10	0,42	2,86	2,39	14,59	7,93
SIF+ municipality											
Aalst	76.256	2,33	2,00	0,28	0,75	2,75	0,45	1,50	1,19	17,74	8,34
Antwerpen	459.072	9,98	2,39	0,35	0,91	3,23	1,07	9,86	8,78	10,35	7,45
Blankenberge	17.318	12,46	3,22	0,43	0,73	2,33	1,10	0,93	2,57	12,70	11,43
Bredene	13.025	4,21	2,78	0,28	0,67	1,76	0,52	0,80	0,69	11,07	7,69
Brugge	116.273	4,36	2,16	0,30	0,57	1,57	0,68	0,73	2,33	14,11	8,51
De Panne	9.963	8,26	2,17	0,46	0,64	1,93	0,63	1,24	0,00	15,83	11,72
Dendermonde	42.721	0,96	2,41	0,27	0,74	2,12	0,45	0,95	3,37	17,54	8,97
Diest	21.636	5,83	2,32	0,24	0,68	2,16	0,31	3,97	2,49	9,95	7,98
Eeklo	19.069	5,48	1,30	0,30	0,93	2,68	0,67	0,62	1,66	19,70	10,69
Genk	61.996	6,20	1,43	0,23	1,51	3,92	0,35	24,19	8,53	4,89	7,26
Gent	227.483	9,63	2,45	0,33	1,11	3,39	1,36	6,47	8,25	16,67	8,54
Geraardsbergen	30.555	4,57	2,24	0,28	0,88	2,53	0,23	0,69	0,11	21,81	8,88
Ham	8.913	5,26	1,88	0,11	0,97	3,85	0,15	3,59	0,26	10,61	6,83
Kortrijk	76.040	7,05	2,43	0,34	0,59	1,62	0,71	1,78	1,81	15,97	8,91
Leuven	87.165	3,22	2,14	0,25	0,71	1,90	0,92	3,98	5,18	10,19	7,08
Lier	31.704	3,31	1,50	0,19	0,72	2,33	0,26	3,23	1,19	14,46	8,61
Maasmechelen	35.315	3,74	1,30	0,15	1,41	4,46	0,44	20,09	4,94	7,63	7,58
Mechelen	75.718	4,14	2,42	0,26	0,81	2,32	0,99	7,29	5,00	13,08	7,93
Menen	32.408	13,32	2,01	0,34	0,73	2,07	0,65	0,58	3,06	22,99	9,36
Nieuwpoort	10.060	3,83	3,32	0,29	0,47	1,39	0,62	0,68	0,00	13,04	10,44
Oostende	68.858	6,59	3,26	0,59	0,78	2,26	1,37	1,07	3,41	12,92	10,04
Ronse	24.341	17,15	2,23	0,76	0,95	2,61	0,48	5,66	3,45	26,70	10,00
Spiere-Helkijn	1.877	4,00	4,26	0,05	1,15	2,88	0,20	0,64	0,00	26,61	8,68
Tienen	31.612	6,21	3,26	0,28	0,66	2,24	0,30	1,01	0,83	14,10	7,85
Tongeren	29.788	2,30	2,04	0,23	1,03	3,09	0,60	0,96	3,18	14,24	9,02
Turnhout	38.516	8,30	2,52	0,22	0,91	3,33	0,60	2,00	1,53	7,86	7,22
Vilvoorde	33.346	6,15	2,91	0,22	0,58	1,72	0,34	10,85	7,37	12,94	6,77
Wetteren	22.752	4,11	2,08	0,19	0,80	1,98	0,39	1,44	2,90	20,19	9,24
Willebroek	22.289	3,05	2,78	0,22	0,78	2,38	0,54	4,57	6,75	11,24	7,97
Zelzate	12.282	2,48	1,69	0,12	0,95	2,19	0,92	1,51	3,48	13,89	9,24

Source: Ministry of the Flemish Community (1996), p. 27-35.

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ENVIRONMENTAL AWARENESS AND EDUCATION IN GERMANY

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Linking social and environmental aspects

Not only with regard to OECD work but also to scientific research the social dimension of Sustainable Development has been paid attention to to a much lesser degree than the economic or ecological one. As far as the social sciences are concerned this is at least to some degree due to the fact that there is still something at work one might call the ”Durkheim legacy”: According to this famous and in his regard still influencing French founding father of sociology a scientifically valid explanation has to link social facts to social facts exclusively—and not e.g. to natural phenomena. Problems of cooperation with natural sciences on a conceptual and an organizational level have additionally contributed to the social sciences' reserves in defining the social dimension of Sustainable Development (cf. Brand 1997).

In order to change this situation, different steps have to be taken (random numbering)

1. Many more leading social scientists should be involved in SD issues. For that it is necessary to link these issues to basic concepts and theorems of the core of their science. It could be helpful to use bridging concepts as “future”, “justice” or “systemic interlinkages”. This is by no means trivial, as scientists are a decisive social group as far as the development and communication of SD is concerned.
2. Younger social scientists should be encouraged to engage more in SD research. Reforms of the university and science support systems are necessary preconditions for that. Enforcing transdisciplinary research institutions and networks with the “traditional' sectors could be a way.
3. Positive linkages between environmental policies and social (and economic) effects should be stressed and communicated publicly. Costs and negative aspects should not be omitted, nevertheless they have to be compared with actual costs of non-sustainable developments traditionally neglected in national accounting systems.
4. Important for successfully linking environmental friendly behavior and commitment by social actors is the embedding of environmental issues in day to day social practices of different people.
5. There are some basic aspects or domains of social systems that offer great opportunities to search for closer links between the environment and society:

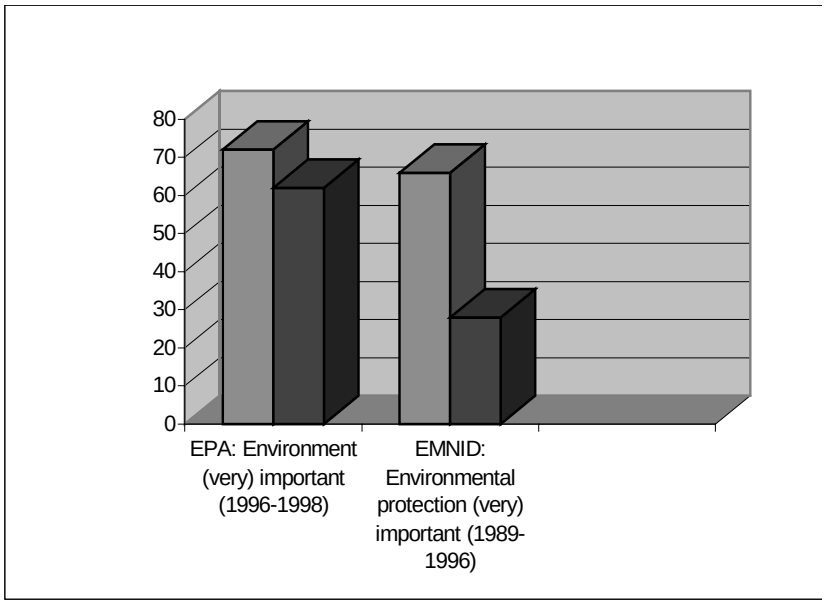
   - *Employment*. Lasting high unemployment rates and their consequences (e.g. in social security systems) are highly important political problems in many OECD countries. Many studies show positive employment effects of a broad ranged transition towards environmentally sound production systems (e.g. in the energy or agricultural sector). Besides quantitative net gains qualitative aspects (educational levels, integration of skills, duration) are important.
   - *Innovation and New Markets*. The same holds true for product, process, and organizational innovations, leading to new markets and profit opportunities. Most of the mentioned studies point out that there will be “looser” branches of ecological transformations as well.

- *Justice*. The concept of intra- and intergenerational justice is a core concept for SD. Nevertheless the notions of justice and equity that are used in SD debates turn out to be undercomplex in terms of philosophical conceptualizations (e.g. Walzer's *Spheres of Justice*). These issues are important, as e.g. "social consumption" (cf. Fair Trade Products gaining market share in Germany) is of growing significance, broadening the concept of a "good' or "high quality" product by aspects like human rights or working conditions in import countries.
- *Region*. In many theories "society" seems to have no spatial correlates. Some aspects of globalization seem to underline that. Nevertheless we find that even transnational corporations (TNCs) depend upon localized qualities and their combination (e.g., political stability, education of labor force, quality of transportation systems). Many studies at least in Germany show that regional identity is (i) an upcoming issue even or especially in times of globalized economies and (ii) that regional identities are a way of strengthening the ties between social actors and systems on the one hand and environmental questions on the other (landscape, traditional products, regional development perspectives, higher degree of individual involvement).
- *Culture*. In a national, but especially in an international context cultural identity is a widely neglected issue in environmental research, nevertheless turning out to be crucial for individuals and groups in order to define who they are—and who not—, what place in nature they have and how to conceive it.

Environmental awareness and education: national issues – especially with regard to underprivileged groups

Environmental issues have, as other ones too, their specific careers in public awareness and rank differently over time on the agenda of the media and in politics. This holds true for Germany as well. After one or two decades of almost constant rise in importance, environmental questions loose public attention since about 1990, remaining nevertheless an important public and policy issue.

Table 1. Declining public significance of environmental issues in Germany



Source: Preisendörfer 1999

Most scholars give three reasons for this decline:

- After 1990 the majority of Germans had to deal with specific problems and issues raised by the unification process (which has still not come to an end).

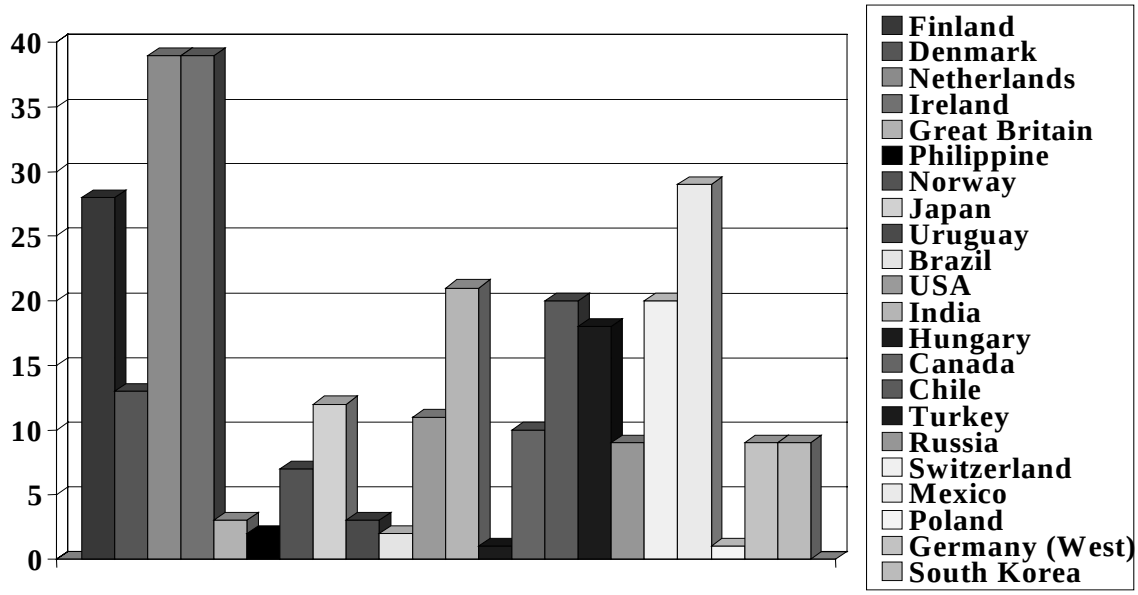
- Persistently high rates of unemployment and ongoing economic crisis or restructuring phenomena have raised in public awareness at the expense of environmental problems.

- The related problems (and opportunities) of globalization have attracted more attention.

Environmental issues are to a much lesser degree at the agenda of the political parties and the media as they had been in the 80es. Even GREEN party activists — some of them in the federal government now — try harder in broadening their scope of issues, including social problems such as unemployment or social security into their traditional environmentalist profile.

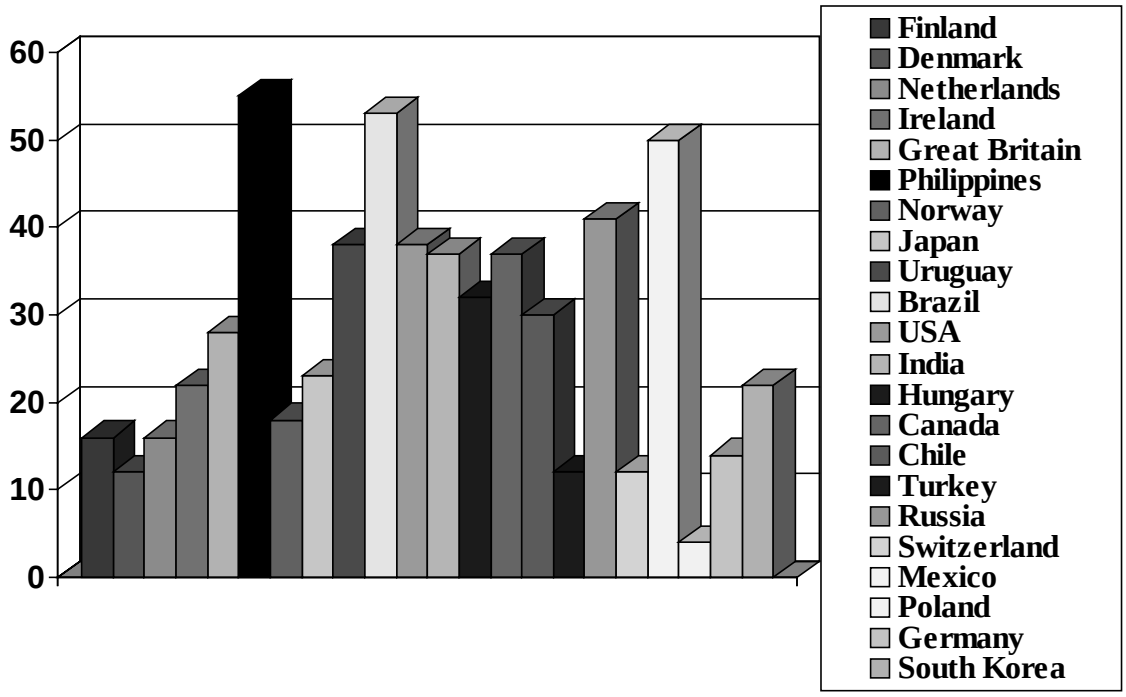
In international comparisons the German public still shows higher degrees of environmental awareness (Kuckartz 1997), especially if closed questionnaires are used. If the public is free to answer, the situation is quite different (cf. Table 2): only 9% name spontaneously “environmental problems” as important in their own country, whereas 39% do so in the Netherlands or in Ireland, and even 29% of the Mexicans. Differences between nations are even greater if personal affectedness is the issue (cf. Table 3). One explanation for the relatively moderate German values — if compared e.g. with those for Brazil, the Philippines or Mexico — would emphasize the different environmental situation of different countries, thus underlining Germany's quite good environmental state or the success of its environmental policies over the last decades. Nevertheless other quite “well off” countries such as the United States or Great Britain offer higher values.

Table 2: Environmental problem important in own country (open question)



Dunlap/Gallup/Gallup
19931992

Table 3: Strong personal affectedness by environmental problems



Dunlap/Gallup/Gallup 1993

One can conclude by saying that in the case of Germany

- General pro-*environmental attitudes* are recently declining due to economic and social problems, but remain on a relatively high level, even if compared to other nations. Environmental social science research in Germany is nevertheless unsatisfied with the construction of a single parameter called “environmental awareness” and tries to develop more problem and actor specific measures.

- *Pro-environmental behavior* is somewhat less marked, and one should distinguish between specific domains (e.g. consumption, recycling, traffic). Many scholars (cf. Preisendörfer 1999) find, that people tend to act pro-environmentally if personal costs in monetary and other terms are low, but have significant difficulties in performing high-cost activities. The high commitment to recycling activities is an example for the first domain, the widespread problems of Germans to do without cars illustrates the second one. Others (cf. Kuckartz 1997) are more cautious with that kind of rational choice approach and point out social and psychological factors.

- The notion of *Sustainable Development*—widely known and discussed in expert circles—turns out to be relatively unknown by the public: only 15% of all adults had heard of it in 1998 (1996: 11%). Asked more precisely, only 4% of a Berlin sample shared a coherent notion of the environmental aspects of sustainability. As to the social characteristics of those who have already heard of the concept (cf. Preisendörfer 1999), they dominantly are:
  - Young
  - Well educated and well-informed
  - Have higher than average incomes
  - Politically interested and engaged
  - Show more optimism towards Germany's position regarding the pathway to SD

But what about the other people, about those who are less informed, have worse jobs, less money and show less political interests and optimism? In order to meet the program of this workshop I would like to turn now to the linkage between environment and social issues by focusing the underprivileged. In the case of Germany this is a quite unfamiliar topic: issues like “environmental justice”, that have attracted significant research and other efforts (not only) in the US definitely don't play any role in Germany. Thus I have to modify my approach a little by saying that it is not marginalization or poverty I would like to talk about in the first line, but the underclasses and other social groups that suffer more than the average from modernization processes and that often have problems with environmental orientations.

Of course there is poverty in Germany, and there is much research on it—very often due to administrative tasks. There is a huge debate about the definition and measurement of poverty underway, more and more in an European context (cf. Andress 1998). Poverty—this seems to be a consensus among researchers—is more than lack of income. One might distinguish six different dimensions of poverty, all of which deal in one way or the other with exclusion:

- Exclusion at the labor market
- Economic exclusion
- Cultural exclusion
- Social isolation
- Spatial exclusion
- Institutional exclusion

The risk of getting poor in all of these respects has shifted — at least in Germany: away from the elderly (although there are many poor pensioners) and towards families with many kids, single women, and young people (sometimes even with higher educational degrees, for whom poverty becomes a part-time experience).

What do the underprivileged people have to do with the environment? First of all, if we don't define them too narrowly, the underclasses come to the majority of population. Thus their — cumulative — impact upon natural systems (sources and sinks) should not be underestimated. On the other hand poor or underprivileged people show, mostly by pure necessity or lack of traditions and skills, a relatively low profile as far as the use of resources (sources and sinks) is concerned. This holds true e.g. in the case of energy use and related carbon dioxide emissions, where we can find factor five differences within a single nation, corresponding the difference between, e.g., the average US and Argentine performance (cf. Lutzenhiser/Hackett 1993). Reusswig (1994) has tried to connect environmental debates about changing lifestyles and social science research on that topic.

Thus overcoming the exclusions most of the underclasses are subject to would mean to increase overall national resource use — a situation much similar to global disparities that should be bridged by SD. Analogous to that global situation it seems to be crucial in a national context as well to ensure social and economic improvements with overall reductions of natural resources use. The notion of equity is thus essential in order to obtain a sustainable development perspective even on a national scale—not because absolute impoverishment would be an issue for the underprivileged in most OECD countries, but because relative disparities together with shared notions of equality and the biographical background of most people lead to a sensitive situation.

Policy actions

Only briefly I will touch this matter by just mentioning some activities — and leaving others out of sight. The German government seems well aware of the fact that environmental education is crucial for reaching SD. As Germany is actively participating within the CSD (Commission on Sustainable Development) process, there is much activity in order to get a clearer picture of SD and to develop indicators to measure progress (e.g. in the field of environmental education, cf. UBA 1999).

Furthermore the government seems to have accepted the fact that environmental communication is a crucial issue for environmental politics; some research is now underway in order to structure the field and to develop strategies for sustainability oriented environmental communication (cf. Lass/Reusswig 1999).

As a pilot project the German ministry for research, education and technology (BMBF) has now launched a concomitant research program trying to find the design for a “education for sustainability” (project leader: Prof. Gerhard de Haan, Berlin).

The German Advisory Council for Global Environmental Change (WBGU), chaired by Prof. Hans-Joachim Schellnhuber (Potsdam), has developed a promising tool for dealing on a transdisciplinary basis with GEC and trying to detect non-sustainable patterns of human-nature-interactions, the so-called syndromes approach (cf. Schellnhuber et al. 1997).

One important issue is the so-called environmental tax reform, which has seen much debate in Germany, but seems up to now—at least from a communicative point of view — to suffer from disconnecting things that belong together, following old issue cleavages instead of re-connecting them according to SD necessities.

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PART IV.
RURAL POVERTY AND THE ENVIRONMENT

RURAL POVERTY AND THE ENVIRONMENT IN HUNGARY

MR. MIKLÓS BULLA AND MR. ISTVÁN POMÁZI

Overview of Hungarian poverty

Since the onset of sociology one of its central topics is the study of social disparities and poverty. Disparities have several dimensions, such as property, income, working conditions, housing conditions, quality of the residential environment, health, qualification, etc. The scholars usually use the concept of poverty to indicate the traditional disadvantageous situation, which is characterized by low income and the resulting drawbacks. Low income is clearly concomitant with poor nutrition, residential environment, etc. although there is not always close correlation. Deprivation often used as a synonym of poverty means deprivation form something and in fact is equal to disadvantageous situation which means lagging behind compared to other groups of the society on the basis of different indexes (income, housing, etc.) Regarding disadvantageous situation there are multiple or accumulative disadvantageous strata who are affected by several disadvantages (e.g. poor health, low income, polluted environment, etc.).

There are no accurate figures on the extent of poverty in Hungary before World War II. Gyula Pikler estimated the proportion of people without any means and the poor at three-quarters of the population based on the 1911 Budapest housing census. In the 1920s and 30s the rural sociologists spoke about “the country of three million beggars” by which they meant farmers without land and dwarf holders. The number of the poor must have been much higher since a significant part of peasants with 5-10 acre as well as factory workers lived under subsistence level.

Regarding the socialist era, when until 1982 the presence of poverty was denied, there are figures on the distribution of the population among different income categories per month and capita since 1962 based on the family income surveys of the Central Statistical Office (KSH). In 1967 one million people lived under subsistence level, in 1962, their number might have reached three million according to estimates. In 1982 11 percent of the population, in 1987 almost 9 percent belonged to the below subsistence level category. After all it becomes clear that poverty in the socialist era was not insignificant at all. The disparity of incomes can be accurately calculated from the family income studies. In a paradox way these figures, contrary to the existence of poverty, were public. If the simplest indexes of income disparity, the percentage of the lowest and highest one tenth of people according to income per capita from the total income, and the quotient of these two proportions, are applied it is clear that the income differences were quite substantial in the socialist period. Following the decrease in the 1960s, disparity began to grow in the 1980s.

While the extent of poverty changed relatively slowly, significant changes took place in the situation of some families and the composition of the poor stratum. In the early 1960s poverty mainly concentrated in villages, by 1987 the number of poor people in the villages decreased, while in towns and the capital slightly increased and in this way became more visible. In the early 1960s the number of poor among agricultural blue-collar workers was higher than among unskilled workers. By 1987 the trend regarding this difference turned, more unskilled and semi-skilled workers lived under subsistence level. Also in the early 1960s far more pensioner households lived under subsistence level than households with active earner, by 1987 the proportion of the poor among pensioners was hardly greater than in the average population. A new phenomenon appeared; poverty shifted from the elderly to children.

There have been accurate figures on poverty and income disparity in the period following the change of the system since 1992 from the Hungarian Household Survey. They clearly indicate that poverty increased substantially until 1995 and income disparities also grew significantly. The main reason leading to the drastic growth of poverty is that between 1989 and 1994, GDP declined by some 18 percent, consequently real income per capita fell by 13 percent, real wage index by 19 percent and consumption per capita by 9 percent. High inflation (the price index grew fourfold between 1989 and 1995) and large-

scale unemployment greatly contributed to the growth of poverty. The unemployment rate was the highest in 1993 at 13 percent, however, it was regionally scattered (the lowest was in Budapest and the highest in the industrial crisis regions). With retirement especially with the early retirement scheme far more employment ceased to exist which is clearly indicated by the fact that in the mid 1990s the proportion of the employed was 74 percent of the 1989 figure.

The proportion of people living on income below subsistence level per capita grew to 15 percent in 1991, to 32 percent in 1994 and to 35-40 percent in 1996. According to the subsistence level calculation of the Central Statistical Office published in August 1999, 25-30 percent of the population lived under subsistence level in 1998 (HUF 21,000/month/capita, about $ 100).

In the past decade the growth of material-welfare disparities can be followed quite well with the changes regarding incomes. This process began in the early 1980s, the political and economic changes of the systems accelerated the rate of disparities. This tendency is well supported by the fact that in the early 1990s the rate of the average income of the lower and upper tenth based on the income per capita was 6.7, the latest surveys show 8.0. Since 1995 the initial signs of a new tendency have appeared in the income disparity of households, while the share of the richest tenth has grown, the relative situation of the poorest tenth has not deteriorated further but that of the medium tenth began to deteriorate. This phenomenon shows that a part of the medium stratum is slipping down the income ladder which might further strengthen and broaden the impoverishing process thereby weaken social cohesion.

Summarizing we can say that in the socialist era the extent of income disparity was similar to that of the Scandinavian countries. In the 1990s it was similar to the values of countries with greater disparities like France or the United Kingdom but did not reach the level of the United States and some Latin-American countries.

If poverty is looked at by demographic and social categories there are four types: traditional poverty; new poverty; demographic poverty and ethnic poverty.

Traditional poverty was well known among sociologists in the socialist era. This type of poverty was particularly related to low qualifications, unskilled agricultural and factory workers and residence in villages. Although these factors still involve the risks of poverty the poorest do not belong to the above mentioned strata. The real losers of the change of the system are the so-called “new poor”. Entirely “new” poor are the ones unemployed since the change of the system. The majority of these “new poor” come from the traditional poor. Demographic poverty hits the elderly living alone and children to the greatest extent.

Finally it is noteworthy that ethnic poverty also exists in Hungary. Among the gypsy minority whose number is estimated at half a million, the proportion of the poor is above the average.

The state of the environment

The state of Hungary’s natural environment can be given a medium rating by international standards. In most respects it is favorable compared with the other former socialist countries of Central and Eastern Europe. Hungary still has relatively extensive woodlands in good condition. It contains a great variety of living organisms and a high number of natural habitats and associations.

The development of the heavy chemical industry in Hungary was less intense than in other Soviet-bloc countries. A high proportion of the country’s energy requirement was met by oil, gas and *nuclear energy*, as stocks of coal were limited. This led to lower levels of air pollution.

The environment has benefited, since the change of system in 1990, from the structural changes, lower personal consumption and falling energy consumption. Air quality has been much improved by the decline of iron and aluminum smelting and the heavy chemical industry. This has made it easier to meet the targets of certain international agreements (notably the first carbon dioxide agreement). In transport there have been conflicting processes at work. Lower transport performance caused by economic recession and improving quality of fuels have had favorable effects, while the increasing motorization and the decline of rail and public mass transport have caused greater environmental damage.

In agriculture, the falling production volumes and the deteriorating solvency of large-scale units have caused the production and application of artificial fertilizers and plant-protection agents to fall.

However, this favorable effect is offset by the problem of controlling chemical use by small-scale producers.

Hungary's greatest environmental problems are inadequate sewage disposal and treatment, air pollution from power stations and urban traffic, and unsatisfactory waste disposal and treatment. It is calculated that these take up 85 percent of the investment in environmental protection. They are very likely to remain the dominant problems in the next 15-20 years.

Water quality

Table 1. Provision of main water and piped sewage disposal, by settlement type, %, 1996

Proportion of dwellings:	Budapest	Other towns	Villages	All types
with main water	98.8	89.8	72.2	85.3
with main drains	88.5	59.7	7.8	46.9

Source: Statistical data on environment, 1996. Central Statistical Office, Budapest 1998 (KSH)

Table 2. Regularly monitored sewage effluent by treatment quality, 1000 m^3

	1994	1996
Adequately treated sewage	178 784 (23%)	287 313 (33%)
Partially treated sewage	478 411 (62%)	416 700 (48%)
Untreated sewage	118 846 (15%)	169 818 (19%)

Source: Statistical data on environment, 1996. Central Statistical Office, Budapest 1998, (KSH)

Table 3. Number of communities with sub-standard drinking water

Region	1990	1993	1996
Central Hungary	14	1	2
Central Transdanubia	77	22	5
Western Transdanubia	27	6	0
Southern Transdanubia	183	77	8
Northern Hungary	159	75	25
Northern Great Plain	0	0	0
Southern Great Plain	15	4	2
Total	475	185	42

Source: Statistical data on environment, 1996. Central Statistical Office, Budapest 1998, (KSH)

Water management is the costliest field of environmental protection. It includes the supply of healthy drinking water, protection of present and future water stocks, sewage disposal, sewage treatment and the quality of natural water.

The supply of domestic main drinking water needs expanding. Official tests show that 10 percent of the samples taken from waterworks are below standard on bacteriological or chemical grounds.

The EU has issued specific directives on sewage disposal and treatment. These require piped sewage disposal and at least second-degree treatment by the end of 2000, in all communities with more than 15 000 inhabitants and 2005, in those with 2000 – 15 000 inhabitants.

This is the area of environmental protection where Hungary is furthest behind. The proportion of sewage receiving adequate treatment is only 33 percent. The figure refers to all effluent, from households, industry, agriculture and transport alike.

Various estimates have been made of the likely costs of installing adequate sewage disposal and sewage treatment. These fall within the range of ECU 3.0 – 5.7 billion, which means there is an enormous

investment requirement. On the other hand, the installed mains and sewage farms will perform their functions for several decades. Much of the cost will have to be borne by households, which means present social policies will need re-examining.

Air quality

Table 4. Emissions of air pollutants in Hungary, 000 t

Type of pollutant	1991	1995	1996
Sulfur dioxide (SO_2)	912.9	704.9	670.3
Nitrogen oxides (NO_X)	203.1	190.0	198.1
Solids	198.5	154.5	140.2
Carbon monoxide (CO)	913.3	761.3	753
Volatile substances (VOCs)	143.5	150.3	150
Methane (CH_4)	914.1	776.2	1176
Carbon dioxide (CO_2)	72 400.0	63 446.0	83 512.0

Sources(s): Statistical data on environment, 1996. Central Statistical Office, Budapest 1998, (KSH); For the data of 1996: Ministry for Environment, Office for Environmental Protection

The marked structural changes undergone by the Hungarian economy in the first half of the 1990s have had obvious effects on air quality. Some loss-making heavy industry closed down, and the volume of production at many installations declined. Technology has been modernized in some fields, a good example being the qualitative improvement in the vehicle fleet. Table 4 shows that the overall trend between 1991 and 1996 was a decline in the emission of the main air pollutants, except for VOCs.

There has also been a sharp fall in emissions of substances that damage the ozone layer, in line with efforts to fulfill international obligations. Use of chlorofluorcarbon (CFC) gases fell from 4410 tons in 1991 to 60 tons (regenerated) in 1996.

The territorial distribution of air pollution is uneven. Of course emissions are much higher in industrial areas than in agricultural areas. Of the country's territory, 3.9 percent falls in the "polluted' category and 9.3 percent in the "moderately polluted' category. The real social problem lies in the fact that this area of little more than 13 percent of the territory contains more than half of the country's population.

The most important factors in protecting air quality are the emissions of air pollution from power generation, industry, transport, and district heating.

Of the air pollutants that carry over long distances, there are international agreement governing emissions of SO2, NOx and CO2. Hungary has met its obligations so far. Meeting the presumably stricter requirements of the next 15 years will depend above all on modernization of energy production and means of transport.

Most of the energy industry has been privatized. Modernization is the task of the owners and in their interest. However, the consequences of doing so are likely to be passed on the consumers. Estimates suggest that the energy industry's cumulative development costs relating to environmental protection will amount to ECU 1 billion by 2010.

Modernization of road vehicles and the road system requires ECU 2.5 billion. Most of this will have to come from road users.

There is substantial transit traffic across Hungary, which can cause serious air-pollution problems. The most reassuring solutions would be to transfer much of the transit traffic to the rail system. However, MÁV (Hungarian State Railways) does not possess the development resources required. This means the proportion of transit traffic carried by rail cannot be raised without financial support from the EU.

Waste disposal

Table 5. Quantity of communal solid waste collected per territorial unit, 000m^3

	1990	1993	1996
Budapest	3 992	4 035	3 948
Other towns	10 117	10 039	10 556
Villages	2 575	2 320	3 378
Total	16 684	16 394	17 882

Source: Statistical data on environment, 1996. Central Statistical Office, Budapest 1998, (KSH)

Table 5 shows that the aggregate quantity of solid waste collected remained largely unchanged between 1990 and 1996. However, there was some increase in the collection from villages, where the collection system underwent development.

Table 6. Consistency of solid waste collected in Budapest, 1996, %

Paper	Plastic	Textile	Degradable organic	Glass	Metal	Toxic	Other inorganic
19.0	4.5	3.4	32.4	3.0	3.8	1.1	32.8

Source: Statistical data on environment, 1996. Central Statistical Office, Budapest 1998. (KSH)

Table 6 shows the consistency of the solid waste collected in Budapest. Looking at this in different light, 33.7 percent is potentially recyclable waste, while 59.3 percent of the content is combustible.

Table 7. Disposal of communal solid waste collected per territorial unit, 1996, 000m^3

Adequately performed dumping	Inadequately performed dumping	Incineration	Other disposal methods	Total
13 704.0	1 267.5	2 403.2	507.1	17 881.8

Source: Statistical data on environment, 1996. Central Statistical Office, Budapest 1998 (KSH)

Table 7 points to the weak points in the waste management system. Seven percent of the waste is dumped under inadequate conditions, while the circumstances in which the dumping classified as adequate takes place (76%) are often less than satisfactory.

Table 8. Generation of toxic waste, mn t

	1991	1993	1995	1996
Total quantity of toxic waste	4.4	3.8	3.4	2.6
Of which: “red mud’	1.9	1.3	1.1	(no data)

Source: Statistical data on environment. 1996, Central Statistical Office, Budapest 1998, (KSH); For the data of 1996: Ministry for Environment, Office for Environmental Protection

Table 8 shows the trend in the generation of toxic waste. Table 9 breaks down aggregate waste production according to another set of criteria.

Table 9. Structure of generated waste, 1994, mn t[*]

Communal waste		Industrial waste		Total
Solid	Liquid	Toxic	Non-toxic	
4.3	20.2	3.5	81.0	108.8

Source: Statistical data on environment, 1996. Central Statistical Office, Budapest 1998, (KSH)

[*] In 1995 – 96 change in the total amount of generated waste is significant.

The absolute mass and specific quantities of the waste generated in Hungary are high. One task of importance is the redefinition of waste materials, adopting the European waste catalogue. This will produce data that are statistically more comparable.

Estimates of the investment required to bring waste management up to date are in the range of ECU 1.8 – 2.3 billion. A high proportion of the costs will be borne by the corporate sector, but the costs to the general public, relating to communal waste, will also be substantial. This is another field in which to hope for financial support from the EU.

Toxic wastes also bring up the question of business competition. A country that allows toxic waste to be disposed of in cheaper ways that depart from EU practice obviously infringes the interest of firms in EU countries. Hungary still lacks most of the infrastructure for treating toxic waste adequately, and providing this is the next assignment. The business sphere will cover most of the investment costs of installing the equipment to render toxic waste innocuous. The public purse will have the task of providing monitoring and controlling institutions and covering the costs of legal regulation.

Nature conservation

Conservation of the natural environment as an irreplaceable part of Hungary's national heritage, involves economic, social, health, scientific, ethical and emotional criteria. This heritage does not simply embody notional values. It can also be considered a natural resource, in which a genetic diversity evolving over millions of years provides still uncharted innovation reserves for society's economic and production activity. Since the value of these cannot be estimated exactly, they should be handled as a national asset. This applies to every association and ecosystem, and every surface and sub-surface asset gained from the country's rich geological history.

Hungary combines elements of three climatic zones (Atlantic-Alpine, Continental, sub-Mediterranean) and of flora and fauna of various origins. The variety of geological and natural geographical conditions has led to many types of habitat evolving in a small area. This mosaic spatial structure means that the plant associations representative of climatic zones are joined by associations on a smaller scale. There are large numbers of relict-preserving habitats and unique hydro-geological and geological objects and caves of incalculable value to the natural heritage. However, the sporadic nature and variety of these biologically rich habitats make them very fragile. They have a relatively low level of stability and face of strong danger of fragmentation and isolation. This means that a range of cumulative special measures are required to preserve them.

The conservation tasks need to be carried out within a broad framework of international cooperation. The territories requiring conservation reach across frontiers, and a high proportion of the animal species are itinerant. This means that Hungary should be an active participant in the international initiatives, programs and agreements that assume close co-operation among regions and sub-regions.

Table 10 presents some data about nature conservation in Hungary, 8.25 percent of whose territory of 93 000 square kilometers is under national protection.

Table 10. Nationally scheduled protected areas, 1997

	Number	Area, "000 ha
National parks	9	422.8
Landscape conservation areas	35	319.8
Nature conservation areas	138	25.4
Total	182	768.0

All the 3263 caves in the country are protected. There are 515 protected plant species and 855 protected species of fauna, including 26 fish, 16 amphibians, 15 reptiles, 348 birds and 59 mammals.

The country contains five biosphere registered by UNESCO. These have an aggregate area of 139 380 hectares, including 5886 hectares of core zone. Under the Ramsar Agreement, there are 13 wetland areas of international importance, with an aggregate area of 114 862 hectares.

Nature conservation is a new concept worldwide, and the same applies to preserving and protecting the biological diversity in Hungary. In other words, natural assets need protection everywhere, not just in conservation areas. Economic activity such as forestry and farming need to be organized in a way that represents a rational compromise between business management and nature conservation.

The privatization processes have tended to benefit the environment. Attitudes to the environment have changed for the better in most privatized companies, which has improved their environmental performance. Environmental techniques and procedures are included in the general improvement in the Hungarian economy's technical compatibility with Western Europe. However, it has to be added that privatization has tended not to extend to the environmentally problematic companies and factories, or those where environmental requirements will be expensive to meet. Often the new owners did not take over the old factory sites.

Interface: Analysis of regional disparities

The key concepts of sustainable management with environmental resources are earning capacity, consumption possibilities and customs including the existence or lack of big social servicing systems (public health, school, food, housing) and social distribution of their access. Clear relationship will be shown between the state of the environment and the state of energetic and information infrastructure of water supply and waste management. The same refers to the environmental and/or sectoral "policy-making" alternatives and objectives, the planning of their management techniques just as the survey of their expectable social (local, regional, national, international and global) support. [Bulla, 1993].

Conclusions

In the past decade significant political-economic and social changes have taken place in Hungary. In economic sense the "great transformation" may be called successful since Hungary carried out structural changes and foreign economic reorientation in a positive way. The previously "hidden" social and regional disparities, however, have strengthened and become polarized in this period.

In the past decade in the transition period there have been no integrated governmental responses to the emerging problems, the management of social problems and that of the environment for example have been separated. In the mid 1990s the scientific community in the framework of the research program, "Environmental Vision of Hungary" recognized that politics should coordinate the environmental, economic approaches and the ones relating to human resources under the overall "umbrella" of sustainable development. Lacking that social cohesion cannot be ensured in the long run. [Bulla et. al. 1996].

The concept, however has not been developed, only the environmental vision is ready since the political decision-makers do not have such demand. It seems they require the pressure of international cooperation (e.g. EU integration).

It is impossible to handle the problems of the poor in villages and those of the disadvantageous groups without conscious integration of economic, social, environmental and regional policies. The OECD is traditionally well versed in political analyses and recommendations in the field of economic policies and in recent years has succeeded in the study of the individual segments of the social pillars of sustainable development (e.g. employment policy, aging of the population).

The further role of the OECD is by all means important in the future analyses of the relationship between social and environmental policies and in the elaboration of its politically relevant measurement. In this way they can provide assistance for the governments of the member states to elaborate sustainable development strategies and indicators.

Eventually we reiterate the conclusion that complex problems like sustainable management of environmental resources can be understood only with intersectoral way of thinking, coordination of structures and infrastructure and with detection and analysis of the relations. This is the first condition of solutions.

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SOCIAL AND ENVIRONMENT INTERFACE IN MEXICO

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A Case Study On Regional Sustainable Development Programs [PRODERS]

Introduction

The aim of this paper is to contribute to the OECD discussion on the conceptual framework for the second cycle of the environmental performance reviews [EPR]. Our interest is to provide information and selected considerations about rural poverty and environmental problems in Mexico.

Interaction between social and environment dimensions is neither simple nor direct. The case of the rural sector is particularly complex. There are no general rules and the problems are of different kinds, circumstances, and conditions. In spite of this complexity we will try to present in a schematic way — in the reduced space of this paper — the principal features of the Mexican situation in order to reach some general conclusions and contribute to the general discussion.

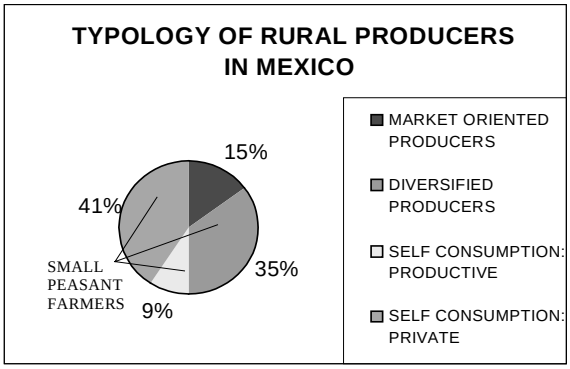
Some characteristics of rural poverty

Poverty in Mexico. A large part of the population lives with low living standards, which means they live in poverty and extreme poverty. In 1999, it is estimated that the total population is around 98.1 million inhabitants. In 1994, the share of poor population was estimated slightly over 30% (c.a. 29 million) and 15.5% was on extreme poverty (c.a. 15 million). This estimate was made before the economic crisis of 19, which affected the income and the living standards of the population. Probably the fraction of poverty has increased since then.

Distribution of poverty in Mexico. The phenomenon of poverty, especially extreme poverty, is strongly linked to the economic and social conditions of rural areas. In spite of the fact that the major part of the population is considered urban, 85% of the poor live in rural zones. Extreme poverty is mainly a rural phenomenon.

Poverty in rural areas. The poor countryside population is on the outskirts of the rural society, outside of the commercial and financial flows, with no infrastructure and weak communication facilities. The Mexican rural sector is a result of an unequal, lopsided, and quite polarised development process. On one hand, there is a very dynamic economic pole, well integrated into the national and international markets, with good irrigation infrastructure, user and developer of the “green revolution”. On the other hand, a large number of small peasant farmers (SPF), constitutes the other side of the rural reality in Mexico, where the largest part of the poor population is located (Fig. 1).

Figure 1



These SPF have the lowest level of income in Mexico. In order to locate the poorest regions, an index of marginalization is used. This indicator is constructed with nine variables including level of income, access to social infrastructure, education, etc. This index is used to locate in a map the zones where the poorest population in the country live.

Economy of SPF communities is based on small family units, producing primarily for their own consumption, using mostly the labour force of the members of the family, and greatly dependent on natural resources. They have traditional technologies that allow a diverse and integral use of natural resources. This kind of economy establishes a strong relation with nature and depends heavily upon the resources that the environment provides.

Distribution of SPF communities. In the poor regions, the producers usually inhabit small communities and towns, dispersed around the territory. The number of these towns has sharply increased in the last few decades. By 1995 there were about 184,000 communities, 92% of which had less than 500 inhabitants. During the last 30 years the number of these communities has rapidly increased.

Land tenure. There are two forms of land tenure in Mexico: the small private property, and the social property represented by “ejidos“ and “comunidades“. The private property exists in about half of the territory, the other half is occupied by the social property. In marginalised regions this second form is the most common, especially the indigenous communities. The share of social land tenure is still more important in areas covered with natural vegetation. About 80% of the wild forest lands are property of “ejidos” and “comunidades”.

Rural population dynamics. Mexican rural population continues to increase, even though its growth is below the urban population rate. In the last four decades, the population of rural areas has increased at a rate of 0.7% per year. There is a large heterogeneity in demographic behavior between regions. For example, in arid and semiarid zones population is stable or decreasing, whereas in other regions, with better living conditions, population increases more than the national average. In regions where immigration has been intense, population growth is higher. Excluding the arid and semiarid zones, the population of marginalised zones is increasing at a rate higher than the average of the whole rural sector. In certain areas, as the Selva Lacandona — in Chiapas —, the population growth is extremely intense (9% per year). Demographic growth must be considered a mayor factor of environmental impact in some areas.

Ethnic richness and indigenous wisdom. Poor rural areas are frequently inhabited by a rich diversity of indigenous populations. In many cases, this can be explained because the isolation of some areas gave refuge to indigenous people running away from secular mestizo groups attacks. These regions contain a great ethnic diversity, with a rich cultural heritage, traditions and customs. This wealth includes a great environmental knowledge, particularly about the flora and fauna, the different soils, climate cycles, animal raising, forestry, and sustainable use of wild life.

The ecological problem in the rural sector

Environmental problems. The main environmental problems related to the rural sector are those linked to deforestation, soil erosion and deterioration, water imbalances, and loss of biodiversity. Pesticide pollution and health problems related to it are also present in the irrigated farming areas where manual labour is used seasonally.

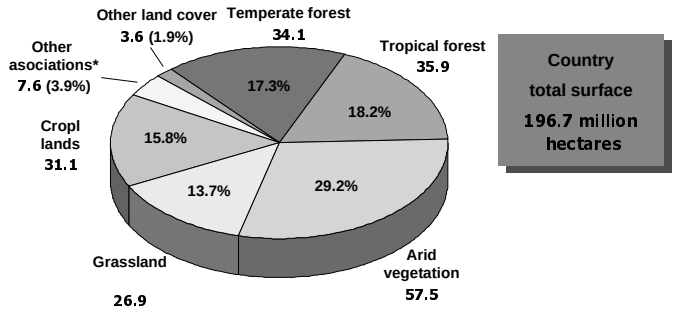
Deforestation and biodiversity richness. No doubt deforestation constitutes the key factor in the deterioration process of the environment in rural areas. It is a very well known fact that forests are essential to preserve soil, clean water, and the habitats of biological diversity. Mexico has a great climatic, geological, and geomorphologic diversity, and a specially rich biogeographical history. As a result it is one of the richest countries in biodiversity in the world. Its ecosystem diversity includes 15 kinds of vegetation of almost all the climatic affinities. This ecosystem diversity can be roughly grouped into four big ecological zones: tropical rain forest, tropical dry forest, temperate forest and arid and semiarid vegetation.

Deforestation rate. Today only 101 million hectares of primary vegetation cover remain; 75% of this surface is very well conserved (Fig. 2). About half the country has been converted into farmland, ranch territory, urban ground, secondary vegetation and other kinds of vegetation covers. The rate of

deforestation in the last two decades is very high, about 1.1%, which on average represents close to 600,000 hectares per year. The most deteriorated ecological zones are the tropical humid areas.

Figure 2

Principal vegetation types and land cover 1993
(million hectares and percent)



* Manglares, vegetación acuática, vegetación halófila y gipsófila, palmares, páramos de altura, dunas costeras y vegetación de galería.

Soil erosion. 30% of the land in the country is severely eroded, while almost two thirds of the territory have erosion processes to some degree.

Biodiversity. The rich biodiversity and a large quantity of species — important percentages of which are unique to Mexico — are dangerously threatened by environmental degradation, mainly through the fragmentation and destruction of their habitats. A considerable number of species are close to extinction.

Rural poverty and environment conservation

Rural population and preserved ecosystems. The most important relationship between rural poverty and the environment is that the poor regions coincide geographically with the zones that still conserve the primary natural vegetation, and they contain the largest part of the biodiversity in the country. It is clear that the conservation of these areas, in the future, will be strongly connected to the living conditions of the indigenous communities that inhabit these regions.

Causes of deforestation. Deforestation is due mainly to changes in land use (Fig. 3). The forest cover is removed to allow the expansion of farming and ranching activities, enhancing ecological degradation. Fire is also responsible for vegetation removal but it is mainly associated to careless use in agricultural and livestock production. For this reason, farming activities on the borders of forests constitute the fundamental causes of deforestation.

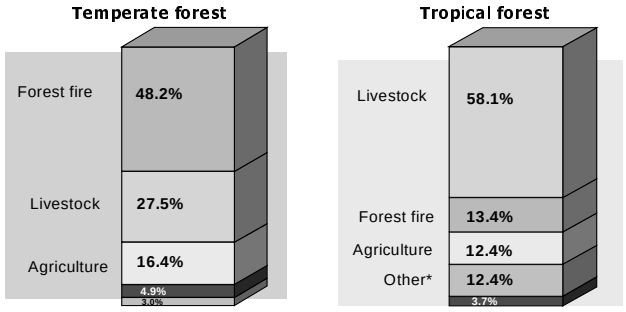
Causes of farming expansion. One of the underlying causes of the expansion of farming activities is that subsidies granted to agriculture and ranching operations are greater than the amount of public funds oriented to encourage conservation in coexistence with productive use. Recently, public efforts are oriented to use the land without destroying it, by means of a better forest planning and the production and sale of environmental services.

Destruction of forests: livestock expansion. The most destructive cause has been the expansion of pasture lands followed by the spread of poor peasant populations. Historically, the expansion of livestock has been more rapid, and has had much greater environmental impact. This is mainly due to important funding and incentives given by public policies, both on the national and international levels. During the ’70s and ’80s, macro projects were developed to intensify the establishment of new ranching areas. More recently, these incentives have diminished in light of dramatic environmental costs, and

ranching has suffered an important decrease in profits due to liberalisation of the economy. These two factors have resulted in a reduction in the trends of expansion, but it hasn't entirely disappeared.

Figure 3

Principal causes of deforestation of tropical and temperate forest 1980-1990.



* Incluye pérdidas por erosión e infraestructura entre otros factores.
Fuente: Masera *et al.*, (1992) *Carbon Emissions and Sequestration in Forests. Case Studies from Seven Developing Countries.*

Deforestation: agriculture systems of peasant communities. The phenomenon of deforestation is mainly caused by the expansion of farm lands and peasant communities. This is influenced by a pyramid shaped demographic structure of the labour force, with many people at the base occupying the position of land labourers. Also, today's agricultural technology models use extensive methods, rather than intensive. Extensive portions of land are cultivated with relatively low production rates. Meanwhile, classic peasant techniques consist in having the land rest for a number of years as a strategy to revive the fertility of the soil in an organic way. These systems go from the migratory tradition of slash and burn (leaving land unused for periods of ten to twenty years), to various systems that use shorter periods of time between one culture and another. All these systems occupy more land than that which is directly cultivated at a given time. Many of these systems had in their origins ecological rationality, because they were in harmony with the natural regenerative processes of the ecosystems. However, in contemporary demographic conditions, these practices have become obsolete.

Modernisation and exclusion. Extensive farming techniques and low yields in remote areas have been the result of a national policy of "modernisation" pushed forward over the past decades, following the "green revolution" model to develop agro-technologies. This model is characterised by the promotion of specialised agro-chemicals and benefited only the well-irrigated and rainy areas of the country which were fit to implement this technology. At the same time, the great majority of the producers of the country (and the ecosystems they occupy) remained, until recently, excluded from this "modernisation". This phenomenon of exclusion and marginalisation is a part of a more general phenomenon of political, social and economic exclusion that indigenous people have had to suffer.

In order to restrain and revert the trends in today's world, the social and economic problems of the peasants and indigenous people must be considered. A strategy of natural ecosystem conservation that only considers environmental issues is not viable, as it fails to acknowledge the social reality of the communities. The mere creation of ecological reserves is not enough. This must be combined with attention to the needs of the surrounding populations. The goal should be to stop the spread of agriculture and populations into the jungle areas, while improving the production systems. In this way the important balance of ecological health and better living conditions can be reached.

Promotion of sustainable development in top priority regions

Sustainability and integration of policies. The integration of the environmental dimension in Mexican public administration has been — and continues to be — a complex and difficult task. The creation of SEMARNAP (the Ministry of Environment, Natural Resources, and Fisheries) is a very important step forward, which has brought environmental concerns up to the ministerial level, with a focus

upon the sustainability of renewable natural resources in the sectors of forestry, fisheries, water, and soils. This advance brought about the paradigm of sustainable development as a fundamental objective of the National Development Plan. The Government has designed criteria for public policy building oriented to curb, diminish and revert environmental deterioration, as well as to promote the conservation and improvement of the renewable natural resources of the country.

PRODERS. As a part of this integration process, SEMARNAP has launched a new strategy for the rural regions. It has implemented the Regional Sustainable Development Programme (PRODERS), which includes a set of projects with well defined steps, destined to promote sustainable development of some top priority regions. The challenge is at the same time to increase production, to detain and reverse environment deterioration and to overcome poverty.

A new development model. There is a close relationship between the conservation problems of renewable natural resources and the perspectives of the peasant and indigenous communities that live in extreme poverty. This means that it is necessary to launch a new development model for these regions which allows them to overcome the social and economic problems they suffer, as well as to preserve their environment. This model requires changing and improving the way the communities are articulated to the national economic, social and political processes in a more advantageous manner to enjoy the modern benefits they offer.

Decentralised regional planning. The model mentioned above is promoted by means of decentralised regional planning with broad participation, autonomy and democracy, and with medium and long term approaches. This planning process involves government institutions at all levels, representatives of the communities and social organisations. The effort is concentrated in top priority areas.

Capacity building with democracy. This decentralised model states the idea that it is necessary to strengthen capacity building of poor regions, in such a way they directly participate in the campaigns for their own development. Just as the decentralisation policy of the rest of the country, the goal is to transfer power and political, economic and social abilities to these regions as a fundamental step in restructuring of their relationship with the rest of the society.

Definition of top priority regions. This strategy is being developed in a set of top priority regions, chosen with the combined criteria of their level of poverty and the severity of their environmental problems. These regions represent the different ecological conditions of the country, and together, they represent 30 million hectares and about 15 million inhabitants. In this territory the vast majority of the poor population is very dispersed in many villages and communities. The top priority areas were defined by a federal agreement, backed up by the National Congress and each State Government.

Institutional co-ordination

Federal agreement and COPLADE. The integration of the environment dimension with social and productive development requires an efficient inter-institutional co-ordination. A sound agreement among the main federal ministries having authority in this areas has been set up just for this Programme. Eight of these ministries directly participate in the Programme of Integral Attention to Top Priority Regions. This inter-institutional group meets once a week, while a group of under-secretaries (deputy ministers) meets monthly to monitor the activities. Furthermore, in each state, a subcommittee of attention to endangered areas has been established inside the Development Planning Committees (COPLADE). Each state government is responsible for the co-ordination of all the federal ministries involved. Regional plans are discussed with the participation of federal, state and municipal government and the representatives of social organisations.

Long term regional programmes. In each region society and government design together a sustainable development programme with long term goals which is the framework of all the public policies. A unique diagnostic group elaborates the projects and reaches this consensus. In this way the program integrates a common vision of the future desired by the region, which serves as an axis for action and for the evaluation of each step of the projects.

Councils for Regional Development. Using the federal and state co-ordination as an umbrella, at the regional level people and the three orders of government get together to integrate the fundamental organism of the strategy: The Councils for Regional Development (CDR). These organisms are formed by

governmental institutions, representatives of the communities, social organisations, NGO´s, business representatives and academic institutions. These groups are integrated into the process in a wide inclusive manner, independently of their religious and/or political preferences. Each Council approves the program, the budget, follows up the activities, and periodically reports on the advances.

Cross-sector battery of actions. Each one of the federal ministries involved in regional planning has their own individual programmes - up to 50 in gross numbers. In order to integrate all these programmes into a common plan of action, a cross-sector battery is built. The inter-institutional instruments are grouped in packages concerning: communication facilities, production, education, environment, health, land tenure, trade and industrial promotion. This planning instrument enables all the participants to clearly identify the actions involved in each package and the amount of economic resources needed. The joint budgeting process carried out in the Regional Councils is therefore one of the most important results of this policy integration method.

Sustainable transformation of the peasant communities. A central inter-institutional goal is to impulse a development model based upon the rural communities. Its challenge is to empower each individual cell in order to achieve its structural modernisation with a participatory planning process, following a clear community mandate that addresses ecological and natural resources management objectives. A basic instrument for this empowerment is to make sure communities receive the packages mentioned above with enough public resources to support their structural modernisation.

Natural Protected Areas. As far as environmental criteria is concerned, these planning processes must have a direct effect on the communities surrounding the Natural Protected Areas and other zones of high biodiversity. It is very frequent to find the poorest communities in these areas. There is an intensive effort focused on groups of communities located in these zones because the impact of the measures taken will be greater and will curb the process of ecological degradation.

Specific environmental programmes. The projects in these border communities near ecological zones include policies expressly oriented toward the conservation and efficient management of the natural resources. Some of these Programs are:

Formation and strengthening of Protected Natural Areas. Based on land use planning, protected zones are established and are excluded from productive activities in order to conserve them. The National Program of Protected Natural Areas incorporates new land to conservation regime and strengthens the reserves with research, infrastructure, facilities, workers and management plans. Each of them has a Technical Adviser Council with wide participation of native indigenous and peasants who live in the reserves and their surroundings. The logistic teams elaborate sustainable productive models that allow biodiversity conservation in the buffer zones and its influence areas.

Forest fire combat. The program to prevent and control forest fire is based on prevention and the formation of combat brigades in the communities. The accent is made on the construction of fire gaps, the cleaning of woods, and the training of owners of forest lands and their brigades.

Wildlife management. The National Program of Use and Management of Wildlife is developing sustainable models to ensure on one hand benefits for the rural population and on the other enhancement of wild life. The Units of Conservation and management of wildlife species (UMAS) are being formed to allow conservation of important lands and benefits for the poor population by increasing their incomes.

- **Sustainable forest management.** There is a National Subsidy Program called Prodefor that is oriented to support SPF communities to enhance their technical skills to elaborate management plans that enable them to have their exploitation permissions. Prodefor strengthens SPF capacities to manage their forests and prevent deforestation as it allows them to enjoy benefits from their forest resources.
- **Reforestation and restoration.** With the participation of five federal ministries, Mexico is making an enormous effort to plant trees and to restore the deteriorated and highly disturbed lands with the National Reforestation Program (Pronare). The Government finances the formation and operation of forest nurseries, plant production and reforestation of 200,000 has. every year, the restoration of deteriorated land and provides germoplasm for agroforestry.

- **Sustainable Agriculture.** Along with the joint effort of three federal ministries, the Government is carrying out the National Program of Sustainable Agriculture. Its objective is the transformation of agrosystems into agroforestry models and the elimination of ecologically harmful practices. These transformations are supported by different sustainable technological alternatives such as the change of shifting agriculture into a sedentary one, establishing agroforestry models for slop agriculture, promoting soil conservation practices and intensifying livestock exploitation.
- **Community training and civil capacity strengthening.** All the programs described above are permanently being supported by capacity building and intensive training. Strengthening civil capacities is an important strategy to allow a long term horizon

Conclusions and recommendations

Biodiversity and poor population. The environmental, productive and demographic characteristics of rural Mexico are uncommon compared to the major part of the OECD countries, which normally have rural zones with no demographic pressure and with strong intensive production systems. However, in many countries of the world, as in Mexico, rich ecosystems are associated with poor rural populations. This is a national expression of a global phenomenon in which the majority of the poor world population lives in the rural zones of developing countries in a situation of isolation and marginalization, while the principal economic, financial and commercial circles are dominated by the developed countries with the prevalence of technological intensified models. Preservation of biodiversity requires the establishment of a "win-win" relationship between this marginal population and the northern economies. The poor populations of the world should not be seen as a "demographic surplus", but as a great stock of natural and social richness (ex. etno-botanical knowledge) essential for the preservation of global biodiversity.

Industrialised agriculture. Today, the major part of the world's agriculture production is concentrated in certain countries with an enormous degree of intensification, while in the majority of the ecosystems in the world, the potential of natural resources is not appropriately used nor exploited in a sustainable way. This situation is utterly inefficient from an environmental point of view: the most developed agriculture overexploits natural resources in an intensive way, abusing energy, chemicals and technologies causing risks to the environment and health, while it wastes or destroys other natural resources of great economic and environmental values.

Impulse of regional sustainable development. Conservation of biodiversity and poverty eradication requires an effort of developed countries to support regional development programmes in poor zones by means of diversifying production. It is fundamental to locate and register zones in which conservation priorities are in the same place as people with social problems and where conservation of biodiversity is strongly linked to the development of poor population. In these regions it is necessary to impulse and support development models where ecological and social policies are integrated. Participation of the members of poor society is indispensable. This planning framework should have as a fundamental criteria public policies integration in a regional dimension in order to impulse decentralised and democratic planning in high biodiversity zones located in the peripherical areas of the rural societies of tropical developing countries. Some essential elements of this strategy are:

- The impulse of technological alternatives that allow intensification of sustainable productive systems and strengthening of poor communities incomes to raise the well being and ecosystem and biodiversity conservation.
- Supporting training, education and capacity building of the communities for efficient management of their own development.
- Strengthening of NGO and academic institutions and in general of the whole social forces so they can have major possibilities to involve themselves and decide over their fundamental future affairs.
- Developing a State reform that allows to achieve articulation especially integrating the environmental dimension into sectorial policies. This incorporation should be both in the general and agreed planning and in the concrete instrumentation of activities with the expression of a budget focussed in regional and inter-sectorial approach.

- The opening of spaces for social participation and decision making, the empowerment of social society to lead their own processes, upstream their necessities.

Reinforcement of international co-operation with developing countries. OECD countries should reinforce their international co-operation with developing countries, in order to channel more resources to support the sustainable development of the poor and the marginalised areas, especially in tropical countries. In this way they would contribute to preserve biodiversity and overcome poverty. This requires a large financial, political and social support.

Development of green and sustainable markets. A fundamental aspect is to open the world market to marginalised poor areas of developing countries. The modification of the markets which privilege specialised intensive models, must be achieved with the goal that producers from poor areas can be integrated in advantageous ways. The promotion of organic agriculture, peasants' production and more complete use of forest products, will be very important for the solution to the problem of poverty and biodiversity conservation in the developing world.

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RURAL DEVELOPMENT IN TURKEY

MS. IDIL ESER

TEMA FOUNDATION

Rural Poverty And Ngo Experience In Turkey: TEMA Foundation's Rural Development Projects

Rural poverty in Turkey: a synopsis

Even though the Turkish economy is considered the 16th largest economy in the world, income levels vary greatly between rural and urban areas. In 1995, the average annual per capita income of a small farmer is $227, as opposed to national income per capita of around $3,000. Even in prosperous regions with high income levels, there are villages with an annual household income less than $350.

Rural poverty presents a great threat to the environment. Poor people, who can barely survive with subsistence farming, overuse natural resources. Constantly falling income levels and absence of alternatives in rural areas cause people to migrate to big cities or overuse natural resources. According to a survey conducted by the Middle East Technical University, each year around 1,200,000 Turkish people migrate to cities. Internal migration creates socio-economic and infrastructure problems for the cities. Needless to say, Turkey does not have the resources to construct infrastructure in the cities for 1,200,000 extra people each year. The leading reasons for the migration are population growth, inadequate land allocation, division of farms into smaller units through inheritance, lower productivity in agriculture and livestock, and mechanisation of farms.

Internal migration carries rural problems to urban areas and increase social tension. Unsound development and environmental problems exacerbate this situation. The heavy death toll of the recent earthquake in Turkey is an unexpected product of rural poverty. Legal and coercive measures alone can not create an environment conducive to sustainable development. Only local policies tailored to the needs of rural people can create social dynamics for sustainable development. Policies that do not take the needs of people into consideration can not be successful in the long run. Rural poverty problems can only be solved when the root causes are addressed. What are the causes of rural poverty in Turkey?

Causes of rural poverty

Soil erosion hangs as the most serious threat over Turkey's nature and economy. Erosion affects 78 percent of the country's total land area. The semiarid regions of Central, Eastern and Southern Anatolia are particularly prone to erosion because of a combination of climatic factors and topography. Soil runs off from moderately or sharply sloping lands far more easily than it does from plains. In Turkey, 67 percent of the land is moderately or severely steep and farming requires special measures to prevent erosion. Agricultural malpractices, conversion of forest land into temporary agricultural land, forest fires, overgrazing, deforestation contribute to soil erosion and thus to rural poverty. Turkey has a birth rate of 2 percent and the fast growing population exerts heavy pressure upon natural resources.

Another cause of rural poverty is the use of primary lands for non-agricultural purposes. Even though there are official land classifications in Turkey designating the proper use for every piece of land according to its qualities, this assessment was made in 1965 and followup studies were neglected. This study was conducted on a 1/100,000 scale, whereas efficient classifications require assessment at a 1/25,000 scale. According to this study, agricultural fields constitute 26.5 million hectares, but only 6.4 percent of the total area is classified as primary lands. How do we treat these limited primary lands? Irresponsibly, almost insanely. These prime lands are allocated to industry, mining, slum settlements, roads. For anything but agriculture. Given that the pressures of poverty and population growth continue to increase, use of prime lands for non-agricultural purposes will increase, unless a scientific land use and development policy is developed and, more important if such policies are enforced.

The variety in the sizes of agricultural plots and unequal distribution of land is another root cause of rural poverty. The land is divided into ever smaller units through inheritance, preventing farmers from using erosion control methods. It is not easy to practice contour plowing on a small piece of steep land.

Lack of education and training also contributes to rural poverty. The workers in the agricultural sector do not adopt new technologies and methods easily, mainly because they do not believe that the subsequent productivity will benefit them. People who live and work in agricultural areas have been neglected for decades and as a result tend to display a negative and suspicious attitude against innovations. A similar negative attitude is also shown toward building up the infra-structure or for any corrective measures to be applied to the soil. As the agricultural lands lose productivity, people seek new areas in forests and on pasture lands to continue their farming. The productivity of these forest lands do not last long, because steep lands are most prone to erosion when the original vegetation cover is removed.

Lack of sufficient investment in the agricultural sector is the last but not the least cause of rural poverty. When we look at the causes of rural poverty in Turkey as a whole, there is a clear, overriding theme behind these causes, namely government policies. There are a number of government institutions and a large cadre of experts with well prepared plans to address those problems. But no significant results are attained. Why ? The answer is very simple. Development priorities lie with the industrial sector and rural areas are left to their own fate. Even though development plans foresee training for agricultural workers and applying innovative agricultural technologies, sufficient resources are not allocated to achieving these goals. Most of the programs stay on paper and never have the chance of implementation. The government has chosen to become an “industrial” country, sacrificing the agricultural sector and rural areas to this goal. Agricultural production figures clearly demonstrate this “choice”.

In recent years, Turkey has been going through a crisis in meat and agricultural food production. This quiet crisis, not publicised by officials or recognised by the public in general, has been slow in drawing notice. But it is very real in terms of production figures. Agricultural output has dropped between the years 1984-93, by 39 percent for wheat, 7.8 percent for maize, 25.4 percent for rice, 49.3 percent for rye and 29.7 percent for sunflower. While Turkey’s population grew by 37 percent in the 1979-1992 period, meat production slumped by 22.7 percent in cattle, 30.6 percent in sheep and 35.4 percent

The fact that the state does nothing to discourage internal migration is another sign of this choice. Urban centers promise dislocated farmers employment, better health services and education for their children. Most of them settle on state land and build squatter houses. Periodically governments give legal deeds for these houses and ex-farmers become owners of urban property, which steadily gains in value. In short, migration is a low risk-high profit opportunity.

Given the competitive nature of the global economy, Turkey’s choice is not suprising. Industry provides an edge in competitive markets and most of the developing countries assume they do not have the luxury to pay attention to long term problems like food security or the protection of natural resources. People with good intentions talk about “sustainable development”, but there are few controls over the current global economy that would allow this concept to come to life. Under the circumstances, “sustainable development” is, at best, a hollow promise to the poor of the world.

Turkey as a country with a high birth rate and insufficient resources, tries to satisfy the Western Club with measures that are doomed to stay on paper. The government signs environmental treaties, passes on high calibre laws, makes plans for agricultural development, but does not allot resources for the enforcement of these laws or for carrying out these plans. In this age of globalization the poor have only one model to emulate and that model is based on the reckless use of natural resources. The more you pollute and exploit, the richer you get.

Turkey is trying to emulate this model, to get rich and satisfy the environmental and social demands of Western world at the same time. Unfortunately and not suprisingly, this model is not functioning very well. Turkey is under the threat of desertification and increasing rural poverty. Non-governmental organisations have an important role in addressing and bringing these problems into light. The TEMA Foundation exists so that Turkey will continue to exist as a fertile and productive country able to feed its growing population.

TEMA Foundation

TEMA Foundation was founded in 1992 by two prominent businessmen. Mr. Karaca, current President of TEMA Foundation, was an owner of a knitwear company producing one of the Turkey's most prestigious fashion labels. He has been an internationally recognised dendrologist for many years. Mr. Karaca's search for Turkish wild life species, trees and other plant varieties took him to all corners of the country. During these travels, he witnessed massive erosion, disappearance of plant varieties, ruined graze lands, fountains that had run dry, sad remnants of forests claimed by fire or farmers looking for new croplands and extensive rural poverty. He decided to do something about all this and started speaking out whenever and wherever he could.

Meanwhile, a long time friend of Mr.Karaca and co-owner of one of Turkey's top conglomerates, was looking into the possibility of setting up a foundation to hasten the pace of afforestation in Turkey. When these two gentlemen joined forces, Turkey had already gained formidable advocates and men of action for an environmental cause vital to country's future. Land erosion, deforestation, fall of productivity in farm lands, and threats to biodiversity of the land are the main issues TEMA founders have chosen for their focus. TEMA develops and carries out model projects in rural development, range land rehabilitation, and reforestation.

In seven years since its foundation, TEMA has increased public awareness about the dangers of soil erosion and educated over 3.000 people as erosion instructors. With 62.000 members and 446 Volunteer Representatives, TEMA has become a phenomenon in Turkish NGO community and has contributed significantly to the development of civil society in Turkey.

Founders of TEMA believe that without educating the public on the need for environmental protection, even meticulously prepared plans and projects can not come to life, or even if they do, they can not be sustained. Cooperation of farmers and forest dwelling populations have to be secured for some major projects to be carried out. TEMA believes in on- the- job training and carries out pilot projects to combat soil erosion, to promote rural development and protect biodiversity at the same time.

TEMA'S rural development projects

We in TEMA strongly believe that environmental protection can not be achieved unless rural poverty is alleviated and local people have a stake in protecting their environment. Since 1994, TEMA has been preparing and implementing grazeland rehabilitation projects in far flung corners of Turkey. TEMA specialises in these projects, because they produce results in relatively short term and create an environment in rural communities that is conducive to further training.

In this paper, I will focus on TEMA projects which demonstrate elimination of rural poverty with small resources. TEMA's first grazeland project was in Çamavlu village.

Çamavlu Grazeland Project

Çamavlu village is near the ruins of the ancient Hellenistic city of Pergamum in the Aegean hinterland. The project area was proposed by an agricultural expert. The village had a population of 750 people composed of 150 households. The graze land covered an area of 2300 hectares. Thirty hectares of this land was a subject to disputation between two villages. TEMA persuaded villagers to give up their claim to the disputed land for the time being and work in the undisputed portion.

Villagers were very suspicious of our activities and were not willing to work with us at the beginning. Suspicion of strangers is common in rural areas and not without cause. The state institutions have visited those villages for decades and have not accomplished much except handing out empty promises. The villagers told us afterwards that they were suspicious of our intentions, could not believe that we were trying to solve their problems, thought that we were going to confiscate their graze land and build villas on their land. Our experts talked with the villagers and came up with a project tailored to the needs of Çamavlu village. Still, it took endless number of meetings with villagers and long and persuasive talks to start the project. Local subgovernor vouched for TEMA and we started our project in 1994.

Stock breeding is the main source of income in Çamavlu village. Stock breeding activities in the region require 13-14,000 tons of fodder annually, 70-75 percent of which has to be bought. Because of the

high costs, animal husbandry has been a sector in decline. Therefore, improving stock breeding was the main goal of the project. Other agricultural activities were structured around animal husbandry and fodder production. Silage production plays a pivotal role in the project. The grazeland area could only produce a fraction of the necessary feed. High fodder costs, veterinary costs and any unexpected incidents create a net loss for the breeder. Unlike developed countries, where annual milk production per dairy cow is about 4.000 kg., annual milk production per dairy cow in Turkey is far lower, around 1,200 kg per year.

TEMA developed a simple project that had the triple goal of combating erosion, achieving grazeland rehabilitation and increasing rural income. A village committee was formed to oversee the project activities were formed. Planned project activities were as follows :

- Building a industrial type village washing house to reduce fuelwood consumption;
- Introducing bulbous plant production;
- Building 23 km of road leading to grazeland;
- Introducing apiculture and carpet weaving training programs;
- Protecting grazeland from overuse;
- Training villagers about correct plowing methods for combating erosion;
- Cleaning grazeland of stones and shrubs, weeding;
- Training villagers about animal health;
- Introducing rotational grazing methods to villagers and organising grazing activities;
- Constructing water drinking basin, scratch stick and salt plate in the grazeland;
- Protecting native vegetation in the river;
- Fertilising grazeland;
- Planting trees;
- Pruning wild pear trees;
- Introducing corn production for silage.

TEMA secured the funds for carrying out these activities through donations. TEMA receives most of its funding from the business community and has received some grants from government programs. This project was mainly financed by private donations. At Çamavlu, villagers and TEMA experts worked side by side. On two plots, rotational grazing was started. A third plot was reserved for winter grazing, but was later turned into rotational grazing area as well upon the villagers' request. The area was cleaned of weeds and seeds were distributed to villagers for the cultivation of fodder plants. Stone walls were constructed on stream beds in order to prevent soil erosion on the upper slopes of the rangeland.

Occasionally, local politics threatened the project. A few Çamavlu residents, political rivals of the headman, opposed the project and went as far as cutting the barbed wire several times.

At the end of four years, we had accomplished the following objectives:

- Built graze land road (22.6 km) ;
- Fenced graze land area by 23 km. of barbed wire and 5.300 concrete columns supporting miles of barbed wire;
- Fertilised graze land with organic and chemical fertilisers;
- TEMA planted corn in 60 hectares, clover in 2 hectares, sandfoi in 10 hectares, vetch in 7 hectares to promote fodder production and silage production in the project area;
- Constructed 50 water drinking basins for animals;
- Provided animal health training programs;
- TEMA planted 450 grafted walnut, 400 acacia, 1600 poplar saplings;
- Grafted 750 wild pear trees.

As a result of these activities, grass productivity increased more than twice. Grass production rose from 190 gr/m2 to 420 gr/m2. Meat production increased 11 percent. Root systems of plants in the graze

land got stronger and the plants reached a height of 60-80 cm. Fodder and silage production increased milk production and in real terms, the village had an additional income of $450,000. The project costs were around $130,000, $40,000 of which was the village contribution. Villagers fulfilled their obligations by providing free labor and various machine and equipment.

Unfortunately, TEMA does not have any records about the income of the villagers before the project, however we can safely say that this project provided at least $3,000 income increase per household. Far more important, graze land rehabilitation and fodder production results changed the attitudes of the villagers. Due to the success of the project, villagers decided to invest in animal husbandry and applied for farming credits, bought far more productive breeds of dairy cow. The cattle number in the village increased from 578 to 2,100, the number of sheep and goat increased from 3,776 to 4,006.

Most of the experts worked for the project as volunteers without pay. The state institutions also contributed to the project by sending their experts. TEMA co-operated with the Bergama Village Administration and the animal health training program was taught by a state veterinary doctor. At the end of first year, villagers had seen the benefits of graze land rehabilitation and were willing to work diligently to carry out the project. The villagers repaired water drinking basins and other facilities in the graze land, watered seedlings in the river basin. After the rural community realised the benefits of the correct tillage methods and rotational grazing, the village enforced grazing plans and schedules and continued fodder production. The grazeland schedule became a cause for celebration and villagers started to celebrate the beginning of the grazing season with a local festival.

The milk production increased so much that a dairy that can process 15 tons of milk per day could not meet the increase in supply. The villagers came together and built a new, very modern daily that can process 80 tons of milk per day. The neighbouring villages all came to TEMA and asked for similar projects. One village was ready to forego its claim to the disputed graze land in return for a TEMA project.

A short overview of TEMA's other rural development projects

Çamavlu project was quite successful and provided a model for other TEMA projects. Seben Kozyaka is a small mountain village near Bolu. TEMA carried out another grazeland rehabilitation project in the Kozyaka village. Animal husbandry and fruit production were the main sources of income in this village as well. Unemployment rate was high and migration was a prevailing problem in the region.

We undertook this project when the village headman applied to TEMA. The grazeland area was about 224 hectares and TEMA had to offer alternative income generating training programs to ensure the success of the project in the long run. The goal of the project was to train villagers about correct plowing methods, promote fodder production, introduce rotational and controlled grazing methods in the range land and to provide alternative income sources to ensure the success of these projects.

Planned project activities were grazeland rehabilitation, establishing a dairy co-operative that would house and manage 80 dairy cows, demonstrating heat insulation methods at a house chosen as the model, building a 300 ton watering basin, planting grafted walnut and almond trees, increasing fodder production, building a communal washing house to reduce fuelwood consumption, providing training programs on apiculture and carpet weaving

TEMA fenced off the graze land with 13 km. of barbed wire and designated four parcels of land for grazing. Grazeland area was cleared off stones and seeds were planted in barren parts of the land. Six drinking basins were built and four watering pools were cleaned and restored. With the guidance of TEMA, fodder production was started on 113 hectares. Villagers decided to increase fodder production and land devoted to fodder production will be around 250 hectares in two years. An industrial washing house was built for communal use. TEMA estimates that this communal washer will lead to 750 ton decrease in fuelwood consumption annually.

Grass productivity increased from 190 gr/m^2 to 390 gr/m^2 in the grazeland and produced an extra 828 tons of grass. Construction of modern animal shelters is about to be completed. Villagers have started to plant bulbous plants on 0.5 hectares. Area devoted to bulbous plant production will become 5 hectares in two years. TEMA also offered training programs on apiculture and carpet weaving. Twenty families are engaged in apiculture at the moment.

The project costs were around 79,000 dollars, 17,000 of which was the village contribution. Kozyaka project produced $250,000 extra income for the villagers. Bulbous plant production will bring about $20,000 more. As a result of the project, eight households returned back to the village and the village population rose from 240 to 271. TEMA evaluates increase in the population as the ultimate indicator of the project success.

The needs of the local population and environmental concerns help us determine the project activities. Another rural development project which is in the beginning state, aims at conserving one of the Turkey's few remaining virgin forests and biological diversity. The forest, with all its original fauna and flora intact, is high in the mountains of Artvin province bordering the state of Georgia. The area known in Georgian as Macahel and in Turkish as Camili and Karagöl, is under the threat from 3,000 people and 2,000 farm animals living in six villages in the vicinity.

At the end of the cold war villagers applied to the Ministry of Forestry to change the status of the forest. The villagers firmly believed that their salvation lied in logging. Some of the experts that were sent to the area, contacted us and eventually the area was declared a "protected natural zone". Needless to say, the villagers were not very happy with the newly found status. TEMA leaders know that the villagers have to make a living and will eventually turn to what is left of the region's forests for sustenance. The solution lied in offering local people a choice, ways of earning a living without destroying the forest and its unique ecosystem.

One of the founders of the TEMA Foundation, Mr. Gökyiğit set up a local company for bee farming and honey production. He owns the half the stock in the company and has announced, on a framed statement hung on one wall of the company office, that these shares will be distributed to the villagers free of charge as a reward for helping out the preservation of forests. Experts have determined that the indigenous queen bee of the Caucasian region remains genetically altered in the Macahel region. With the financial support of TEMA, a dozen local volunteers have undergone training course in the breeding of these queen bees which are expected to fetch a good price at home and abroad.

Trout farming, organic food production, cultivation of medical and cosmetic plants indigenous to the area, nature tourism, carpet weaving are among the training programs, TEMA plans to offer in the future. Road building is not allowed in the area and the area is not accessible by car during the winter months. TEMA donated a snow sledge to these villages to overcome transportation problems.

TEMA believes that this unique natural forest should be protected as a whole, therefore we have contacted Georgian Ambassador to carry out similar training programs on the Georgian side of the border. Mr. Ambassador has agreed and hopefully we will offer bee-farming courses on the Georgian side next year. We are cooperating with various state institutions to provide alternative sources of income to villagers. These institutions are providing experts and training programs and TEMA is providing funding and is coordinating activities.

Lessons to be taken from TEMA

TEMA was established only seven years ago and in the mean time, it managed to become one of the biggest non-governmental organisations in Turkey. As of today we have 446 volunteer representatives and 62.000 members. Volunteer representatives carry out training programs, collect information about environmental programs and act as our eyes and ears in the country. We have volunteers from all walks of life, physicians, peasants, university students, teachers. The villagers who have participated in our rural development projects, become our most enthusiastic supporters and members. In seven years, we have managed to increase public awareness about the dangers of soil erosion about fifty percent.

Despite its success, TEMA also faces serious challenges. We have grown too much, too fast and we still have serious management problems. We had planned rural development projects as models that would be emulated all around Turkey. We were so successful, that we can not meet new project demands. We have a long list of villages that would like us to carry out a project and unfortunately we can not raise funds to meet all those demands.

On the positive side, our three-tiered system composed of professional staff, volunteer representatives and members turned out to be very effective. A number of Turkish NGOs are working on adopting a similar volunteer representative system. In almost all of our project areas, we managed to make

a significant difference in the lives of villagers. We managed to eliminate rural poverty and provide means for villagers to change their lives and increase their income.

But most important of all, TEMA played a key role in passing a new grazeland law and the ratification of the International Convention to Combat Desertification (ICCD). TEMA board of advisers prepared a land use bill that is expected to eliminate most of the problems on this issue. Government departments, universities, other environmental non governmental organisations have already been asked to comment on a preliminary draft. When a final draft is ready, members of parliament or the government will be asked to bring it before the legislature.

TEMA is currently working on a program that would enable us to control the enforcement and implementation of various laws on land. TEMA's volunteer representative network will play a key role in ensuring that the laws do not stay on paper and are properly enforced.

We in TEMA, strongly believe that our success can be emulated in other countries. TEMA's rural development projects are quite simple and is mainly based on the job-training of villagers. Most of the state institutions have training programs and experts, but do not have funds to carry out these programs. As a non governmental organisation, we benefit from the expertise from state institutions by providing funds and coordinating activities. The villagers tend to listen to and believe in non-governmental organisations more than state officials, but we cooperate with all state institutions, non-governmental organisations, academic institutions to ensure efficiency in the long run. Our funding mainly comes from private donations, even though we sometimes get grants from government programs.

TEMA's projects and organisation model is simple and easy to emulate. We believe in any country that has a developed market and hence a potential for securing donations, TEMA's experience offers lots of lessons to think about.

PART V.
ACCESS TO NATURAL RESOURCES

IMPLEMENTING THE RIGHT TO DRINKING WATER IN OECD COUNTRIES

MR. HENRI SMETS

This report deals with the economic aspects of the supply of drinking water to poor or disadvantaged households in the OECD countries, in particular those in urban areas in developed countries. It was compiled as part of the work on the interface between environmental and social policies being done by the OECD Environment Directorate and is based on previous work on water pricing[1], the user-pays principle[2] , and the environmental performance of Member countries in the area of water management[3]. The report concludes that increasing-block pricing and targeted economic and social measures would help to improve the access of the poor to water.

Introduction

The access for all to safe water has been reaffirmed as an objective on numerous occasions at both world and national level. The practical implementation of this objective is financially feasible in the OECD countries given the progress that has already been made and the considerable financial resources that could still be made available for it. It will be necessary however to take account of the large disparities between countries and the inequalities that continue to exist within them.

Although a large majority of the population now has permanent access to drinking water in the form of safe tap water, there are still many people who do not have it either because of where they live or their income level. The general opinion is that *sustainable development should take full account of the essential needs of the poorest,* who should neither be deprived of drinking water nor be obliged to pay a price that is beyond their limited means.

This study examines how access to drinking water can be improved for poor or disadvantaged families, especially those in urban areas in OECD countries (Annex 1 gives an overview of the provisions of international law regarding the right to drinking water).

Formerly, communities had direct access to safe water from springs, communal wells, rivers and streams. Later, the authorities built, and financed in large part, water supply and sanitation systems, charging users a low price for the service provided.

Today the problem is different, since public subsidies are falling while the cost of water is rising. At the same time, poor households are feeling the effects of the disengagement by some governments from the social sphere, and of a relative increase in the price of accommodation and related outgoings. *The ability of households to pay for water is decreasing while the price of water is increasing to reflect its true cost.*

This report is divided into two parts. The first part examines the problems the poor face with regard to drinking water. The second part addresses the various measures that can be implemented to ensure that the *universal right to drinking water is respected*.

Although the report focuses on the so-called poor, other social categories are concerned such as the inhabitants of under-developed rural areas, ethnic minorities, native and aboriginal populations, and immigrants, when they have low incomes or suffer from a degree of social discrimination.

Part 1
Drinking water and the poor

Poverty in the OECD Countries

In the OECD countries, "the poor" are usually defined as people whose income is well below the median income. The poverty index for the OECD countries shows large inequalities (Table 1). People with an income after social transfers which is less than 40% of the median income, represent as much as 15% of the population of Member countries (Table 2). The proportion of the poor is all the larger in that the inequality of income distribution is high, social expenditures are low and the minimum wage is lower than the median wage.

Table 1. Poverty indices for the OECD Countries
(partial list)

	Rank HPI-2[a]	Population below 50% of the mediam income (%)	Population below 14.4 dollars/day[b] (%)
Poland	-	11.6	20.0
Ireland	16	11.1	36.5
United Kingdom	15	13.5	13.1
Spain	14	10.4	21.1
New Zealand	13	9.2	-
Australia	12	12.9	7.6
Belgium	11	5.5	12.0
Denmark	10	7.5	7.6
Canada	9	11.7	5.9
Hungary	-	10.0	4.0
Japan	8	11.8	3.7
France	7	7.5	12.0
Finland	6	6.2	3.8
Italy	5	6.5	2.0
Norway	4	6.6	2.6
Germany	3	5.9	11.5
Netherlands	2	6.7	14.4
Sweden	1	6.7	4.6

a) HPI-2 = Human Poverty Index 2 - UNDP, 1997 (combination of indices of people not expected to survive to age 60, illiteracy, low income and long-term employment).
b) 1985 PPP $.
Source : UNDP : Human Development Report, 1999.

Out of a total population of 1 billion in the OECD area, nearly 100 million people may be considered to be "poor" on the above definition (Table 2). There are a very large number of poor people in the United States, Mexico and Turkey[4].

Table 2. **Poverty in the OECD countries**
(partial list)

Countries	Population below 40% of the median income (%)	After social transfers	Minimum wage[a] dollars/hour
Mexico	14.8	(1994)	0.59
United States	11.1	(1995)	5.15
Turkey	9.6	(1994)	1.38
Italy	8.5	(1993)	
Greece	8.1	(1994)	3.06
Canada	5.7	(1995)	5.33
Germany	5.2	(1994)	
Australia	4.5	(1994)	
Sweden	4.4	(1995)	
United Kingdom	4.3	(1995)	
Austria	4.3	(1993)	
Belgium	4.1	(1995)	6.40
Hungary	4.0	(1997)	1.05
Norway	3.4	(1995)	
France	3.2	(1994)	5.56
Netherlands	3.1	(1995)	6.00
Finland	2.1	(1995)	
Denmark	2.0	(1994)	
Ireland	1.6	(1994)	

a) In 1997 PPP $.
b) The lowest minimum wages are in the following countries : Mexico (0.59 dollar), Czech Republic (0.92 dollar), Hungary (1.05 dollar), Turkey (1.38 dollar), Poland (1.57 dollar), Korea (2.15 dollars), Portugal (2.32 dollars) and Spain (2.93 dollars).
Source : OECD.

In *France* (see box), poverty affects more specifically *2 million* people (3% of the population) among the disadvantaged sections of society[5]. Some of these people live in deprived urban areas or suburbs with social problems. They include the excluded such as students, immigrant workers, squatters, the homeless and foreigners without papers. Poverty also affects rural areas and especially the elderly.

In *Belgium,* about 2.4% of the population is below the official poverty line. The risk of poverty is very high for the unemployed and non-EU foreign residents.

Poverty often means that people live in sub-standard dwellings that do not meet basic standards of hygiene. In the *European Union*, the number of dwellings that do not have basic amenities is particularly high in Greece and Portugal (Table 3).

The poor in France

In 1994, 11% of the French population (6.6 million people) were below the poverty line (FF 3 300/month per person), defined as 50% of the median income, and about 6% (the poorest) were below 40%. They consisted essentially of 19-24 year-olds, over- 75 year-olds, couples with three or more children, single-parent families, unemployed and students. The guaranteed minimum income (RMI) in 1998 was FF 2 429 /month for a single person and FF 3 644 /month for a couple without any children. More than 956 000 people receiving the RMI. In 1996, 11% of the dwellings of poor households lacked basic amenities (12% without a bath or shower, 9% without their own WC).[6] Poor households have real difficulty in paying for their accommodation. They receive housing benefit which enables them to spend only 9% of their income on accommodation when they occupy social housing. When they are not in social housing, they spend 25% of their income on accommodation. Poverty can also be gauged by the fact that 6 million people are excluded in practice from the banking system and 2.4 million people are barred from having a cheque book because they have run into trouble with their bank[7]. In the year preceding the withdrawal of their cheque book, these people had got into financial difficulties, falling behind with their payments on housing (40%), water, gas and electricity (34%), or had had difficulty paying for food and clothing (28%). There were 200 000 homeless in 1990, plus 147 000 people living in caravans. There were 1.9 million "badly housed" people (those living in sub-standard dwellings, furnished rooms and hotels).

Table 3. **Poverty in the European Union**, 1994
(in percentage of the dwellings concerned)

	BD[a]	BDP[b]	WC[c]	WCP[d]	EC[e]	ECP[f]	REGE[g]
Belgium	5	12	4	7	5	9	8
Denmark	4	12	2	5	1	5	3
Germany	3	5	2	5	7	12	2
Greece	9	25	10	28	18	41	36
Spain	2	5	2	3	4	8	5
France	5	13	3	9	3	7	9
Ireland	5	9	4	6	6	11	10[h]
Italy	3	6	1	3	3	5	4
Luxembourg	2	3	1	2	4	9	3
Netherlands	1	3	1	3	1	2	2
Portugal	18	35	16	30	24	45	4
United Kingdom	1	1	0	1	0	0	9

a) BD : Dwelling without a bath or shower.
b) BDP : Poor households : dwelling without a bath or shower.
c) WC : Dwelling without own WC .
d) WCP : Poor households : dwelling without own WC .
e) EC : Dwelling without running hot water.
f) ECP : Poor households : dwelling without running hot water.
g) REGE : In arrears with payment of 'water, gas and electricity bills (in % of total number of households).
h) In Ireland, water is free for households.

Source : Social Portrait of Europe, Eurostat, 1998. L'Europe en chiffres, Documentation française, 1998.

Water consumption (volume and prices)

Minimum consumption

The minimum quantity of water considered necessary to satisfy basic needs (for drinking, cooking, washing, washing clothes and dishes, cleaning) is estimated to be about *40 litres per day per person* in urban areas (Programme Action 21, see annex). Lower figures (for example 15 litres per person per day) are used for refugee camps. For the highly urbanised OECD countries, a consumption of around 50 litres of drinking water per person per day seems a minimum(18 m^3/year). It is also necessary to provide water for domestic animals, small animal husbandry, home-grown produce and other normal uses in poor rural areas, although it does not necessarily come from a water supply system .

Current consumption

Household consumption of drinking water (actual consumption of water from the water supply excluding leakage and consumption by businesses and administrations) is between 1*00 and 220 litres per day* per person in the OECD countries[1], of which a few litres are for drinking. For example, current average consumption in Hungary is 101 litres and in the Czech Republic 115 litres. In France, consumption is about 190 litres per day or 70 m^3 per year (but it necessitates the abstraction of 281 litres for the water supply). In 1973, average consumption was only 130 litres. Four countries have a high consumption of drinking water : Australia (268 litres), Japan (278 litres), United States (305 litres and Canada (350 litres).

In most OECD countries, the percentage of water resources abstracted for the public supply is small (about 15% on average in the OECD area). Household consumption is rarely limited by water shortages but excessive pressure may be put on water resources.

The price of water for the consumer

The cost of supplying water (excluding sewerage and treatment, charges and taxes) varied from 0.3 dollar to 1.8 dollar per m^3 in 1996 in the main cities of the OECD countries[1], but the consumer paid, directly or indirectly, *1 to 3 dollars per m^3 of water consumed* because the cost of sewerage and treatment, charges and taxes have to be added.

In *France*, the average water price is close to FF 2 100 /year per household or FF 18 per m^3 in 1999. Between 1992 and 1998, the average price of water rose from FF 11.4/m^3 to FF 16.8 and is set to increase further by at least 50% because of the investment that will be required to implement EU directives. The public is becoming very cost-conscious about water and is starting to react by complaining to politicians about the cost of it, by installing individual meters in apartment buildings and water-saving devices, and by reducing consumption. In 1998, nearly two-thirds of French consumers said that they "pay attention to their day-to-day water consumption" and that they "take account of the amount of water consumed by domestic electrical appliances".

In the *United Kingdom*, the average water price in 1999 was 249 pounds per customer. Between 1989 and 2000, the price rose by 40% in real terms.

Impact of the price of water on household expenditure

According to an OECD study[1], the price of water (total price including the cost of sewerage and waste water treatment, charges and taxes) as a proportion of average household income varies between 0.6% (Korea) and 1.7% (Turkey), i.e. an unweighted average of about 1.1% of average income. According to this study, water prices should pose a problem only in the European OECD countries, and more particularly in the less developed European countries. Countries like the Netherlands, Norway and Sweden do not see any problems with water prices, which can be explained by the fact that they have an advanced social policy.

If the price of water was not subsidised, it would be more expensive, i.e. between 0.9% and 2.8% of average household income in *EU countries* (and from 1.6 to 2.8% in the four countries that receive cohesion funds). In Portugal, if water were not subsidised, it would represent 2.8% of household income instead of 0.5% at present[1].

The impact of water prices on household expenditure is obviously greater for *poor households* with low, irregular income.

For example, in *France*, a recipient of the RMI (FF 2 429 /month in 1998) who consumes only 15 m^3 per year of drinking water (FF 45 /month) must spend 1.85% of his income on it. A household on the minimum wage (SMIC) (FF 6 797 /month: 2.4 million employees were on the minimum wage in 1998) which consumes 120 m^3 of water per year (average consumption in France costing FF 2 100 /year) spends 2.6% of its income on water. To this has be added other associated obligatory household expenditure. If the household occupies social housing and spends FF 270/month on accommodation including various housing benefits, the household water item (FF 178/month) ultimately represents a large share of the housing budget [10].

According to a survey by the INSEE[11], poor families in France have difficulty paying their water, electricity and gas bills on time. Nearly one poor family out of two (42%) had difficulty on at least one occasion paying their bills during a three-year period (1994-96), and 14% each year. The price of water is thus a *real problem for about 2 million people in France*.

At *European level,* a significant fraction of the population in Greece but also in the United Kingdom and Belgium have difficulty paying their water bills (Table 3).

Household consumption surveys show the share of household expenditure on water. In *Denmark*, water represents 0.78% of household expenditure in the first income quantile (0-12.5%) and only 0.44% for persons in the eighth quantile (87.5-100%). In *Hungary*, water represents 1.8% of household expenditure in the first decile and 1.4% in the last decile. In some regions of Hungary, water accounts for 3% of the income of poor households. The price of water being high in transition economies, over 25% of the households in some districts have not paid their water bills. In the *Czech Republic*, expenditure on water by poor households amounted in 1996 to 2.1% of their total expenditure. Consumers are not insensitive to the price of water since an increase in the price of 33% in real terms reduced the volume of consumption by 27% . The consumer reaction is all the stronger in that the real price of water has tripled since 1990 whereas real wages have fallen by 21%. In *Russia*, currently close on 50% of households have not paid their water bills, mainly because consumers are no longer able to pay for a good that used to be almost free and that was often wasted.

The foregoing data show that water has recently become an appreciable item in household budgets.

In *France,* where water represents 36% of the total bill for water, gas and electricity, the rapid increase in water prices has a become a matter of widespread debate[10]. Parliament took this concern into account when it included water among the basic services to which the poor are entitled (see section 3.7 below).

In the *United Kingdom*, the privatisation of water, in 1989, the gradual installation of meters and higher water prices, have resulted in a reduction of the water consumption of poor households (WC, bath and shower) and a number of people having their water cut off[12].

In the *United States*, the principle that drinking water should be affordable[13] currently seems to mean that expenditure on water should not exceed 1.25% of the income of poor households. Nearly 11% of US households complain about water prices, which is not surprising given the large number of poor people (Table 2).

To sum up, the price of water varies a lot both between OECD countries and within them. In several OECD countries, it has attained a level that is considered high for poor households, i.e. water accounts for more than 1.5% of their expenditure. This economic problem is likely to get worse due to the withdrawal of subsidies and the new investments that will have to be made. In a few OECD countries, there is no problem since water is free (Ireland) or represents only a small percentage of household expenditure. Furthermore, the price of water has risen at the same time as other housing-related costs have increased.

Access to drinking water

Historical background

Historically, water was a social good whose availability made possible the emergence of human settlements. From the Roman period to the 20th century, water supply networks brought drinking water to villages where it was made available free-of-charge to everybody in fountains, drinking-troughs and public wash-houses, failing which it could be taken from communal wells, springs, rivers and streams. *For a long time, the norm was that it was free,* investment and maintenance costs being borne by the community (via land taxes or compulsory labour for all the men in the village). At the private level, it was permitted to draw water from the springs bordering on one's property or to bore wells. Furthermore delivery people were bringing drinking water to those who were disinclined to fetch it.

This situation, which prevailed for so long, is tending to disappear for the following reasons :

- the growing concentration of populations in urban areas, rural flight, increasing water consumption and population growth, the fact that water has to be abstracted at increasing distances and that it requires more treatment;
- depletion of water resources for household purposes due to increasing withdrawals for irrigation, with a correlative reduction in the discharge of rivers, depletion of ground water due to it being used for non-household purposes, the large amount of leakage in water distribution networks;
- agricultural, industrial and domestic pollution of water resources; pollution of the water supply due to lack of proper maintenance of distribution systems; the growing salination of surface water, growing pollution of ground water and rivers ;
- inadequate natural regeneration of polluted water, and the inadequacies of sanitation systems (in particular, of sewage treatment plants) ;
- increasingly stringent quality standards for drinking water.

The construction of water supply and sanitation systems on a wide scale had a very positive effect on the distribution of safe water at a low price, but often it was accompanied by the gradual disappearance of free sources of water (fountains). In many villages and especially towns, today the only safe water available is that from the public water supply (bottled water is 100 times more expensive : consumption per household in France in 1998 : 211 litres).

The idea that the provision of drinking water is a public service that is virtually free or at any rate highly subsidised[14] is tending to give way to the idea that water is an economic good or even a merchandise. The gradual elimination of subsidies and the growing adoption of the user-pays principle pave the way for better management of the resource but at the same time pushes up the price of water considerably. Water, which used to be a "gift from heaven", is becoming an essential good, the increasing cost of which has to be borne by each individual ("full cost recovery").

In many countries, the price of water is rising at the same time as the price of heating, electricity and housing[15]. The first to be hit are the poorest households, exposed as they are to economic uncertainty amplified by globalisation. The situation can be dramatic in some transition economies. In several countries (for example, Spain, Mexico), a widespread refusal to pay for water may be observed, especially if the quality deteriorates or interruptions in the supply become more frequent.

In some towns, the public service is under-financed; in consequence the service deteriorates and households have to put up with water of poor quality or frequent cuts in the supply. In other towns, the water has too much lead or nitrate in it. In the developing countries, rapid urban growth leave whole areas without any water supply other than that delivered by water carriers at high prices. Poor households would like to have access to water as before and would prefer to have subsidised public water, as in central districts, rather than to have to rely on people to deliver it.

In some rural regions, the problem is not so much the price of water as the fact that the resource is being depleted or the quality is worsening. Access to surface water is becoming impossible and ground water is contaminated or unfit for human consumption (due, for example, to a high bacterial or nitrate content). The provision of safe water is becoming problematical since investment in the infrastructure to bring the water to the areas concerned is lacking.

Investment

In the OECD countries, the proportion of the population connected to the water supply is very high, exceeding 90% in most Member countries except for Finland and Sweden (87%), Greece and the Czech Republic (86%), Korea (84%), Portugal and Mexico (83%), Ireland (80%) and Belgium (78%).

The proportion of the population connected to the sewage system is usually over 75% except in the following countries : Norway, the Czech Republic, Poland and Greece (70%), the United States (71%), Ireland (68%), Mexico (65%), Spain, Japan and Turkey (62%), Korea (56%), Portugal (55%) and Hungary (45%).

In a few countries, only a small proportion of *waste water is treated* : 4% in Iceland, 12% in Turkey (see box), 21% in Portugal, 22% in Mexico (see box), 27% in Belgium and 32% in Hungary.

These figures show a lot of investment is required in some Member countries, especially in rural areas, in sewerage and waste water treatment. It will be noted that there are industrialised countries among the aforementioned countries.

The people who are the most affected by the lack of water supply networks and sanitation are very often poor households in disadvantaged or rural areas.

Access to water in Mexico

In Mexico, 96% of the population of towns with more than 2 500 inhabitants are connected to the water supply but only 52% of the population of towns with less than 2 500 inhabitants and in rural areas. Similarly, 85% of the population of towns with more than 2 500 inhabitants are connected to the sewer mains, but only 21% of the inhabitants of areas outside them. In States such as Chiapas, Guerrero and Oaxaca, only 67% of the population is connected to the public water supply and only 50% to the sewage system.

In 1994, the poor represented 32% of the population, of which 15.5% lived in extreme poverty (less than 1 dollar a day), and the figures have risen since then. Extreme poverty is concentrated in rural areas (85%).

10.5 million of the total number of dwellings in the country (19 million) have indoor running water and 5.7 million have outdoor running water. Three million dwellings get their water from natural sources (and not from the public supply). 766 000 dwellings in semi-urban areas (2 500 to 5 000 inhabitants) and 880 000 dwellings in urban areas are not connected to public or private sewage systems. Tap water consumption is 110 m^3/year per inhabitant in the areas connected to the water supply but this figure includes water supplied to industry.

According to the OECD[16] ,water resources are very polluted. Surface and ground water are often contaminated. Only 22% of the population connected to the sewers are also connected to waste water treatment plants. For want of funds, municipal services are badly managed and the water they supply is of poor quality. 70 million of the country's 92 million inhabitants get disinfected tap water. The population, and particularly the most disadvantaged members of society, suffers from gastro-enteritis and other illnesses which are extremely damaging to health . In 1996, 1 100 cases of cholera were recorded (five deaths). The public expects water to be free or cheap and pays only part of the cost of it. Only 41% of supply water is billed, but 30% of bills are unpaid.

Access to water in Turkey

In Turkey, the situation is characterised by wide disparities between towns and rural areas (in which income is sometimes only a tenth of the national average). Consequently, only 58% of 2 827 municipalities have a public water supply. Only 11% of municipalities are connected to a sewage system and waster water is treated in only 2.3%. However, the situation is much better in the largest towns. In 1996, 43% of 37 435 villages had a public water supply, while 30% got their water from fountains. The water supply was inadequate in 14% of villages and non-existent in 13%.

In 1998, the Turkish authorities considered that the water supply was adequate for 78% of the urban population and 62% of the rural population ; on the other hand, it was inadequate for 20% of the urban population and 17% of the rural population and 2% of the urban population, while 21% of the rural population had no drinking water supply. Also, part of the population of Ankara is still without sanitation. Among the towns with more than 3 000 inhabitants, only 12% of the population is connected to a waste water treatment plant[17]. Rural migration to towns is creating a lot of problems since the infrastructure construction has not kept pace with it.

In 1996 Turkey launched a major investment programme focussing primarily on irrigation water (59.7%), followed by domestic water and the water supply (31.6%) and sewerage (8.6%).

Part 2
Implementing the right to drinking water

Public intervention

Despite the fashion for privatising public water services, water management is still an area in which the authorities have an essential role to play in order to protect public health and ensure that everybody lives in decent conditions. Thus water management is an extension of other actions taken by the authorities in the area of health, housing and environmental protection (Annex 1).

The goal of these actions could be to facilitate implementation of the principle that:

"Nobody may be deprived of the amount of water needed to meet his basic needs" (Madeira Declaration, CEDE, April 1999).

This principle does not mean that everybody has the right to be connected up individually to a drinking water supply but that everybody must have access to water of acceptable quality at a price that is reasonable in relation to their disposable income. The level of service is higher in the most developed countries than in the less developed countries, and in urban areas than in rural areas.

Analysing recent problems with water in the world, the French expert Nguyen Tien-Duc explained in a recent book[18] that :

> *"The application of market principles to the supply of drinking water has a disproportionate impact on the most disadvantaged members of society, especially those who do not have the means to pay their bills. For them, water is and will remain an inaccessible good unless the authorities intervene by taking appropriate measures to help them :*
> – *by making the supply of water to the poor an obligation;*
> – *by setting a social tariff for water and applying it".*

The work done by the OECD[1, 2, 3] confirms that, in most Member countries, the authorities are aware of the *need to intervene* in water management and that they cannot abandon their traditional role to the market and private companies, and especially that they must safeguard the access of poor households to water. In developing countries, the State's role is even greater[19].

In the United States, the inequality between social groups with regard to access to an healthy environment is such that in 1994 President Clinton launched a special federal programme of "environmental justice" designed in particular to improve the quality of the environment in the most disadvantaged areas. Congress voted the funds for this programme[20].

In this part of the report, we shall show that household water is a resource that is « different » from other resources, and that it necessitates a different approach. We shall then examine various ways of making water more available and affordable for the poor, and thus of implementing the universal "right to drinking water".

Drinking water -- a different kind of natural resource

Water, a renewable natural resource, is fundamentally different from other resources for the following reasons :

- it is essential to life ;
- it plays an important role in hygiene and in combating epidemics (availability of safe water reduces health expenditure) ;
- unless protected, it can be an important carrier of diseases (unsafe water imperils public health) ;

- it has an important social role ; fountains, drinking troughs and washhouses are focal points of village life;
- it is one of the four elements of the Ancients (along with air, earth and fire) ; fresh water, which comes mainly from the sky, is a "gift" to man ;
- it is a potent symbol and is even considered to have a magical power; it is an integral part of religions and is revered;
- it is usually regarded as a public good (and thus to be managed differently from other resources).

Drinking water is a “precious” good, its value attested by the fact the willingness to pay for the first few litres of water is very high (bottled water is usually about 100 times more expensive than tap water).

Water occupies a large place in health policies. Access to safe water is of crucial importance for the well-being and health of the most vulnerable sections of society, especially children, who are very sensitive to the diseases caused by polluted water (diarrhoea). Water-borne epidemics (typhoid, cholera) primarily affect the poor but may subsequently strike the total population. Given the serious externalities generated by water-borne diseases, it is thus in the general interest that everybody should have access to safe water. Furthermore, water is essential for the organisation and survival of urban settlements.

By virtue of its characteristics, drinking water is, unlike other natural resources, primarily a *social good*, although it is also an economic good of the first importance. It would be a mistake to treat drinking water as being just like any other resource, since society at large does not regard it as an ordinary good, as some economist argue it is. Even if it is free at source, water supplied to households has a cost that has to be paid for. In all OECD countries apart from Ireland, households pay for the water they consume but the price they pay is often very low.

Policies to improve the access of the poor to drinking water

Policies to facilitate access to drinking water comprise one or several of the following measures :

- environmental measures to conserve the resource or to give access to it;
- sanitation measures;
- financial measures to lower the price of water;
- free supply of drinking water ;
- social tariffs;
- legal measures to safeguard access to water ;
- social assistance to help people pay for water ;
- legal assistance.

The success of these measures will hinge to a large extent on the backing they get from the people directly concerned by them. As water is a social good, its management must be based on the participation of all those who use it; in particular, it is important to ensure that particular public bodies or interest groups do not monopolise the management of it.

Some of the above-mentioned measures are of general interest since they improve the management of water, which represents an important item of expenditure (around 1% of GDP). Others are targeted specifically at families and the poorest sections of the community.

Social policies to facilitate access to drinking water are inexpensive in relation to the costs of water management since they concern only water for domestic use and a small part of the population. They can be financed by the government (in the form of subsidies, social assistance, etc.) and/or by cross- subsidies between consumers. In addition to measures that make water more affordable for the poor, it is also necessary to help households which are unable to pay their water bills, which inevitably happens when their income plunges (due to unemployment).

Figure 1 illustrates the kind of problems such households encounter (no water supply, high price per litre, high overall bill) and by type of accommodation (with or without basic amenities). In urban areas, the poor often live in apartment buildings so are not in danger of having their water cut off.

Water conservation

Maintaining access to water presupposes that the resource is neither depleted nor badly polluted (rivers drying up, pollution black spots because of industrial or municipal waste water. Special measures need to be taken to reduce certain agricultural uses and practices that seriously damage a resource on which the neighbouring population depends (protection of catchment areas). Also, it is necessary to ensure that water sources (catchment areas, wells) are not contaminated by polluting activities so that rural dwellers continue to have access to water that is safe from the bacteriological point of view or with regard to nitrates. The protection of the poor's right to a healthy environment may require specific legal measures (see Section 3.7). If the public water supply is discontinued, alternative sources should be put in place.

As conservation measures can be expensive, polluters sometimes prefer to finance the construction of water supply networks or water treatment plants to compensate for the loss of access to local sources of drinking water, even if it means providing drinking water free of charge to compensate for the damage caused[21].

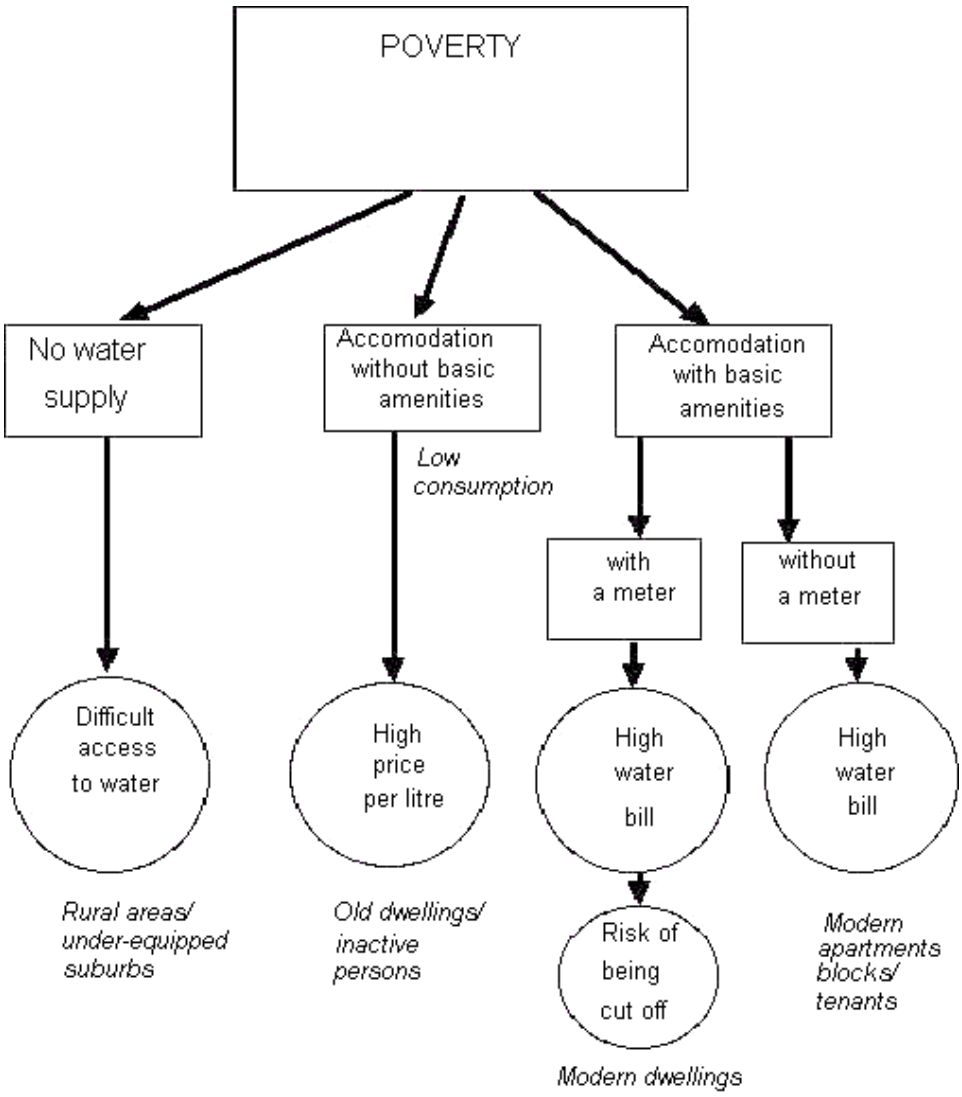


Figure 1. **Typology of the problems the poor encounter with regard to water**
(N.B. Individually metered water)

Water containing too much lead is primarily supplied to old dwellings, in which poor people tend to live. The cost of replacing the lead pipes in such dwellings is high. Draconian measures (for example, blocking housing benefit on a special account to finance the cost of the work) may be necessary to get owners to do it.

Creation of new water supply and sanitation infrastructure

In urban areas, drinking water is usually supplied through mains which have to be built and maintained ; likewise, sewage and treatment systems have to be constructed and maintained. Cost-cutting measures can be taken to improve water management (by avoiding over-sized systems, improving operation, reducing leakage, eschewing excessive expenditures or unwarranted commissions). In some cases, it will be necessary to bear down on demand so as not to have to build new, more costly systems to replace existing systems which have long paid for themselves.

Rapid urban growth[22] involving the creation of new outlying districts and sprawling disadvantaged suburbs necessitates the construction of new infrastructure to supply water to communities with limited resources and often with little political clout. The funding needed to accompany urban growth is often lacking, to the detriment of the communities concerned, especially the most disadvantaged ones living in districts without proper amenities.

Urban sprawl[23], slum dwellings built without a permit on somebody else's land, and unauthorised camping, pose specific problems. The authorities often hesitate to connect them to the public water supply for fear that they will become permanent ; they first want to regularise their property status or to expel the occupants. But when action is not taken quickly, administrative concerns seem to outweigh humanitarian or public health considerations. In the final analysis, it seems preferable to create structures to meet, immediately and at reasonable cost, the basic needs in drinking water of such communities[24]. Similarly, sewage and refuse removal arrangements have to be improved.

Special measures should be taken to facilitate access to drinking water for travellers (in camp sites on the outskirts of towns) [25]. Otherwise, in France we shall continue to see gipsies «camping » without a permit near fire hydrants from which they draw off drinking water .

In semi-urban and rural areas where sanitation is inadequate, the objective is to facilitate access to water without imposing excessive costs on remote communities. Partnerships should be established with local communities to lay on water. It is sometimes possible to get users to participate in the construction of water supply networks (on a voluntary or compulsory basis) and to delegate the management of water bills to the local communtiy[24]. The main thing is to harness the community spirit and solidarity that exists between user at local level rather than to try, as in urban areas, to sell equipment supplied by firms or public administrations. In some villages of the Pyrenees, for example, the drinking water supply is managed by a local consumer co-operative.

Financial measures

General financial measures to make water more affordable consist of subsidies, construction of supply and sewage systems, and tax breaks.

In some developed countries, new investment in sanitation systems is still required. In France, nearly one sixth of the population does not have access to good quality water, mainly in the countryside[26,] and in the United States, the water supply to the "colonias" inhabited by Latin-American immigrant workers is totally inadequate in most cases[27]. The countries in transition[28] or industrialising countries in the OECD (see box above) still have much to do to improve the water supply in rural areas and the quality of water supplied. Subsidies will probably still be needed for many years to bring the level of infrastructure up to that in the most advanced countries.

Water subsidies are exceptions to the user-pays principle or the polluter-pays principle, exceptions which the OECD considers are warranted given the social repercussions if subsidies were abolished completely[29]. Thus, as part of its environmental performance review of the *Czech Republic,* the OECD recommended that it "continue measures to establish a water pricing structure which encourages water conservation and takes account of social factors"[30]. In the case of *Turkey*[31], the OECD said that water pricing should take account of social considerations and recommended that appropriate attention be given to the special needs of disadvantaged communities". In the case of *Russia*[31], the OECD proposes that the real cost of water should be charged but taking account of users' means. These caveats to the principle of real-cost pricing signify only that subsidies should not be withdrawn brutally.

In several advanced countries, subsidies have virtually disappeared or are insignificant. In France, for example, there are only small subsidies for rural areas and municipal water services can no longer be subsidised out of municipal budgets[1, 2]. The general trend is towards the abolition of subsidies and full-cost pricing.

Infrastructure subsidies at national level

The State often intervenes by subsidising investment in water supply and sewage networks. If such investment is made primarily in areas inhabited by well-off households, then it amounts to a subsidy to those households, which does not seem justified on social grounds. But if it benefits the entire population or under-equipped areas such as suburbs or rural areas, it improves sanitation for poor households that do not pay tax, or pay only very little, and thus their access to drinking water.

If water is subsidised, then the subsidies should be targeted at low-income areas with inadequate infrastructure, and used primarily to finance sanitation systems rather than supply networks (it being easier to get users to pay for water than for sewerage).

If the water service is privatised, the aid can be provided in the form of soft loans provided that the privatised company does not neglect areas that are less profitable (rural areas) and that it does not concentrate on improving the infrastructure in urban areas, in which the biggest profits are to be made.

Infrastructure subsidies at international or Community level

Some sanitation infrastructure is subsidised under aid programmes (to transition or developing countries) or under European Union regional development funds or structural or cohesion funds. This aid makes it possible to reduce the cost of water and to improve health in lower-income countries (international solidarity).

Geographical cross-subsidisation

For geographical, demographic or historical reasons, the price of water varies a lot from one region to another. Within the same catchment area, it can vary by a factor of 1 to 10. In a few countries, it was considered desirable on grounds of solidarity and equity to narrow these differences by means of geographical cross-subsidisation mechanisms or subsidies. This approach may be warranted by the fact that old sanitation infrastructure was also subsidised, and that new infrastructure should also benefit from subsidies so as not to create excessive disparities in water prices between areas that are already equipped and new ones that still have to be equipped. Such cross-subsidisation is not frequent. In the Paris region, for example, water is dearer in new suburbs than in old affluent districts (Table 3). In Germany, water is more expensive in the new Lander which have recently had to upgrade their infrastructure than in the more prosperous old Lander.

On the other hand, in France, there is a 1% water tax which goes to the *Fonds national de développement des adductions d'eau* (FNDAE) which helps to finance infrastructure in rural areas. In Hungary, villages with particularly high water costs receive a state subsidy so that consumers do not have to pay too high unit costs. In Mexico[16], the supply of free drinking water to remote villages is considered to be a particularly effective form of social assistance to the poorest indigenous populations.

Greater use of geographical cross-subsidisation of water prices would seem warranted given the wide variations in prices within countries, whereas the price of electricity and several other goods is almost identical at regional or national level. However, building development should not be encouraged in inappropriate areas (water should not be laid on to dwellings that have been built in breach of planning regulations).

Cross-subsidisation between groups of users

In a few countries, household water is supplied to the distributor at a price below that for water supplied to industry. This kind of cross-subsidy, which is less and less common, may be justified historically by the fact that household water came from nearby sources while other users had to pay more for the water they needed for new activities.

In municipal water services, household users may be cross-subsidised by other users (commerce, industry, etc.). The switch from decreasing-block pricing to increasing-block pricing benefits small consumers. But in some cases, large consumers have access to other sources of water and thus do not have to cross-subsidise other users. They may, for example, pump up ground water directly.

Taxing water at a lower rate

A simple way of reducing the price of water for everybody is to charge a lower or zero rate of VAT on it than on other basic necessities. For example, zero-rate VAT is charged on water in Finland, Switzerland and United Kingdom. In Belgium, Spain, France, Portugal and the Czech Republic, it is taxed at a reduced rate (5 to 7%). This is not done in Norway, Sweden and Denmark.

The reduction can be adjusted so as to benefit small consumers. In the Netherlands, for example, the VAT rate is 6% instead of 17.5% for the first 20 m^3 of water per year.

Free supply of a limited volume of drinking water

Maintaining public drinking fountains in operation is one way of ensuring that everybody has access to water as in the past. It also helps to improve the quality of life in towns (see, for example, the numerous Wallace fountains in Paris).

The principle of free or highly-subsidised drinking water has now been abandoned in almost all OECD countries, which are increasing the price of water to bring it progressively into line with its true cost[2]. The issue now is only to determine *in which cases a small quantity of household water should be supplied free of charge, given that drinking water now usually has to be paid for.*

In countries with volumetric charging systems, it is possible to differentiate between consumption of the first cubic metres of water for basic needs, and that of additional cubic metres for other purposes. The most radical solution consists in supplying a small quantity of free water and to charge for the rest (dual pricing). At a unit price of 20 francs/m^3, this is equivalent to a subsidy of FF 300 year for each beneficiary of 15 m^3 of free water. The purpose of this subsidy, which is small in relation to other social transfers, is not so much to provide financial assistance to poor households that does not consume much water as to encourage them to consume more of it. For an average household, the increase in the unit price offsets the provision of a number of cubic meters of free water. However, the provision of a small quantity of free water also benefits those small consumers who are not poor households, such as single people who do not consume much, owners of holiday homes or unoccupied dwellings, and firms that have gone out of business. As poor households may consist of large families, it is important to take into account the size of the household and not just consumption per individual connection. In *Flanders* (Belgium), since January 1997 all households have received an annual allowance of 15 m^3 of water per person (to be compared with an average annual consumption of 122 m^3 per year). As a result, the cost of the water charged to 6 million people has risen from BF 38 /m^3 to BF 54/m^3 and total consumption has fallen by 2-5%. Part of this fall is attributable to the fact that more rain water is now stored in tanks. Consumption is expected to fall still further, which will cause prices to rise further until a new equilibrium is reached. Large users, however, can pump up ground water directly. A French member of parliament has submitted a proposal modelled on the new Flemish policy[33].

Supplying a small quantity of water free of charge and charging a higher rate for the additional water consumed seems a particularly effective way of implementing the right to drinking water while encouraging water conservation. Even if the vast majority of consumers use more than the free quantity, the drawback of this approach is that it sends a signal to consumers that water does not cost anything (a unit price of zero for the first cubic metres), which could encourage waste. It thus seems preferable to charge for every cubic metre, even if at a much lower price for the first cubic metres for basic needs.

15 m^3 per person per year corresponds to the essential needs of city-dwellers but could be deemed to too high in rural areas where there are alternative sources of supply. However, it seems difficult to treat the inhabitants of one area differently from those in another, especially when the vast majority of the population lives in towns.

As the higher tariffs needed to offset the supply of a small quantity of water free of charge could pose a problem, an alternative solution (Table 4) would be to supply free water only to a small part of the population, for example, to large families, people with low incomes and whose main residence is worth little, or people receiving certain social benefits. In other words, one could have a *dual pricing system,* with one price which almost everybody pays and another, « social » tariff, which has to be applied for, available to specific groups. Such segmentation would entail administrative costs that would have to be kept to the minimum. The fewer beneficiaries there are of social tariffs, the more assistance could be given to each beneficiary. Furthermore, by limiting the number of beneficiaries, the increase in the average price for households that are not poor would only have to marginal (Table 4). Broadly speaking, the various ways of helping poor consumer would raise only slightly the price of water for consumers as a whole (Table 5). The size of the increase would obviously depend on the number of beneficiaries of free water.

For example, in Cairns (Australia), a family with three or more children receives a free allowance of 100 m^3 of water per year plus 25 m^3 per child beyond the third. About of 12% of customers receive subsidised water. The subsidy represents about A$ 75 per family.

Rather than supplying a quantity of free water, water companies may instead pay part of the water bill of certain customers. In the *United States,* some companies offer financial assistance to disadvantaged consumers. In *Australia*, poor households in Sydney receive a discount of up A$ 25. In Cairns[34], pensioners receive a discount of A$ 40 a year. In Australia, the financial assistance and the free water supplied by water companies is reimbursed to them by local authorities (social support, see section 3.7).

There is not really anything abnormal about supplying free water to poor households since in many cases, water companies do not bill water supplied to certain public users (army, police, schools, hospitals, public fountains, public parks and fire hydrants). If some of these users had to pay for their water, they would reduce their consumption and poor households could be charged preferential rates.

When there is a water supply but no meters[35], water is perceived by the user as being free (the unit price is zero) apart from some annual fixed charges (see below). The fixed component can be adjusted according to income, size of family or the size of house or its property value. In Ireland, it is paid for entirely out of general taxation. In principle, free household water encourages waste but if there is a strong social conscience, the cost of the waste may be less than the cost of metering and billing. In Dublin, the consumption of (free) drinking water by households is only 139 litres per person per day. The savings made possible by volumetric pricing may be less than the cost of metering in existing accomodations. The gradual abolition of free water is only justified on budgetary or fiscal grounds (the cost of water is transferred to the private sector) .

The supply of a limited quantity of free water without the possibility of exceeding it (for example, to recipients of the survivor's pension) poses a technical problem since it is difficult to cut off the supply when the bill is not paid. It is thus to be feared that even people who get water free or at a reduced rates will continue to pose a problem to water companies when they do not pay their bills.

Table 4. **Examples of pricing structures**
(for a consumption of 120m^3 per year)

1. Decreasing-block tariff
   Fixed charge 360 francs/year
   Consumption 120 m^3 to 15 francs/m^3 = 1 800 francs/year
   Total : 2 160 francs/year
2. Full volumetric pricing
   Current consumption 120 m^3 at 18 francs/m^3 = 2 160 francs/year
3. Increasing-block tariff
   a) with allowance of 30 m^3 for each household at half-price and the rest at the normal rate
      Consumption 30 m^3 at 10.3 francs and 90 m^3 at 20.6 francs = 2 160 francs/year
   b) with free allowance of 30 m^3 for each household and volumetric rate for the rest
      Paying consumption : 90 m^3 at 24 francs/m^3 = 2 160 francs/year
4. Increasing-block tariff with dual pricing
   Poor households (10% of customers) :
      30 m^3 free and 90 m^3 at 15 francs/m^3 or
      30 m^3 at 7.5 francs and 90 m^3 at 12.5 francs
      Total for 120 m^3 : 1 350 francs/year (gain : 810 francs/year)
   Other households (90% of customers) :
      120 m^3 at 18.75 francs/m^3 (full volumetric pricing)
      Total for 120 m^3 : 2 250 francs/year (extra cost : 90 francs/year)

   Average annual expenditure: 2 160 francs per household per year

Note : The principle of solidarity between households implies that well-off households pay 18.75 francs per m^3 of water instead of 18 francs, i.e. 4% more than the average. As on average poor households consume less water than well-off households, the actual increase will be lower.

Table 5. **Support to poor households**
Assumption : expenditure of FF 70 billion per year for 56 million people consuming 190 litres/day at 18 francs/m^3
(fixed charge per household : 360 francs plus 15 francs/m^3)

Cost of proposed measure (million francs)	Beneficiaries		
	1 million households	0.5 million households	0.2 million households
Pay for three months of consumption (30 m^3 at 15 francs , i.e. 450 francs)	450	225	90
Abolish the fixed charge (360 francs)	360	180	72
Allowance of 15 m^3/year at half price (15 m^3 at 7.5 francs = 112 francs)	112	56	22
Abolish the fixed charge and allowance of 15 m^3/year at half price	472	236	94

Note : The most costly measure represents 0.64% of the total expenditure. The calculations were based on the assumption that all households have an individual connection whereas in practice most poor households live in buildings in which cold water is not billed individually.

Figure 2. **Decreasing- and increasing-block tariffs**
(same price for average reference consumption R)

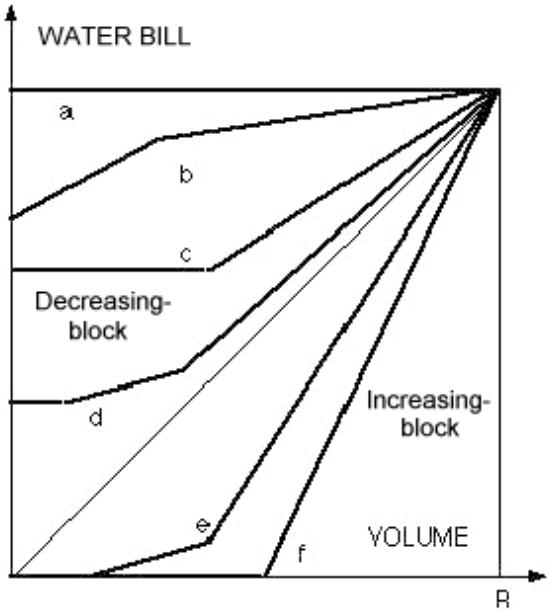
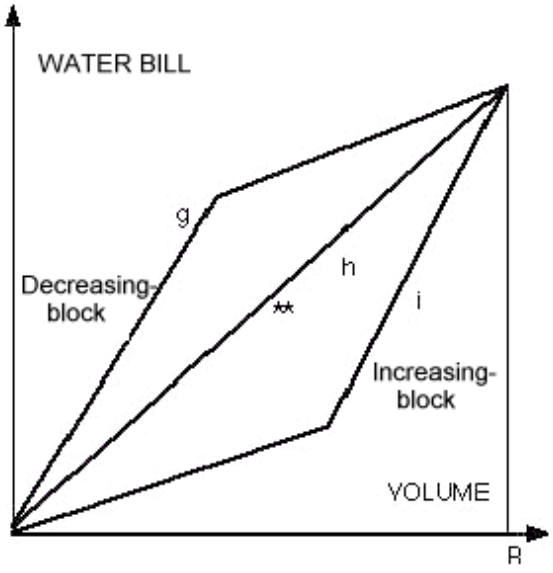


Figure 3. **Volumetric pricing**



** Single unit price

Resource pricing

Water tariffs may depend on the volume of water used and on the user's socio-economic profile. There are very many tariff arrangements (Fig. 2). Decreasing-block tariffs charge more for the first cubic metres, whereas increasing-block tariffs charge more for the last.

According to the OECD[1], water pricing is now being used to achieve economic, environmental and social goals simultaneously. *Broadly, there is a trend away from decreasing-block tariffs* and towards full volumetric pricing or increasing-block tariffs which are more beneficial to poorer households. The introduction of social tariffs for water is unanimously recommended but implemented in only around half of all OECD Member countries. This appears to be due in some measure to inertia on the part of decision-makers, or to their belief that water is so cheap that social pricing is not even worth contemplating.

Decreasing-block tariffs

In many cases, decreasing-block tariffs are based on a fixed charge plus a component proportionate to consumption by analogy with the cost of supply (investment plus operating costs). This means that the first cubic metres cost far more than the last (those used for watering gardens, or cleaning vehicles and pavements). The formula benefits large users who require water for less essential purposes. On the other hand it makes it harder to sell water at an affordable price to small users on low incomes.

The fixed charge usually varies with potential consumption, but occasionally too with the size or value of the home (Canada, Iceland, Netherlands, Norway, United Kingdom and New Zealand). One form of support for poor households and other deprived groups consists in *minimising the fixed charge,* for instance, and recovering only those costs that customers would avoid if not connected (i.e. meter-reading and billing). It would at least be worthwhile modulating the fixed charge according to the size of the home.

In *Catalonia* (Barcelona), the fixed charge for small homes is six times lower than for larger ones. In *Australia*, pensioners are given a 50 % discount on the fixed charge. In *Flanders*, the fixed charge was initially halved for low-income or disabled households, and eventually abolished in 1997, when it was replaced by a small allocation of water free of charge.

Another form of support consists in reducing the unit price of initial blocks. In *Wallonia,* the unit price of the first block used is BF 20 per m^3, rising to BF 70 for additional blocks. In *Italy*, the price of the first 90 m^3 is half that of subsequent blocks, while in *Australia* patients requiring dialysis pay preferential unit rates. In *Turkey*, the unit price of the first block (up to 120 m^3 per year) is 3.75 times lower than for high consumption (over 360 m^3 per year).

Full volumetric pricing

Full volumetric pricing does not include a fixed charge, and prices vary on a linear basis according to use. There may be a sliding scale (increasing- or decreasing-block tariffs) when unit prices vary depending on high or low consumption (Figure 3).

The decision to abolish fixed charges and introduce volumetric pricing comes in response to repeated demands from consumer bodies, since it seems unfair that small -- and more importantly, poor households -- should have to pay more for their water than large users and that, because of decreasing-block tariffs, water for cleaning cars should cost less to the user than water for washing children.

In *France*, the fixed charge amounts to some FF 350 out of an average annual expenditure of FF 2 150 (120 m^3 per year), but there are wide variations across local authorities (Table 6). For a person on basic income support (*RMI*) using only 15 m^3 of water per year, the fixed charge accounts for 61 % of the water bill. This puts the average price of water at FF 39 per m^3 for a person who is poor, compared with FF 18 for an average household.

The widespread abolition of fixed charges pushes up unit prices, but the scale of the increase would be smaller if their abolition were confined to main homes or customers paying income tax in the local authority concerned. This kind of tariff differentiation can be hard to implement as it runs counter to the principles of equal pricing of public service. Local authorities would be at a distinct advantage if they had numerous second homes within their boundaries since, by maintaining fixed charges for these, they could spread infrastructure costs more evenly instead of placing most of the burden of new infrastructure on local residents who live in the area all year round and are usually poorer.

In some countries, the fixed charge may account for a large share of a typical household water bill (Australia, 69 %; Netherlands, 65 %; Sweden, 32 %). In such cases the fixed charge should be phased out gradually, to prevent sharp escalations in the unit price.

Table 6. **Water prices in France**

	Fixed charge FF per year	Unit price FF per m^3	Average price FF per m^3[a]
Towns with high fixed charges			
St Malo	1 115	26[b]	54
Avignon	600	8	23
Toulon	600	15	30
Arles	500	15	28
Paris region			
Paris (right bank)	100	14	16.5
Champigny/Marne	200	19	24
Evry	100	20	22.5
Other towns			
Lyon	300	15	22.5
Lille, Roubaix, Tourcoing	200	18	23
Marseille[c]	0	18	18

a) Average price per m^3 for 40 m^3 of water per year in 1997.
b) Unit prices are as high as FF17 in Dreux and FF 33 per m^3 in one small commune.
c) Other towns with no fixed charge : Guéret, Lunéville, Annecy, Belfort.
Source : Que choisir, September 1998.

As water use is to be encouraged on the grounds of hygiene and public health, there is no reason to be concerned about the pricing effects of the fixed component on water use below a threshold of, for instance, 10 to 15 m^3 per person per year. To promote the use of 15 m^3 per year, the unit price of the first block can be substantially reduced, without necessarily providing water free of charge. There could, for example, be a fixed charge of FF 105 for 15 m^3 at FF 8 per m^3, rather than billing the same number of cubic metres at FF15 per m^3 (F225). There could even be a minimum charge of FF 185 (10 m^3).

Increasing-block tariffs

With increasing-block tariffs, the price of a cubic metre of water increases with consumption; it is a way of cutting the price of water for basic needs and discouraging certain uses deemed to be less essential. It encourages the collection and use of rainwater (for washing clothes or watering gardens), as well as groundwater abstraction.

Increasing-block tariffs are used in countries like Belgium, Spain, Greece, Italy, Luxembourg, Mexico, Portugal and Turkey, in particular because resources are depleted. In *Barcelona*[37], the unit price of water in excess of 192 m^3 per year is almost triple that for consumption of under 72 m^3 per year, while the difference in unit prices between low and high consumption is 118%. In *Athens*, the unit price of water increases by a factor of 7.7 between the use of less than 60 m^3 per year and that over 432 m^3. In *Ankara*, the unit price of water increases by a factor of 3.75 between an annual consumption of less than 120 m^3 and a figure in excess of 360 m^3. *Flanders* has an increasing-block tariff system whereby the first cubic metres of water are free of charge but the remainder are expensive. In *Wallonia*, the second block costs 3.5 more than the first.

France, which has a mainly decreasing-block tariff system with a fixed charges, is envisaging the introduction of increasing blocks, more advantageous to very small users (under 36 m^3 per year)[38].

Households living in apartments without individual meters and paying increasing-block tariffs benefit very little from discount on the first blocks and therefore pay a higher unit price for their water. This is notably the case in social housing, where many of the poor are found. One worthwhile social measure would be to ensure that a household renting a flat in an apartment block does not pay more for its water than one using the same amount of water (e.g. 60 m^3 per year) but living in a house (charging rate according to average water use per person).

Family tariffs

In some countries, tariffs explicitly allow for size-of-household, making it possible for larger families to be given more support and every individual to be allocated the same quota of cut-price water.

In *Luxembourg*, the basic water tariff applies to the first 60 m^3 per year for a person living alone, plus 40 m^3 for each additional person. In Barcelona (*Catalonia*), the ceiling on the second block increases by 28 m^3 per year from the fifth person upwards. In one commune in Luxembourg, the unit price of water is LF 38 per m^3 for a household with up to two children, LF 27 per m^3 for those with three, LF 23 per m^3 for those with four and LF 19 per m^3 for those with five or more children. In *England*, poor households pay special rates if they use over 100 m^3 of water per year.

Dual pricing

One conclusion to be drawn from this is the usefulness of introducing *dual pricing*, with one tariff for essential uses and another, higher tariff for other uses. Instead of decreasing-block tariffs or volumetric pricing (Figure 4, Curve A), increasing-block tariffs (Figure 4, Curve B) would be a way of saving water without affecting poorer households.

Another approach would be to introduce dual pricing, but this time with one tariff for specified groups of people and another for the majority of users. Figure 5 shows volumetric pricing (B) for the majority of users and increasing-block tariffs (C) for poorer households. This approach is warranted by the fact that the volume of water used depends on not only a household's income but also on its profile and habits[39] (a person living alone and using very little water may be very affluent, and a poor family with numerous children may use a great deal of water for essential uses). Specified groups may include large families, patients whose treatment requires large amounts of water, local taxpayers with several dependants to set against tax, individuals who do not pay tax or who receive means-tested welfare benefits, those on minimum income support, or individuals who have their main home in the area and pay low property taxes.

In some cases, dual water pricing poses a social or legal problem since it introduces a form of price discrimination between consumers in the same supply network using the same volume of water. It is said to be counter to the principle of equal access to a public service. The objection does not appear insurmountable from a policy standpoint if the group paying less for their water is a group already receiving special treatment under government social or family policy measures. In France, the price of a school meal varies with parental income, and the same train ticket is sold at different prices to a bachelor and to the father of a large family. Similarly, poorer householders aged 75 and over are exempted from property tax on their main home. Conversely, it would be difficult to charge different prices for water depending on whether the customer owned a restaurant, ran a launderette, organised sporting activities, owned a golf course or ran a retirement home, since this would constitute discrimination between business activities.

Dual water pricing is a way of implementing economically efficient but also socially acceptable policies; however, it also involves transfers between consumer groups, for instance from large users to poorer ones. Social pricing (Figure 5) is a way of helping one group of consumers without placing too much of a burden on the others. However, there should be a limit to such transfers so as not to finance welfare policy indirectly through non-tax levies on water prices. Much of the ideological criticism levelled at this idea has nothing to do with the amounts transferred. But the issue is viewed very differently depending on whether such measures would benefit only 1 or 2 % of all customers or well over 10 %.

Dual pricing based on consumer type (market segmentation) should not come as any surprise, since bottled water is already sold at very different prices depending on the label, as are many other foodstuffs and consumer goods (branded and non-branded products). Water market segmentation via social pricing makes for social equity but does not maximise the monopoly supplier's profits. There is nothing unusual about this since, as France's water legislation states[40], "water is one of the nation's common assets" and as such belongs to no-one in particular. It also specifies that "everyone is entitled to use water", including the poorest members of society.

The introduction of social tariffs for water, i.e. lower prices for specified consumer groups, alleviates the financial problems relating to water use by the poor, but does not eliminate them altogether. Unpaid water bills will decline in number but not disappear, especially if there is less threat of disconnection for failure to pay as a result of efficient social measures to write off water bills (see section 3.7).

Flexible payment

In many countries, water companies are obliged to show some flexibility regarding the payment of water bills and postpone payment or allow more time to pay if customers are experiencing temporary difficulties. This "social" policy has positive spin-offs for a supplier's public image, particularly if it is a privatised water company. One English firm (Northumbrian Water) provides consumers with its own water-company card upon request, which they can use in post-offices to pay off their bills in small amounts.

In the case of failure to pay by households with no means of support, it is sometimes better for the water company to write off the debt rather than to try to recover it, since it will be as fruitless as it will be costly. In *Wallonia (Belgium)*, the water company *Société wallonne de distribution d'eau* prosecutes only about 0.25 % of its customers for unpaid bills.

Legal measures to safeguard access to water

When tenants fail to pay their rent and service charges or consumers fail to pay their water bills, landlords or water companies may try to disconnect their water supply in order to speed up payment. In many countries, such a radical step is illegal without an enforceable judgment (Spain[41], Belgium[42], France[43]). Access to water must accordingly be maintained while legal proceedings are going on, which may be for some time. This measure benefits tenants in temporary financial difficulties but is a burden on landlords or water companies as the debts mount up. These costs can be mutualised by rent insurance or by government support for water companies.

Figure 4. **Dual pricing**
(Initial price A is replaced by dual price B in which essential ues cost less;
the total price for an average reference consumption R remains the same)

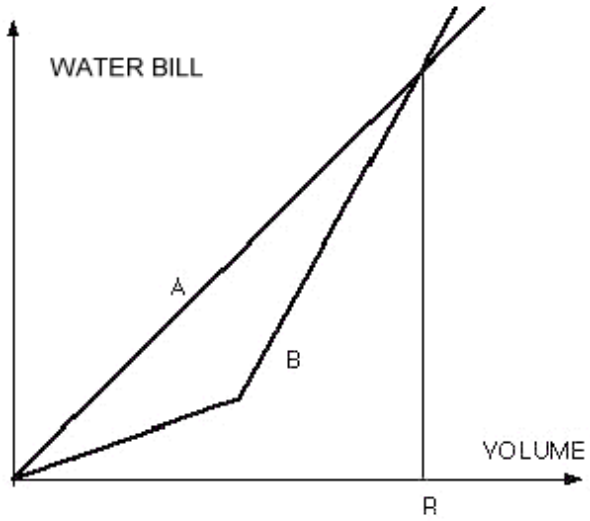
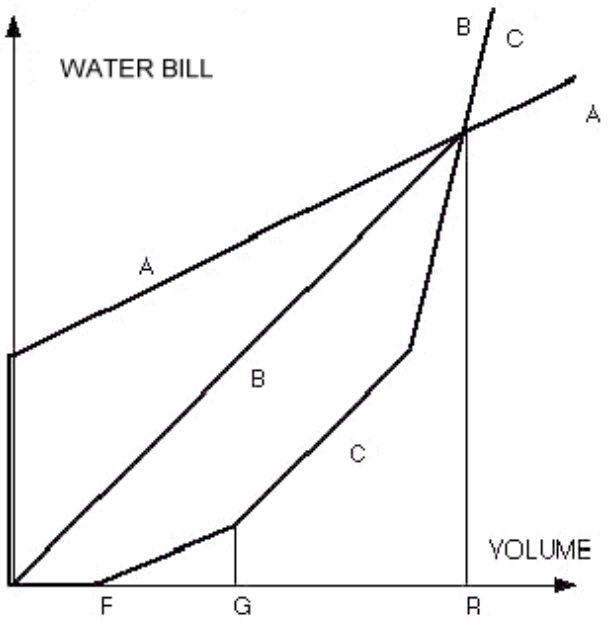


Figure 5. **Dual pricing**
Initial price A is replaced by dual price B and, for poor households only,
by increasing-block tariff C, while the position of points F and G
differ according to family size, where appropriate)



Social support

Social support is provided upstream in the form of benefits for specified categories of the poor and downstream by writing off all or part of the debts incurred by specific people on a case-by-case basis. The support is provided by government and charities or with their help, and with the participation of water suppliers. Action by water companies in favour of the poor but not combined with government support is addressed in section 3.4.

Social support is the solution preferred by "classical" economists who see social tariffs as undermining the economic efficiency of the pricing system. Water suppliers generally tend to expect governments to shoulder the burden of social support for water.

Upstream support

In OECD countries, poor households generally receive social support to supplement their income and housing benefits (sometimes paid directly to the landlord) to cover some of their accommodation costs. Housing benefit is based on expenditure but often as a flat rate that fails to take real water costs into account when they are covered by service charges. Social support and housing benefits help towards the payment of service charges that include water bills, but also the payment of water bills directly to the supplier.

In some countries such as *Finland*[44], water expenditure is explicitly included in housing benefit. Over 7 % of the country's population receive this subsidy, which accounts for 0.39 % of GNP and covers 80 % of all costs above an unsubsidised lower limit.

In *Australia*, water-company support for poor households is financed by the taxpayer since it is reimbursed by local authorities from their social welfare budget. This kind of transfer promotes transparent accounting on the part of water companies but does away with consumer solidarity.

Another form of support would be for social welfare institutions to distribute "water vouchers" or "water coupons"[45] to poor households as they would food coupons, winter fuel vouchers or "back-to-school" allowances. Such vouchers entitle holders to an allocation of free water or discount on the price of water consumption (reduction vouchers). They could bear the holder's name and be non-transferable, except to the water supplier which would then apply to the issuer for reimbursement. This would avoid solutions based on cross-financing or cross-subsidisation (dual pricing, see section 3.5) and would explicitly show the total amount being paid out in social support for water. Vouchers or the allocation of very low-priced water could be funded by a special tax on water suppliers and/or from the public purse.

If a voucher-based or similar mechanism were introduced, water suppliers could conduct their pricing policy without having to pay heed to the social dimension. However, this kind of solution has aroused limited interest, owing in part to a lack of public funding. This is because it costs more to help a whole category of beneficiaries than those among them in greatest need .

Downstream support

Downstream support consists in helping individual customers in financial difficulties by paying all or part of the water bills they cannot pay. This support is not granted systematically by the social welfare institutions that select individual cases. It may take the form of a payment to the creditor, or the debt will be written off by the water supplier or all the creditors.

In *Belgium*, the *Société wallonne de distribution d'eau*[46] voluntarily shoulders the cost of unpaid water bills for those whose names are forwarded by the local social service, which is entitled to a full allocation of water per customer but uses only half. This scheme costs FF 2.5 million, or 0.3 % of the company's turnover, and concerns about four customers per thousand. The water company writes off the cost of water supply (excluding sanitation), i.e. an average of FF 750 for every customer assisted by the scheme and FF 4 per customer. The very low number of people who fail to pay (fewer than 1 % of those receiving the support or in litigation for recovery) can be put down to the fact that this scheme does not cover those living in apartment blocks, and that the average annual water bill amounts to only FF1 600 per person. Sanitation and other taxes are not covered by the mechanism.

In *France*, the emphasis is on maintaining water connections for genuine cases of hardship and on writing off certain unpaid bills thanks to financial intervention by departmental or municipal authorities, charities such as *Secours catholique* and the firms involved in water billing[47]. Because many poor households rent flats in social housing (HLM), there are very few cases of failure to pay for water on grounds of poverty (around ¼ to ½ %).

In apartments blocks, the bills that poor households fail to pay are for rent, electricity and telephone services, and for service charges of which water represents only a small share. The *Fonds de solidarité pour le logement* is the main solidarity fund for service charges. If social housing tenants living in apartment blocks had to pay individual water bills, cases of failure to pay and disconnections would increase considerably, since the poorest households usually live in social housing. Currently, unpaid service charges have to be shouldered by landlords or the social housing management body.

With regard to customers in individual houses who experience financial difficulties, the policy currently being implemented is set out in the *Charte Solidarité-Eau*[48]. Support may be provided to those experiencing temporary difficulties following a decision by one of the *Commissions Solidarité-Eau* now being set up in each department. This mechanism applies to very few households, since it may not exceed an annual cost of FF 2 per customer (on an average bill of FF 2 000 per year), which means providing support, at most, to one household in every 1 000 customers (i.e. four times fewer than in Belgium). The overall cost of writing off this debt is not expected to exceed FF 60 million per year, i.e. 60 000 customers each receiving FF 1 000. The cost to the supplier (some FF 20 million) should not exceed FF 1 per customer (i.e. four times less than in Belgium). As the number of beneficiaries selected on a case-by-case basis is very small, more support could be paid per person if it were granted to an entire category of beneficiaries. The administrative costs of writing off debt are considerable, given the number of players involved in each unpaid bill. There are similar mechanisms for electricity, gas and telephone services in France[49], Belgium[50] and Ireland[51] (Annex 2).

Mention should also be made of the substantial support provided by the *Centres communaux d'action sociale* which are in direct contact with the local authorities regarding the payment of water services.

Another form of intervention is to have leakages repaired so that tenants or occupiers (squatters) do not have to pay exaggeratedly high water bills owing to negligence on the part of landlords or owners[52].

Disconnecting water supplies

The more support is provided for unpaid water bills, the more unpaid bills there are likely to be. This financial risk has to be shouldered by the community or water suppliers if the law, the government or supplier practice rule out disconnection. This is the case, for instance, in the *United Kingdom*, where the government has banned disconnections, although 9 of the 28 private companies had already stopped this practice anyway. There is evidence of a similar trend in Belgium, and in France genuine cases of hardship are not disconnected. Otherwise, the decision must go ahead to disconnect the water supply for failure to pay. In this case, steps must be taken to ensure that free water is available, for example at nearby fountains, so that households with no water supply may nevertheless exercise their right to drinking water. In reality, however, there are very few disconnections affecting households in permanent homes. In France they are said to amount to around one customer per thousand every year, and poor households are seldom affected owing to intervention by the social services. Disconnections mainly occur in homes that are never or seldom occupied, or when failure to pay is due to an oversight.

Advice and legal assistance

In the case of disadvantaged communities whose water supply is or might be polluted, better access to clean water may be achieved by providing them with advice on how to encourage landlords or property vendors to meet their legal obligations regarding sanitary conditions, and municipalities to play their public-health role, and to ensure that public authorities refuse to tolerate polluting activities that threaten the water sources on which some sections of the population rely. The advice may focus, for instance, on analysing problems and finding solutions, on the scope for members of the public to make their wishes known to the authorities, or on possible action before the courts. Funds from outside the

disadvantaged communities are often required to cover expert appraisals or legal costs. In the United States, the "environmental justice" programme set up by President Clinton[20] provides such assistance. The EPA and the Department of Justice, for instance, prosecuted a property developer for failing to install sewers.

CONCLUSIONS

Over the past few years, drinking-water prices in some OECD countries or areas therein have risen to levels that are giving consumers cause for concern. For poorer households, water is no longer a negligible item on their housing budget. There is evidence that a large number of them are encountering problems with the payment of water bills.

Member country governments are increasingly aware of the social aspects of water and most are beginning to take steps to ensure that everyone has better access to it. This report seeks to identify various measures aimed at implementing "the right to water", and in particular at making the price of water more affordable for the most deprived households.

For a long time now, approaches based on social pricing have been widely implemented by water utilities. In particular, OECD countries have made widespread use of subsidies for water supply and sanitation, without consumers finding water too expensive.

The phasing-in of the user-pays principle and the corresponding decline in subsidisation should have very a beneficial economic impact on water service management. The same applies to the new tariffs, designed to reduce wastage and make users more responsible. In some cases, however, these policies are implemented with little concern for the social aspects of sustainable development, in particular for the poorest or most underprivileged fringe of the population.

With regard to the pricing of drinking water, it is increasingly necessary to discourage excessive consumption and distinguish between basic needs and other uses. It is therefore highly advisable *to minimise the fixed charge component* in water tariffs to ensure that small consumers do not pay excessive prices for the water used for basic needs, and *to raise the unit price of water for high levels of consumption* when water becomes a scarce resource.

Supplying a limited amount of *very low-priced drinking water* is a particularly interesting way of introducing increasing-block water tariffs based on the needs of the poor. Restricted to main homes, large families and possibly poor households, this social measure would push up average water prices very little. Cutting prices for low consumption and increasing them for high consumption would have a genuine social and political impact and lead to more sustainable water management.

By and large, regardless of the pricing policy option chosen, account should be taken of the limited incomes received by a small section of the population that cannot be deprived of water or be subjected to further economic constraints as water prices continue to rise. Failing the introduction of tariff differentiation based on a customer's income or state of poverty, it should at least possible to take account of household size.

Dual water pricing therefore appears to be the necessary solution if household profiles are to be taken into account in volumetric pricing, without seriously distorting the prices paid by the majority of consumers. This pricing system would of course push up water prices for large users, but would reduce them for small users. By the same token, it would be worthwhile instituting cross-subsidisation mechanisms to iron out the more glaring inequalities in the water prices charged in different parts of the same country, or by different local authorities.

It is most important to maintain water-infrastructure subsidisation policies if work to provide rural areas with water facilities is to continue and less developed countries or areas in the OECD are to catch up with others that are more advanced in terms of water connections, sewage systems and treatment plants. However, the maintenance of those subsidies at national or international level should be contingent upon the *close targeting of support at underprivileged groups*, and the adoption and phasing-in of an efficient resource pricing policy so that, within a given time-horizon, water is sold at its real price and supply networks are no longer financed by the public purse.

The privatisation of the water industry should bring about the partial disengagement of government, the mobilisation of private capital, and more efficient supply management. Such privatisation should be enabled by law in countries where legal obstacles persist. It should not be introduced until privatised water companies have taken on board the *social aspects of water*. Arrangements to privatise water, water authorities or concessions should in particular ensure that water companies are:

- Subject to specific constraints so that water remains affordable, even for the most deprived;
- Allowed to apply special rates for households with specific profiles or for categories of customers with low incomes;
- Authorised to arrange financial transfers between groups of consumers as a form of solidarity;
- Eligible in some cases for public funds to finance, in partnership with government, social schemes to provide the poor with access to water.

Even if the entire water industry is privatised, the State should still play a major role in effectively implementing rules guaranteeing the right to drinking water and, where necessary, financing investments that are costly or pose depreciation problems. Other grounds for such intervention are that the State guarantees the right to health and that underprivileged sections of the population cannot effectively defend their rights to water, health and housing as written into the constitution and domestic legislation. Finally, the cost of intervening on social grounds is very low when compared with water consumption.

ANNEX 1

THE RIGHT TO DRINKING WATER FOR ALL PERSONS

The right to drinking water is the right of all human beings to clean, affordable water in sufficient quantities to meet their basic needs. This means a limited amount of water which need not necessarily be free of charge. This right is increasingly recognised at both national and international level. It is enjoyed by 90% of the population in OECD countries and virtually 100% in the major cities.

The right to drinking water can be likened to a human right. It stems from the right to health, the right to housing, the right to decent living conditions and the right to a healthy environment. All these rights are written in many international documents and in many national constitutions.

The following quotations show how this right is perceived and its real significance:

- The 1948 Universal Declaration of Human Rights (Art. 25) states that:

> "Everyone has the **right** to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services".

Although water is not explicitly mentioned in this list, the right to water is obviously one of the protected rights.

- In 1966, the International Covenant on Economic, Social and Cultural Rights stipulated that:

> "The States... recognize the **right** of **everyone** to the enjoyment of the highest attainable standard of physical and mental health. … The steps to be taken by the States Parties to the present Covenant to achieve the full realization of this right shall include those necessary for: ... b) the improvement of all aspects of environmental and industrial hygiene;" ... (Art. 12, see also Art. 11.1).

- In 1969, the Declaration on Social Progress and Development emphasised the "attainment of the following main goals:

10.f) "The provision for **all**, particularly persons in low income groups and large families, of adequate housing and **community services**."

- In 1977, at the United Nations Water Conference (Mar del Plata), it was agreed that:

> "All people have **a right** to have access to drinking water".

- In 1979, the Convention on the Elimination of All Forms of Discrimination against Women stipulated that:

> "States Parties … shall ensure to such women (in rural areas) the right:
>
> h) To enjoy adequate living conditions, particularly in relation to housing, sanitation, electricity and water supply, transport and communications".

- In 1981, the United Nations launched the International Drinking Water Supply and Sanitation Decade, the aim being that:

> "all people, whatever their stage of development and their social and economic conditions, have **the right** to access to drinking water in quantities and of a quality equal to their basic needs".

During the decade, drinking water for all was viewed as a government priority. It accordingly attracted a substantial share of development assistance.

- In 1984, the Member States of the WHO European Region adopted *Health for all Targets,* Target 20 being;

  > "By the year 2000**, all people** should have access to adequate supplies of safe drinking water".

- In 1989, the Convention on the Rights of the Child accepted that States should take appropriate steps to "combat deseases… through the provision of… clean drinking water" (Art. 24).

- The 1989 ILO Convention on Indigenous and Tribal Peoples in Independent Countries stated that:

  > "The rights of the peoples concerned to the natural resources pertaining to their lands shall be specially safeguarded" (Art. 15.1).

More specifically, this means that no serious damage should be done to water resources on safeguarded lands.

- In 1992, the International Conference on Water and the Environment adopted the Dublin Statement, in which:

  > "it is vital to recognize first the **basic right of all human beings** to have access to clean water and sanitation at an **affordable** price".

- In 1992, at the Rio Conference (UNCED), Governments adopted the Rio Declaration whereby:

  > "human beings are … **entitled to a healthy and productive life** in harmony with nature".

  They also adopted Agenda 21, which included the following:

  > "By the year 2000, to have ensured that **all urban residents** have access to at least 40 litres per capita per day of safe water and that 75 % of the urban population are provided with on-site or community facilities for sanitation".

  Note that this refers to urban residents only.

Agenda 21 includes numerous indications as to the objectives and resources to be put in place to implement the right to drinking water.

§ 3.8 "Governments... should establish measures which will directly or indirectly : ...

p) provide the **poor** with access to freshwater and sanitation"

§ 6.12 "to ensure **universal access** to safe drinking water"

§ 7.42d"promote policies aimed at recovering the actual cost of infrastructure services while at the same time recognizing the need to find suitable approaches (including subsidies) to **extend basic services to all households**".

§ 18.8 "Priority must be given to ... the satisfaction of **basic human needs** for drinking water, health protection and food security. For any water utilization beyond this, freshwater resources have to be considered as an economic good with an opportunity cost in alternative uses".

§ 18.18"In developing and using water resources, priority has to be given to the satisfaction of **basic needs** and the safeguarding of ecosystems. Beyond these requirements, however, water users should be charged appropriately".

§ 18.26"Charging mechanisms should however, reflect as far as possible both the true cost of water when used as an economic good and **the ability of the communities to pay**".

- In 1993, the UICN developed the "International Covenant on Environment and Development", one rule being that States should pay "particular attention to the satisfaction of basic human needs, such as drinking water and food".

- In February 1994, Madame Simone Veil, Minister for Social Affairs, Health and Urban Policy declared during an international meeting organised by France:

> "free access to clean water is a **human right,** regardless of the degree or form of urbanisation".

The meeting went on to adopt the Recommendations of Sophia Antipolis, whereby:

> "Everyone, regardless of living conditions or resources, has the **imprescriptible right** to drink clean water";
>
> "**Cross-subsidisation** mechanisms should be put in place between the various strata of the urban population. However, some subsidisation may be required".

- In 1994, the International Conference on Population and Development adopted the Cairo Principles, N° 2 being that:

> "(Human beings) are **entitled** to a **healthy** and productive life in harmony with nature..... They have the right to an adequate standard of living for themselves and their families, including adequate food, clothing, housing, **water and sanitation**."

- In April 1997, the Symposium on Water, the City and Urban Planning held by the *Académie de l'eau* (France) and UNESCO's International Hydrological Programme adopted the Paris Declaration. This stated that:

> "a sound water pricing policy that recognises the economic value of water while at the same time acknowledging the **social dimension** is a crucial component. Poorly devised subsidies benefiting the urban rather than the rural population, or wealthier residents (who are able to purchase water from suppliers) rather than poorer residents should be abolished".

- In December 1997, African Ministers for Water, Urban Planning and the Environment issued the Cape Town Declaration, in which they recommended the use of realistic tariffs for water and sanitation services accompanied by **special rates for low income groups**, including preferential tariffs, cross-subsidisation, etc.

- In January 1998, the Harare Conference "Strategic Approaches to Freshwater Management", held in conjunction with the UN Commission on Sustainable Development, concluded that:

> "All costs must be covered if the water provision is to be viable. **Subsidies** for specific groups, usually the **poorest**, may be judged desirable within some countries".

- At its 6th Session (New York, April 1998), the UN Commission on Sustainable Development adopted Decision 6/1:

> "Cost recovery should be gradually phased in by water utilities, taking into account the specific conditions of each country. Transparent subsidies for specific groups, particularly **people living in poverty**, are required in some countries".

The Commission sees sustainable development as a development model that ensures that the needs of the present generation, **including its poorest members**, are met without compromising the ability of future generations to meet their own needs.

- In March 1998, the International Conference on Water and Sustainable Development, meeting at UNESCO headquarters in Paris, adopted the following declaration:

> "To this end, provisions for progressive recovery of direct service costs and overheads, **while safeguarding low-income users**, should be encouraged".

Workshop n°3 on appropriate financial resources concluded that countries should promote transparency in taking the necessary measures, including **cross-subsidisation**, to prevent service management from restricting access to water for low-income users.

- Also in March 1998, the International Dialogue Forum on "Global Water Politics: Co-operation for Transboundary Water Management" held by the German Foundation for International Development (DSE), adopted the Petersberg Declaration, whereby:

> "Water should be regarded as an economic and social good. In applying economic instruments a balance needs to be maintained between economic, **social** and environmental goals. This mandates that economic instruments be carefully selected and applied with consideration for **social equity** and environmental policy goals while working to achieve cost recovery in water pricing. Their application should also take into account negative effects for **households with low incomes**."

- In March 1999, the European Commission introduced an amended proposal for a Council Directive establishing a framework for Community action in the field of water policy that included the recovery of water service costs. It stipulated that Member States should take into account the social, environmental and economic costs of recovery.

- At the Colloquium on Water, Solidarity and Sustainable Development (Paris, March 1999), French Senator Pelletier, the former Ombudsman, declared that: "the polluter-pays principle is most important, even if subsidies are required to finance solidarity mechanisms for the very poor".

- In April 1999, the European Council on Environmental Law adopted the Madeira Declaration on the Sustainable Management of Water Resources, expressing its strong support for the implementation of:

> "an individual **right** of access to drinking water".

Art. 7 of the Madeira Declaration stipulates that:

> "**No** person may be deprived of the amount of water needed to meet his **basic needs**".

Under Art. 10, exceptions to the polluter-pays principle may be granted "in the case of water for basic human needs and for traditional uses of a local nature". Furthermore,

> "When it is decided to reduce water-related subsidies, there shall be a transition period so as to allow for dispensations justified on **social** grounds"**.**

- In June 1999, the London Protocol on Water and Health instituted the goal of providing:

> "Access to drinking-water for **everyone**"

and refers to the principle of:

> "**Equitable** access to water" for **all** members of the population, especially **those who suffer a disadvantage or social exclusion**" (Art. 5.1).

The Protocol begins by acknowledging that:

> "the availability of water in quantities, and of a quality, sufficient to meet basic human needs is a **prerequisite** both for improved health and for **sustainable development**".

* * * *

Domestic social legislation has long contained special measures to enable the poor (otherwise known as the disadvantaged, the deprived, the impecunious, those with low incomes, the vulnerable, the socially excluded, etc.) to cope with temporary financial difficulties. Very few provisions relate specifically to water, since water expenditure accounts for only a very minor share of household expenditure on housing, heating, water and electricity (around 7%).

In some countries, however, domestic legislation explicitly recognises the right to drinking water, and ensures access to water for the very poor, or the payment of water bills.

France

Under Art. 43-5 of Law n° 92-722 of 29 July 1992, amended by Law n° 98-657 of 29 July 1998, "any person or family experiencing particular difficulties owing to precarious circumstances is **entitled to support** from the community to gain or retain access to the water supply".

The effective implementation of this right still poses practical problems (methods, financing, staff, etc.). Basically, current measures fall into the category of social assistance and are confined to the most dramatic cases (see notes 47 and 48). Assistance with water bills is financed jointly by water suppliers, government and charitable organisations.

Recently France set up the *Observatoire de la pauvreté et de l'exclusion sociale*, a monitoring unit for **poverty** and social exclusion.

Belgium

The Law of 8 July on *Centres publics d'aide sociale* (CPAS) stipulates that:

"Everyone is entitled to social assistance. Its purpose is to allow everyone to live a life consistent with **human dignity** (Art. 1)".

Under the Decree of 14 May 1996 (Flemish Region), one of the fund's objectives is to "support communal policy to restore **quality of life and environmental quality** for the **underprivileged**" (Art. 3.1).

Under Art. 3 of the Decree of 20 December 1996 (Flemish Region), "every customer is entitled to a basic uninterrupted supply of electricity, gas and water for household purposes in order to be able to live decently according to prevailing living standards" (Art. 3).

Under Art. 1.2 of the Decree of 15 April 1999 (Walloon Region) on the water cycle, which set up a new water management utility, "everyone has the **right** to access to drinking water of sufficient quality and in sufficient quantity to cover their food, domestic and health needs".

The right of water suppliers to set water prices freely "does not prevent the Region from setting a **social tariff** for individuals according to the terms and modalities specified by the Government" (Art. 4.2). The new water management utility has a remit to study "the principles and criteria applicable to **universal** water supply at suitable **social tariffs**" (Art. 6.2.5).

United Kingdom

The obligation on water companies to introduce social tariffs also appears in an official British report (*A better quality of life, a strategy for sustainable development for the UK*, 1999). The UK Government has asked companies to develop pricing systems that distinguish between water used for basic needs and water for other uses in order to introduce "a fair charging system". It also points out that:

> "People and firms must be able to **afford** the water they need, and families should face neither hardship because of water bills nor disconnection".

This new policy direction reflects the serious social problems generated by water privatisation in the United Kingdom. According to this official report,

> "Development which ignores the essential needs of the poorest people, whether in this country or abroad, is not sustainable at all".
>
> In July 1999, the United Kingdom adopts the Water Industry Act which prohibits disconnection of water supplies to households.

Other countries

As the reports indicates, several countries have pricing systems that benefit the poor. Governments spend a great deal on water infrastructure, but many fail to collect sufficient charges to balance public expenditure on water. Although subsidies are on the decline, they are still found in many countries.

* * * *

ANNEX 2

AN EXAMPLE OF SOCIAL PRICING

Supplying drinking water on special terms to the disadvantaged obeys the same rationale as for electricity, although water is far more of a social good than power. In the case of electricity, the French law establishes the following principles:

- right of electricity for all;
- geographical cross-subsidisation (tariffs) ;
- guarantee of maintenance of limits supply in the case of non-payment of electricity bills, for persons or families in precarious financial circumstances;
- user-pays principle with solidarity between households;
- special tariffs for the poor;
- suppliers (rather than government) bear the costs of ensuring social cohesion .

2000 Law on the modernisation and development of the power utility

Art. 1. "The power utility … shall contribute to social cohesion by guaranteeing everyone the right to electricity … Embodying the universal right to electricity, a staple commodity, the power utility shall be run in compliance with the principles of equity …"

Art. 2. III. "Its mandate to supply electricity shall consist in ensuring, throughout the country:

1°) the supply of electricity to [domestic consumers] while contributing to social cohesion, through geographical cross-subsidisation on tariffs, temporary maintenance of supply as stipulated under Art. 43.5 of Law n°88-1088 of 1 December 1988 on minimum income support, and the scheme to help those in precarious circumstances set up under Art. 43-6 of the same law …"

Art. 4. I. "Electricity tariffs for [domestic consumers] reflect all costs borne by *Électricité de France*, including more specifically the cost of developing the utility for those users, and avoiding subsidies for [heavy users].

Domestic tariffs allow for the fact that electricity is essential for users whose income is below a certain level in relation to the size of their household, by introducing a special “staple commodity” tariff for the first block of consumption

Art. 2. III. "The costs incurred by the requirement to ensure social cohesion shall be spread among suppliers as set out under Art. 5, section II, of the present law".

Art. 5. II. "These costs include:

2°) a contribution to the scheme for those in impoverished or precarious circumstances;
3°) a contribution, within the framework of promoting law and order, to the resources invested in problem neighbourhoods with a view to stepping up the presence of public services and promoting community mediation".

NOTES

1. THE OECD has done numerous surveys on water prices which have been published in the following reports :

   - Industrial Water Pricing, ENV/EPOC/GEEI(98)10
   - Agricultural Water Pricing, ENV/EPOC/GEEI(98)11
   - Household Water Pricing, ENV/EPOC/GEEI(98)12
   - Pricing of Water Services in OECD Countries, ENV/EPOC/GEEI(98)13
   - The OECD study: *"The Price of Water. Trends in OECD countries"* , published in 1999, contains a summary of this work.

2. Henri Smets : Le principle utilisateur-payeur pour la gestion durable des ressources naturelles, Anuario de direito do ambiente Lisboa, 1998 (p.9-37).

3. OECD : Water management: Performance and challenges in OECD countries, 1998
   OECD : OECD Environmental Data, Compendium 1999, 1999
   OECD : Environmental Indicators, 1998.

4. The Center on Budget and Policy Priorities reports that the gap between rich and poor in the United States is now the widest it has been since 1977. The average post-tax income of the poorest fifth of the population fell from US$ 10 000 in 1977 to $ 8 800 in 1999 (i.e. about FF by 5 400/month) while the income of the richest rose by 115%. *Le Monde*, 7/9/1999, p.22.

5. N. Legendre ; La condition de vie des pauvres, *Données sociales. La société française, 1999.* See also « Mesurer la pauvreté », *Economie et statistique*, n°308-9-10, 1997. S. Lollivier and D. Verger : Une approche de la pauvreté par les conditions de vie. INSEE working document, F 9701, 1997. According to Lollivier, 12.5% of the French population are in a state of monetary poverty (with an income of less than FF 3 500 per month), and of these, 3.6% (i.e. 2.1 million) also experience subjective poverty (i.e. they have difficulty making ends meet every month). Of this population, 65% are tenants, 85% have less than FF 3 000 per month per unit of consumption, 76% live in urban areas, 75% are French and 93% are under 65 . In 1984, 7.1% of the French population had an available income that was less than 50% of the median income, 3.9% had an income that was less than 40%, 2.2% had an income that less than 30%, and 1% had an income that was less than 20%. The available income (after transfers and tax) of households in the first income decile was FF 50 000/year in 1990. Among households under 65 with less than FF 4 500/month, 23% did not pay their gas and electricity bills regularly. (INSEE : *Economie and statistique*, n°8/9/10, 1997). The poverty situation is much worse in the Central and East European countries. In 1997, 41% of the population in Ukraine was poor, 38% in Russia, 33% in Bulgaria and 22% in Romania (EBRD, 1998). In Hungary, 25 to 30% of the population was below the subsistence level in 1998 (US$ 100 per month).

6. A tenth of the French population may be considered to be very badly housed (lacking basic amenities, etc.) ; about 45 to 50% of these households are from Turkey, the Maghreb and Sub-Saharan Africa. *Le Monde*, 22/6/1999.

7. *Le Monde*, 17/6/1999.

8. P. Roussel, Le prix de l'eau, *Confluences*, July 1999. The price of water rose from 1 229 francs/120 m^3 in 1992 to 1 974 francs/120 m^3 in 1997 (Mieux Vivre, March 1999), i.e. an increase of 61% compared with a price increase of 11%. In 1995 francs, the price of water rose from 8.5 francs in 1980 to 14.1 francs per m^3 in 1995; see *OECD : Environmental Performance Review of France*, 1997. In 1998, in the area covered by the Seine-Normandie water agency, the average bill was 2 130 francs/year (120 m^3 at 17.75 francs) broken down as follows : 7.77 francs for abstraction, 5.97 francs for sewage and waste water treatment, and 4.02 francs for charges and taxes. 84% of households paid between 13 and 24 francs/m^3 for their water (the price varying from 2 to 35 francs depending on the locality). In 1996, water cost 12.8 francs per m^3 in the 16^{th} arrondissement of

Paris and 18.8 francs per m^3 in Boulogne-Billancourt, an adjoining suburb. According to *Les données économiques de l'environnement* (Rapport à la Commission des comptes et de l'économie de l'environnement, IFEN, June 1999), "water" expenditure in France in 1997 amounted to FF 129.2 billion, of which FF 58.3 billion on the public water supply (of which FF 27.9 billion paid by households) and FF 60.9 billion on sewage and treatment (of which FF 46.8 on sewage and treatment, FF 8.9 billion on industrial water management, and FF 5.1 billion on households' own sanitation systems). The quantity of water withdrawn was 98 m^3 per person per year, of which 77 m^3 was billed.

9. *Chiffres clé de l'environnement*, IFEN, 1999.

10. The " water item" in French household budgets (which does not include the costs of sewage and treatment, charges and taxes) rose from 0.66% of national consumption in 1980 to 0.85% in 1997. The volume index rose from 100 to 113 and the price index from 100 to 337. Water consumption increased from FF 10.8 billion in 1980 to FF 24.4 billion in 1990, and to FF 41.3 billion in 1997. Between 1990 and 1997, the relative share of the water item in household budgets grew by 35% whereas the relative share of the "housing, water, heat and electricity" item rose by only 18%. Luis Case : *La consommation des ménages en 1997*, INSEE Findings, 1998. Between 1990 and 1996, household income in the first decile fell by 2.7% and that in the second decile by 0.3%, whereas that of other households rose by 0.5% in average. In 1988, 25% of the French thought that water was expensive ; by 1995, the percentage of those who thought so had risen to 60% according to the CREDOC. 69% of the French were unwilling to make financial sacrifices in order to have better water. According to B. Maresca, low incomes prompt households to restrict their water consumption (CREDOC, Cahier de recherche n°104, 1997). In Wallonia, household water consumption (120 litres/inhabitant/day or 44 m^3/year) breaks down as follows : WC (36.3%), personal hygiene – bath, shower – (33%), washing clothes (13.5%), washing dishes (6.7%), cleaning (4.1%), gardening (4.1%), food and drink (2.4%). The consumption of a Belgian public administration has been estimated at 14 m^3/employee/year. In Stockholm (1995), household water consumption is 210 litres/inhabitant, industrial consumption is 27 litres/inhabitant and public consumption (administration, street cleaning , etc.) is 60 litres/inhabitant (20%).

11. *Données sociales*, 1999, p.449.

12. WHO : *Water and Health in Europe*, 1999 (p.114).
S. Reiter. Transparency and customers' participation in water pricing policies. Lisbon, Sept. 1999.
In England and Wales, 21 282 people had their water cut off in 1991-92, but by 1998-99 the number had fallen to 1 129. According to the author, the Ofwat National Customer council is opposed to the idea of cross-subsiding the water consumption of a large number of low-income customers from other customers (households, enterprises, etc.).

13. USEPA : Information for States on Developing Affordability Criteria for Drinking Water, 1997, http://www.epa.gov/OGWDW/ssaf-01.html. This study shows that water is not considered affordable if it exceeds 2% of household expenditure. For poor households, the threshold would be lower, around 1.25%. About 11% of US households (with an income of less than US$ 10 000 per year) consider that the current price of water is burdensome).

14. According to the World Bank, the cost of supplying water in towns in the third world in 1990 represented 30% of the price whereas for electricity and gas the corresponding percentages were 70% and 90%. Users' participation in the cost of sewage and treatment is derisory (5 to 10%). In Spain, users frequently refuse to pay for water and related charges (OECD Environmental Performance Review of Spain, OECD, 1996). While water is sold at a price close to its actual cost in Catalonia (198 pesetas/m^3 instead of 259 pesatas/m^3 in 1996, i.e. 24% below its cost), the price difference or subsidy is 50% in Madrid, 65% in Andalusia, 69% in Aragon and 81% in Castille-Leon. See J. C. Verges, "Full Cost Pricing of Water in Spain", Hydropole 99, Marseille, June 1999. According to the author, water accounts for only 0.5% of Spanish household expenditure.

15. During the period 1984-92, housing prices rose in France by 80% whereas real incomes rose by only 33%. The share of rent in tenants' budgets increased from 10.2% to 14.3%. About 1.4 million households do not have basic amenities (WC and bath or shower). 30.6% of these dwellings (which represent 6.2% of the total housing stock) are in apartment buildings. 55% are occupied by persons in

the first two income deciles and 51% by occupants over 64, and 57% by single people. Two-thirds of the occupants are economically inactive. INSEE, *Economie and Statistique*, 1995, n°8/9. In Belgium, between 1961 and 1995, the housing item in household budgets rose from 18.3% to 26.4%.

16. OECD : *Environmental Performance Review of Mexico*, 1998. Of the 3.8 million dwellings in the Mexico City metropolitan area, 2.5 million have indoor running water and 3.3 million are connected to the sewage system. In 1995, 47% of the population in towns outside the State capitals had only a limited supply of drinking water (less than 25% of households). 72% of this population have only a limited sewage service (less than 25% of the households are connected to the sewage system). For the population in the State capitals, the drinking water supply is satisfactory but the sewage service is still inadequate since 33% of the population has only a limited service (less than 25% of connected households). *Decentralisation and local infrastructure in Mexico*, OECD, 1998.

17. OECD : Environmental Performance Review of Turkey, 1999.
According to the UNDP Human Development Report(1998), 51% of the population do not have access to safe water and 20% do not have sanitation.

18. Nguyen Tien-Duc, *L'humanité mourra-t-elle de soif*, Hydrocom, Paris, 1999.

19. Syria offers an example of a water pricing policy in a developing country. The government has a policy of recovering water costs totally or partially, taking account of the social impact of this policy and the situation of users, especially the poor, with a view to achieving sustainable development. The government is responsible for the publicly funded part. See Abdul Aziz Almasry : "The principle of the cost recovery of water projects and its application in Syria", UNESCO International Workshop on Interbasin Water Transfer, April 1999.

20. In March 1994, President Clinton signed Executive Order n°12 898 on Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (equal exposure to environmental degradation). Congress voted US$ 315 million for 1993-98 for Texas and US$ 20 million for New Mexico. Each federal agency must identify and remedy disproportionately high adverse effects of its programmes, policies and activities on low-income groups and minorities, notably with regard to drinking water. One of the issues addressed is the feasibility of setting affordable regulations to protect such groups. See www.epa.gov/reg5oh2o/sdw/fedreg2.htm.

21. In the Zander case against Sweden (25/11/93), the European Court of Human Rights ruled that the Zander spouses were entitled to a free supply of drinking water since their well had been polluted by a local company which had been authorised to continue and expand its polluting activity.

22. Cities like Istanbul grew by 21% between 1985 and 1990. Each year, 1.2 million Turks migrate to towns but the authorities do not have the means to build the infrastructure to keep pace with the population shift. Between 1990 and 1995, the number of dwellings in the metropolitan area of Mexico City grew from 1.8 to 2.4 million (4.7%/year). Mexico City is forecast to grow by 16% between 1995 and 2015.

23. Urbanisation in cities like Athens, Istanbul, Ankara and Mexico City is partly uncontrolled.

24. *Eau et la santé dans les quartiers urbains défavorisés*, Edit. du GRAND, Programme Solidarité Eau, Sophia Antipolis, 1994 (Record of the Round Table on water and health in deprived areas, organised by France under the aegis of the UNCED, which brought together experts from 40 countries). According to the WHO, about 80% of all diseases and more than a third of deaths in developing countries are due to the consumption of contaminated water, and water-related diseases on average prevent each individual from working during a tenth of his or her existence. The Lyonnaise des Eaux has developed innovative solutions for supplying water in low-income districts in developing countries. See Lyonnaise des Eaux : *Innover pour l'environnement*, 1999 Report and "*Solutions alternatives à l'approvisionnement en eau et à l'assainissement conventionnels dans les secteurs à faibles revenus*", 1999.

25. In France, travellers also called "gipsies" (260 000 persons of which 80 000 itinerants and 70 000 semi-sedentary) have only 10 000 camping sites. As only a quarter of the 1 739 communes with more than 5 000 inhabitants provide such sites, as the Besson Law (Law n°90-449 of 31 May 1990 enforcing the right to housing) obliges them to do so, the law is being amended to allow préfets to oblige communes to pay for such sites. *Le Monde*, 7/9/1999, p.12.

26. Although France is well-endowed with water supply infrastructure (99% of the population is connected to the water supply) and sewage and waste water treatment plants (81% of the population is connected), the quality of drinking water is sometimes unsatisfactory, especially in rural areas. Between 1989 and 1991, about 11.5 million people were exposed to the risk, at least intermittently, of receiving water that was not up to standards (6 million people were exposed to water that did not meet standards for nitrates, and 1 million to water that did not meet standards for pesticides). See OECD : *Environmental performance review of France*, 1997. According to the last assessment carried out by the Direction générale de la santé (1995 data), 55% of the population received water that was not fit for drinking at least one day in the year. For 13% of the population, these pollution peaks occurred more than 30 days per year. 28% of the population considers, rightly or wrongly, that mains water is not safe and 30% do not drink tap water. Regarding nitrate pollution, 12% of withdrawals are not fit for drinking (over 50 mg/l) and 25% exceed 40 mg/l. In Italy, 18% of the population experiences recurrent interruptions in the water supply. In addition, the authorised limits for coliforms were exceeded in 35% of the tests done in 1995 *(Water and Health in Europe)*, WHO, 1999.

27. In the United States, the sanitation situation in the "*colonias*" located principally near the Mexican border is disquieting. Basic infrastructure is lacking. The lack of safe water is such that 90% of the population in some colonias suffer from water-related diseases. The problem concerns more than 350 000 people in Texas (1 500 colonias) and 20 500 people in New Mexico, in communities where the proportion of poor people is twice that in the United States. Investment to improve the water supply is being conducted under environmental justice programmes. In 1997, the US government prosecuted a promoter who had not built the sanitation system house purchasers had been promised, and he was obliged to lay on a drinking water supply immediately. See OECD : *Environmental performance review of the United States*, OECD, 1996.

28. In Poland, the water supply in towns is satisfactory but much remains to be done in rural areas where only 24% of the 14.5 million inhabitants are connected. The others consume water whose quality is deemed to be unsatisfactory in half of the wells. The low price of water, the absence of meters and under-investment, all combine to aggravate the situation. See OECD : *Environmental Performance Review of Poland*, 1995.

29. Both the OECD and the European Union take the view that socio-economic considerations may make it necessary to moderate application of the user-pays principle. In the report *"User charging for government services"* (PUMA n°22, 1998), the OECD set out a guideline according to which : "consideration should be given to reduced charges for users where full cost recovery would represent an excessive financial burden on individual users. This may be especially relevant to lower-income individuals …". The initial draft of the framework directive for Community action in the area of water (COM(97)614) provided an exception for the supply of a minimum quantity of water for basic domestic uses at an affordable price (the adoption of the directive is planned for 2000). In the case of developing countries, the European Commission is against the free supply of water to the poorest sections of the population but is in favour of dual pricing and targeted subsidies (see "Towards sustainable water resource management", EC, Sept. 1998).

30. OECD : *Environmental Performance Review of the Czech Republic*, 1999.

31. OECD : *Environmental Performance Review of Turkey,* 1999. Ten years earlier, in the OECD Council Recommendation of 1989 concerning water resource management policies (C(89)12 Final), the OECD's social concerns were less marked. Nevertheless, it was stated that "unless there are good reasons for implementing other policies, such as favouring particular groups of consumers or regions or overriding long-term environmental goals", the user-pays principle should be respected.

32. OECD : *Environmental Performance Review of the Russian Federation*, 1999.

33. The French deputé Nicole Bricq has proposed that increasing-block pricing be introduced for water, with the first 15 cubic metres of drinking water supplied free of charge each year per person domiciled at the address of connection. She considers that it is necessary to ensure that families in difficulty have a minimum supply of water whatever happens. See *"Pour un développement durable : une fiscalité au service de l'environnement"*, Report d'information n°1000, Assemblée nationale, 1998.

34. The new pricing policy that has been introduced in Cairns (Australia) is described in the report "Cost effective study of two-part tariffs", February 1998. Of the 40 000 customers who pay about A$ 150 per year for water, 4 800 will receive the equivalent of A$ 75 because they have large families.

35. Water meters are non-existent or are rarely used in the following countries : Ireland, United Kingdom, New Zealand, Norway, Iceland, United States. In some cases, this is warranted by the fact that water is plentiful and cheap and that the savings (about 25%) would be small in comparison with the costs of installing meters and volumetric billing.

36. See Annex 1. In his study "*Les mégapoles face à une crise de l'eau"* (Unesco, 1996), Professor F. Valiron recommends the introduction of social pricing. He points out that the World Bank has invited every country to adopt tariffs that transfer some of the costs of (water) services from the poorest to the most affluent. According to the World Bank, the maximum social cost of water in developing countries should not exceed 2 to 3 % of the income of those in the first and tenth income deciles. The basis for these figures is not specified.

37. In Barcelona, Madrid and Seville, household water tariffs are based on a fixed charge and three levels of unit price based on volume, the lowest (for low consumption) being "subsidised" by the highest (for high consumption). Since 1 January 1997 households in Barcelona have been paying FF 425 + FF 4.8 per m^3 (including tax) for the first block (under 36 m^3 per year). The unit price rises to FF 10.5 per m^3 when consumption exceeds 192 m^3. The average water bill for 124 m^3 amounts to FF 1 211 (including tax) (FF 9.8 per m^3). In Seville, the unit price is that of the last block consumed, which acts as a strong incentive to save water.

38. For increasing-block water tariffs in France, see *Charte Solidarité-Eau* and *Données Economiques de l'Environnement* (see Notes, n° 8). Water pricing in Rabat (Morocco) is based on three unit prices, namely DH 0.78 per m^3 for less than 120 m^3 per year, DH 2.07 per m^3 for 120-240 m^3 per year and DH 2.97 per m^3 for over 240 m^3 per year. The first unit price is less than the cost price (DH 1.27 per m^3) (see *Coûts et prix de l'eau en ville*, Presse Ponts et Chaussées, Paris, 1998). In Senegal, the pricing system features a lower price for the first block (0-120 m^3 per year). In Nairobi (Kenya), the unit price increases with each block (KSh 7 per m^3 for 0-108 per m^3 per year and KSh 14 per m^3 for over 360 m^3 per year). (See F. Valiron, *Gestion des eaux*, volume 4, Presses Ponts et Chausées, 1991).

39. In Denmark, the 8th group in terms of disposable income spends 8.45 times more on water than the 1st group (which has 15 times less income). In Hungary, water expenditure between the first and the tenth decile differs by a factor of 2.6, whereas income differs by a factor of 3.5. In Korea, household water expenditure ranges from W 6 700 to W 11 800 between the first and the tenth income decile. In terms of a household's consumption expenditure, water accounts for between 0.8 % and 0.43 % depending on the decile. In France, annual per capita water consumption (1990, Ile-de-France) ranges from 49.1 m^3 per year in communes with a majority of salaried manual workers to 73.6 m^3 per year in communes where the majority of jobs are in the skilled services and personal service sectors.

40. Law N° 92-3 of 3 January 1992 on water.

41. In Spain, the courts have ruled that the disconnection of customers who fail to pay their water bills is an illegal coercive measure preempting a court ruling.

42. In Belgium, there is basic amount of water that may not be withheld from people receiving the minimum guaranteed income (*minimex*). Under the Flemish Region's Decree of 20 December 1996, "every customer is entitled to a basic uninterrupted supply of electricity, gas and water for household purposes in order to be able to live decently according to prevailing living standards" (Art. 3).

43. In January 1998, a court in Privas (France) refused to allow the CISE to disconnect people who had

deposited the contested sum of money with a bailiff. Disconnecting the water supply of the very poor is covered by legislation on the right to housing (e.g. former Law N° 90-449 of 31 May 1990 on the right to housing, Circular of 9 February 1999 preventing the eviction of tenants for failure to pay), on minimum income support (Law N° 88-1088 of 1 December 1988 on the RMI) and on combating exclusion (see below Note n°47). According to the above circular, the aim is to ensure that eviction for failure to pay is "not impossible but confined in reality to tenants who are not genuine cases of hardship". In practice, between the eviction order served by the bailiff as evidence of lease termination for failure to pay and the actual eviction, possibly with the assistance of the police, one or two years may pass during which every effort is made to resolve the problem of unpaid housing bills. The *Fonds de Solidarité-Logement* deals with unpaid service charges in apartment blocks and the *Fonds Solidarité-Eau* with unpaid water bills owed to suppliers. Other bodies providing direct support are the *Centres communaux d'actions sociales* (CCAS), family allowance offices, *Conseil généraux* and charities, all of which provide assistance with unpaid bills, and the *Fonds d'urgence sociale* (social emergency fund) set up in January 1998. Some French departments used to have schemes to provide help with unpaid water bills using funds from the Ministry of Social Affairs for people in precarious or impoverished circumstances.

44. OECD: The Battle against Exclusion. Social assistance in Australia, Finland, Sweden and the United Kingdom, OECD, 1998.

45. In France, the town of Dreux finances water vouchers (390 vouchers in 1997), thanks to joint action by the water company *Lyonnaise des Eaux* (FF 100 000 per year) and the municipal authorities (FF 100 000 per year). The vouchers are given to the most disadvantaged families, as identified by the CCAS.

46. In Wallonia (Belgium), households with over three children whose water consumption exceeds the one provided free by the fixed charge can apply to their local authority for support per child. The water company *Société wallonne de distribution d'eau* has set up an autonomous scheme under the Social Fund to write off water bills (excluding sanitation and taxes) for those whose names are forwarded by the CPAS centres, run by the local authority. This scheme, set up without legislation, grants the commune a water allocation of BF 50 per customer. The CPAS decides who will receive the support and how much will be written off. The maximum amount that can be written off is BF 7 000 per person per year (i.e. average consumption per customer), but the average is BF 4 500. Only half of the funds made available to the CPAS, representing 0.5 % of the company's turnover (BF 30 million), are actually used. The CPAS centres are very satisfied with the system which has now been in place for some years. In a city like Nantes (France), the rate of recovery for water bills prior to disconnection is 99 % (1996). Of 130 000 bills issued during the year, there are some 1 500 cases of failure to pay (social cases, those with excessive debt or in compulsory liquidation; bad debtors; billing errors; water leakages), of which 8 lead to disconnection (prohibited in winter), 111 to seizure of goods, 707 to cancellation (discount for leakage; meter-reading or billing errors, etc.) and 725 to debt-rescheduling.

47. Law n° 98-657 of 29 July 1998 on a framework for combating exclusion is aimed in particular at safeguarding services that are vital to living standards and dignity, i.e. water, energy and telephone services. It reinforces the support arrangements for water services already contained in Law N° 92-722 of 29 July 1992, amending Law N° 88-1088 of 1 December 1988 on minimum income support and combating poverty and social/occupational exclusion. Under Art. 136 of Law N° 98-657, Articles 43-5 and 43-6 of Law N° 92-722 now read: §43.5 "any person or family experiencing particular difficulties owing to precarious circumstances is entitled to support from the community to gain or retain access to water energy and telephone services. Energy and water supplies are guaranteed in case of failure to pay bills until the arrangements set out under Art. 43.6 take effect". §43.6: "For families and persons covered by Art. 43.5, a support and prevention scheme has been set up for the payment of water, electricity and gas services. The scheme is based on national agreements between the State and water suppliers, specifying the amount and form of the financial support to be paid by each party".

48. Under the *Charte Solidarité-Eau* signed on 6 November 1996 by the State, the Association of French Mayors, the Association of Water and Sanitation Enterprises, and the National Federation of Franchising and Water Authorities, users in impoverished or precarious circumstances whose names are forwarded by the *Centres communaux d'action sociale* (CCAS) should provisionally be allowed a

minimum water supply, and all or part of their water bills should be written off when they are temporarily unable to pay. Water supply should be maintained for a period not exceeding that required for their case to be put to the *Commission Solidarité-Eau*, and in any case no longer than three months. Circular N° 97-100 of 23 October 1997 on the implementation of the *Charte Solidarité-Eau* (*Bulletin Officiel,* Ministry of Infrastructure, N° 1161, Vol. 97-23, 1997), describes the organisation of these departmental commissions, which bring together decision-makers, members of the public and water suppliers and examine individual applications from the poor to have water bill debts written off. The postponement of water disconnections is said to cost some FF 60 million per year in unpaid water bills. Maximum debt to be written off should not exceed FF 2 per client, FF 1 of which will be borne by water suppliers. The State and local authorities will bear the cost of charges and taxes (see also Interministerial Circular of 13 November 1997 on *Commissions Solidarité-Eau*). The UNIOPSS progress report dated 10 December 1998 reveals that there are very few *Commissions Solidarité-Eau* and that they work in parallel with numerous other social services. By mid-1999, fewer than half of all French departments reportedly had their own *Commission Solidarité-Eau.* Equitable treatment of all cases countrywide has not yet been achieved. There is a better grasp of providing support than writing off debt.

49. Using a similar approach, *Electricité de France* has set up departmental bodies known as *Commissions départementales pauvreté-précarité* which it finances to the tune of FF 75 million from a total of FF 200 million per year; these helped 120 000 households in impoverished or precarious circumstances to pay their electricity bills in 1997; furthermore, customers facing difficulties are offered a basic supply of 3 kW. The EDF Commissions increased the staff to deal with the many applications they receive. *France Télécom* is setting up a special tariff mechanism for the very poor (2.8 million) on request. The cost of unpaid telephone bills will be paid by all the fixed telephone service operators. When customers cannot pay their bills, a minimum service is put into operation and the line will not be disconnected until the departmental commission has examined the case. Law N° 99-641 of 27 July 1999 setting up universal health insurance is based on the same rationale of support for the poor. It benefits 150 000 people with no basic health cover and a further 6 million with no complementary cover and a monthly income of under FF 3 500. It will cost FF 9 billion to implement and will ensure that 14 % of French people every year no longer forego healthcare for want of health insurance (poor people consult a doctor 20 % less than the national average, and yet they are in poorer health). The French law on electricity privatisation (2000) introduces a special tariff for the poor (at least 200 000 households). Households with at least one member unemployed can apply to have their tax debt exceptionally written off. This measure may concern 250 000 households and could cost over FF 1 billion.

50. In Belgium, electricity and gas suppliers have signed tripartite agreements with local authorities and CPAS centres and contribute to a support fund set up in 1995 (BF 175 million for electricity and BF122 million for gas in 1997). A special “low-use” tariff has been introduced. Some households have had power limiters (6A or 1.3 kWh) and pre-payment meters installed. Gas and electricity cuts are prohibited from 15 December 1997 to 15 February 1998 (winter).

51. In Ireland, the poor and the elderly (220 000) receive a special heating and electricity allowance totalling Ir£ 75 million per year from the Ministry of Social, Community and Family Affairs (equivalent to FF 2 500 per person per year). Furthermore, poor households no longer authorised to use bituminous coal (replaced by more expensive smokeless fuel such as anthracite) receive Ir£ 3 per week during the winter months (at a total cost of Ir£ 8.8 million). This programme has covered Dublin since 1990 (Ir£ 6 million), Cork since 1995 (Ir£ 1.6 million) and five other cities where bituminous coal has been banned to cut smoke emissions.

52. In Paris a charitable association, *Aquassistance*, has had leaking pipes repaired so that squatters occupying the premises no longer have to pay excessively high water bills. Following this intervention on humanitarian grounds, they now pay normal bills.

ENVIRONMENTAL MARKETS AND EMPLOYMENT THE FRENCH EXPERIENCE

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The news regularly provides us with examples showing the importance given to the environment and to environmental quality and protection. We are all aware of numerous cases involving threats to our water and air, land and soil, living environment, oceans or public health.

The vast majority of French people do not consider the protection of the environment to be systematically at odds with economic development, and instead seek to strike a balance between these objectives that should go hand in hand. The prevailing public demand is for a policy akin to sustainable development, even though it is not formulated in these terms. There has been gradually mounting pressure in favour of the environment.

In step with these trends, efforts have expanded steadily in recent years, leading to a strengthening of regulations, increased spending on environmental protection and more extensive government action.

In this seminar devoted to the linkages between social and environmental issues, the following points will be examined successively:

- environmental markets viewed from the standpoint of environmental expenditure and activities;
- the characteristics of environmental employment;
- prospects for developing environment-related employment;
- the measures implemented.

Environmental expenditure and activity

An overview: environmental expenditure

A brief definition: environmental expenditure encompasses all spending on initiatives to protect the environment and on activities that contribute indirectly to preserving the quality of the environment, such as natural resource management, maintenance of the living environment and waste recovery and recycling activities. Adopting an expenditure-based approach is another way of addressing the demand for environmental services, which is one aspect of environmental markets.

Trends from 1990 to 1996-97: environmental expenditure grew steadily. During a period characterised by relatively sluggish overall economic growth, the demand for environmental services increased continuously.

Over this six-year period, environmental protection expenditure grew on average by nearly 6 per cent per year. Some of the growth can be attributed to rising prices, since application of the polluter-pays principle led to an increase in the prices paid by users of environmental services. The slowdown in price growth partly explains the slower rate of growth of expenditure at the end of the period.

Table 1. Growth of environmental expenditure

	1990	1991	1992	1993	1994	1995	1996	1997
Environmental protection expenditure (in FF billion)	98,2	105,5	109,4	117,3	126,2	132,5	138,7	145,1
As % of GDP	1,51	1,56	1,56	1,66	1,71	1,73	1,76	1,78
Annual average growth rate since 1990		7,4%	5,5%	6,1%	6,5%	6,2%	5,9%	5,7%

Source: DEE 98, MATE/IFEN.

Fields concerned: Structure of environmental expenditure

Apart from wastewater and waste management, which are the largest fields of environmental activity, significant development is occurring in several sectors, such as air quality and waste recovery and recycling.

Table 2. **Structure of environmental expenditure**, in 1997

Fields	Amounts in FF billion	Growth 1997/96
Wastewater management	60,9	5,3%
Air pollution control	10,7	10,3%
Noise pollution control	4,8	0,4%
Waste management	46,4	3,8%
Street cleaning	5,7	4,1%
Environmental heritage	3,8	4,0%
Research and development	5,5	3,5%
General administration	7,3	2,5%
Environmental protection expenditure	145,1	5,6%
Living environment	9,1	3,6%
Recovery-recycling	32,3	20,3%
Water resource management	58,3	2,6%
National environmental expenditure	244,8	6,5%

Source: DEE 98, MATE/IFEN

The local dimension of environmental markets

In general, environmental markets are regional markets. The area in which environmental enterprises operate is usually geographically limited, since the nature of environmental services requires that businesses be close to users.

Enterprises performing environmental activities operate in a highly regional market. This regional dimension, which is particularly relevant in a seminar of this kind, is extremely marked: **more than three-quarters of environmental SMEs find their main customer within the region in which they are located. Similarly, their main supplier is also located in the same region in more than 7 out of 10 cases.**

Local authorities and associations, as well as enterprises, produce environmental services. Which services are provided by which players? Enterprises are particularly active in wastewater and waste management, for the size of markets and operating conditions allow them to earn adequate returns. Local authorities, which continue to supervise these two sectors, do most of the work elsewhere, together with associations (air and noise pollution control, living environment, etc.). A recent study on environmental expenditure by four cities found that they devoted 20-25 per cent of their total resources to the environment. This makes them major players in environmental fields, and their decisions have a significant impact on the market.

Environmental protection expenditure by local authorities amounted to FF 82 billion in 1997, or **56 per cent of all environmental protection spending in France.** The concerns of local authorities are clearly focused on the local dimension. Even if they award contracts to outside firms, their decisions have a strong impact on local development.

Employment

The overall situation

Environmental activities are not included in nomenclatures, and therefore do not fit into any statistical classification used in surveys. The employment figures presented here are estimates based on environmental expenditure.

In all, there were 304 000 environment-related jobs in 1997 (in full-time equivalent). These workers were employed in tasks directly related to the environment, such as waste management, or indirectly related, such as production of equipment used in environmental facilities (equipment, consultancy and engineering services, etc.) or of the facilities themselves.

In which fields are jobs concentrated?

Some 205 000 jobs are in environmental protection activities, most of them in wastewater and waste management. There are also cross-cutting activities, such as general administration of the environment, public measurement and inspection services, and government and business R&D.

There are some 100 000 jobs in fields other than environmental protection involving activities that contribute indirectly to the preservation of the environment. One example is recovery and recycling, which help reduce consumption both of natural resources and of energy.

Table 3. **Breakdown of environmental jobs by field**, in 1997

Field	**Jobs**
Wastewater management	78 300
Air pollution control	9 300
Noise pollution control	4 700
Waste management	81 100
Clean-up of soil and water pollution	400
Measurement and inspection	1 700
Cross-cutting activities	29 500
Environmental protection activities	205 000
Living environment, nature and landscape, etc.	30 300
Recovery-recycling	24 700
Water resource management	44 100
All environmental activities	304 100
Non-market activities (associations) *Not included in the above figures*	*9 250*

Source: DEE 98, MATE/IFEN

The skills these activities require are often not environmental skills *per se*, but skills in other fields applied to environmental goals; work by the National Institute for the Environment (IFEN) on jobs in water resource management identified 32 occupations divided into five broad specialisations:

A - Management of the natural environment
- Water bailiff
- River policeman
- Shore patrol officer
- River technician
- Hydrology technician
- Flood forecaster
- Hydrobiologist

B - Production and distribution of drinking water
- Well driller
- Technical assistant, drinking water network
- Drinking water treatment technician
- Drinking water network manager
- Drinking water production plant manager
- Hydraulic engineer
- Hydrogeologist

C - Wastewater collection and treatment
- Wastewater flow worker
- Sewerman
- Treatment plant worker
- Sanitation network monitoring technician
- Engineer/technician, technical assistance to water treatment plants
- Sanitation service manager
- Treatment plant manager

D - Water quality monitoring
- Water sample collector
- Water analysis laboratory technician
- Sanitary engineering technician
- Sanitary engineer
- Water analysis laboratory manager

E - Water resource use and management
- Lock keeper
- Hydroelectric plant operation manager
- Hydroelectric plant maintenance manager
- Agricultural hydraulics consultant
- Outreach worker, infrastructure services
- Hydrologist

The skills required for these occupations are not solely environmental, for knowledge of chemistry, hydraulics, construction, economics and local development techniques, for instance, is as indispensable as an understanding of environmental issues and the specific characteristics of the environment concerned.

This suggests that competence in environmental fields can be acquired after completing initial education, so that individuals who already have a work history can change careers or orientation. However, many initial programmes already include environmental concerns with a view to training people for environmental work. Competition is strong, in particular because environmental jobs are still in relatively short supply.

Findings from the "new services/new jobs" scheme confirm the trend towards the combination of skills and the greening of occupations, for more than half of the young people hired work as outreach assistants or advisers. In addition to having technical skills, they are required to communicate with the users of environmental services.

Skills

In general, over 70 per cent of environment-related jobs are manual and clerical positions. The largest proportion are in water-related sectors (33 per cent in 1996). In waste recovery and waste management, over 80 per cent of jobs were manual and clerical in 1996.

Employers: enterprises, government, associations

Non-market services account for approximately one-third of environment-related jobs. There are estimated to be the equivalent of some ten thousand full-time jobs in environmental associations, with most of those involved working part time, on average one-third of full time. The rest are employed by government (ministries, local authorities) or public bodies (water agencies, the environment and energy conservation agency ADEME, etc.).

In addition, many people work for associations on a voluntary basis -- estimated as equivalent to tens of thousands of full-time jobs. Each week, voluntary workers may devote a half-day or a full day to their environmental activities.

Table 4. **Breakdown of environment-related jobs by type of employer,** in 1997

Type of employer	**Jobs**
Non-market services	103 700
Private services	102 600
Internal services	25 800
Equipment manufacture	21 200
Civil engineering, construction	32 900
Manufacture of environmental products (households, exports)	3 700
Miscellaneous	14 200
Total	**304 100**
Non-market activities (associations) not included in the above figures	*9 250*

Source: DEE 98, MATE/IFEN.

The table shows the estimated level of employment in environmental associations, which are very active in France. In fact, they employ a far greater number of people than their aggregate budget (FF 2.7 billion) indicates. Their wagebill is equivalent to 9 250 full-time jobs, but there are in fact some 30 000 people working on a part-time basis.

Lastly, it should be added that voluntary work is a key characteristic of environmental associations. Voluntary environmental workers work on average 28 hours per month (compared with an average of 18 hours across associations as a whole), and are generally highly skilled. Given their total of 530 000 voluntary workers, or the equivalent of 89 000 full-time jobs, the valuation of the services rendered by associations should be increased by FF 18 billion.

A key characteristic: the local component of environment-related employment

Environmental employment is evenly distributed throughout the country, in proportion to local government expenditure

The number of environmental jobs at local level is determined by many factors, including policy considerations (decision-makers' attitude towards environmental issues) as well as economic (public entities' budgetary constraints, the level of local economic activity) and social factors (demand for high quality environment). Local authorities play a decisive role, since they set water and waste management policies and, as has been seen, bear most of the burden of certain non-market activities. For these reasons, it is of interest to focus on local public environmental employment. But before doing so, we must present some general data on local public employment.

The size of public employment

The available data show that public entities are often major local employers, since public services (government, education, hospitals, etc.) employ a significant proportion of those in work. Public employment's share of total employment was 25 per cent in 1990, excluding jobs in publicly owned enterprises, which are counted with enterprises in the market sector. As we have seen, there are at most some 125 000 environmental jobs in government, or 0.6 per cent of the labour force.

The data show that public employment may be significantly larger at local level (see Table 5 below). This means that there is a relative concentration of public jobs in certain areas, particularly in urban areas.

Some local authorities have a significant impact on the level of local employment (as in Rennes), while others have more limited resources. Cities with a population of over 100 000 account for most jobs, as can be seen in Table 6. The sectors shown are those in which public bodies (except for public enterprises) are predominant. Education is the only sector that shows the same level of concentration in the 56 cities with a population of over 100 000 as all sectors of activity. The other sectors are over-represented.

Table 5. **Level of public employment in some medium-sized cities**

Cities	Total population	Employees of central government and social security administration		Total Public non-market sector	
	Number	Number	%	Number	%
France (metropolitan)	57 530				9.9
Grenoble	404 733	31 952	7.9	53 472	13.2
Nantes	496 078	40 736	8.2	63 491	12.8
Rennes	245 065	32 216	13.1	49 720	20.2
Strasbourg	388 483	33 136	8.5	53 276	13.7
Toulouse	650 336	56 492	8.7	88 292	13.4

Source : INSEE 1990 Population Census

Table 6. **Proportion of employment located in the 56 cities with a population of over 100 000**

Sectors of activity	%
Education	53.4
Research	82.7
Health	57.2
Social and community services	55.9
Government	57.6
All sectors of activity	53.7

Source : Analysis of data from the 1990 population census[1]

Outlook for development

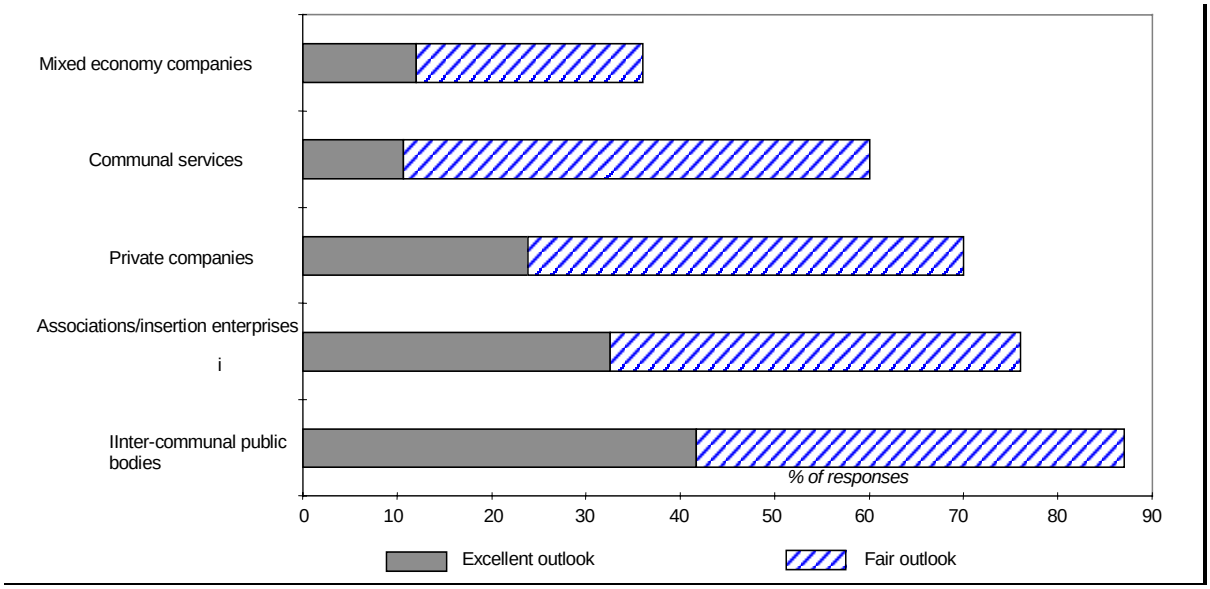
Given the key role of legislation, recent measures (the December 1996 Clean Air Act and the 1999 Orientation Act on Sustainable National Planning and Development) can be expected to maintain or step up efforts to protect the environment. Air pollution control is an excellent example of this trend, since environmental protection expenditure in this field has begun to grow significantly.

Enduring social demand for environmental protection is also a factor of growth. But despite the favourable views the French express in opinion polls, firms providing environmental services cannot always generate sufficient returns to be viable on a lasting basis. For this reason, and because some environmental activities lend themselves particularly well to work experience or subsidised job programmes, an intermediate sector between the market and non-market sectors has developed.

The differences between the market and non-market sectors are likely to persist in the medium term, according to recent studies on the trend of environmental activities. The types of activities and entities active in each sector will remain very different, and the outlook for developing jobs related to environmental management varies widely for each entity, as Figure 1 shows. The data, collected at the beginning of 1996, showed a **relatively optimistic outlook for inter-communal bodies**, which should develop as the 1999 Act on inter-communal co-operation is brought into effect, **and for associations and *entreprises d'insertion***[2]. The outlook for other bodies was significantly less optimistic. The fact that the first two categories anticipate a net development of employment related to environmental management means that their role will grow due to a number of factors:

- the difficulty communes face in financing environmental protection initiatives on their own leads them to join forces with other communes;
- a relative withdrawal of public services, which will tend to externalise environmental management functions increasingly, in particular by transferring them to associations and *entreprises d'insertion* when these activities are not economically viable;
- lastly, the economic constraints that lead communes and businesses to control costs and to spend only what environmental legislation and regulations require. Furthermore, legislation and regulations are the main incentives mentioned by respondents in surveys on the reasons for making environmental protection expenditure.

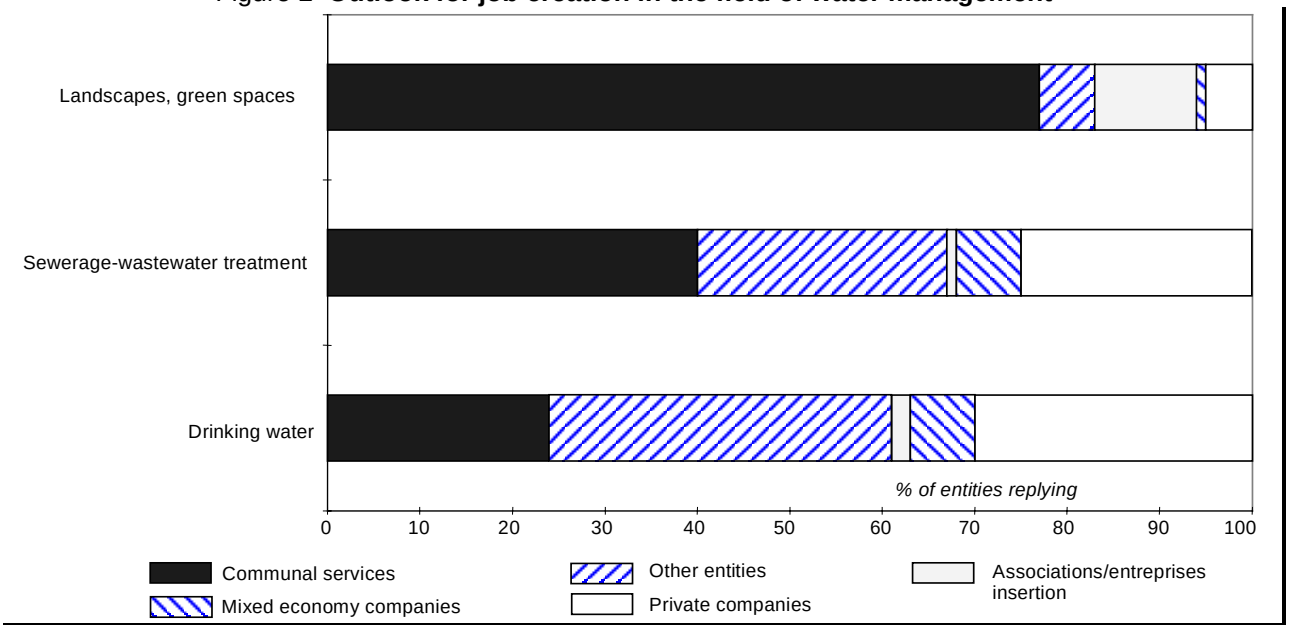
Figure 1. Outlook for the development of jobs related to environmental management by type of entity



Source : Impact sur l'emploi des politiques d'environnement. Phase C approche micro-économique - le cas des choix d'investissements « environnement » des collectivités locales. Etude pour le ministère chargé de l'environnement par BIPE Conseil, 1996.

These forecasts were updated in the ECOLOC survey of 1997. The results confirmed the earlier findings; landscape and green space maintenance (including rivers and streams) shows a considerable potential for job creation (80 per cent of local authorities replying), as does selective waste collection. Relatively fewer jobs would be created in more traditional fields: sewerage-wastewater treatment ranked third (59 per cent of local authorities replying) and drinking water supply relatively far behind (41 per cent of local authorities replying).

Figure 2 **Outlook for job creation in the field of water management**



Source : BIPE Conseil, ECOLOC, 1997.

The ECOLOC survey describes the role of each type of entity according to the field. In the case of drinking water, for example, private enterprises will account for 30 per cent of job creation, with 25 per cent in sewerage-wastewater treatment and only 5 per cent in landscape and green space maintenance.

The problems involved in developing environmental activities

The growth in the number of environment-related jobs is driven by two concerns, to protect the environment and to help reduce unemployment. Although it is expected that environmental expenditure and thus employment will grow, there are nevertheless some problems that may make it difficult to achieve these objectives.

The linkage between the development of environmental activities and general economic trends

Environmental protection spending has risen steadily in recent years, due to a variety of factors, such as the concentration of the population in cities, increased need for water and waste treatment and greater environmental awareness. However, in France at least, the rate of spending growth is tending to slow, coming more into line with the growth of GDP. Now that general economic growth is recovering, which of the following two developments is to be expected?

- accelerated growth of environmental spending, which would show that both kinds of growth, relatively independent of each other thus far, are now interlinked. In this case, the impact on employment would be highly positive.
- a further slowdown of environmental expenditure. In this case, growing productivity might cause environment-related employment to level off or indeed fall.

Furthermore, one field is strongly affected by economic conditions, recovery and recycling, since **fluctuations in the international prices** of raw materials and recovered materials affect its operating conditions. The drop in prices on international markets in 1996 led to lower turnover for enterprises in this sector, and staff numbers levelled off.

The behaviour of local decision-makers, a key factor for the policy of developing environmental employment

Many actors are involved in environmental activities, the foremost being local authorities, which, as was shown earlier, play a major role in environmental protection. This is consistent with one of the characteristics of environmental services, namely that producers are located close to users, and means that environment-related employment is evenly distributed throughout the country. Its development is affected by the decisions of local officials, which embody a significant share of the demand for environmental goods and services. Consequently, their attitude is crucial to environmental employment.

But many factors have to be taken into consideration, such as the situation of local finances, the concern not to increase costs to households, regulatory trends, communication campaigns, officials' own involvement in promoting the environment, etc.

Matching supply to demand for jobs, in terms of qualifications and training

A distinction is usually made between direct and indirect jobs. The former are in activities producing environmental goods and services and the equipment necessary for their production. The latter are in activities providing the inputs for the above.

A - Two types of problems must be solved:

- The number of people in specific training programmes for environmental jobs, most often in higher education, must be adjusted to the market's ability to absorb them. In fact, the number is considerably greater than the need, which means young people with environmental training fail to find jobs even though the field is expanding. After having supported the creation of environmental education pathways, the public authorities must now focus on the quality of the training provided.
- an examination of environmental job qualifications and skills shows that their main characteristic is that they **consist of traditional qualifications and skills applied to environmental issues.** Simplifying, we can that there is no such thing as an environmental qualification, there are just chemists, biologists, engineers and consultants working in the

sectors of water, waste, landscape preservation, etc. This means that in many cases environmental tasks are entrusted to people who are still discovering the constraints specific to the environment, so some further training is needed, as in programmes in support of employment aimed at a very broad public.

- B – France's experience with the youth employment programme has revealed the scale of these problems. In particular, the posts most commonly mentioned in the programme consisted of outreach or advisory tasks in environmental fields (water and waste management, nature conservation, etc.). As for associations, the themes of "teaching about the environment" and "nature activities" appear most frequently (47 per cent of projects are on these themes, even though associations only account for 23 per cent of all projects).

These posts require high levels of qualifications -- at least two years of higher education.

At the same time, the data show that some environmental sectors attract more people with low qualifications. For example, low skilled and often disadvantaged workers have been recruited in selective collection and maintenance of natural sites. Will this trend continue over the next few years?

Funding environmental programmes, creating economically viable responses to demand and ensuring lasting employment (market/non-market relations)

The breakdown of financing and jobs shows that enterprises have a somewhat larger share of both than government. The development of market activities is particularly strong in water and waste management, while in other fields government is far more active than environmental enterprises and associations. The overall budget of associations amounts to some FF 3 billion, which is less than 2 per cent of total environmental spending.

The means used to develop environmental activities differs depending on the actor concerned:

- Environmental policy plays a decisive role in the market sector. Regulatory measures, adoption of environmental standards, financial and especially tax incentives prompt enterprises to undertake spending and to develop their activities as producers of environmental goods and services.
- With roughly one-third of environment-related jobs, the non-market sector can only develop if it secures additional appropriations, such as public spending for nature conservation, R&D expenditure, water agency programmes, support for associations, etc.
- Environmental associations, which generate less than a quarter of their resources through the services they provide, regularly face financing difficulties. Public subsidies account for approximately one-third of their resources, and the balance comes from membership dues and donations. This vulnerable situation, together with the fact that they are often created for a temporary purpose, explains why a high proportion of them are short-lived. However, they act as a catalyst for socio-economic innovation, and possess advantages that enable them to introduce and promote the emergence of new activities.

There is demand for a high-quality environment.[3] Public programmes tend to respond to this demand in two ways, either directly, in the case of environmental programmes, or indirectly through support programmes, such as those in support of employment. In both cases, the programmes will be divided between the market and non-market sectors.

Consequently, the issue is whether or not this public funding will make it possible to establish these activities -- and the employment they generate -- on a lasting basis. Are local decision-makers ready to take on these new duties, and if necessary to reappraise their priorities? Will private actors be willing to engage in new spending, possibly by cutting spending in other areas? Lastly, is this compatible with keeping taxes and charges within acceptable limits? As can be seen, the net impact of these measures on employment will not necessarily be positive for employment as a whole, even though it will be for environmental employment. This must be assessed on a case-by-case basis.

The youth employment programmes launched in 1997 to make it easier for young people to re-enter the labour market take into account the difficulty of giving permanence to these activities and the jobs they generate. This is an aspect that will be analysed later, but we can mention now that the length of the programme is a favourable aspect in itself, since it seems to provide sufficient time to design and consolidate the projects being supported.

Conclusion: What measures should be taken to promote environmental employment?

Each problem addressed in the previous section calls for measures to ensure favourable conditions for the development of environmental activities. In the following section, special emphasis will be placed on measures that have the strongest social dimension, can directly promote employment and can be taken by local authorities or central government.

A - The contribution of local authorities to local environmental employment

Environmental activities still account for a very modest share of public employment. Direct environmental employment is estimated at 125 000 jobs for all administrative activities, of which 3 000 are in enterprises. This represents approximately 2.2 per cent of non-market jobs. The example of Nantes is particularly clear: of its 63 500 public jobs, only 2 710 are environmental ones. Just 1 170, or 2 per cent, are direct environmental jobs[4]. Yet there is every reason to believe that the public entities of the largest cities have the most scope to step up their environmental effort.

It is to be hoped that the proportion of total jobs assigned to environmental tasks will increase in the future. Local authorities have a number of means for moving in this direction:

- Firstly, **they can decide to use the techniques that will generate the most jobs**, provided that this does not inflate costs. For example, the average job content of operations in sorting centres is 3.2 persons per 1 000 tons of waste per year. Depending on the methods used and local socio-economic and geographic conditions, there is a range of 1 to 25 jobs per 1000 tons of waste per year. The job content differentials that have been measured for other waste processing functions are smaller, but range from 1 to 5 depending on the case[5]. Consequently, the magnitude of these differentials makes it possible to opt for choices that tend to promote employment, as long as the final decision does not result in higher costs.
- Secondly, local authorities commission work. The way they choose to organise this work will produce very different outcomes in terms of jobs. **Shifting from a policy of intermittent but large-scale environmental maintenance to one of regular maintenance will lead to a flow of contracts that can sustain enterprises.** For specific work or work requiring few resources, local enterprises can be actively involved.

Increasing communes' own capacity to protect the environment is part of the general policy for promoting employment and combating unemployment. The action of communes to promote employment has two components: employment services are responsible for facilitating job seekers' access to jobs, while social services focus more particularly on the training and placement of categories of people in greatest difficulty. These services are unevenly distributed across the country. One commune out of five has both types of service, while the others use those in neighbouring towns. Again, the largest communes are the best equipped, and also co-ordinate their employment and social policies.

Co-ordinating the fight against unemployment and marginalisation does not necessarily concern the public services alone. The importance of local partnerships bringing together local authorities, enterprises and associations was shown during the evaluation of environmental employment-solidarity contracts (CES), especially since the cross-cutting nature of environmental action means that the actors concerned must work together. Examples presented at a 1997 workshop on environmental employment[6] showed how important co-operation is in giving permanence to the activities created, even when they are market activities.

B - The direct contribution of the central government to environmental employment

The French government has adopted a series of measures to combat unemployment. In the 1980s and 1990s, community work schemes (TUC) and employment-solidarity contracts (CES) were the main initiatives for promoting employment. Central government bore a large share of the cost of these jobs in exchange for the hiring of persons in difficulty for a limited, renewable six-month period. These measures benefited environmental activities, which were then considered to be a particularly favourable sector for welfare to work programmes; associations are of course very active in this area. More recently, the "green jobs" programme has continued the CES programme in the environmental sector.

Under the employment-solidarity contracts (CES) between 1990-1994, which provided an opportunity to make decision-makers more aware of the environment, the environmental jobs created (6 per cent of total employment-solidarity contracts during the period) had special characteristics, related to their objective of employing disadvantaged people. Workers on environmental employment-solidarity contracts were largely employed by small entities (fewer than 10 employees) and assigned to relatively unspecialised tasks (reception, routine maintenance, etc.) that did not always correspond to needs that could be met profitably. This explains the fact that 36 per cent of environmental CES workers were employed by associations, generally in non-market activities. Public institutions (including the environment and energy conservation agency ADEME) and local authorities made a similar contribution by recruiting respectively 30 and 31 per cent of environmental CES workers. However, assessments show that these measures only led to a small percentage of permanent hirings.

The Youth Employment-New Services Act passed in 1997 is the current basis for the main national programme in support of employment. The purpose is to promote the employment of young people under the age of 26 using a new development model capable of generating more jobs in order to reduce unemployment on a lasting basis. It is aimed at satisfying social needs that are going unmet because of changing living and working conditions -- needs stemming from longer lifespans and shorter working hours, technological progress and changes in economic activities. There is a steadily rising demand for health care, culture, leisure activities, neighbourhood and personal services and social relations. At the same time, unemployment has continued to rise. This paradox is partly explained by the difficulty of implementing new activities that are not yet profitable.

In order to try to meet the new demand and to reduce youth unemployment, which is particularly high in France, it was decided to boost these new activities by creating 350 000 jobs in the public and third sector. The central government's financial aid provides 90 per cent of the minimum wage, or approximately FF 95 000 per post per year, over a five-year period. Employers provide the additional resources to meet the remaining wages and the operating costs of the job created. The length of the contract is a key feature of the system, since it gives the young people hired time to prepare a career plan.

The jobs are being created in new activities or activities that are in short supply. They first had to be identified, along with the tasks to be performed, and this was a focus of attention while the legislation was being shaped. For the environment, an inventory of activities and occupations was drawn up following wide-ranging consultations, and ten themes were selected, corresponding to emerging or unmet needs:

- environmental education and awareness;
- land and water management;
- waste management;
- consumer flow management;
- renewable energies;
- organic farming;
- transport and air quality;
- noise;
- urban environment.

Comparable themes for land use were:
- public or community interest services;
- local economic development;
- emerging activities - new information and communication technologies.

The results available in the first quarter of 1999 show that local government had hired two-thirds of the young people recruited in environmental fields, while associations employed "only" 23 per cent. Local government involvement is much more extensive here than in any other sector. Across the board, associations were most prominent, employing some 60 per cent of the young people recruited.

Steering committees for individual themes have been set up to develop synergies. Committees for "water management", "local development" and "nature", are operational, and, beginning in autumn 1999 the focus will be on "waste management" and "energy", still largely untouched in the programme.

The environment ministry is further providing financial support (FF 175 000 per region per year) to regions that have set up an organisational programme (**regional networks of environmental employment resources**).

Consequently, with **15 600 jobs at 31 August 1999**, the environment sector is one of the largest fields in the programme. Since last April, **14.3 per cent of hirings** (not including the education and interior ministries) under the Youth Employment-New Services scheme were in the environment sector, which places it in second-ranking position nationwide, just after the "family, health and solidarity" sector. The number of hirings has levelled off at 600 to 700 per month. At the end of June 1999, the breakdown of young people hired under the "Youth Employment-New Services" programme was as follows:

Breakdown of youth employment jobs in the environment by type of job

"environmental advisers and outreach workers"	38 %
"landscape maintenance workers"	27 %
"local development outreach staff"	26 %
"pollution treatment workers"	9 %

These figures clearly show the importance of occupations involving communication, such as advisers and outreach staff. They show one of the problems that local decision-makers must solve, namely that the environmental objectives of their programmes must be clearly explained to the population and to enterprises to ensure optimum technical and economic effectiveness of environmental spending.

Two-thirds of young people in the environmental sector are working for local government. Associations account for slightly over one-fifth of youth employment jobs in the sector. **This fully confirms the key role of local government.**

The environment is very different from other sectors in this regard; elsewhere the figures are reversed, with associations accounting for 60 per cent of youth employment jobs and local government 40 per cent.

C - The contribution of environmental taxes to employment: the general tax on polluting activities (TGAP)

The second dividend principle is based on using revenue from green taxes or environmental levies to finance an objective that may be outside the environmental field. This approach leads to a better economic and social outcome than might be obtained by systematically allocating the revenue to the environment. Breaking the link between green tax revenues and expenditure on environmental protection programmes makes the pre-existing system more flexible while conserving the incentive to protect the environment. This helps to optimise the objectives and resources as conditions may require. A second dividend can also be sought by using green tax revenue for other purposes, such as financing a reduction in social contributions or support for innovation.

A tax of this kind was introduced in 1999. The general tax on polluting activities (TGAP), which is fiscally neutral, is intended to consolidate the public taxes and levies on polluting activities.

The first stage consisted of combining five fiscal and parafiscal charges allocated to the environment and energy conservation agency (ADEME). These taxes are levied on the dumping of household waste, the storage and disposal of industrial waste, oil consumption, industrial air pollution and

the noise generated by air traffic. Only the channel for collecting the tax will be changed, with the finance ministry gradually replacing ADEME. TGAP is expect to generate FF 1.9 billion in 1999.

The scope of the tax will be broadened to encourage energy conservation and control of soil, water and air pollution. Water-related tax revenue will not, it is anticipated, be spent on that sector alone, but go to fund lower social contributions by the low-waged, or the cost of cutting the working week to 35 hours.

As regards energy, the current situation is as follows[7]:

- The main fuels used for transport are already subject to a harmonised EU tax. The Domestic Tax on Petroleum Products (TIPP) generates some FF 160 billion in France and is the central government's fourth largest budgetary resource after VAT, income tax and corporation tax. In 1999 the government set out, by annual increments (7 centimes per litre a year), to bring taxes on diesel fuel into line with those on gasoline. Greenhouse gas emissions by the transport sector need to be controlled. Given the characteristics of excise duties on fuels in France compared with those of its main European partners, and the keen competition in the sector, EU-wide solutions must be found.
- The residential consumption of households is currently taxed at a significant rate overall. In particular, through the local taxes levied by most communes and departments on low-voltage (less than 36 kVA) users, the energy consumption of households is taxed at a rate that can be as high as 12 per cent; this generated a total of FF 8.1 billion in 1997, which was allocated to local government. There is no special tax on domestic gas consumption, but household heating fuel is taxed in France at a higher rate than in most European countries (only Italy, Denmark and Sweden have higher rates). These comparative data are consistent with the government's commitment not to raise taxes on households.
- Conversely, the energy consumption of businesses is often taxed at a lower rate in France than in other European countries. For example, there are no local taxes on electricity consumption for industrial uses, as in a number of European countries (Italy, Denmark, Austria, Finland, Spain, the Netherlands and Germany, for instance). France's tax on natural gas (TICGN) applies only to annual consumption above 5 TWh, with a monthly threshold of 0.4 GWh. Of a total of 400 TWh of natural gas consumed in France in 1997, 126 TWh were subject to this tax (98 per cent being consumed by 2 900 industrial plants). In all, most industrial consumption of natural gas is taxed (TICGN), but at a rate 40 per cent lower than the Community average.
- Taxes on heavy diesel fuel and coal, which are mainly used in industry, are either lower than the Community average (diesel) or non-existent (coal).

Independent of the general economics of the reform, these considerations explain why environmental taxes on energy are applied only to intermediate consumption by enterprises.

In the year 2000, FF 3 billion will be allocated to fund the reduction of social contributions under the working time regulations. In 2001, TGAP on the energy consumption of enterprises will generate FF 8-9 billion. The net impact on employment will be positive, as between growth in employment due to the cut in social contributions and reduced employment in the sectors affected by TGAP. Simulations carried out by the Paris Economic Observation Centre of the Chamber of Commerce and Industry show that the level of employment would be likely to rise by slightly under 1 per cent over four years if the redistribution of the tax burden led to a reduction in social contributions equal to 1 per cent of GDP.

NOTES

1. Cited in "Tertiairisation et métropolisation", P.Y. Léo and J. Philippe - Les annales de la recherche urbaine, n°76, September 19997.
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PART VI.
EMPLOYMENT AND ENVIRONMENT

TRADE UNIONS AND ENVIRONMENTALLY SUSTAINABLE DEVELOPMENT

INTERNATIONAL LABOUR OFFICE

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Introduction

During the last few years many trade unions and other groups have begun to look at the links between the workplace, environmental protection and world economic and social development. They have seen that where economic growth has led to improvements in living standards it has often come about in ways that are locally and globally damaging to the environment by exploitation of resources and pollution. They have also seen that population pressures and poverty can pollute the environment in overuse of resources such as forests and grazing land, and crowding into cities. They conclude that these trends are clearly unsustainable.

Development cannot be sustainable if it makes populations more vulnerable to crises. But if the last two decades have taught us anything, it is that the world is going through a series of crises — growing poverty, hunger, ill-health, illiteracy, spread of unemployment, industrial accidents, and social tensions giving rise to political instability in many countries. The ecosystems on which we depend for our resources and well-being are deteriorating. The gap between rich and poor, North and South is widening. The global market and regional markets have in many strategic sectors replaced national ones. Falling commodity prices, falling personal incomes and stagnating aid to and investment in developing countries are the order of the day for many. Jobs, working conditions, living conditions, provision for security in illness, old-age and unemployment are all under threat. Human welfare is being sacrificed. And all in the name of "development".

For development to be sustainable it has to meet the needs of the present without upsetting the ability of future generations to meet their own needs. From this definition it is clear that we cannot think of the environment and economic and social development as separate issues. Development cannot continue if environmental resources —the minerals, air, water, soils, forests, etc. — are overexploited or polluted so that they are not available or are unusable to future generations. The environment cannot be protected when development takes no account of the cost of environmental destruction.

Environmental problems therefore have to be examined in relation to many major issues which will also affect or be affected by the future course of development. They include poverty and population growth, over-exploitation of resources and excessive consumption, degradation of the land, air and water on which we depend, urbanisation and industrialisation, the diversity of species, basic human and trade union rights and needs, good quality employment in safe working conditions, social security, freedom from discrimination, education… The list could go on, but most of the major issues can be grouped into different indicators such as:

- Environmental indicators of development;
- Political indicators of development;
- Economic development and security;
- Social development;
- Equality of opportunity and treatment;
- Education and training;
- International development.

Each of these major issues will have an effect on efforts to achieve a more environmentally sustainable pattern of development.

Environmental indicators of development

Environmental issues are many and varied. They include: the protection of national resources, whether these are the oceans, seas and coastal areas, or forests and land, or energy resources, etc; biodiversity, or the wealth of life on earth – the million of plants, animals, microorganisms and their genes and habitats that provide us with many essential services; energy production and consumption, of both renewable and non-renewable sources; urbanisation and the strain this puts on the environment in the way of transport, sewage and waste, and encroaching on good farming land; waste management and the need to reduce and recycle both industrial and domestic waste; transport as a major source of pollution from exhaust emissions and noise, the effects of roads on the environment, and accidents.

Most of these issues can have an impact on the environment at the local level, but can also impact on a global level. The truly global effects of pollution and exploitation include “acid rain”, global warming, ozone depletion, trade in endangered species and products…

But for us as trade unionists perhaps the closest connection we have with the environment is through our working environment. This is easiest to see in the case of a major accident, such as the Bhopal disaster in India in which over 4,000 people died as a result of a chemical leak in 1984. Smaller scale leaks, spills and “routine” pollution on a daily basis kill far more workers and their families.

The problem is not all one way, however. The general or living environment will also have an effect on industry and other activities and jobs. Workers and their families, work and productivity, will all suffer if the environment becomes so polluted that it can make them ill, or it cannot be used for direct resources or for industrial processes.

Conservation of the world’s resources and a stop to pollution is therefore essential to the satisfaction of basic human needs. We need to identify the problems and find solutions to them jointly with management and others. For this we have to make effective policies and take action on all these, and other, environmental issues, through collective bargaining, so that our members do not suffer in the overall drive for development.

Political indicators of development

These political rights — to live, speak and move freely and to publish, for example — are perhaps the most basic measurement of a country’s commitment to environmentally sustainable development, for human rights, development and the environment are closely interwoven.

It is no coincidence that some of the world’s worst environmental problems have been identified in countries with the worst record for observing human and trade union rights. Any country that knowingly exploits and pollutes environmental resources for short-term gains will not think twice about ignoring the rights of its citizens or repressing concerned workers and trade unions.

Democracy, then, is the theme which recurs here, starting, for workers, with the right to freely-chosen employment. For us as trade unionists, it also means the right to organise and promote our interests in freedom and peace, and the right to participate in decision-making on our members’ behalf.

The new challenges open to us concerning environmentally sustainable development lend themselves particularly well to tripartite decision-making as they are issues that concern all the social partners.

Trade unions have always stressed the importance of democratic structures, respect for their rights, and their involvement in the decision-making processes as essential elements for development. In the case of the environment it is impossible to see how progress can be made unless all partners, including trade unions, work together with a common aim and with well-defined, guaranteed rights.

What can be said of exploitation of workers and repression of trade union activities can also be said of certain sectors of the workforce and community. Freedom from discrimination based on gender, ethnic origin, age, or any other “difference” and an end to child labour are therefore other basic human rights to strive for.

Economic development and security

A world in which poverty is commonplace will always be subject to political and ecological disasters. Poverty pushes people and countries into a short-term, often desperate use of resources which puts pressure on the environment. Making development sustainable therefore means putting an end to poverty so that at least the basic needs of all can be met.

On an individual level, this means being able to earn a living through freely-chosen, paid employment. The role of export processing zones and the informal sector must be considered in this respect, especially in relation to the need to organise this relatively unprotected sector of the workforce. In developing countries, creating and maintaining cooperatives is seen as a cornerstone of sustainable development.

Part of the drive to end poverty will also concern social protection to secure an income for those who cannot find work or who cannot work because of sickness, old age, maternity, etc.

Social development

If the primary goals of environmentally sustainable development are freedom from poverty, secure livelihoods, good health and quality of life, then socially responsible development has to deal with such needs as food; basic housing; access to good water; health; care (especially for children and older members of society); sanitation; education; energy in the form of fuel; transport, etc. In short, anything that affects the basic needs of individuals in their daily living arrangements.

Poverty remains the main obstacle to social development. For millions of people, poverty brings with it a lack of access to these basic needs. In order to meet them, development has to produce sustainable employment opportunities with good working conditions so that poor households can meet at least minimum consumption standards.

Failure to meet them is one of the major causes of environmental degradation, for poor people in particular depend on the local environment and its resources.

Equality of opportunity and treatment

Environmentally sustainable development can only come about when every individual can have an active role to play. We must therefore recognise the importance of promoting opportunities for groups with special needs in the drive for development. Groups which may have special needs in this are include women workers, indigenous and tribal peoples, workers with disabilities, children and younger workers, older workers, ethnic minorities and migrant workers.

In many countries, some of these groups — women, indigenous peoples, older people, for example — are often the protectors and managers of natural resources. In many areas they have direct contact with the natural environment through collection of fuel, food and fodder required for everyday needs. At the same time, they are those, along with others such as children, migrant workers, displaced persons, etc., who are most vulnerable to environmental hazards, degradation and waste.

Through their special skills of management and use of natural resources, and through their traditional wisdom and experience, all of these groups have an important role to play in promoting environmentally sustainable development. Therefore, putting an end to discrimination, and promoting tolerance and mutual respect for the value of diversity is essential for development to be truly sustainable. Recognising and enhancing the participation role of these groups, often through affirmative action in training, employment quotas, providing special services such as crèches for working mothers, or language courses for linguistic minorities, will help to do away with prejudice and integrate all into the environmentally sustainable development process.

Education and training

Education and training are human rights and essential tools for achieving the goals of environmentally sustainable development. A lack of access to any of the identified stages, from basic education for all through to leadership training, means that many people are not aware of the close links between human and work activities and the environment.

There is thus a need to increase people's sensitivity to, and involvement in, finding solutions for environment and development problems. Basic education for all can provide the environmental awareness, values and attitudes, skills and behaviour needed for sustainable development.

Developing skills and vocational training means that workers have the education, training and information to adapt to the changing economic conditions and labour markets that go hand-in-hand with the complex environment and development linkages.

But, more importantly for us as trade unionists, continuing trade union education, and especially paid education leave as the means to achieve this can also provide its members and leaders with the knowledge and skills to allow for full participation in defining environmentally sustainable policies and in concerned bipartite and tripartite decision-making bodies at all levels.

Information on development issues needs to be provided to the people who need it, when they need it and in a form they can understand. If we want to take part as we should in defining the policies and action plans towards a more sustainable world then we need information on all the environmental, political, economic, social, equality and international issues outlined here to help us make the best informed choices for our members.

International development

No nation can ensure its future development alone. A partnership of the world's nations is essential for an efficient and equitable global economy that can help all countries achieve environmentally sustainable development. Nothing short of a renewed and massive political will is needed at national and international levels to invest in people and their well-being.

We have identified several key issues in international development, starting with the unequal distribution of resources and wealth. Excessive demands and unsustainable lifestyles among the richer nations of the world place huge stress on global resources and pollute the atmosphere, waters and land all over the world. The poorer nations, on the other hand, are unable to meet even their basic needs in food, health care, housing and education. This "North-South" divide is likely to lead to international friction unless strengthened cooperation and solidarity can more equitably share the costs of development.

In addition to the exploitation and pollution of resources, non-respect of national sovereignty in the form of violence, displacements, foreign occupation, and the other effects of war and conflicts can also contribute to environmental degradation.

If the world is to avoid environmental crises it is essential that global economic growth be revitalised — through fair trade, technology transfer, and larger flows of capital for productive investment, through aid and reduction of debt.

National policies on environmentally sustainable development, then, need to be linked by international cooperation and agreements, especially through such organisations as the United Nations and its specialised agencies. Appropriate international standards, agreements and guidelines help to define sound practices, serve as reference for national legislation and control, and help reduce competition among nations which may be reluctant to limit or restrict unsustainable environment and development practices for fear of subjecting themselves to higher control costs than elsewhere.

It is clear that the transformation of economic development into development that is environmentally sustainable will be a challenging and complex process. It will involve looking at all these factors that affect your working and living environments, the rights and concerns of you and your fellow workers and families. Above all, it will involve major changes by a wide range of partners – governments, employers, trade unions, communities. The environmental agenda of the future will need to focus on global and local policies and action to obtain the objectives of environmentally sustainable development.

The changes needed will vary from country to country, region to region, but the objective everywhere must be to integrate resource and environment considerations into every level of decision-making. You and your trade union will have to examine how you might play a more active role in this process.

Planning for environmentally sustainable development is as much an organisational process as a technical matter, and therefore has to be undertaken by the social partners rather than by scientific bodies. Unions' experiences of social negotiations, your work on organising and collective bargaining, human

rights, economic policy, education, women's issues, occupational health and safety, for instance, can all be used for the new consensus-forming process on environment and development issues.

By building on these traditional areas of concern you and your trade unions can help improve the quality of work and life for everyone. Our tools for change in this area are:

- To educate our members;
- To organise our members, identify and represent their concerns;
- To negotiate and struggle for changes.

By understanding the issues relating to environmentally sustainable development and making priorities according to our members' needs, we can develop a policy and action plan in this area as in any other. It is hoped that the booklets that this Project has produced – on "Workers' Education and the Environment", on "Trade Unions and Environmentally Sustainable Development", and on "Using ILO Standards for the Promotion of Environmentally Sustainable Development" – and the training available to you will help you succeed in your mission to help take your local community, your country and the world into a more environmentally sustainable future.

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