

## **ABSTRACTS**

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### **Education for a Sustainable Society**

Sustainability is still essentially an unfamiliar concept in Israeli educational circles, rarely appearing in textbooks and almost never in formal curricula sponsored by the Ministry of Education. The roots of this neglect can be found in the wider social context. Since Israel's independence, questions of security and of the Arab-Israeli conflict have dominated public consciousness, nearly always preempting the treatment of social and environmental concerns. Awareness of the global and local environmental crisis has done little to change the marginal place relegated to environmental education, in terms of priorities and resources allocated to the field. Still seen as being under the jurisdiction of the Ministry of the Environment, environmental education has been almost exclusively framed as a scientific-technological field, and existing curricula are heavily science/research oriented. The concept of sustainability and the values it embraces—democracy, equity and citizenship—do not currently inform environmental education within the public education system. Nevertheless, encouraging developments in the work of NGOs can point a way forward for official policy. The chapter advocates a paradigm shift in environmental education and demands that the Ministry of Education take a proactive role and assume leadership in implementing a coherent government policy, and a renewed commitment to education “as if the planet really mattered”. Changes in both the process and content of education can be effected by drawing on models developed over the past years by environmental NGOs and by linking them to existing progressive initiatives in education

## **Public Participation in the Formulation of Policy and Decision-Making**

Despite the emergence of a strong civil society in Israel in the past ten years, as evidenced in the impressive growth of social and environmental NGOs, the government has not risen to the challenge of encouraging participatory practices or developing partnership and dialogue with NGOs in the spirit of Agenda 21.

Many of the newly formed environmental organizations, particularly the local ones, arose as a reaction to destructive development enterprises, eradication of open spaces and coastal areas, air, water and land pollution, and the environmental discrimination of groups and sectors far from the society's centers of power. The experience of citizens who attempt to affect planning policy demonstrates, however, that existing mechanisms for public participation are limited and suffer from various drawbacks: the law provides a role for citizens only as "objectors" which perpetually casts them as obstacles to development; governmental planning and development committees have no NGO representation; access to data and publication of plans is inadequate; only citizens with ample financial resources stand a chance at affecting decisions. Moreover, in the last year the government seems intent on curtailing citizens' influence and involvement in both national and local processes through legislation of laws that circumvent existing checks and balances. The chapter calls upon the government to repeal recent legislation which will allow rapid approval of national infrastructure projects, and which trivialize environmental impact assessments. The government should recognize the importance of an informed and involved civil society and should reaffirm its commitment to these values by ratifying the Aarhus convention.

## **Minorities in Israel**

Agenda 21 emphasizes social justice and equitable access to education, resources and the loci of power, as well as the empowerment of minorities, as essential for the development of a sustainable society. In light of this approach, the absence of any discussion in the governmental report about the unique problems of Israel's Arab minority is glaring. This failure is a typical example of the Israeli government's long-established policy of indifference and exclusion toward its Arab citizens. Many areas of governmental neglect and discrimination in relation to Israel's Arab minority have

direct implications for the environment, and for any prospects of sustainability. Inequalities that are rooted in complex historical and cultural factors manifest in a range of issues: lack of appropriate investment in physical infrastructures (especially sewage and roads); inadequate response to the housing and development needs of a growing population; and the lack of recognition of Israeli Arabs as an ethnic and national minority, with their own unique relationship to the environment and environmental heritage. Marked disparities in allocations of land for commercial and industrial uses, in educational budgets and in municipal grants contribute to the perpetuation of a degraded environment, which in turn contributes to civic alienation, in a vicious circle. This chapter argues that unless policies are formulated to treat minority issues as such, little progress can be made to redress current injustices. The government must adopt affirmative action policies to address historical legacies of inequality. Recommendations include recognition of “unrecognized” towns and villages, development of new Arab towns and villages, creation of new industrial and commercial zones, and a creation of a unique trend of Arab education, among others.

## **Combating Poverty**

Israel's acceptance of the neo-liberal agenda of the World Bank and the International Monetary Fund has exacerbated the economic slow-down of recent years, resulting in high unemployment, higher for Arab communities than for Jewish ones; the neglect of inequalities in educational achievement, where there is a high association between income level and achievement; and increasing income polarization. Decreases in social spending and erosion of the safety net threaten to increase poverty levels, further disadvantaging Arab citizens. Israel has progressive laws designed to eliminate discrimination on the basis of gender, which should mitigate against the feminization of poverty; however, very little is invested in enforcement mechanisms. To date, the only poverty-eradication program on the public agenda threatens the entitlements of single mothers without offering them new employment opportunities.

The chapter calls for the development of peripheral localities and of rail transport, investment in the public education system, preservation of the social safety net, a new focus on enforcement of equal opportunity laws, and, in general, long-term strategies rather than short-term strategies to reverse the trends.

## **Transport**

The rationale behind this chapter's critique of Israel's transport policy is that car dependence, which underpins current transport planning, is not inevitable. While car ownership in Israel is still relatively low compared to other countries with a similar per capita GDP the National Transport Master Plan anticipates a national motorization rate of 340 cars per 1000 people by 2020, a rate which has already been exceeded in the larger suburban settlements. Several trends (rise in fuel consumption, expansion of sprawling development, increase in road accidents) show the growing environmental and social cost of the increase in private-transport mobility during the last 10 years. These come to bear on the planning and construction of the Trans-Israel highway, which is discussed at some length in the chapter. While Israel has set measures to deal with road congestion and to prioritize public transport, which correspond, in general, to the measures suggested by Agenda 21 for promoting sustainable transport systems in cities (article 7.52), a variety of problems (financial, institutional, political and other) prevent their full implementation. NGOs can fill an important role with campaigns focused on this implementation gap, dealing with the growing problem of sprawl and promoting non-motorized transport.

## **Protecting and Promoting Public Health**

Israel has a high quality health system. The Ministry of Health is responsible for monitoring and controlling sanitation, food and water safety. Since 1995, a National Health Insurance Law provides standardized medical care for all citizens and covers 100% of the population. Primary care facilities are accessible to all citizens. Nevertheless, there is a high personal health care expenditure. Complementary insurance programs, which are not affordable by all, provide services unavailable through national health insurance. Health promotion has been developing in Israel during the last decade, although no national mechanisms exist for improving coordination between health and related sectors, or for facilitating citizens' participation. Many initiatives exist for improving health of vulnerable groups: Education and counseling programs for the prevention of risky behavior among youth; women's health centers; day-care for the elderly; neighborhood support, and others.

Several ministries are involved in the regulation and monitoring of the quality of air and water, food safety and the control of hazardous substances. There are regulations about exposure to hazardous substances,

noise, ionizing and non-ionizing radiation. There is an increasing awareness in the population to the environmental impact on health. However, research in environmental health is still under-developed and requires definition of policy targets and resources. The chapter recommends developing an inter-Ministerial national policy for the regulation of partnerships and coordination of initiatives in the community. Regulations for mandatory environmental and health impact assessments should be developed.

### **Cultivating Environmental Awareness through Art**

This chapter responds to the governmental report on education and raising awareness, by introducing the role of art and artists in these processes. Interdisciplinary cooperation of which the governmental report speaks is incomplete unless artists are incorporated in environmental problem-solving processes as social and cultural agents, and as links between humans and their environment. The relationship between Art and the Environment must be enhanced, not merely by including artists in groups of professionals who research, restore and reclaim damaged environments, but chiefly through an authentic integration of an artistic viewpoint into the field of environmental study. Conversely, an environmental approach must be introduced within art studies. Serious interdisciplinary cooperation on environmental issues -involving artists, scientists, humanists, planners, activists, and governmental bodies - does not exist in Israel. Until this is achieved dichotomous patterns of thinking, which separate science and governance from art and life will continue to prevail. Non-textual language has the power to transform the way individuals think about the environment. Artists can play a major role in mediating between the community and scientists, and between citizens and their environment. This chapter recommends several strategies for promoting these goals, including: official incorporation of artists in decision-making processes, allocation of resources for environmental art projects, hiring of artists as consultants to governmental projects, creation of formal programs for professional training for artists on environmental and planning issues, as well as the creation of venues for study, exhibition, and creative work.

## **Air pollution, Global Warming and Ozone Depletion**

Israel today faces air pollution problems whose impacts range from damage to public health at the local level to global warming and stratospheric ozone depletion. Population growth and rising consumption have led to a near-doubling of motor vehicle ownership over the past decade, with heavily polluting diesel providing fully half of the transport sector's fuel needs and leaded fuel still in widespread use. Electricity use is growing at over 7 percent annually, contributing to a doubling of greenhouse gas emissions since 1990.

To protect public health, the introduction of low-sulfur diesel fuel and the complete phase-out of leaded petrol are urgently needed, along with a stepped-up investment in urban and inter-urban rail. To curb greenhouse gas emissions, a high-profile energy conservation campaign should be matched with real investment in energy-saving and renewable energy technology.

Israel, producing roughly a third of the world's methyl bromide, contributes disproportionately to stratospheric ozone depletion. In addition to developing methyl bromide substitutes, Israel should take immediate steps to ratify and comply with the 1997 Amendment to the Montreal Protocol, banning trade in methyl bromide with non-Parties to the phase-out regime.

## **Conservation of Biological Diversity**

Located at a biogeographic crossroads and enjoying extremely diverse topography and climatic zones, Israel's biodiversity is extremely rich. However, a high rate of population growth and development imperil Israeli biodiversity. Conservation requires a sound scientific basis for actions taken, the ability to take action and public support, which relies on education and public understanding. Research is crucial for forming viable plans and future projections for nature conservation and management.

In spite of a growing awareness there are glaring institutional lacunae related to recording, studying and monitoring biodiversity in Israel. Israel has no national museum of natural history or national herbarium and no institution whose mission is to record and study its biodiversity. Israel has no formal Biological Survey and surveys that are carried out are usually poorly funded. As a result, environmental impact assessment reports, even when they have an ecological aspect are usually limited to a small number

of taxa and do not reflect any other biodiversity components. The formal school system does not educate toward responsibility for the environment and biodiversity.

Israel's biodiversity faces many threats from habitat loss and fragmentation, loss of wetlands and river and stream contamination, poaching, sand mining, alien invasive species, to mention but a few. In order to preserve its biodiversity, Israel must develop the institutions for recording and monitoring biodiversity (national museum of natural history and biological survey), invest in educating the public about biodiversity conservation and sustainable development, allocate clean freshwater for its aquatic fauna, invest in conservation enforcement and place a higher priority on declaring nature reserves and national parks.

## **Regional & International Cooperation**

Effective international and regional cooperation are key components of Agenda 21 and prerequisites for sustainable development, due to the rapid development of the global economy and the transboundary nature of ecosystems. After detailing the regional and international setting and issues at stake, this chapter reviews Israel's Agenda 21 and other environmental treaty obligations over this last decade. The authors recognize that the political instability and violence taking place in the region have made cooperation difficult. This chapter concludes, however, that despite the situation, a lack of leadership and political will on regional environmental issues has been shown at different times by all governments and authorities in the region. Though some progress has been recorded, too often environmental issues and in particular pollution prevention have been held hostage by the political echelon to advances in the Peace Process or used for political point scoring by either side.

The cost of this failure to cooperate on regional environmental issues has directly contributed to the dramatic degradation of key natural ecosystems in Israel and the region. Pollution of the Coastal and Mountain Aquifers (key sources of drinking water for both Israelis and Palestinians) and the degradation of sites of global heritage such as the River Jordan and the Dead Sea, for example, could have been avoided or mitigated if the political will and commitment to cooperate regionally for the benefit of the environment had existed.

Environmental justice issues pertaining to the exploitation of scarce transboundary natural resources are also discussed in this chapter. Furthermore, this chapter briefly reviews Israel's international environmental obligations, calls for specific treaties to be ratified prior to the

Johannesburg Summit and concludes that specific government policy concerning economic globalization and trade policies have insufficiently taken into account sustainability considerations. Finally, a set of specific recommendations for action concludes this chapter.

## **Management of Water Resources in Israel**

Despite the fact that its technological expertise in the realm of water use is among the most advanced in the world, Israel is in the throes of an ongoing water crisis, which is becoming progressively more serious, bringing the country to the verge of catastrophe. The damage to the country's three main reservoirs, as a result of excess pumping, salination and contamination has not been adequately addressed at the systemic level, and no master plan exists to guide the activities carried out by the many bodies entrusted with authority for water management in Israel. A review of present policies and subsequent reform are urgently needed, and the water problem must be accorded utmost priority on the national agenda, in light of the guidelines suggested by Agenda 21, in order to achieve a balanced and sustainable water management policy. This chapter surveys the various problem areas and proposes ten coherent strategies for addressing them. The first step to be taken must be the preparation of an environmentally sound master plan for Israel's water and wastewater. This must be accompanied by a complete administrative reform, which will entail creation of a politically independent National Water Authority. This body should centralize authority, which is currently dispersed among various governmental ministries. It will also operate more efficiently because of its ability to pool resources. An end must be put to pollution of ground water sources and river reclamation programs must be implemented. Israel must upgrade its water standards to internationally accepted standards, and reform the water pricing system by internalizing environmental costs. Efficiency and conservation must be optimized to achieve set targets. The full potential of Agriculture-effluent irrigation should be met, according to the highest standards to prevent contamination. At the same time water supply can and should be augmented, and water losses prevented. Water supply to ecosystems should be guaranteed through legislation, and sewage treatment improved across all sectors.

## **Environmental Planning and Sustainable Development of Land Resources**

The last ten years have seen the vigorous preparation of outline plans at a national and regional level. However, this government undertaking to achieve sustainable development targets is too little, too late. Despite the importance attached to planning in Israel, it often remains “on paper” while in practice an anti-environmental reality is forming, contrary to intelligent land use principles. Not only is Israel’s planning system not striding towards democratic and sustainable planning, but it is regressing and becoming more centralized, operating as an arm of the body which is at the same time entrepreneur, planner and the point of approval—the government.

The implementation of comprehensive planning in Israel is undermined by: the politicization of planning institutions; the absence of implements for preserving open spaces; the lack of incentives for urban renewal—including integrated transportation and land use planning; encouragement of sprawl; inadequate environmental impact assessment. The government’s own initiatives often void comprehensive planning of its substance: establishment of new towns and villages contrary to plans; local initiatives which exploit the flexibility of the comprehensive plans; and the tendency for planning flexibility.

Instead of merely practicing damage control, policies must be put in place to direct planning and implement it in advance. Preparation of comprehensive outline plans should be based on an analysis of the ground-level sensitivity, on the need for effective land resource use, and on more inclusive public participation. Preference should be given to development and renewal within cities, rather than ground-gorging suburban development. Planning that integrates land use with public transport development should be promoted. There should be an immediate halt to all government projects which contradict planning policy, or unabashedly reduce public participation. Innovative tools are needed to ensure preservation of open spaces, without harming the rights of the land’s owners or leaseholders. Green groups and the government must act vigorously to intensify Israeli environmental awareness.

## **The Mediterranean Coast**

This chapter discusses Israel’s Mediterranean coastal strip, which extends for 190 kms and is subject to intense competition over land use as well as massive development pressures. The decade that has passed since the Rio convention in 1992 has been perhaps the most strenuous for Israel’s

Mediterranean coast. During this period, and especially at its outset, an unprecedented surge in development began along the coast. This accelerated development was as far removed from the notion of sustainable development as could be imagined. In the last years, in the wake of a far-reaching public and legal campaign led by the environmental organizations and the Environment Ministry against these trends, a transformation can be discerned in the attitude of the decision-makers and the public towards coastal development. However, there is still a significant gap between recent declarations about a progressive approach to coastal development and actual reality, which shows little proof of progress in anchoring these intentions in statutory or legally binding instruments.

Changing the current situation and reversing the anticipated trends will demand simultaneous action along a number of lines: protective legislation; increased enforcement and application of the established policy in relation to Israel's coastal stretch.

## **Environmentally Sound Management of Solid Waste**

Each year, solid waste generation in Israel increases by 5 percent—more than double the nation's rate of population growth. Landfills remain the dominant means of solid waste management, producing roughly 13 percent of Israel's overall greenhouse gas emissions. About 35 percent of landfilled waste still ends up in unlined dumps, posing a hazard of groundwater contamination. Meanwhile, only 14 percent of Israel's solid waste is recycled, partially facilitated by a recently implemented Bottle Deposit Law.

To boost recycling, Israel's Environment Ministry must enforce local government compliance with mandatory recycling targets. At the same time, landfill subsidies that reduce the competitiveness of environmentally sound alternatives should be removed, and organic material—the primary waste component threatening groundwater resources—should be diverted for composting.

More rigorous hazardous waste management is a further need. Much of the waste at Israel's only authorized hazardous waste site is poorly identified and inadequately treated, and no provision is made for separating household hazardous waste from conventional solid waste arriving at landfills. Major reform is also needed in the treatment of construction waste, 50 percent of which is illegally dumped along roadsides and in open spaces. Illegal dumping of waste beyond the Green Line is a further problem requiring stepped-up enforcement.

## **Population Dynamics and Sustainability in the Israeli Context**

Israel's national planning policies treat its exceptionally high population growth rates as a driving variable, to be predicted but not altered. In this, they reflect broad and deeply entrenched support for augmentation of Jewish population size. Even environmentalists have been hesitant to clash with this entrenched consensus, despite evidence that the country is not managing the impacts of current populations. As the environmental community begins to treat population as an environmental issue, however, it must draw on the hard-won insights of the population-environment debate that has evolved elsewhere over recent decades. "Population" should be considered as part of the complex social-technical-demographic equation that leads to rising environmental impacts. A responsible approach to the population issue must therefore consider the following: the population and consumption elements of environmental impact; differentials in each among different sub-populations; the political tensions that threaten to infiltrate demographic debates in Israel; and an integrated package of social programs that augment, rather than constrain, the opportunities of current generations (for example, programs that increase the status of women and their range of choices regarding work and contraception).