

TURKEY

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CONCLUSIONS AND RECOMMENDATIONS*

Turkey has been undergoing major economic changes in the 1990s, marked by rapid overall economic growth and structural changes (privatisation of State enterprises, price liberalisation, integration in the European and global economy). However, the share of the informal sector in the Turkish economy remains high. Turkey's population has reached 65 million and remains one of the fastest growing in the OECD. Major migrations from rural areas to urban, industrial and tourist areas continue.

Turkey now confronts the challenge of ensuring that economic growth is associated with environmental and social progress, namely sustainable development. During the 1990s, it has experienced increasing environmental pressures, reflecting rapid sectoral growth in energy, industry, transport and tourism. A number of institutional and legislative elements of environmental reform have been put in place. A national environmental plan, remarkable in many ways, was adopted in 1998 as part of the national development planning effort. Although current emissions and discharges per capita remain low compared to OECD per capita averages, much of the necessary environmental infrastructure must still be created in urban and industrial areas. The road towards environmental convergence with other OECD countries will be a long one, and will require strengthened environmental efforts from central government, municipalities and the private sector, as environment has had a relatively low priority in Turkey.

The challenge is therefore to: i) implement environmental policies and strengthen environmental infrastructure; ii) better integrate environmental concerns in economic decisions; and iii) meet the country's international environmental commitments.

This OECD report establishes a baseline for assessing future environmental progress and examines Turkey's environmental performance, i.e. the extent to which its domestic objectives and international commitments are being met, based on environmental effectiveness and economic efficiency criteria. A number of recommendations are put forward that could contribute to strengthening the country's environmental performance.

1. **Implementing Environmental Policies**

Overall, the 1998 National Environmental Action Plan (NEAP) has taken the measure of the challenge to be met by Turkey in reversing the environmental degradation experienced by a number of urban and industrial areas and by its natural resource base (e.g. erosion, coastal damage). With environmental protection part of its Constitution, Turkey has made significant advances in the 1990s (creating the Ministry of Environment, reforming its environmental legislation and instruments for environmental protection, establishing EIA, adopting the 1998 NEAP). Turkey has also benefited from some positive structural changes (change in energy mix, privatisation of heavily polluting State-owned enterprises, industrial restructuring). Other areas where progress is apparent include a significant increase in the powers of provincial and local governments in regard to environmental matters, and environmental protection efforts made by export-oriented parts of industry (e.g. tourism, textiles).

Yet these advances are not commensurate with increased pressures from economic activities and urban growth. Overall, enforcement, economic analysis, information and institutional capacity should be improved to strengthen environmental policies. Given the backlog in regard to environmental investment needs and general lack of enforcement, it will take time and considerable effort to transform environmental management practices and mobilise appropriate financial resources.

Fostering environmental policy implementation

Environmental policy relies on a command and control approach. Regulations have evolved significantly and tend to approach those of the EU. However, there is a lack of adequate enforcement capability. Fines and penalties for non-compliance with environmental regulations would need to be revised in order to have some effectiveness; the Ministry of Environment would also need to develop an inspection and enforcement branch and strengthen its territorial capability. Given the gap between regulations and enforcement, a transition period would be needed, notably for those industrial sectors which are not export-oriented, to gradually improve their performance

* Conclusions and Recommendations approved by the Working Party on Environmental Performance at its June 1999 meeting.

without their ability to invest being hindered. Enforcement of environmental laws and regulations would also benefit from a reduction of the informal sector's share in the Turkish economy.

Turkey should gradually begin to use a wider variety of policy instruments to improve cost-effectiveness in managing the environment, in particular through greater reliance on economic instruments for environmental protection. Efforts towards partnership approaches should be pursued and the terms of existing voluntary agreements should be reviewed in light of OECD practice. Capacity to carry out economic analysis of environmental issues and to integrate environmental concerns in sectoral policies should be greatly enhanced within the national environmental administration. Land use cadastres and inventories, and land use control, need to be upgraded, as half the urban population lives in illegal settlements with inadequate and unreliable environmental services.

The EIA procedure has been established, but further improvement of the EIA regulation is needed to make it fully effective. There is a significant need for personnel qualified to conduct EIAs, both in the public and the private sectors. Managers and consultants from a growing number of companies are being trained for this purpose.

Although participation mechanisms such as local environment committees, the EIA procedure, and Councils for the Environment and Forestry exist, public participation is a relatively new process in many instances. The absence of environmental reporting by industry has in a number of cases tended to exacerbate conflicts with NGOs and the public. Environmental NGOs will need to address a range of issues in order to establish themselves as stimulating and constructive partners for environmental progress.

Despite significant advances in environmental monitoring and the provision of environmental information by many environmental and non-environmental institutions (e.g. the SIS and SPO), there are no regular, comprehensive environmental publications (e.g. environmental data, environmental indicators, state of the environment reports). Creation of an environmental observatory and of a nationwide environmental information strategy and action plan (METAP) are still under consideration. Turkey has not yet signed the Aarhus Convention on improving access to environmental information and is considering follow-up to OECD Recommendations (e.g. PRTRs, environmental information). There are no clear estimates of public and private environmental expenditure.

It is therefore recommended to:

- strengthen, empower and improve the national environmental administration's performance, and its co-ordination with other ministries and the provincial and municipal authorities;
- strengthen the enforcement system considerably, through clarification of institutional responsibilities, adequate co-ordination at all levels of government, and an increase in resources available for inspection and enforcement;
- make the regulatory system more flexible, integrated and cost-effective, seeking an adequate mix of instruments and assessing each in terms of its ability to attain policy objectives and their cost;
- strengthen the permitting system, and move towards a procedure that takes an integrated pollution prevention and control approach;
- improve access to environmental information and increase public participation in decision-making relating to the environment;
- improve environmental information systems (periodic reporting on the state of the environment, environmental indicators and environmental expenditure) so that they can provide for the needs of policy design and raise environmental awareness in all sectors of society;
- expand the use of economic instruments to contribute to more cost-effective management of the environment and ensure appropriate pricing of natural resources (e.g. water, energy), with due regard to social conditions;
- expand and diversify public, private and international sources of funding for environmental protection; enhance the role of banks in supporting environmental investment.

Water

Rapid economic and population growth has implied rapidly increasing demand for water for both industrial and domestic use. However, the greatest pressure on water resources in Turkey has been due to increased irrigation, undertaken in order to provide agricultural commodities for growing domestic and export markets. Pollution affects water quality. The diminishing availability of easily exploitable new water supplies means higher water development expenditure, which will be required at a time when financial resources are needed for waste water treatment.

In response to these challenges, a number of important principles have now become part of national legislation. For instance, the 1988 Regulation on Water Pollution Control refers to the establishment of an action plan for water quality improvement and to long-term water basin quality management plans. Positive actions have been taken: large enterprises have started to treat their sewage before discharge; associations of water users have been created, which should improve irrigation water management; monitoring of water pollution has been extended. In parallel with tourism development, efforts have been made to improve the quality of coastal water, in particular in the Mediterranean region.

Much still remains to be done in order to progress towards sustainable management of water resources. Large-scale hydraulic engineering works for irrigation, hydropower and water supply remain the dominant features of water management, while water quality is deteriorating in many areas. A balance has yet to be achieved between water use for economic development and population growth and environmental protection. Particular efforts should be made to increase the share of the population connected to sewage treatment (currently about 12 per cent). The need to provide new and upgraded sewerage and sewage treatment infrastructure will stretch investment capability for a considerable time to come. Public investment priorities need to be examined, in order to maximise social, economic and environmental benefits. Pricing of water services should be developed so as to achieve rational use of water resources and improve investment recovery, as well as recovery of operational and maintenance costs. There should be a more systematic approach to harmonising national and international legislation (e.g. quality standards, emission limit values, waste water treatment). Dispersed responsibility for water management is confusing for users, and sometimes also for authorities. The information flow and co-operation among institutions and users required would benefit from a river basin approach, which would facilitate the establishment of investment priorities as well as harmonisation. Municipalities lack qualified personnel to operate water facilities, and farmers will not be able to implement modern irrigation methods without appropriate training and services.

It is therefore recommended to:

- set quantitative objectives for domestic sewage treatment and speed up connection of the population;
- examine priorities for public investment in water infrastructure and encourage adequate pricing of water services, e.g. through combined water bills, as well as public-private partnerships for financing, building and managing municipal water services;
- continue the transfer to users of irrigation facilities, and establish mechanisms to enable the introduction or strengthening of cost recovery;
- integrate environmental concerns in water withdrawal plans and cost-benefit analysis of water projects;
- develop an overall water resource management strategy by river basin, addressing both quantity and quality issues; establish basin councils to reinforce co-operation and partnership among authorities and water users (municipalities, industries, farmers);
- revise water legislation in line with international developments;
- pursue efforts to monitor water quality and strengthen enforcement of legislation.

Air

In urban areas, there has been a decrease in concentrations of SO₂ and particulates in the 1990s. This is largely due to major changes in the fuel mix used in these areas: high sulphur content domestic coal has been prohibited for heating and replaced by imported coal with a lower sulphur content; natural gas has been substituted for coal in several cities. Today gas consumption accounts for about 10 per cent of Turkey's energy supply. Lead emissions are beginning to decline as a result of introduction of unleaded gasoline. Since 1997, the Ministry of Environment has been consulted on and involved in major decisions concerning energy sector investments. Subway lines have opened in Ankara, and are being built in both Ankara and Istanbul. The National Environmental Action Plan provides a comprehensive and realistic assessment of air issues.

However, as a result of economic growth and despite environmental protection efforts and significant shifts in energy supply (e.g. from coal to gas), emissions of SO_x, NO_x and CO₂ are growing at a very high rate. In particular, the transport and electricity supply sectors are growing more rapidly than GDP, generating significant air pollution pressures. Nevertheless, Turkish energy use per capita and emissions per capita are low compared to OECD and OECD Europe averages. Comprehensive information on air emissions and air quality is limited. There is scope for improving air quality by upgrading fuel quality standards, phasing out leaded gasoline, and reducing sulphur content of liquid and solid fuels. Enforcement of air quality regulations should be strengthened, particularly in industrial areas. The use of economic instruments should be developed (e.g. fuel tax differentiation according to sulphur or lead content) to increase the cost-effectiveness of air management. Progress is to be achieved through energy efficiency and use of cleaner fuels and alternative energy sources. Urban transport investments should focus on public transport, and on its integration with land use and development options.

It is therefore recommended to:

- establish and improve procedures to calculate and publish periodic emission inventories at national level for a range of pollutants, including SO_x, NO_x, VOCs and particulates;
- extend the national air quality monitoring system in industrial as well as urban areas, and increase the number of pollutants monitored to include, in particular, NO_x, ozone, and lead and other heavy metals;
- link air management policy measures to quantitative targets for emission reductions and for improvement of air quality in regard to all major air pollutants, with an implementation schedule;
- review and upgrade standards relating to air pollution, notably those for ambient air quality, fuel quality and emissions from stationary sources, with due regard to the impact of air pollution on human health and the environment and associated damages;
- improve enforcement of all air quality regulations by ensuring that appropriate human and financial resources are made available for this task, and by applying penalties for non-compliance;
- clarify institutional responsibilities at all levels of government for air pollution licensing, regulation inspection and enforcement; encourage use of cleaner technologies and develop voluntary agreements with selected industrial sectors;
- continue efforts to improve energy efficiency and to encourage use of cleaner fuels and alternative energy sources;
- develop a master plan for transport which would take account of the development of all transport modes and of interactions between transport and other economic activities, along with environmental objectives.

Nature

Turkey's concern for nature conservation is not new; its first national park was created in 1958. A wide range of protected areas have been established: national parks, nature parks, Ramsar sites, etc. The number of protected areas has increased steadily over the last few years. The area of forest cover has remained constant, and forests are sustainably managed. Efforts have been made regarding on-site conservation of the country's genetic resources, and studies on native species have been conducted. Turkey has ratified most international agreements on biodiversity and nature conservation.

The proportion of endangered or vulnerable species is nevertheless quite high, particularly in the case of mammals (22 per cent). The destruction or transformation of biotopes is continuing, largely as a result of the very rapid development of tourism, urbanisation, and major construction projects in rural areas. Protected areas themselves are subject to many pressures (siting of tourism projects, irrigation, overgrazing, pollution of wetlands, forest fires, illegal hunting, etc.); management plans are sorely lacking. Protected areas cover only 3.9 per cent of the country's total land area. The main impact of rural communities living in forests (forest villages) is soil depletion due to overgrazing. Local communities and environmental NGOs have not been closely enough involved in planning nature conservation programmes. Lack of co-operation among the various government bodies responsible for nature conservation has also been noted. Turkey has still not ratified the Bonn Convention on migratory wildlife species.

It is therefore recommended to:

- strengthen the network of specialists, scientists and NGOs dealing with information on flora and fauna, finalise the inventory of endangered species and publish a Red List;

- increase the total surface of protected areas, linking them to form a network, and ensure that they are effectively protected, particularly through management plans;
- set as an objective, and implement, strict protection of part of the coastline;
- strengthen co-operation and partnership among ministries and agencies responsible for nature conservation at the planning and implementation stages;
- ensure that environmental impact assessments are carried out for activities that put pressure on biodiversity;
- increase public awareness, and reinforce information and education programmes on nature conservation problems;
- put in place a national biodiversity conservation strategy and action plan, and a national action plan to combat desertification and to control soil erosion and drought, in association with scientists and environmental NGOs;
- pursue efforts to classify forest stands for the purpose of conserving genetic resources.

2. Integrating Environmental Policies

Fostering sustainable development

Based on a number of strategic development options and the goal of bringing its living standards closer to those of other OECD countries, Turkey benefits from extended analytic, integration and planning efforts by the State Planning Organisation and by much of the national administration. Environmental planning has been part of Five Year Development Plans since the mid-1970s. Sustainable development was adopted as a central concept for the period 1991 to 1996 (sixth Plan), and protection and improvement of the environment is a major objective for the period 1996 to 2000 (seventh Plan). The 1998 National Environmental Action Plan is a leading example of national environmental planning, given its high quality and comprehensive analysis, setting of orientations and objectives, and action-oriented proposals. Further, programming of public investment by the SPO in direct relation to the Five Year Development Plans, and the more recent use of EIA for projects, are major tools serving institutional integration.

There is, however, limited co-ordination between sectoral ministries and different levels of government on environmental matters. The Ministry of Environment is in practice relatively new, with limited resources and limited competence; several administrative functions are carried out by other ministries or government agencies. Its contribution to integration of environmental concerns in other national policies, and to supporting environmental management by local authorities, is also restricted. Closer co-ordination with government departments responsible for treasury and fiscal policies would encourage the development of a system of economic instruments for environmental protection. The SPO should carry out environmental assessments of sectoral programmes and policies more systematically, as part of its internal procedures.

Several regional development projects, such as GAP and water development projects, attempt to bring together the economic, social and environmental dimensions of sustainable development. Local Agenda 21 Committees (e.g. in Antalya) are a major step forward in terms of local attention to environmental concerns. A number of local development projects, some largely driven by NGOs (e.g. TEMA) or international organisations (e.g. UNDP), are having positive results, particularly for rural populations in depressed areas. The National Assembly is considering legislation that would establish a Sustainable Development Council.

Particular attention needs to be given to integrating environmental concerns in energy, transport, tourism, industrial and agricultural policies. The objective of producing food for a rapidly growing and richer population has had higher priority than maintenance of a sustainable agricultural resource base. Many opportunities to further sustainable agriculture and food production exist which would be more cost-effective than current policy measures. In the industrial sector, most of Turkey's large exporting firms try to meet most national and international environmental standards, and many are becoming increasingly aware of their environmental responsibilities. Nevertheless, most of the country's vast number of small and medium-sized enterprises do not comply with environmental standards. Facing severe economic difficulties, they continue to use old technologies and find it difficult to make a strong effort to protect the environment or prevent risks to employees and the surrounding area. This suggests opportunities for investment in cleaner technologies and enhanced productivity consistent with sustainable development objectives. Banking's role in supporting environmental investment should be enhanced.

Greater focus should be put on “getting the prices right”, with appropriate attention to addressing special needs of the poor. Internalising externalities, and reducing subsidies and other forms of financial aid that are both costly to taxpayers and environmentally damaging, should be important objectives. The use of appropriate pricing (e.g. for water and energy) and economic instruments should help shape more sustainable consumption patterns. Environmental concerns should be integrated within fiscal policies and reforms.

It is therefore recommended to:

- implement the 1998 National Environmental Action Plan, and contribute to its international diffusion as a reference model;
- reduce subsidies and cross-subsidies (e.g. for industry, agriculture, energy) with adverse environmental effects; identify current fiscal measures that have detrimental effects on the environment and seek to avoid such measures in the future, with appropriate attention given to the specific needs of the poor;
- promote changes in consumption and production patterns by providing appropriate information and environmental education, by measures to ensure waste minimisation, recycling and control of landfills, and by ensuring that prices fully reflect environmental costs (e.g. for water and energy), while giving attention to the needs of the poor;
- review the environmental impact of small and medium-sized enterprises; develop medium-term contracts with trade groups; ease access to bank credits for such enterprises; accelerate the transfer of clean technology from larger to smaller firms; encourage environmental partnerships between larger and smaller enterprises;
- further develop projects aiming at sustainable management of natural resources and income generation in rural depressed areas; ensure the environmental impact assessment of sub-projects of the GAP, and minimise their adverse environmental impacts (e.g. erosion);
- strengthen the institutional capacity to analyse the economic and social consequences of proposed policies, programmes and projects having significant environmental impacts.

Tourism and environment

Tourism has developed very rapidly in Turkey, based on the country’s great natural and cultural riches, with both positive and negative environmental effects. Income from international tourism (9 million visitors) accounts for approximately 15 per cent of total export income and 4 per cent of GDP. However, tourism is concentrated along the Aegean and Mediterranean coasts between May and September and generates strong environmental pressures.

In order to better integrate environmental considerations in tourism policies, Turkey has progressively put in place a legislative and regulatory framework aimed at better organising tourism development and protecting certain sensitive areas. Concrete progress has been made in regard to drinking water supply, waste water treatment in tourist areas, bathing water quality, development of regional action plans, environmental impact studies for tourism projects, and diversification of tourism products.

Nevertheless, Turkey is seriously behind in providing sanitary infrastructure. Operators need to be able to use tourism and environment indicators to evaluate their performance in carrying out action plans, and to keep up with the integration of environmental concerns in tourism development strategies. Greater efforts should be made to assist sustainable development of SMEs in the tourist industry and to use economic instruments to protect the environment. Mechanisms for permanent dialogue among tourism authorities, local public authorities and the tourist industry should reinforce the integration of environmental concerns in tourism policies and practices.

It is therefore recommended to:

- put in place a national strategic action plan for sustainable tourism development, containing quantified environmental protection objectives, investment priorities and land use planning for tourism activities;
- develop tourism and environment indicators to evaluate the success of programmes, keep track of progress in integrating environmental concerns in tourism and assist decision-making in tourism development strategies;
- put in place tools for permanent dialogue among tourism authorities, local public authorities and the tourist industry;

- improve the evaluation and control of the environmental impact of small and medium-sized enterprises in the tourist industry;
- expand the use of economic instruments to better internalise tourism's environmental costs and increase its financial contribution to environmental protection.

3. International Co-operation

In the 1990s, Turkey has strengthened bilateral environmental co-operation with a large number of countries, mainly in its region, and has signed, ratified and implemented many international environmental agreements. Numerous initiatives have been taken to increase co-operation with other Black Sea and Turkish-speaking countries. Limited official development aid has been received; at the same time, technical assistance has been provided to other developing countries. Problems associated with pollution of coastal waters in the Mediterranean area have been reduced, and new waste water treatment facilities are being installed. In this regard, more efficient progress has been made when it involved action by the private sector than when State or municipal funding was involved. Transfrontier movement of hazardous waste has been halted. Turkey has been very successful in improving maritime safety in the Turkish Straits, and in reducing use of ozone-depleting substances ahead of schedule. In these two cases, positive results have been achieved in co-operation with social partners and with the support of NGOs. With regard to conventional air pollutants (e.g. SO_x, NO_x, VOCs), Turkey is taking into account technological capacities and the relevant UN-ECE protocols (e.g. Helsinki, Sofia, Oslo, Geneva) when revising its air quality regulations, although it is not a party to these agreements.

Despite progress at the end of the 1990s, compared with the early part of the decade, serious international environmental problems remain to be solved. This is mainly due to the large accumulated backlog in regard to various international environmental issues, along with the low priorities given them in governmental policies. First, there are many environmental agreements which Turkey intends to ratify, although it has not yet done so, and other agreements which it could reasonably envisage ratifying along with other European countries. Among these, particular attention should be given to a number of UN-ECE agreements which are pertinent to a rapidly industrialising country. Second, a few ministries have not yet acted on several measures needed to cope with maritime and terrestrial emergencies. Greater attention should be given to preventing maritime and industrial accidents. Third, construction of sewerage and treatment plants for municipal waste water has not progressed at a rate sufficient to abate pollution of coastal waters to a satisfactory extent. Energy conservation efforts have also been limited, despite the economic and environmental gains to be expected. Serious gaps in environmental monitoring and data collection in recent years have prevented preparation of a state of the environment report or a precise assessment of progress made in carrying out environmental policies in an international context, notably in the framework of Mediterranean and Black Sea co-operation programmes. Finally, the institutional capacity of both the Ministry of Environment and the Ministry of Foreign Affairs should be significantly enhanced.

It is therefore recommended to:

- examine the international agreements signed by most European OECD countries, in order to take steps towards ratifying those which meet the needs of a rapidly industrialising country in a European context;
- pay particular attention to recent developments in international environmental law, as a basis for solving transfrontier issues in a bilateral or regional context;
- improve availability and access to environmental information, facilitate public participation with a view to implementing relevant OECD Recommendations, and prepare for possible accession to the Aarhus Convention;
- take measures to promote greater energy conservation and energy efficiency, with a view to supporting world efforts to reduce emissions of greenhouse gases;
- develop an integrated strategy to prevent maritime and industrial accidents and to cope with their consequences, with a view to becoming a party to relevant international agreements and practices in this regard.

