

Environmental Priorities and Issues

Environmental concerns in Azerbaijan have been summarized on numerous occasions. The National Environmental Action Plan (NEAP) of 1997 remains influential. More recent strategic documents (the 2001 State Program on Poverty Reduction and Economic Development [SPPRED] and the 2003 State Program for Environmentally Sustainable Economic Development) restate and add to environmental priorities without, however, suggesting the order in which they should be supported by public investments. A ranking strictly based on economic efficiency criteria is unlikely to emerge. More probable is a politically determined balance of attention to different broad concerns (not unlike the case of the NEAP) only then followed by economics-supported prioritization within each broad category. Government environmental priorities are examined in Appendix 2.

Without strict ordering, the prioritization is as follows.

Past and Current Pollution from Industrial Sources. The industrial base created in Azerbaijan to process Caspian oil for the needs of the Soviet Union became vastly inappropriate once Soviet-era industry supply arrangements collapsed. The ensuing reduction of industrial discharges improved ambient air quality in the Baku-Sumgayit area (once among the worst in the Soviet Union) but left the problem of massive old contamination unresolved. As it is, the Absheron Peninsula in particular (including the coastal areas) suffers from oil, mercury, and other types of chemical contamination. The problem of abandoned industrial facilities, with their old waste, is found in many other places in Azerbaijan, but not on the same scale. The remedial activities have been on a pilot scale, so far, and have not fundamentally changed the situation. By contrast, the environmental performance of the oil extraction sector has improved with the inflow of direct investment from Organisation for Economic Co-operation and Development countries.

Solid Waste Management. Management of solid waste is poor in most urban centers, with smaller towns performing worse than Baku or not performing at all. Unsafe landfills and uncertain separation of hazardous from nonhazardous waste are the key problems, and minimum waste recycling a subsidiary one.

Energy Inefficiency and Industrial Air Pollution. Like other energy exporting former Soviet Union (FSU) countries, Azerbaijan uses its energy rather inefficiently. Flaring off natural gas, using heavy oil for electricity generation, and general inefficiency of energy-using equipment are among the principal factors. If air pollution has dropped significantly in Azerbaijan since 1991, industrial contraction (rather than improved plant-level efficiency or effective enforcement of environmental regulations) is mainly responsible. Needed is encouragement of clean production practices and new regulatory approaches.

Power Supply and Deforestation. The disruption or outright disappearance of power supply to many towns and settlements in the post-1991 period has been an indirect cause of deforestation and forest degradation in Azerbaijan, as the affected communities turned to fuelwood. There is scope for renewable energy development beyond the four hydroelectric power stations now operating. More than in high-income countries, the structure of fuel taxation in Azerbaijan has far-reaching environmental repercussions.

Mobile Source Pollution. A significant shift in the pattern of air pollution has occurred in Baku, where vehicles now outstrip industry as the principal source of air discharges. The problem is exacerbated by traffic congestion and safety concerns.

Water and Wastewater Management. Azerbaijan is disproportionately dependent on polluted transboundary rivers (Aras, Kura, and Samur) for its domestic needs. The eastern part of the Kura-Aras plain is an extensively irrigated water deficit area. The disruption of irrigation system maintenance has worsened the build-up of salinity that now affects more than one third of all irrigated lands. Agriculture continues to be the main user of water but continues to use it inefficiently.

The overall balance of wastewater discharges in Azerbaijan has changed significantly since independence. Reduction of industrial wastewater discharges accompanying the contraction of industrial output has been offset by lowered treatment of municipal discharges. Only 16 out of the most

important 75 towns have wastewater treatment facilities and most of the 16 work only partially.

Piped drinking water is provided to 50–95% of the urban population, depending on the urban center. Once water quality is taken into account, the effective provision of safe drinking water falls below 50%. Large imbalance in water use (and wastewater discharges) exists between the main cities (Baku in particular) and the rest of the country, and systems losses are high across the board. With surface water in poor shape, greater use of the country's groundwater resources is seen as a necessity.

Land Degradation. Very low agricultural productivity in Azerbaijan and the loss of Nagorno-Karabakh adds to a sense of land shortage in Azerbaijan. The dismantling of collective farming has had far-reaching repercussions for cropping patterns, as have the use of pasturelands and the pattern of maintenance of previously common infrastructure (irrigation, power, supply, and others). Overall, these changes have safeguarded livelihoods but worsened land use (in particular the vulnerability to soil erosion), especially in hilly areas where perennial crops have been replaced by annual crops. At the same time, Azerbaijan's land reform is more advanced than in any other FSU country. Former pasture- and forestlands have not been touched by the reform, however, and some of the environmental problems related to land use are found there. Changes in the approach to managing these assets in the new circumstance are needed. Forests have been under increased pressure, caused by the disruption of the supply of electricity, coal, and gas to smaller settlements and by poorly controlled grazing.

Vulnerability to Natural Risks and Emergency Preparedness. The Caucasus features young geology and wild fluctuations of rainfall that, when combined, result in a high incidence of flash floods and mudslides. The country's location in a seismically active area poses special risks of oil spills and contamination, as well as losses of life and infrastructure in densely populated areas such as Baku. By contrast, the rise of the Caspian Sea is gradual and calls for a nonemergency response.

Vulnerability to natural risks is superimposed in Azerbaijan on an underlying vulnerability unrelated to natural occurrences, where multiple factors such as human dislocation in the wake of armed conflict, deterioration of health care, or accumulation of hazardous waste play a role. For now, Azerbaijan has retained much of the Soviet-era pattern of emergency and disaster response, structured around civil defense and responding to emergencies as and when they occur, rather than taking a more precautionary and integrated view of disaster management. Reorientation

of that approach is underway, but this is occurring more slowly than initially expected. The international community continues to fill substantial gaps in the Government's ability to respond on time and adequately.

Threats to Protected Areas and Ecosystems. The Caucasus is considered one of the world's 25 environmental hotspots (one of the 25 biologically richest and the most endangered terrestrial ecosystems in the world). That places Azerbaijan in a position of global responsibility that exists side by side with its own interest in preserving its wealth. A system of national reserves and protected areas exists, occupying a total of almost 5% of the country's total, operating with meager budgets, however. Among others, complex ecological processes link internal conditions (e.g., the state of rivers) with the ichtiofauna (fish) of the Caspian Sea, now under considerable threat. Azerbaijan has an uncommonly high number of recreational facilities, many of them in disrepair.

Regional Environmental Concerns (the Caspian Sea). Environmental problems linked to the Caspian Sea include (i) overexploitation of biota, especially commercial fish species, most notably sturgeon; (ii) damage to coastal habitats, infrastructure, and amenities, in part related to fluctuating water level; (iii) degradation of coastal landscapes; (iv) threats to biodiversity; (v) overall decline in environmental quality, linked first and foremost to municipal and industrial discharges; (vi) threats to human health; and (vii) contamination from oil and gas operations. All these feature the work of the Caspian Environmental Program and combine impacts that are mainly national with those that are of a truly transboundary nature.

Regional Environmental Concerns (Transboundary Rivers). The principal rivers in Azerbaijan originate outside the country, and their management has become a complex mix of imported problems and domestic weaknesses in protecting water quality. The level of discharges of heavy metals and other pollutants into the Kura and Aras in Georgia and Armenia is a subject given much prominence in Azerbaijan and rightly considered a topic of major geopolitical and public health significance.

Policy and Institutional Readiness

Legislation. As in other FSU countries, much of the Soviet-era environment-related legislation has been replaced or modified by now. The 1999 Law on Environmental Protection is the centerpiece of the new legal

structure. Other acts complement it in important ways. Together, the new laws invoke the polluter-pays principle, open the door for the use of economic instruments, partially bridge the gap between existing and international environmental standards, and enhance the role of public awareness, among other new elements. At the same time, the new legal edifice is neither complete nor internally consistent. The Law on Environmental Protection and the Law on Environmental Safety exist side by side without any obvious advantage of such a situation. Absence of suitable legislation limits responses to some of the key environmental concerns, such as hazardous waste management or coastal zone activities. The parallel approach to dealing with environmental assessments that combine the Soviet-era environmental expertise framework and the more recent environmental impact assessment-based one creates unnecessary complexity and adds to administrative cost. There is a disproportion between environmental obligations placed by laws on certain entities and these entities' ability to respond (e.g., the Land Law and municipalities).

If practice is several steps behind the legislative intent, incompleteness or weak formulation of implementation rules and regulations is among the causes. Duplication, inconsistencies across regulations, and lack of clarity at times create too much room for executive bodies to exercise their discretion. Many standards and parameters developed during the Soviet era have become dated and were overtaken by technological and other developments. Though simple in principle, the conversion of Soviet-era standards to internationally prevailing benchmarks (such as World Health Organization standards) is a time-consuming and relatively costly undertaking.

Instead of acquiescing to the popular view that everything would be fine if only the laws were formulated and implemented the right way, Azerbaijan's development partners need to recognize the continuous nature of legislative and regulatory development and pay more attention to detailed regulatory provisions.

Institutions. The Ministry of Ecology and Natural Resources (MENR) was established in 2001 to replace the former State Committee for the Environment, with an expanded mandate that includes geology, fisheries, and forests. MENR currently employs a staff of about 9,500 at the central and local levels. The major, even if indirect, role played in environment management by government bodies other than MENR is recognized. The most important among these are the Ministry of Economic Development, Ministry of Agriculture (with its Committee for Land Improvement and Irrigation), Ministry of Fuel and Energy, Ministry of Health, Ministry of Education, Ministry of Interior, Ministry of Transport, and Ministry of Justice.

The State Committee for Land and Mapping and State Committee for Architecture and Construction are also important. Each of these agencies has a unit (a department, division, center, or section) charged with the environmental dimension of their activities, attesting to a deliberate attempt by the Government to undertake environmental mainstreaming. Important also is the role of municipalities that are in charge of water supply and sanitation and land use decisions within their jurisdictions. The other elements of the institutional structure are the Parliamentary Standing Commission on Natural Resources, Energy and Environment, the academic community centered on the Azerbaijan Academy of Sciences, and about 80 environmental nongovernment organizations.

Among the institutional challenges are (i) insufficient devolution of environmental responsibilities to the local elected governments; (ii) overlapping responsibilities in water management (MENR, Ministry of Agriculture, Ministry of Health, municipalities, and State Committee for Architecture and Construction); land management (MENR, Ministry of Agriculture, and State Committee for Land and Mapping); and environmental monitoring; (iii) complexity of environmental assessment and other environmental safeguard procedures and associated institutional arrangements; and (iv) inadequate facilities for environmental monitoring at the local level.

Policy. By now, the Government's approach to environmental problems has a solid strategic anchor. The NEAP of 1997 includes elements of analysis and hints of needed policy reform and prioritizes environmental problems into 32 objectives. Although the NEAP's objectives have not been reached, most of its directions remain valid, and an updating of the NEAP is being considered. The 2001 National Environmental Health Plan offers an approach to environmental management based on health considerations, rather than mainly ecological ones. SPPRED 2003–2005, developed by the Ministry of Economic Development, acknowledges the many links between poverty and environmental conditions. It echoes the priorities of the NEAP and adds to them. The State Program on Environmentally Sustainable Socio-Economic Development 2003–2010, approved in 2003, addresses the principal dimensions of sustainable development, contains a time-bound plan of action, and gives MENR the primary role in guiding the implementation but envisages involvement of mainstream economic agencies in that process. The State Program for Restoration and Expansion of Forests 2003 proposes activities in 10 subsectors. Added to this body of strategic thinking must be plans and approaches developed under global or subregional environmental conventions or agreements. The most important

here are the National Caspian Action Plan and National Biodiversity Conservation Strategy.

Despite the flurry of strategic output, much remains to be done. First, formulation of policy in general, let alone in operational detail, has been slow in several key crosscutting areas where complex institutional mandates make the task particularly difficult. In the case of land degradation, serious attempts at articulating the policy started only in the last 2 years, in part coinciding with the national response under the United Nations Convention to Combat Land Desertification. The economic basis of these emerging documents is uncertain. In the case of hazardous waste management, despite a proliferation of efforts to address problems of multiple contamination of the Absheron Peninsula, no overall strategy of dealing with it exists that would suggest optimum sequencing of activities, corresponding zoning, the role of financial instruments in assisting the process, environmental liability rules, and others. The extent to which a nationwide hazardous waste strategy, now under preparation by MENR, will facilitate this task remains to be seen. In general, a number of activities contained in the State Program on Environmentally Sustainable Socio-Economic Development have not been sufficiently developed, let alone subjected to cost-effectiveness or benefit-cost analyses, as done, in part, in the NEAP. A second NEAP is probably required. The task is made more difficult by the paucity of fresh data in some instances.

Instances of a mismatch between policies' focus and the scale or nature of the problem are also found. The shift in the origins of air pollution from stationary to mobile sources in Baku has not been translated into increased policy attention to mobile sources, and the approach to water resource management continues to be sector-based, rather than river basin-based, and so on.

Pricing of resources and environmental services continues to be an area where much additional work is needed, despite important government decisions in 2002 targeting financial discipline in the energy and water sectors. Progress has been faster in the energy sector than in the water supply and sanitation sector. No attempt has been made to assess the effectiveness of the existing pollution charge system or take a comprehensive look at the question of environmental financing.

International Involvement and Development Partner Support. Azerbaijan has responded to virtually all principal international and subregional environmental conventions. Performance under these conventions has been uneven, with some delays in biodiversity, climate change, and land

degradation, but the record has been good under the Caspian Environmental Program.

A significant level of development partner funding directed at environmental priorities has materialized since 1995, once the worst of the refugee crisis and emergency assistance had passed. Not unlike in Central Asia, there may be a disproportion between the level of support for subregional and transboundary, as opposed to national, environmental activities. The coordination of development partner environmental assistance is totally inadequate, although working relationships are emerging among development partners in some key areas, such as water and sanitation. Development partner leadership in key environment-related spheres of activity (water supply and sanitation, land degradation, energy inefficiency, Baku air quality management, hazardous waste, and decontamination) is badly needed to complement the Government's efforts to achieve a greater degree of institutional coherence. Preparation of SPPRED II, structured around thematic groups, may offer an opportunity to act. The role of the private sector organizations as environmental development partners is insufficiently appreciated, and some potential lessons were missed.

Recommended Strategy

Building Blocks. The amount of time the Asian Development Bank (ADB) has been involved in Azerbaijan is too short to offer a firm basis for structuring potential assistance. In its absence, the environmental strategy relies on four main elements: (i) ADB's interim operational strategy for Azerbaijan, formulated in 2000 and subsequently updated in the form of country strategy and program updates; (ii) ADB's *Environmental Policy* of 2002; (iii) the Government's prioritization, culminating in SPPRED, State Program for Environmentally Sustainable Economic Development, and State Program for Socio-Economic Development of Regions 2004–2008; and (iv) consultations with the Government and others undertaken in support of this country environmental analysis.

ADB's environmental strategy should not attempt to address all environmental problems in Azerbaijan, perhaps not even the majority of them. ADB should understand the complexity but act selectively.

ADB's program needs to be linked to the poverty reduction strategy of the Government as articulated in SPPRED. In sector and environmental terms, SPPRED assigns priority to water and sanitation, broadly conceived to include waste management. SPPRED's concern about future sources of

livelihood and income growth further elevates the importance of activities targeting land degradation. SPPRED also assumes special importance because its repercussions for forest degradation and livelihood opportunities in the countryside improved availability of energy in small towns and rural areas (understood to include improved power or gas distribution and new sources of renewable energy for decentralized provision).

In addition to sector priorities for (i) water and sanitation, (ii) activities to counter land degradation, and (iii) energy provision for secondary towns and villages, sufficient grounds exist to include air pollution and traffic congestion in Baku as a fourth sector priority. The four sector priorities amount to a measure of deconcentration of assistance away from the Baku-Sumgayit area. This is clearly the case in land degradation and energy but less so in water and sanitation. There are good reasons, related mainly to waste management but also to transport management, for ADB not to abandon Baku and Absheron. This would also be in line with SPPRED, which envisages priority in social infrastructure (especially waste management) to be shared between Baku-Sumgayit and selected second-tier towns.

In terms of thematic priorities, existing emphasis on private sector and environment protection (among a total of four thematic priorities) should remain. The priority given to the former reflects the record of, and scope for, private sector cofinancing of environment-related activities in Azerbaijan. The thematic preference for environment protection means no more (and no less) than giving prominence to environmental protection, regardless of the final choice of the sector mix by the new country strategy and program. This preference will typically be translated into an environmentally proactive design of projects and programs. No separate focus on internally displaced persons is recommended. Related issues instead should be handled as part of regular government programs.

Programming Possibilities. The broad sector and thematic prioritization has been translated into specific programming recommendations (Table 1). These have been newly formulated, rather than being bound by the tentative prioritization of the latest (2004–2007) country strategy and program update.

Table 1: Programming Recommendations

Sector Priority	Component and Policy Emphasis	Specific Proposals
1. Water and Sanitation	<p>A. Water and Wastewater Large unfinished institutional reform agenda should remain at the forefront of Asian Development Bank involvement in the sector. Local specifics (nonfunctioning overcapacity) may demand pragmatic approaches to cost recovery. Emphasis on secondary towns.</p> <p>B. Solid and Hazardous Waste Management A coordinated institutional response should be the starting point. Fresh prioritization is needed, as are adequate attention to technical and legal complexities and active search for incentives to involve the private sector.</p>	<p><i>Lending Products</i> Water Supply and Sanitation</p> <p><i>Nonlending Products</i> Capacity Building for Regulatory Reform in Water Supply and Sanitation Sector (including Low-Cost Approaches to Improving Access to Water in Azerbaijan's Cities)</p> <p><i>Lending Products</i> Rehabilitation of Contaminated Sites in Greater Baku and Integrated Urban Development or</p> <p><i>Nonlending Products</i> New Approaches to Rehabilitation of Contaminated Sites in Greater Baku</p>
2. Land Degradation	<p>A. Irrigation, Drainage and Land Reclamation Assessment of the World Bank's and Islamic Development Bank's experience under the Samur-Absheron project will precede project formulation. The project has irrigation and water supply (for the Absheron Peninsula) dimensions. Opportunities for making it a tool for environmental improvement as well as one for linkage to improved management of water in Baku will be emphasized.</p>	<p><i>Lending Products</i> Samur-Absheron Water Supply and Irrigation (loan) and</p> <p><i>Nonlending Products</i> Improved Management of Small Rivers in Azerbaijan and Water Resource Assessment</p>

continued on next page

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	<p>B. Reforestation and Pastureland Management This will be anchored in the Government's 2004 review of pastureland, State Program for Restoration and Expansion of Forests 2003, and National Action Plan to Combat Desertification. Public awareness and sustainability incentives will occupy a prominent place.</p>	<p><i>Lending Products with Global Environmental Facility Cofinancing or Poverty and Environment Program Grants</i> Forest Rehabilitation to Reduce Poverty and Protect Global Values and</p> <p><i>Nonlending Products</i> Preparation of a National Program for Soil Conservation</p>
<p>3. Decentralized Energy</p>	<p>Decentralized Energy Provision An unfinished policy agenda centered on cost recovery will be a part of the assistance package.</p>	<p><i>Lending Products</i> Decentralized Energy Provision (including Renewable Energy) or</p> <p><i>Nonlending Products</i> Capacity Building of Ministry of Fuel and Energy and Exploiting the Potential for Renewable Energy Sources in Azerbaijan</p>
<p>4. Transport</p>	<p>Mobile Source Pollution, Congestion, and Safety The loan will draw on the Asian Development Bank's substantial Asian experience in this domain, including its policy aspects.</p>	<p><i>Lending Products</i> Baku Air Quality Improvement Sector Development Program and</p> <p><i>Nonlending Products</i> Applying Asian Experience to Reducing Vehicular Emissions</p>

