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ENVIRONMENT DIRECTORATE
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TASK FORCE FOR THE IMPLEMENTATION OF THE ENVIRONMENTAL ACTION PROGRAMME FOR CENTRAL AND EASTERN EUROPE, CAUCASUS AND CENTRAL ASIA

TAKING STOCK OF ENVIRONMENTAL MANAGEMENT CHALLENGES IN EASTERN EUROPE, CAUCASUS AND CENTRAL ASIA

Conference of EECCA Environment Ministers and their Partners

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This document provides an initial assessment of environmental conditions and management challenges at the outset of the implementation of the EECCA Environment Strategy. The document would be used as a baseline against which to measure progress in achieving the objectives of the Strategy. It provides background information for Agenda Item 3.

ACTION REQUIRED: For information.

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TAKING STOCK OF ENVIRONMENTAL MANAGEMENT CHALLENGES IN EASTERN EUROPE, CAUCASUS AND CENTRAL ASIA

EXECUTIVE SUMMARY

1. In May of 2003, the Ministers of Environment of the UNECE region adopted the Environment Strategy for countries of Eastern Europe, Caucasus and Central Asia (EECCA), and agreed to assess progress in achieving the objectives of the EECCA Environment Strategy when they meet again in 2007. The aim of this report is to provide an initial assessment of the current state of affairs in relation to the seven objectives of the EECCA Environment Strategy. The intention is not to compare countries or to assess performance, but rather to take a stock so progress for each country and the region as a whole can be assessed in 2007.

2. The EECCA region is far from homogeneous. Countries differ in natural capital endowments, degree of urbanization, economic structure and response capacity. In the more urbanized countries of western EECCA, pollution issues tend to be more important, while in the poorer Central Asian countries natural resources management linked to the productivity of agriculture tends to be more prominent. Each country needs to develop its own targets for the different objectives of the Strategy.

3. There are also important differentials in income per capita within the EECCA region. In the Russian Federation it is USD 2 130, in Tajikistan USD 180 – the average for high-income countries is USD 26 053. Seven of the 12 EECCA countries are IDA[1] countries, and their low levels of income severely constrain their ability to pay for environmental improvement. These differences need to be borne in mind when reading this report.

4. At the same time, EECCA countries share some common challenges, including: persistence of inefficient production structures, relatively extensive but deteriorated and expensive to operate environmental infrastructure, unenforceable regulations, enforcement systems focused on punitive actions, a culture of top-down environmental management, limited access to international experience on environmental management outside the region, and the low profile of environmental issues on the political agenda. The transition brought a reduction of some environmental pressures, but also a budgetary crisis that affected the capacity to maintain environmental infrastructure and induced environment agencies to focus on revenue-raising rather than in changing behaviour. Environmental authorities still focus on enforcing often flawed laws and regulations rather than on achieving well-defined targets for protecting human health and the environment.

5. In the near future, environmental conditions and management in EECCA countries will be influenced in different degrees by the re-bounding of economic growth, opportunities for cooperation with "new neighbours" for some countries following EU enlargement, and the emergence of a more results-

1 . International Development Association.

oriented international development agenda. As the transition to market economy and democracy advances, new opportunities for making successful use of policy instruments – including economic instruments and public participation – are emerging. These trends also call for the development of new relationships with enterprises in order to improve the environmental performance of the private sector.

6. Although constructing a good set of headline indicators is partially hampered by the limited data available, existing sources provide reasonable background information to provide a snapshot of the situation of EECCA countries in the key areas on which the Strategy focuses. To be able to adequately assess progress in achieving the objectives of the Strategy, however, more work needs to be done on ensuring access to national databases tracking environmental conditions and on developing indicators of environmental management.

7. The overall picture that this study portrays is grim: the challenges are large, the means are limited and many approaches that are being followed are not having an effect. However, this should not detract from the valiant efforts that the EECCA countries have made, and are making, to improve environmental conditions and policies. The high-level of technical skills and the commitment of many professionals and citizens provides a basis for optimism. The key task is to harness these skills and energies more effectively in order to resolve pressing environmental problems.

Taking Stock Across Objectives

8. **Laws, Policies and Institutions.** Legislation is comprehensive but inconsistent and unenforceable. Policies are neither efficient nor effective in stimulating significant environmental improvements – a broad range of environmental management instruments is being used, but the current policy packages are not streamlined to achieve specific targets. Environmental Impact Assessment is still not close to international best practice; permitting, where it exists, is not integrated; use of economic instruments has been guided by revenue-rising rather than changing behaviour; environmental inspectorates focus on the quantity of enforcement actions rather than achieving environmental targets. Weak, and weakening, institutions are not able, and do not have incentives or the means, to achieve environmental objectives. They suffer from weak authority, out-dated management and decision-making, scarcity of resources, high turnover of professionals and frequent restructuring.

9. **Environmental Health**. A significant burden of environmental disease persists– unaffordable water infrastructure systems are crumbling, urban air pollution is on the increase due to rapid motorization, and waste and chemicals management is largely deficient.

- *Urban Air Pollution.* Fine particulate matter and lead are the main pollutants. Transport is responsible for up to 70% of emissions. Fine particulate matter is not being monitored. Leaded gasoline has already been phased out in six countries.
- *Water Supply and Sanitation*. Outbreaks of water-related diseases are increasing. In many countries over one-third of the population is drinking water that does not meet hygiene standards and less than 30% of the population in rural areas is served by networks. Prices are increasing but often cover less than 60% of operation and maintenance costs. Governance arrangements remain complex, inconsistent and frequently changing.
- *Waste and Chemicals*. Plans and programmes for solid waste management have been formulated, but the regulatory framework is not well developed, municipalities cannot afford investments, and there are obstacles to inter-municipal cooperation. In some countries, there is a legacy of soil contaminated by heavy metals and stockpiles of pesticides and hazardous toxic waste.

10. **Natural Resources Management**. Some countries are laying down the building blocks of integrated water resources management. Capacity for biodiversity management has been greatly reduced.

- *Integrated Water Resources Management*. Water quality, including salinization, is a real concern. There are mixed trends on water abstraction, but it remains at very high levels. IWRM is still in its infancy, with plans developed in only two countries. Wastewater treatment is relatively high – 60% of wastewater is collected, of which 80% is treated. The regional seas suffer from reduced in-flows; pollution from agriculture, urban and oil industry sources; unsustainable fishing; and the presence of alien species. Co-operation remains difficult in the Aral and Caspian seas.
- *Biodiversity Management.* EECCA is home to ecosystems of global importance, including the Caucasus, the Black Sea wetlands complex and the Central Asian mountains. Biodiversity conservation efforts are being hampered in protected areas by an unfinished transition from enforcement to stakeholder involvement approach, and outside them by the low integration of biodiversity concerns in natural resources management. Financial support has declined and collapsed in many cases.

11. **Environmental Policy Integration.** Environmental ministries have been among the first to initiate sectoral integration, but it is still at an early stage and addressed in a fragmented way. The economic crisis reduced the pressures of key sectors (energy, transport, agriculture) on the environment, but policies have not been reformed to integrate environmental considerations. Limited organisational and administrative resources, weak traditions of inter-ministerial coordination, and the relative weakness of environment ministries limit the scope for integration.

- *Energy and Transport*. Persistent high energy use per unit of GDP is linked to slow policy reforms. Energy and fuel prices remain low. Energy efficiency strategies have been formulated, but with over-reliance on foreign finance. Leaded gasoline is being phased out. Age and technical restrictions on car imports have been enacted.
- *Agriculture and Forestry*. Agri-environmental policy development is at an early stage. Some positive developments are associated with international projects. Forests are being affected, alongside non-forestry pressures, by over-cutting, illegal logging and fires related to logging activities.

12. **Mobilization and Allocation of Financial Resources.** A financing gap for achieving environmental objectives coexists with a significant effort to mobilise financial resources on the part of some EECCA countries – largely focused in the water sector. Existing public resources could achieve better results – public funds are spent without clear programmatic frameworks and spread over too many programs that fail to be implemented, including those which could be implemented without government funding. The environmental policy framework does not provide sufficient incentives for private investments in environmental protection, even though enterprises in some EECCA countries could do more in this respect. Donor support has increased, but remains below that allocated to other regions. It is not always efficient, coordinated or responsive to real needs.

13. **Information Management, Education and Public Participation.**

- *Information management*. Environmental information systems do not correspond with policy and operational needs. Monitoring is not demand driven, and capacity has suffered a drastic decline in the Caucasus and Central Asia. Weak institutional co-ordination results in duplication, incompatible data collection and fee-based data exchange. Half of the countries publish regularly State of the Environment reports, but of mixed quality and with limited use of policy-linked indicators.
- *Public participation in decision-making*. There is a low level of public awareness, partly related to the economic situation. The Aarhus Convention has been ratified in most EECCA countries and several countries are developing mechanisms for public participation, but many governments are still reluctant to allow for public participation.

- *Environmental education* and, more broadly, education for sustainable development have gained greater visibility, but further efforts are needed to integrate them into curricula at all levels. The legal and normative basis has been established, but conceptual and resource shortcomings remain.

14. **Transboundary Issues.** International conventions are routinely signed, but implementation continues to lag. Progress in transboundary water resources co-operation has been notable, although competition between upstream and downstream countries has not been solved yet in many cases.

PART I. INTRODUCTION AND CONTEXT

1.1 The EECCA Environment Strategy

1. In May of 2003, the Ministers of Environment of the UNECE region met in Kiev to discuss progress and next steps of the "Environment for Europe" process. One of the main outcomes of the Kiev Conference was the adoption of the Environment Strategy for countries of Eastern Europe, Caucasus and Central Asia (EECCA)[2].

2. The overall objective of the Strategy is to contribute to improving environmental conditions and to implementing WSSD[3] Plan of Implementation in Eastern Europe, Caucasus, and Central Asia. The Strategy provides a strategic framework for strengthening efforts of EECCA countries in environmental protection and facilitating partnership and cooperation between EECCA countries and other countries of the UNECE region, including all stakeholders.

3. The vision put forward by the Strategy is one of capable institutions that, in collaboration with partners, address priority problems of environmental health and natural resources management by promoting integration in key sectors, investing in environmental protection, and involving the public in environmental management, and where transboundary issues are dealt with in the framework of multilateral or bilateral environmental agreements.

1.2 Objectives and Limitations of the Report

4. The aim of this report is to provide an initial assessment of the current state of affairs in relation to the seven objectives of the EECCA Environment Strategy. The intention is that, in so doing, the report will provide succinct but helpful background information to allow the different Strategy partners to agree on a baseline – an indispensable first step to be able to assess progress in implementation of the Strategy. It is expected that this report will be followed by a Progress Assessment report in 2007, in time for the Belgrade "Environment for Europe" Ministerial. The Strategy itself does not contain targets, but progress can be measured by comparison with the baseline and in relation to internationally-agreed targets.

5. The approach of this report is not to generate new data – as extensive data were generated in the run-up to Kiev – but rather to mobilize existing information. The report presents information from widely circulated reports, such as the European Environment Agency's (EEA) Third Assessment, but also information coming from reports with a more limited circulation, buried in databases, or that has never been written down but is nevertheless known to the experts consulted. The value added of this report is also expected to reside in its scope and brevity. This is the first report dealing with the seven objectives of the EECCA Strategy in a comprehensive manner. Brevity means that, while attempting to be an indicator-based report, only a limited set of headline indicators has been put forward.

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2 The 12 EECCA countries are: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, the Kyrgyz Republic, Moldova, the Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.

3 World Summit on Sustainable Development held in Johannesburg in 2002.

6. The structure of this report follows essentially that of the EECCA Environment Strategy itself. Part I introduces the report and provides the context on which environmental management in EECCA countries takes place. Part II of the report is divided in seven different sections, as to provide a summarized analysis of the state of the region as pertains to the seven objectives of the Strategy. A reduced number of headline indicators is presented to illustrate numerically the state of the different areas of work under each Strategy objective. A brief reference is made to the organizations designated by the Ministers as facilitators of the implementation of the different objectives, as well as to the main sources consulted.

7. The report has several limitations. Treatment of the different sections is uneven – all the topics are not equally well covered in the sources consulted. Availability of data in EECCA countries to construct a good set of headline indicators is limited – this is further detailed in the different sections and in the section on information management. In some cases, the indicators available are very aggregate; more specific baselines for each objective would be useful to demonstrate progress in a short-time span of 3-5 years.

8. A note of caution on analysing the information provided by the indicators is warranted. The intention is not to compare countries, but rather to establish a baseline so progress for each country and the region as a whole can be assessed in 2007. The EECCA region is from homogeneous and each country needs to develop its own targets for the different areas of work covered under the Strategy. The indicators are presented with the latest information available, rather than with time series, because the focus of this report is to establish a baseline rather than to analyze trends.

9. The analysis presented in this report is not a judgment on performance by EECCA countries. Moreover, the findings must be seen in the context of environmental management across the world. OECD countries, while enjoying stronger environmental institutions and more financial resources, also face serious challenges – for example in reducing greenhouse gas emissions or in decoupling environmental pressures from economic growth, as pointed out at the recent Meeting of OECD Environment Ministers. To help put the findings of this report in context, available comparators/benchmarks from other regions and country groupings are presented alongside the EECCA indicators.

10. The report has been prepared by the Secretariat of the EAP Task Force at OECD. It does not, however, necessarily represent the views of the OECD or its members. Several organizations have produced specific inputs or made their experts available for consultation – those include EEA, the United Nations Economic Commission for Europe (UNECE), the United Nations Environment Programme (UNEP), the World Health Organization (WHO), the World Bank, the Russian Regional Environment Centre (REC-Russia), the Central Asian Regional Environment Centre (CAREC) and ECO-Forum. The participants at the Workshop on Environmental Priorities in EECCA, held in June 2004 in Almaty, and at the Second Preparatory Meeting for the Tbilisi Ministerial Conference, held in September 2004 in Chisinau provided also useful comments to an early outline and an advance draft.

1.3 Environment and Environmental Management in EECCA: the Context

11. This section presents the broader context on which the EECCA countries find themselves at the outset of implementation of the Strategy. The current status of environmental conditions and management in EECCA cannot be separated from the recent socio-economic experiences of those countries. At the same time, there are some trends –both at the national and international levels– that will likely have a strong influence on environmental conditions and management in the near future. The section starts highlighting the diversity of the region, proceeds to examine the impacts of the Soviet legacy and the transition period, points out current national trends, and closes with a reference to the international context.

1.3.1 EECCA's Diversity

12. It is important to recognize that the region is far from homogeneous. EECCA countries differ in their natural capital endowments, degree of urbanization, and economic structure and associated pressures on the environment. In the more urbanized countries of western EECCA, pollution issues tend to be more important, while in generally the poorer Central Asian countries natural resources management linked to the productivity of agriculture tend to be more prominent. The Caucasus is richer in biodiversity than other sub-regions. Some Central Asian republics have plenty of water, while others have more sub-soil resources. But they also differ in their response capacity – Kazakhstan and Belarus have better developed environmental institutions and policies than Tajikistan and Turkmenistan. Table 1 presents some basic indicators to illustrate this diversity.

13. In a broader perspective, the diversity of EECCA countries is also given by their different stages in the transition to a market economy and democracy. These processes have a number of consequences for environmental management. For example, as the economic transition consolidates in EECCA countries, pricing of energy, water and other resources will likely have beneficial effects, and opportunities for introducing effective market-based (economic) instruments will emerge.

14. Although EECCA countries are at different stages in the process of transition to democracies based in the rule of law, the average level is low and the process is stalled or reversing in some countries. These current developments make more difficult promoting public participation in environmental decision-making, ensuring compliance with environmental regulations, or introducing property-rights based environmental management instruments – all necessary measures to put EECCA countries on a more sustainable path.

Table 1. EECCA at a Glance: Selected Indicators and World Income-Group Comparators

	Population (millions)	**Urban population** (percentage)	**GDP** (USD billions)	**GDP per capita** (USD)	**Land area** (1 000 km2)	**Under-five motality rate** (per 1 000 live births)	**Passenger cars** (per 1 000 people)
Armenia	3	67	2	790	28	35	n.a.
Azerbaijan	8	52	6	710	87	96	42
Belarus	10	70	14	1 360	207	20	145
Georgia	5	57	3	650	69	29	55
Kazakhstan	15	56	25	1 520	2700	99	67
Kyrgyz Rep.	5	34	2	290	192	61	38
Moldova	4	42	2	460	33	32	64
Russian Fed.	144	73	347	2 130	16 889	21	132
Tajikistan	6	28	1	180	141	116	n.a.
Turkmenistan	5	45	8	1090	470	86	n.a.
Ukraine	49	68	41	780	579	20	104
Uzbekistan	25	37	8	310	414	65	n.a.
Low income countries	2 494	31	1 124	430	32 424	121	6
Middle income countries	2 738	53	5 139	1 850	66 725	37	40
High income countries	966	78	26 053	26 490	30 996	7	436

Notes: 2002 data; n.a. = not available. Income-groups refer to the World Bank classification.
Source: World Bank, *World Development Indicators 2004*.

1.3.2 The Legacy from the Soviet System and the Transition

15. Current conditions of environment and environmental management in EECCA are closely linked to the Soviet legacy. Several features of the Soviet system that are still present include:

- excessive pressures on natural resources and the environment from an inefficient productive structure;
- extensive but expensive to operate environmental infrastructure in some sectors;
- a zero-risk approach to environmental management characterized by unenforceable standards and monitoring and that fails to be policy-oriented and to balance risks, costs and benefits;
- a culture of top-down environmental management, with risk-aversion by mid-level officials and little say for communities and the general public;
- limited access to international experience in environmental management outside the region; and
- a certain mimetism of Russian practice – that although in some cases represents an efficient approach to overcome institutional weaknesses it is not always best practice or adequate to particular country conditions.

16. The transition has had a large impact on environmental conditions and environmental management. By drastically reducing the level of economic activity, the crisis of the 1990s reduced some environmental pressures. The reduction in industrial output reduced emissions of air and water pollutants by industry. Agricultural producers no longer could afford using agrochemicals to the same extent. Forests also experienced reduced pressures from industrial logging.

17. At the same time several environmental problems have intensified. First, the budgetary crisis of the central governments resulted in the inability to maintain environmental infrastructure under the prevalent management model – water-related infrastructure is a major case in point. Second, the emergence of poverty has raised the importance, although not always the profile, of poverty-environment issues – such as soil productivity loss and indoor air pollution from reversion to fuelwood. Third, the break up of the Soviet Union and the need to work out new arrangements for shared environmental resources – most prominently water in Central Asia – has brought in a security dimension to environmental management.

18. The institutions in charge of environmental management have generally not been able to cope with all those changes. The economic crisis brought a reduction in the political standing of environmental institutions, and as public budgets shrunk resources made available to the newly created environmental ministries were reduced. As a response, starved ministries tended to focus on revenue-raising rather than changing behaviour, and maintained unattainable standards. This has resulted in no environmental improvements, a fundamental alteration, in practice, of the role of public environmental officials, and the continuation of a culture of non-compliance.

19. In general, the environmental community has not been able to successfully bring environmental priorities to the national development agenda – as suggested by the low rating of environmental issues in Poverty Reduction Strategy Papers (PRSPs) prepared in the region. Many links of environmental quality to quality of life (through income-generating opportunities and health outcomes) and economic growth (via key resources such as water and soils) remain largely unrecognised.

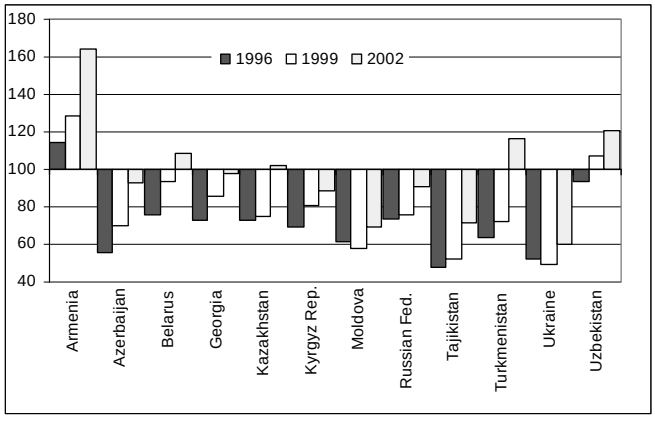
1.3.3 Current Trends

20. As the economy starts to pick up, new challenges emerge. Resumed economic growth is intensifying environmental pressures. During the transition, the EECCA countries by large did not reduce the resource and pollution-intensity of their economies. At the same time the capacity of the institutions to respond seems to keep weakening. For instance, increases in the salary gap between the private and the public sector has resulted in some of the brightest officials leaving the ministries, and so reducing their capacity, and in conditions favourable to corruption.

21. The progressive introduction of market reforms and hard budget constraints should stimulate efficient behaviour of enterprises, utilities and public entities. This in turn should favour the adoption of win-win opportunities (such as cleaner production) and foster the scope for environmental policy instruments to provide incentives.

22. In theory, economic growth should allow for additional resources to strengthen the environmental agencies. An example is Kazakhstan, where the budget of the ministry is growing at good pace. But the low level of public awareness across the region far from guarantees the allocation of additional resources for environmental management. Indeed, most EECCA countries are at income levels where the environment, per se, is rarely a top priority for the average citizen. Even in the 'good performers', it is uncertain that environmental considerations will be given the weight that they deserve when confronting economic development projects – in the case of Kazakhstan oil and gas development.

Figure 1. Trends in gross domestic product
Constant prices, index 1992 = 100



Source: World Bank, World Development Indicators 2004.

1.3.4 EECCA in the International Context

23. The challenge of meeting the MDGs, the "global public good" nature of certain environmental issues and the security dimension of environmental management offer a rationale for enhanced cross-regional co-operation. Recent EU enlargement will offer some pull effect on environmental improvements in EECCA, but this effect will not match the one that the accession process had on the new EU countries – that in turn will still need a long period to comply with EU Directives. Some EECCA countries are desperately poor and require assistance in order to achieve the Millennium Development Goals (MDGs), including the environmentally-related MDG.

24. The EECCA region is a relevant player in terms of managing the global commons. High energy intensity of EECCA economies result in the region being a significant contributor to climate change – but this offers ample opportunities for joint action to reduce emissions. Several EECCA countries are

particularly rich in biodiversity – while the benefits of conserving biodiversity in those countries are enjoyed by all nations, EECCA countries can barely afford to invest in biodiversity conservation.

25. In addition, environmental management may exacerbate security problems that could have repercussions for countries beyond the region. Although environmental degradation and resource scarcity do not directly lead to conflict, they can contribute to accelerating already existing political, social crises and instability. At the same time, environmental cooperation can be a tool for preventing conflict, building mutual confidence, and promoting good neighbourly relations, including patterns of co-operation and collaboration that can later extend to other areas. Indeed the theme of environment as an integrating force in a pan-European context has been integral to the "Environment for Europe" process since its inception.

26. Enhanced co-operation will have to take part in the context of an evolving international development agenda. This agenda is becoming more focused on poverty reduction, the Millennium Development Goals and country ownership. Thus, aid money will be increasingly channelled towards budget support rather than sectoral projects. Environment has traditionally been an attractive sector for donors – indeed several ministries of environment, marginalized from the rest of the government, are heavily dependent on donor money. But in the emerging new context access to resources outside a poverty reduction focus and government-wide programs, such as Poverty Reduction Strategies, will be more difficult for most if not al EECCA countries – as exemplified by new donor strategies such as that of the UK's Department for International Development (DfID).

PART II. TAKING STOCK ACROSS OBJECTIVES

2.1 Objective 1. Improve Environmental Legislation, Policies and Institutional Framework

27. Over the last ten years, important steps have been taken in EECCA countries to reform environmental policies, laws, and institutions. EECCA countries have relatively well-developed legal frameworks. Policy development, however, tends to lack prioritization and realism and a systemic approach. Policies are not results-oriented, as the role of environmental ministries is generally perceived as that of "law enforcer" rather than as responsible for achieving environmental improvements. As it will be seen throughout this report, policy implementation lags well behind legislation – this is not surprising, given the weaknesses displayed by environmental institutions and a strong focus on short-term economic recovery. Regulatory instruments are better developed than economic ones, but poor design and weak, although improving, enforcement renders them ineffective. Overall, on the basis of the assessment framework described in the 'Monitoring Progress' sub-section below (OECD/EAP TF, 2004), there seems to be a clear divide between a more advanced set of countries (Western EECCA, Armenia, Georgia, Kazakhstan) and others.

2.1.1 Legislation and Policy Development

28. EECCA countries inherited extensively-developed legal frameworks. As part of the environmental policy reform process, framework laws on environment, media-specific laws, and some other relevant laws have been developed or updated in most countries of the region. However, the regulatory reform is far from being complete. The ambitious lawmaking process has been largely unsystematic and resulted in many gaps and contradictions between new and old laws, decrees, and regulations. The development of implementing regulations (secondary legislation) has been slower and even more inconsistent. Many Soviet regulatory documents are still in force, and it is not always clear which regulations apply in a specific case, leading to inconsistencies in implementation of environmental policies, and limits their effectiveness.

29. EECCA governments have developed policy documents, generally in consultation with various stakeholders and adopted at high political level. But policy development tends to be ad hoc and largely driven by external technical assistance. There is a proliferation of strategies and plans that identify main broad problems areas but very often fail to prioritise them and set clear response actions. Those sometimes contradictory documents tend to be long 'wish lists' that are not supported by realistic financial plans and do not include monitoring and evaluation arrangements. National Environmental Action Plans (NEAPs) in particular remain important guiding policy documents for several countries, even if outdated – all EECCA countries, except Ukraine and Tajikistan, have developed a NEAP, mostly in the second half of the 1990s.

2.1.2 Policy Implementation

30. EECCA countries possess and operate a fairly wide range of environmental policy instruments. Nearly all of them, however, are geared towards revenue-raising and fail to stimulate pollution reduction and better management of resources. This is partly due to history – various instruments and approaches for environmental protection developed in the former Soviet Union were conceptually sophisticated but not feasible economically or sometimes technically.

31. **Ambient standards.** The system of environmental quality (ambient) standards has remained largely unchanged since its establishment in the Soviet Union. It is more comprehensive and ambitious than the one in Western Europe and North America, covering hundreds of pollutants and mandating very low concentrations of contaminants. The current approach treats ambient standards not as policy objectives but rather as to regulatory requirements. This system does not take into account the costs and benefits of achieving the standards, and exceeds the capacity of authorities to monitor the regulated substances. Unenforceable standards (pollution in many cities continues to exceed standards several times over) result in non-compliance and perpetuate disrespect for the law. The automatic linking of ambient standards to permits based on emission limit values (ELVs) may preclude the emergence of alternative cost-effective instruments.

32. **Environmental Impact Assessment (EIA).** In 1992, EECCA countries inherited a system for environmental impact assessment carried out through State Environmental Reviews "ecological expertise", - an internal government procedure without provisions for public participation and transparency. In the 1990s, this system evolved towards international practice, but with various speeds and directions. Currently, all EECCA countries have laws requiring some type of EIA though these vary in consistency and comprehensiveness. In some cases transparency and public involvement have been put forward as key principles – for example in the Russian Federation. The current EIA practice is even more diverse than the EIA legislation, but in most cases it is closer to the inherited Soviet system than to international best practice.

33. **Permitting.** Permitting procedures are cumbersome and ineffective. Emission limit values (ELVs), the key permit requirements, are derived from ambient quality standards and repeat their weaknesses. The number of polluting substances regulated makes the scope of the permitting system too large compared to the limited resources of both industrial applicants and environmental permitting authorities. Permits are generally issued separately for each medium, with different environmental authorities responsible for each permit. Coordination between these permitting authorities is very limited. Permitting is oriented towards inflexible and costly end-of-pipe solutions rather than pollution prevention.

34. **Economic Instruments.** Pollution charges (levied on a very large number of air and water pollutants, and on solid waste) are the main and most comprehensive type of economic instrument used in the region. The system is complex, not targeted at specific environmental problems, and serves primarily for revenue-rising purposes – its incentive impact on polluters' behaviour has been close to zero due to low charge rates, underreporting of discharges, and low collection rates. Only few experiments have been made with other types of economic instruments. Examples of product levies and tax differentiation are characterized by rates too low to affect the pattern of consumption. Attempts to introduce taxes on specific waste products have been unsuccessful due to resistance by industry. Some elements remain from the Soviet deposit-refund system (paper, glass). The concept of environmental liability has been included in all framework environmental laws in EECCA countries, but environmental damage compensation suits are rarely used due to inadequate damage assessment regulations and a general low use of the court system.

35. **Enforcement and Compliance Issues.** Non-compliance with environmental requirements is arguably the most serious problem of environmental management in EECCA countries – but this is part of the systemic problem created by unenforceable standards. Enforcement agencies have not developed programs tailored to the particular regulated communities combining both enforcement and compliance-promotion activities. In most countries, inspectorates face restrictions on their access to facilities. At the same time, inspectorates and inspectors often face a wrong set of incentives. The incomes of inspectorates may be dependent on charges and fines collected, while corruption among inspectors is an issue. This situation may breed unintended institutional resistance to standard reform, as lower standards would result in fewer charges and fines collected for the inspectorates. More broadly, it helps to explain the focus on "law enforcement" rather than on achieving environmental quality targets.

36. Besides inspection, ambient monitoring and emission self-monitoring are necessary for verifying compliance – section 6.1 deals with the shortcomings of the ambient monitoring systems in EECCA. Self-monitoring and reporting is currently done only at large industrial facilities. The use of other compliance promotion instruments (such as information assistance to regulated communities, information-based instruments, and cleaner production programs) is also very limited.

2.1.3 Environmental Institutions

37. With few exceptions, environmental institutions today are stronger, in terms of both legal mandate and of their capacity, than they were a decade ago. But they still suffer from low authority within government, flawed management and decision-making processes, and scarcity of resources, and some have failed to prevent corruption. The process of institutional strengthening in several cases has stopped and is even being reversed. Particularly important is the high turnover rate of environmental professionals in ministries and related agencies. Demand of environmental specialist from the private sector – in itself a welcome development – combined with low salaries is a major driver, but instability due to political changes also contributes. Frequent re-structuring also undermines the capacity of the institutions. Processes of "administrative deregulation" aimed at promoting economic development by reducing "red tape" and the cost of doing business are key contributors to the weakened position of environmental authorities in several EECCA countries.

38. The mandate that environmental authorities inherited from Soviet times was rather narrow, focussing largely on enforcing existing laws and regulations through their inspectorates. Most environmental authorities in the region have not evolved to assume as their mission the improvement of environmental conditions. As a consequence, targets for environmental improvements are rarely set. Measures of performance tend to concentrate on output variables such as number of laws enacted, inspections carried out or fines collected, rather than on environmental improvements achieved.

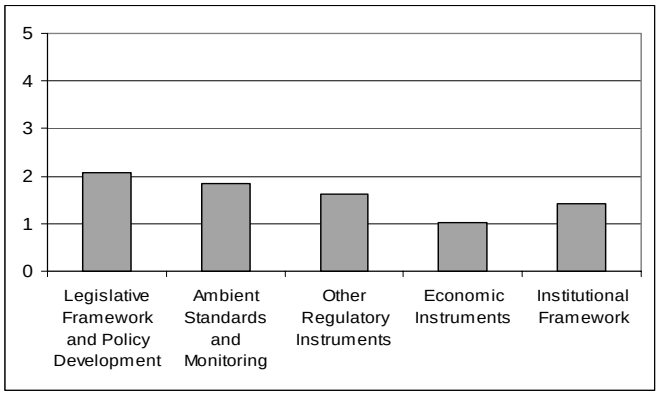
39. Environmental authorities generally have very limited financial resources to carry out their duties. In many cases, budgets cover little more than personnel costs – for example, environmental authorities in Armenia devote 70% percent of the budget to pay for salaries, in the Kyrgyz Republic 95%. This leaves almost no resources for operational expenses and often none for investments. The situation is brighter in selected countries – in Kazakhstan salaries take only 12% of the budget, and the total budget is expected to triple in 2005. Moldova spends about 60% of the budget in personnel costs.

40. Decentralization of environmental management has formed part of the institutional restructuring and reform process, but it has not always been supported by the resources necessary for implementation. Nevertheless, an increasing number of local and regional governments have developed their own environmental policies to tackle their priorities. In some larger countries, there are some innovative developments at sub-national level, but these are not widely replicated. The number of professionals working in territorial bodies (such as regional or local environmental protection agencies or delegation of the inspectorates or the meteorological service) varies across countries – it is 33% in Armenia, 46% in Moldova, 71% in the Kyrgyz Republic and 88% in Kazakhstan.

Monitoring Progress

Figure 2. Regional baseline on environmental legislation, policies and institutions

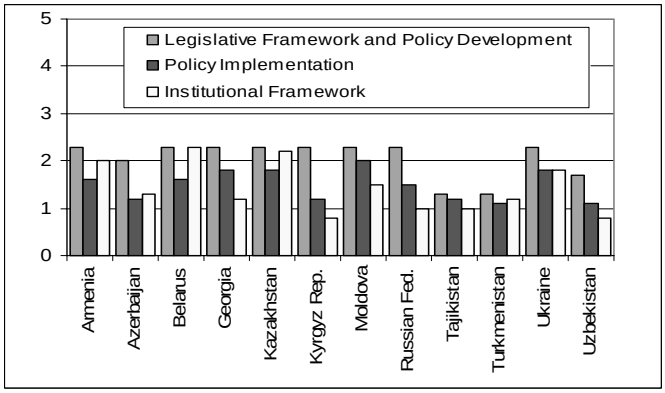
Rating



Source: OECD staff.

Figure 3. Country-level baseline on environmental legislation, policies and institutions

Rating



Source: OECD staff.

Indicators to evaluate progress on institutional aspects of environmental management almost unavoidably rely on some form of expert judgement. Examples include the European Bank for Reconstruction and Development's Transition Indicators and the World Bank's Country Policy and Institutional Analysis. The two indicators presented here capture information structured by OECD staff to evaluate the current state of environmental laws, policies and institutions in the EECCA region. The ratings are based on direct knowledge as well as reports describing the situation of environmental laws, policies and institutions. To produce the ratings, OECD staff developed a rating framework analyzing 20 different dimensions (3 relating to Legislation and Policy Development, 11 relating to Policy Implementation, and 6 relating to the Institutional Framework) on a 0-5 scale, where 5 represents the maximum possible rating. The ratings are not constructed on an evaluative (bad-good) basis, but they rather represent the attainment of specific goalposts. This means that the ratings cannot be straightforwardly compared across dimensions. This assessment framework, however, allows evaluating on an objective basis progress achieved in the different dimensions, while preserving the simplicity of the presentation.

Facilitating Progress

The organizations that have been designated as facilitators of this objective are the OECD/EAP TF and UNECE. Cooperating institutions include UNDP, UNEP, the World Bank, and the RECs.

Main Information Sources

OECD/EAP TF. 2003. Developing Effective Packages of Environmental Policy Instruments in Eastern Europe, Caucasus and Central Asia – Experience and Directions for Reform.

OECD/EAP TF. 2003. Linkages between Environmental Assessment and Environmental Permitting in the Context of the Regulatory Reform in EECCA Countries.

OECD/EAP TF. 2004. Assessing Environmental Laws, Policies and Institutions in EECCA – A Rating Exercise. Draft.

UNECE. 2003. Report on Environmental Policy in Transition: Lessons Learned from Ten Years of UNECE Environmental Performance Reviews.

2.2 Objective 2. Reduce the Risks to Human Health through Pollution Prevention and Control

41. The most important environmentally-related health risks in EECCA are unsafe water, poor sanitation and hygiene, certain occupational risks, urban air pollution, indoor smoke from solid fuel, and lead exposure. An accurate assessment of environmental effects on human health is impossible in EECCA, since absent or incomplete monitoring precludes assessing levels of exposure to environmental hazards, and morbidity data have become less reliable. Nevertheless, WHO reports lack of substantial progress in improving environmental health in the region.

42. Poor and underprivileged groups are increasingly bearing the greater part of the environmental burden of disease. While during the Soviet period the society was more or less homogeneous without major differences between the social groups, the current process of social stratification is leading to uneven exposure to environmental hazards.

43. Environmental health concerns are increasingly being reflected in national planning and legislation. Although National Environmental Action Plans (NEAPs) are principally focused on pollution of the natural environment and its protection, many comprise actions directly linked to reducing the exposure of the population to harmful environmental factors. In parallel, all EECCA countries have government approved National Environmental Health Action Plans (NEHAPS) – except Azerbaijan and Turkmenistan. NEHAPs provide a framework for actions in environmental health; good implementation progress has been made in Belarus and Uzbekistan, according to WHO. Legislative basis of action in the area of environmental health has been reviewed in all countries in accordance with new circumstances. Health standards are under review and work is in progress to incorporate them in technical regulations.

2.2.1 Reduction of Urban Air Pollution

44. **Air pollution levels**. During the 1990s, pollutant concentrations fell in many EECCA countries as a result of economic restructuring before rising again with economic growth and related increase in road transport. Concentrations several times above limit values have been observed in a number of cities – examples include Tbilisi and Dushanbe (sulphur dioxide and particulate matter – PM), Bishkek (nitrogen oxides and PM), Kiev and Chisinau (nitrogen oxides), Yerevan (nitrogen oxides, sulphur oxides, carbon monoxide, PM), Almaty (formaldehyde) and Ashgabat (formaldehyde and PM). In the Russian Federation, up to 30 million people are exposed to elevated (by Russian standards) concentrations of pollutants, of which 15 million is exposed to elevated concentrations of particulate matter (WHO, 2004). In Ukraine over 40% of monitored cities exceeded particulate matter limits in the year 2000 (EEA, 2003). However, this must be seen in the context of the stringency of limit values in EECCA countries discussed in section 1.

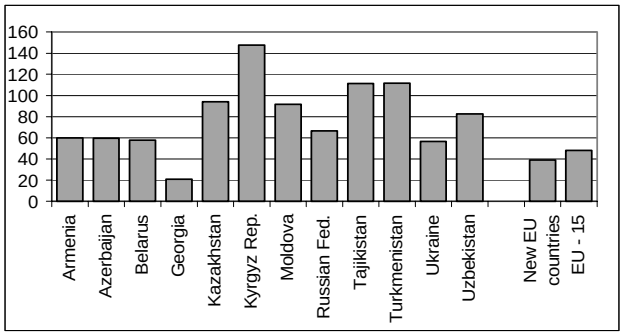
45. **Air pollution and public health.** In terms of health impacts, the most important pollutants across the region are particulate matter and lead. Although overall air emissions have been decreasing, concentrations of particulate matter seem to be on the increase in several cities – for instance, in Bishkek concentrations have doubled in a few years. No national emission ceilings have been set for particulate matter. Lead concentrations still represent a major concern in several countries, across the region – for example measurements in the Kyrgyz Republic indicate that lead concentrations significantly exceed WHO guidelines. Six countries have already phased-out leaded gasoline and more have committed to do so in the next few years – see section on Objective 4 for further details.

46. **Sources of air pollution.** Rapidly increasing private transport is the major enemy of clean air in EECCA cities. For example, the Kyrgyz State of Environment report indicates that it contributes up

to 70% of air pollution in this country. The urban transport sector in the region is characterized by an aging and poorly maintained vehicle fleet, low quality fuels and declining public transport. Industrial sources of air pollution have declined in importance, but remain relevant and difficult to address. Armenian experience shows that economic growth and increase of production capacity are often associated with the re-launching of outdated technologies without accompanying pollution abatement measures. District heating, characterized by location in urban centres, low quality of fuels, low efficiency and lack of filtering equipment, is also an important contributor, particularly in winter times. A specific problem of Central Asia is the large quantities of salt dust from the dried up areas of the Aral Sea.

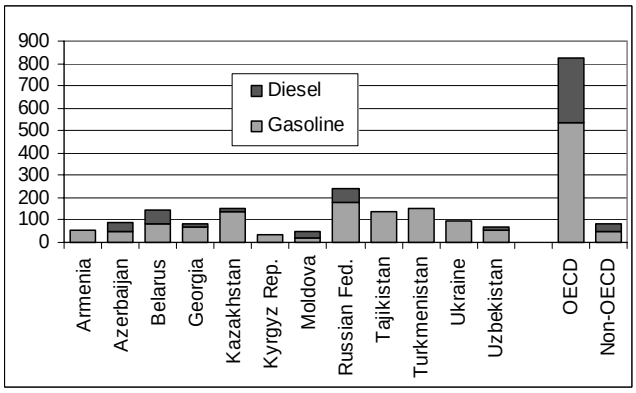
Monitoring Progress

Figure 4. Incidence of respiratory diseases
Standardised death rate, cases per 100 000 population



Notes: 2002 data. New EU countries include: Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovak Republic and Slovenia.
Source: WHO, European health for all database.

Figure 5. Consumption of gasoline and diesel in the road transport sector
Kilograms per capita



Notes: 2002 data. Diesel consumption data are not available for all countries.
Source: OECD/IEA, World Energy Statistics and Balances 2004.

A number of variables that would made good headline indicators are not currently available in EECCA – including 'population exposed to concentrations of particular matter exceeding a certain standard', 'population suffering from acute respiratory illnesses', or the more elaborate 'disability-adjusted life years linked to air pollution' and 'economic value of air pollution impacts'. The activity of the Working Group on Environmental Monitoring and Assessment will make available relevant information on a number of environmental outcomes, including air pollution. In any case, urban air monitoring systems are often poorly equipped – Yerevan is one example. The first indicator presented here refers to all respiratory diseases, and so it is only weakly related to air pollution. Consumption of fuels in the road transport sector, the second indicator presented, is also linked to air pollution concentrations and associated health impacts in a tenuous way. For instance, the same amount of fuel consumption can be associated to different levels of pollutant emissions (depending on fuel quality and car technology among other factors), concentrations (depending on location of emissions, geography and climate), exposure (depending on distribution of population and lifestyles) and thus to the ultimate health impacts. Nevertheless, containment of fuel consumption would work towards improved health outcomes.

Facilitating Progress

The organizations that have been designated as facilitators of this sub-objective are WHO-Europe and UNECE. Cooperating institutions include EEA and UNEP.

Main Information Sources

EEA. 2003. Europe's Environment: the Third Assessment. Copenhagen: European Environment Agency.

WHO. 2004. Health and the Environment in the WHO European Region – Situation and Policy at the Beginning of the 21st Century.

2.2.2 Improving the Management of Water Supply and Sanitation Infrastructure

47. In EECCA, the water supply and sanitation network is extensive in urban area, but it is increasingly deteriorating. Pollution of water bodies, poor operation of treatment facilities, and the poor condition of supply and sewerage systems, all put pressure on the quality of drinking water. Expensive to maintain systems coupled with low tariffs result in inadequate maintenance being carried out, crumbling infrastructure, poor service, low quality of drinking water, and, ultimately, high incidence of waterborne diseases. Affordability concerns constraint the potential for tariff increases, making reduction of operation and maintenance (O&M) costs and associated level of service difficult to escape. The problems are exacerbated in small and medium sized towns, where deterioration of water infrastructure is more advanced, unit operational cost higher, household incomes lower, and non-payment more common. In rural areas, coverage is still low. Sewerage and wastewater treatment facilities are often the first service items to be shut down, resulting in increased environmental impacts. Without further reform, the deterioration of water services and associated impacts on public health, the environment and economic development are likely to accelerate in the future, as infrastructure continues to crumble. In EECCA, achieving the water and sanitation MDGs is not just about increasing access but also about maintaining it and ensuring the safety of water supply – in this respect the MDG challenge is different than in other regions.

2.2.2.1 Water Supply and Sanitation and Environmental Health

48. **Incidence of waterborne diseases.** Waterborne diseases represent a major public health issue in the EECCA region. Infectious intestinal diseases, often caused by poor drinking water, are among the main causes of infant mortality in the southern regions of the Russian Federation and in Central Asia. This is not a new phenomenon – in Moldova the 1995 NEAP pointed out that polluted drinking water leads to 950-1850 premature deaths annually, as well as to 2-4 million days of illnesses annually with an economic cost estimated at the equivalent of 5-10% of GDP. But according to WHO the number of outbreaks of water-related diseases and the number of people affected are on the rise.

49. **Coverage of water supply and sanitation networks.** The level of connection to water supply and sanitation remains high in most EECCA countries. But there are still coverage problems, particularly in rural areas, where a large part of the EECCA population still lives and the use of surface water represents a serious health risk – in several countries less than 30% of rural households are directly connected to a piped water supply (OECD/EAP TF database). Even for those connected to networks, water supply is often only scheduled during a few hours per day. For example, water utilities provide service for only six hours a day in Armenia or eight in Azerbaijan (OECD/EAP TF database).

50. **Quality of drinking water.** Quality of drinking water is poor in most countries. In some countries, essentially in Central Asia, more than one-third of the population is using drinking water that does not meet hygiene standards, and in some sub-regions this proportion can exceed 50% (OECD/EAP TF, 2003). The quality of drinking water in EECCA is generally getting worse – for example, WHO reports decreasing water quality in Armenia and the Kyrgyz Republic, although it also reports improvements in Uzbekistan. There are particularly problems with maintaining safe microbiological standards, but nitrates contamination, affecting particularly children, is also a problem. Microbiological contamination is largely due to infrastructural deficiencies and the failure of disinfection schemes.

51. **Quality of raw water.** In addition to water network operations, the quality of drinking water is also affected by pollution of water sources. In the Western EECCA and Caucasus water pollution by toxic and chemical substances represents the more immediate problem, while in Central Asia microbiological pollution of drinking water is more important. In the Russian Federation the quality of the water extracted is deteriorating mostly due to the disposal of untreated sewage. In Belarus, pollution of water bodies is primarily due to the suboptimum operation of sewage treatment installations. In several areas, such as the Caspian and Aral Sea areas in Kazakhstan, saline drinking water is a significant health hazard. Although many cities across the region have wastewater treatment plants, most of them are obsolete and ineffective, and because of the lack of investment capital only a limited number of new plants have been built or old ones modernized.

2.2.2.2 Management of Water and Sanitation Services

52. **Legal and institutional framework.** The process of reforming the legal and institutional frameworks in the EECCA region started in the late 1990s with the decentralization of the sector and the transformation of water utilities into communal enterprises. But those actions were taken without appropriate institutional and tariff reforms in place. Government phased out direct subsidies to water utilities, which became self-financed companies, but water utilities are generally not yet allowed to operate as commercial entities. Governance arrangements remain often too complex, and sometimes incoherent, hampering decision-making in the sector.

53. **Physical conditions of water and sanitation networks.** Water systems in EECCA are characterized by (i) deteriorating sanitary condition of the reservoirs; (ii) problems with the purification and disinfection of water in the water supply systems (including shortage of chemicals for purification and low standard of laboratory equipment), particularly in the Kyrgyz Republic, Kazakhstan, Georgia and Armenia; and (iii) unsatisfactory state of repair of the water supply networks and their proximity to sewage pipes – leading to the penetration of water networks by sewage. Actual quality of service is deteriorating. Across many EECCA countries, pipe breaks and leakage are increasing and continuity of service is decreasing. Breaks in continuity, a major cause of water contamination, are a common feature.

54. **Economic and financial issues.** Domestic sector investment has been insignificant for over a decade. The owners of the water and sanitation systems (central or sub-national governments) have largely stopped investing in them and private finance stays away due to weak institutional frameworks and unfavourable investment climates. Official Development Assistance (ODA) grants and loans from International Financial Institutions (IFIs) do not compensate for the gap – the gap is too large and institutional obstacles prevent those resources flowing to the sector. A recent study sponsored by the Danish government estimates that the total investment costs related to the Water and Sanitation MDGs are between 7 and 21 billion euros for the whole EECCA region – the central estimate of 14.6 billion euros is close to the World Bank's estimate of 1.1 billion dollars of annual investments over the period 2003-2015.

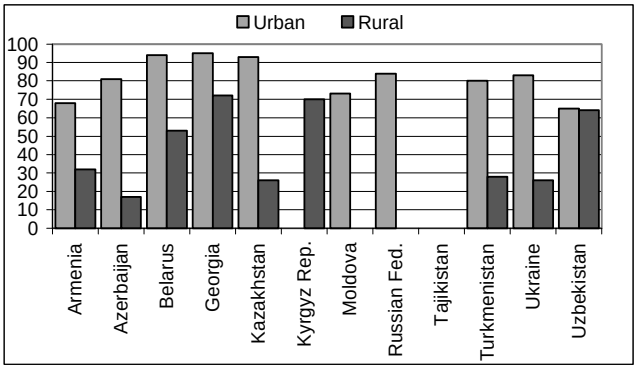
55. Water prices have increased significantly since 1990, but they do not cover yet the full operational and maintenance (O&M) costs, let alone generate a return on investment. Currently tariffs cover less than 60% of O&M costs in most countries (OECD/EAP TF, 2003). In the Russian Federation the gap between operational costs and the expected revenues from billed consumption reaches 30%, with non-payment further exacerbating the problem (OECD/EAP TF, 2003). Many countries have committed to achieve cost recovery by 2005, but implementation is progressing very slowly. Attaining full cost recovery will likely take both reducing O&M costs and increasing tariffs.

56. **Social issues.** Affordability constraints impose a limit on how much tariffs can be raised – a large portion of households already pays a significant share of their income for water services, and large tariff hikes would result in many households paying for water services more than the 4 % of their income (an internationally accepted affordability benchmark). There exist mechanisms to protect the poor, but they are rarely targeted at those in most need. In addition, there is little public involvement in the water sector.

Monitoring Progress

Figure 6. Population connected to water supply networks

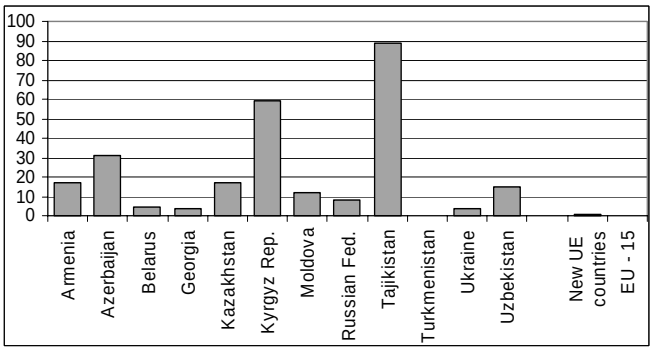
Percentage of total population in urban and rural areas



Note: 2002 data.
Source: OECD/EAP TF database.

Figure 7. Under-five mortality rate due to diarrhoeal diseases

Number of death per 100 000 children under-five years



Notes: 2001 data. New EU countries include: Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovak Republic and Slovenia.
Source: WHO*, European health for all database*.

Access to safe water supply and sanitation are MDG indicators. The first indicator presented here shows a significant gap in water coverage in rural areas for most countries. But as explained in the main text, water supply networks do not always provide safe water – thus indicators of drinking water quality on tap would be useful in completing the picture provided by the coverage indicator. Indicators covering continuity of service and pipe breaks can act as proxies for water quality. Ultimately, what is relevant from an environmental health perspective is the incidence of lack of safe water and sanitation on health outcomes. The second indicator presented below closely illustrates this dimension. Moreover, reducing under-five mortality rate (from all causes) is one MDG. In 2005 the EAP Task Force will produce an assessment of progress in reforming the water sector in EECCA for a new Ministerial Consultation on Water Management and Investment, five years after the Almaty Consultation.

Facilitating Progress

The organizations that have been designated as facilitators of this objective are OECD/EAP TF and WHO-Europe. Cooperating institutions include EBRD, UNECE, UNEP and the World Bank.

Main Information Sources

DANCEE. 2004. Financial Needs of Achieving the Millennium Development Goals for Water and Sanitation in the EECCA Region. Draft main report.

OECD/EAP TF. 2003. Urban Water Sector Reform in EECCA Countries – Progress Since the Almaty Ministerial Conference.

WHO. 2004. Health and the Environment in the WHO European Region – Situation and Policy at the Beginning of the 21st Century.

World Bank 2003. Meeting the Environmental Millennium Development Goal in Europe and Central Asia.

2.2.3 Improvement of Management of Waste and Chemicals

57. **Waste generation.** There is some indication of decoupling of total waste generation in Belarus and Tajikistan, but total waste generation seems to be on the increase in most countries. After a period of decline in industrial activity, reported generation of industrial waste has increased in most countries – with oil industries, mineral resources extraction, and power plants as the major generators. There are no clear trends on hazardous waste generation – in Ukraine, it decreased by 38% between 1996 and 2000, while in the Russian Federation it decreased by 32% between 1996 and 1999. Hazardous waste generation in EECCA is often dominated by a relatively small number of sources.

58. **Waste disposal.** According to EEA, the share of landfilled municipal waste is generally more than 90%. But municipal waste disposal sites are often overloaded, improperly operated and maintained, and do not meet environmental and human health requirements. Illegal dumping of municipal waste, in particular in rural areas, is also common. In the Caucasus, known hazardous waste disposal sites are overloaded and not isolated from the environment – thus posing risks to the environment and human health. According to the 2002 Russian State of the Environment Report, 60% of waste is recycled and treated.

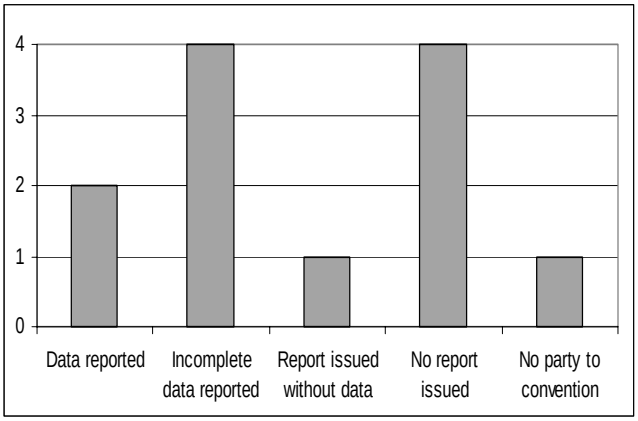
59. **Waste management systems.** The EECCA region does not have yet sustainable waste management systems in place. Municipalities cannot afford major investments in waste management, and there are obstacles to inter-municipal cooperation in this regard. The regulatory framework (including standards for safe final disposal) is not well developed. Use of economic instruments for waste prevention is limited and ineffective. Recycling rates are 10-12% in Ukraine, 14-15% in Belarus (industrial waste only) and 6-15% in Uzbekistan. There are almost no facilities for alternative waste treatment. UNEP reports that the lack of sound law enforcement and monitoring systems bring the risk of the Caucasus becoming a 'haven' for international trading in hazardous waste.

60. Several EECCA countries have formulated waste management plans and programmes. However, the general lack of resources is a significant barrier to implementation. Although all EECCA countries (except Tajikistan) are parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Waste and Their Disposal, many lack the national capacity as well as finances to fulfil commitments made under this Convention. Rising generation coupled with the stabilization of quantities collected suggests lack of overall progress in waste management.

61. **Chemical pollution.** Chemical pollution is also a concern. Reportedly, the greatest danger is presented by soil contamination by heavy metals – primarily from sewage sludge, and municipal and industrial waste. Monitoring residual contents of pesticides shows that, in recent years, soil contamination by controlled pesticides has decreased appreciably following a reduction in their use in agriculture. But inadequately stored agrochemicals, illegally traded in many cases, remain sources of soil contamination. In many countries, industrial enterprises harbour significant amounts of hazardous toxic waste and pesticides for disposal.

Monitoring Progress

Figure 8. Hazardous waste generation reporting
Number of EECCA countries fulfilling Basel Convention reporting obligations



Note: Information refers to January 2004.
Source: UNEP Basel Convention on-line database.

Although the proportion of waste disposed in sanitary landfills and concentrations of chemical pollutants in water bodies could be good indicators for this sub-objective, they are not available in EECCA yet. The indicator presented here refers to the fulfilment of reporting obligations to the Basel Convention on hazardous waste management. Improvement in reporting would indicate that that either more data are being collected, that the information is better managed, or both. Although the link is tenuous, improvements in reporting would suggest improvements in management systems performance.

Facilitating Progress

The organization that has been designated as facilitator of this sub-objective is UNEP-SBC. Cooperating institutions include OECD and UNECE.

Main Information Sources

EEA. 2003. Waste and Material Flows 2004 – Current Situation for Europe, Caucasus and Central Asia.

UNEP Basel Convention Country Fact Sheets.

2.3 Objective 3. Manage Natural Resources in a Sustainable Manner

2.3.1 Integrated Management of Water Resources, Including Transboundary River Basins and Regional Seas

2.3.1.1 Water Resources Issues

62. In large parts of the region (Russian Federation, Belarus, Ukraine) there is plenty of water and in many cases the water is relatively clean. But water resources are under increasing pressure in many EECCA countries. For various countries of the region, there is an important transboundary, often conflictive, dimension to water resources management – as explored in section on Objective 7.

63. **Water quality**. Pollution of surface and groundwater is a serious problem in many countries. The quality of water from surface sources is low as result of discharges of insufficiently treated and untreated sewage from populated localities and industrial plants, as well as of industrial accidents. In the EECCA, on average, only 60% of the population are connected to sewers and for 18% of these, wastewater is discharged untreated. These figures are relatively high when comparing with other low and middle income regions and even with some OECD countries – the figures for Greece are close to the EECCA average and 50% of Belgium's collected wastewater is not treated. Irrigation and use of fertilizers, manure and pesticides in agriculture lead to increased salinity and pollution water and groundwater by nitrates, phosphorus, and pesticides.

64. **Water scarcity**. Water abstraction seems to be decreasing in several countries of the region. It has, however, increased considerably in Central Asia. Restricted access to water for domestic use and agriculture is a problem in some parts of the region, particularly in parts of Central Asia, in the southern part of Ukraine and in the south of the European part of the Russian Federation. Over-exploitation of water, especially increasing use of groundwater for public water supply, and over-use of surface water for irrigation, has serious consequences such as drying-up of spring-fed rivers, salinization of (shallow) groundwater resources, destruction of natural wetlands and salt-water intrusion in coastal aquifers. The vanishing Aral Sea is of particular concern. The lack of incentive for water conservation results in wastage.

65. **Water regulation**. Floods are also an important concern in many EECCA countries. For example, more than 150,000 km^2 (including some 300 major cities and some 7 million hectares of agricultural land) in the Russian Federation alone suffer from floods with regular intervals of 20 to 100 years, with an annual average damage of some USD1.45 billion.

66. **Regional Seas.** In addition to the drying up of a large part of the Aral Sea, the Caspian Sea is threatened by pollution from the Volga and other rivers, pollution and accidental spills from the oil industry, uncontrolled poaching of sturgeon and concerns over the impact of alien species. Regional agreements on management of the Caspian and the Aral Seas remain difficult. The Black Sea has experienced catastrophic decline of water quality and ecosystem productivity, most importantly fish population, in the past 30 years due to increased loads of nutrients from agricultural run-off and discharges of raw sewage and solid waste from cities, heavy metals and oil pollution. In spite of serious long-term donor efforts progress has been very limited.

2.3.1.2 Water Resources Management

67. In EECCA, as in many other countries, Integrated Water Resources Management (IWRM) as a holistic approach to the management of river basins (and its link to coastal/marine waters) is still in its infancy. IWRM has some basis on which to build – the administrative system for river basin

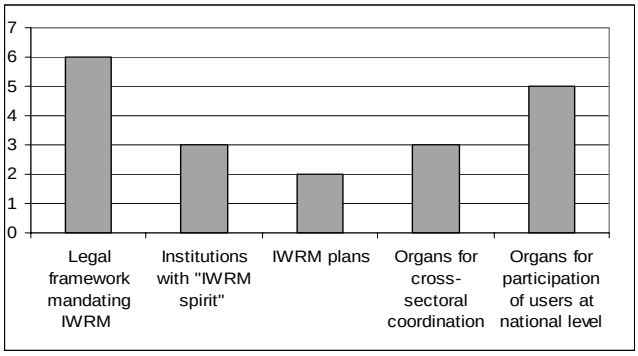
management was already developed in the Soviet Union in the 1980s. The Russian Federation continues to use the concept, and many other countries have also recognized the advantages or the river-basin approach. The World Summit on Sustainable Development's target for IWRM is for all countries to develop, by 2005, integrated water resources management and water efficiency plans. It is unlikely that all countries will be able to achieve this target –10 countries do not have an IWRM plan yet. Armenia and Ukraine have already developed one and Kazakhstan has secured funding to do so.

68. **Institutional aspects**. Beyond the preparation of plans, IWRM requires institutions with a clear mandate and access to both information and financial resources. Institutions responsible for water resource management are already in place in EECCA, but there is sometimes not a clear definition of responsibilities. This, in combination with lack of communication and coordination between authorities, often lead to gaps and duplications of decision and activities. At the same time, present knowledge and information for decision-making over water and land, and related socio-economic factors, is not sufficient, reliable or consistent. In addition, reporting is not sufficiently well organised neither for planning and decision-making nor to provide information to the public.

69. **Financial aspects**. Financial resources devoted to water management are lower than even minimal cost estimates. Most countries, despite the introduction of discharge and abstraction permits and pricing mechanisms for water use, do not have fully functioning systems for self-financing of provisions of services, such as drinking water supply and waste-water treatment. Moreover, due to the lack of clear priorities, the few available funds are often divided over the measures to be taken, which can result in no single measure being fully implemented. Developing IWRM plans would only be an initial step but a crucial one – recent estimates suggest that less than 20 millions USD would be needed to achieve the Johannesburg target.

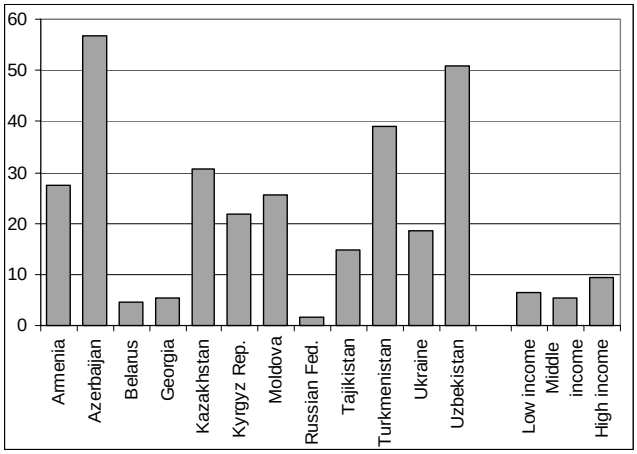
Monitoring Progress

Figure 9. Integrated water resources management
Number of countries



Note: Data refer to early 2004.
Source: Status and plans of EECCA countries in fulfilling the WSSD target on IWRM-plans by 2005. Report commissioned by DHI.

Figure 10. Freshwater withdrawal
Percentage of total freshwater resources



Notes: Data refer to various years. Income-groups refer to the World Bank classification.
Source: World Bank, World Development Indicators 2004.

The first indicator presented here tries to cover the management dimension and is strongly linked to the WSSD target referred to in the text. The second one focuses on water abstraction – a commonly used benchmark is that a water abstraction ratio of over 10 % indicates that the country is under water-stress. Although reduction in the water abstraction ratio overtime would suggest that water resources management is improving, the reduction of water abstraction in the 1990s had in many countries nothing to do with improving management but with deteriorating irrigation infrastructure or soil salinization – another example of the need to combine selected quantitative indicators with broader qualitative information to understand the whole story. A reference to water abstraction does not necessarily dismisses water quality, as water quality and quantity issues are inextricably linked – for instance, higher base flows would lead to a decrease in the concentrations of pollutants. Other potential indicators could include 'population covered by wastewater treatment' or 'water pricing'.

Facilitating Progress

The organizations that have been designated as facilitator of this objective are UNECE and UNEP. Cooperating institutions include EEA, GEF, UNDP and the World Bank.

Main Information Sources

DANCEE. 2004. Financing IWRM in the EECCA region.

Demydenko, A. 2004. Status and plans of EECCA countries in fulfilling the WSSD target on IWRM plans by 2005.

UNECE and GWP. 2003. Integrated Water Resources Management (IWRM) Including Transbounday River Basin Issues.

World Bank. 2003. Environmental Activities in Europe and Central Asia.

2.3.2 Biodiversity Conservation and Protection of Ecosystems

2.3.2.1 Biodiversity Issues

70. Preserving EECCA's biodiversity is important from a global perspective. The Caucasus, lying at the crossroads of three biogeographic provinces, is classified as a global biodiversity hotspot. The southern part of western EECCA contains Europe's largest complex of ecosystems, which are associated with the Black Sea and its main rivers. The three main mountain systems in Central Asia (Altai Sayan, Tien Shan and the Pamirs) have globally significant biodiversity, with endangered populations of sheep, goats and snow leopard. Altai Shan, in particular, is one of the world centres of plant diversity, with more than 800 forest plant species and over 200 species of rare and endemic plants.

71. Biodiversity trends and threats vary across the region. For instance, while the Russian Federation seems to be experiencing degradation processes across landscapes, Ukrainian forest conditions seem to be improving. To a large extent the structure of economic activity determines the relative importance of the different threats. In Kazakhstan and the Russian Federation, extraction of sub-soil resources is reportedly having significant impacts. In the poorest countries, agriculture is a major driver of biodiversity loss. Specific threats include intensive land use, crop specialization and chemical use in Moldova; and damage from cattle rearing and drainage of wetlands in both Armenia and the Kyrgyz Republic. Poverty itself has become a significant factor – for instance, the recession has led to the illegal cutting of trees for fuelwood in Armenia, Georgia, Moldova and Tajikistan.

2.3.2.2 Biodiversity Management

72. The challenges in biodiversity conservation and management in the EECCA region are linked to the experience of the transition and so differ from those in many other parts of the world. EECCA countries have a strong tradition of protected area management and of public access to the countryside, but in most arable land areas there was little attention to biodiversity considerations. The first years of the transition saw deterioration in the institutions and financing mechanisms for conservation management, both in the production and in the protected area landscape. Increasing poverty combined with a breakdown of law and order led to pressure on natural resources in many countries from poaching and illegal harvesting.

73. **Approaches to biodiversity conservation**. "Enforcement" approaches to protected area management have weakened but have not yet been replaced by approaches based on stakeholder consensus. In Soviet times, the protected area regime focused on strict protection with little attention to the development of sustainable use mechanisms and the involvement of local communities. This approach did ensure biodiversity conservation, but it has not proved sustainable in the newly independent states. The Russian systems of protected areas do not include landscape approaches that combine sustainable utilization with conservation, especially in forest ecosystems – current forest management is not geared towards biodiversity conservation. In the Caucasus and Central Asia, World Bank experience suggests that community-based approaches combining improved ecosystem management with local income generating activities have the greatest chance of succeeding in enhancing biodiversity conservation.

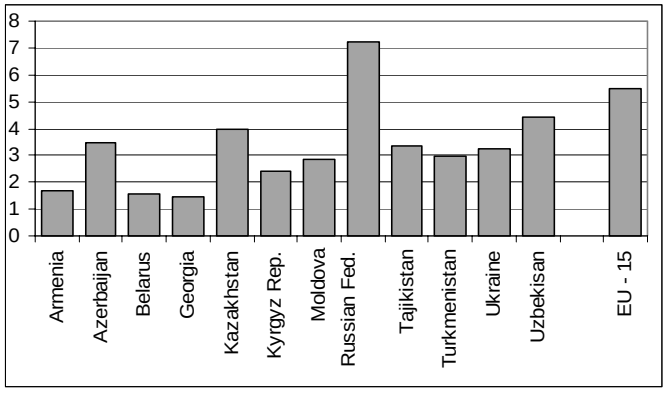
74. **Integration of biodiversity issues in natural resource management (NRM) policies.** Biodiversity concerns are not well integrated in natural resource management policies – partly due to institutional shortcomings. This, however, must be put in a wider context – there are hardly any examples in the world where biodiversity conservation is truly integrated in farming practices for instance. In EECCA, hastily implemented land privatization, land fragmentation and lack of access to

finance or technologies are preventing sustainable land management. In many countries of the region, pastureland and former collective forests face a management vacuum. Deterioration of infrastructures for water management has had an impact on wetland degradation, pollution of water bodies, loss of wildlife, and declines in tourism revenues. In Ukraine and Belarus there has been modest support to date to wetland and forest conservation, but in Ukraine this has not yet been 'mainstreamed' into broader forest and water resource management. In Moldova – densely populated, rural and with much highly degraded land – biodiversity conservation has not yet incorporated in farming practices.

75. **Finance for biodiversity conservation**. According to the World Bank, much of the state support for natural resources management and biodiversity protection has declined and in some cases collapsed entirely. This affects particularly to the network of strict nature reserves and off-site collections of plant resources (such as botanical gardens), but is also true for fire and pest management. But this does not affect equally to all countries – Kazakhstan, as a middle income country with stronger public institutions, enjoys greater public commitment to, and finance for, environmental protection than most EECCA countries.

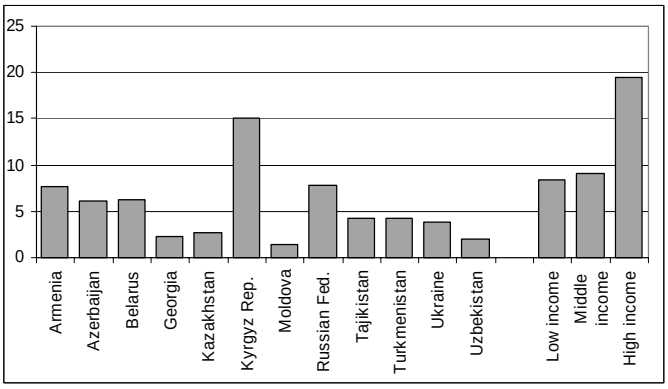
Monitoring Progress

Figure 11. Bird species threatened
Percentage of total known bird species



Note: 2002 data.
Source: World Bank World Development Indicators 2004.

Figure 12. Nationally protected areas
Percentage of total land area



Notes: Data reported in 2002. Income-groups refer to the World Bank classification.
Source: World Bank, World Development Indicators 2004.

Objective measurement of biodiversity trends is difficult, in part because of the multiplicity of species and ecosystems, and in part because of scientific controversies surrounding the value of measuring ecosystem health (difficult) as opposed to trends in indicators species (less difficult but also less scientifically rigorous). By 2008, a coherent European programme on biodiversity monitoring and reporting, facilitated by the European Biodiversity Monitoring and Indicator Framework, will be operational in the pan-European region, in support of nature and biodiversity policies, including by 2006 an agreed core set of biodiversity indicators developed with the active participation of the relevant stakeholders. The first indicator selected for this report refers to bird species threatened – bird species are regarded as a better indicator than other species. The second indicator refers to land area under protection – protection of at least 10% of land area is an international benchmark. As in many other areas, both indicators are fraught with problems. For instance, there are the problems of 'paper parks' (whether protected areas include active management beyond mere designation) and to what extent habitats protected are representative of national habitats.

Facilitating Progress

The organization that has been designated as facilitator of this objective is the Joint Secretariat of the Pan-European Biodiversity and Landscape Diversity Strategy (PEBLDS) under UNEP and the Council of Europe. Cooperating institutions include EEA, the RECs, and UNDP.

Main Information Sources

Informal country biodiversity profiles prepared by UNEP for this report using information available on United Nations and UNEP-GRID Arendal websites.

World Bank. 2003. Biodiversity Strategy for the Europe and Central Asia Region – Discussion Draft. Washington, DC: The World Bank.

2.4 Objective 4. Integrate Environmental Considerations into the Development of Key Economic Sectors

2.4.1 Overall issues of sectoral integration

76. Environmental policy integration (EPI) in EECCA is still at a relatively early stage and addressed in a fragmented way. But this is also the case in many OECD countries. During Soviet times, policy-making in EECCA countries tended to be integrated across all sectors in the central planning system, but failed to incorporate environmental concerns. Establishing the identity and authority of ministries of environment across the region – one of the first achievements of environmental policy in the transition process – has consumed a lot of energies, leaving little time and resources to develop inter-ministerial communication, which remains low. Scarce organisational and administrative resources limit the scope for integration, but weak traditions of inter-ministerial cooperation may be a more important reason.

77. **Strategic planning**. Environmental ministries have been among the first to initiate sectoral integration. They have attempted it through the development of environmental strategies, action plans, sustainable development strategies, physical plans, and other policy initiatives. Other ministries and stakeholders have been invited to participate in those initiatives, but the level of involvement and cooperation, as well as public participation, has been limited. The result is a proliferation of sectoral strategies, often with uncoordinated and even conflicting goals.

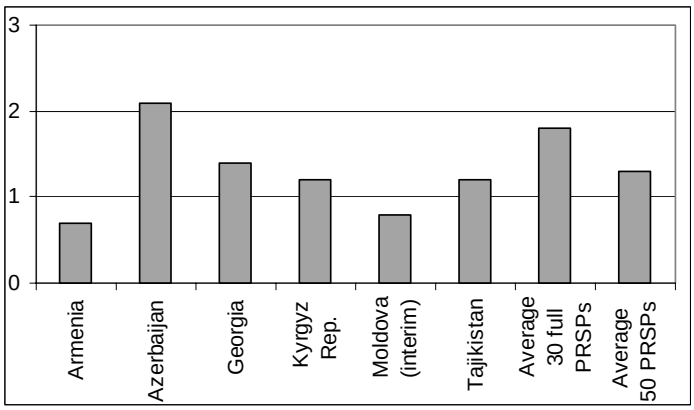
78. **Inter-institutional coordination.** Mechanisms for coordination and cooperation for EPI among ministries remain weak. Some sectoral ministries have environmental departments, but those departments do no have enough power and responsibility to carry out their duties fully, and are often understaffed. There are other forms of cooperation, from the most formal, through the council of ministers, to inter-ministerial working groups, to the informal contacts between individual professionals. For example, Belarus has set up a National Commission on Sustainable Development which mandate includes the elaboration of a national sustainable development strategy and inter-ministerial policy coordination.

79. **Integration instruments**. A number of tools that facilitate EPI are in place in the region, but their effectiveness is still limited. For example, taxes and charges on energy products remain quite low and, although pollution charges have been widely adopted, no country has started implementing any broad Environmental Fiscal Reform. The current situation with environmental assessment and economic instruments – major tools for EPI – is further described in the section on Objection 1.

Monitoring Progress

A potential indicator for tracking progress in this area of work is the treatment of environmental issues in national development strategies. For the poorest EECCA countries, the treatment of environmental issues in PRSPs or other national socio-economic development plans may be a good indicator of overall integration of environmental concerns across sectors.

Figure 13. Treatment of environmental issues in PRSPs



Source: World Bank staff.

The World Bank's Environment Department produces an assessment of the treatment of environmental issues in PRSP – World Bank staff assesses the PRSP document against a framework composed by 17 variables to see to what extent the document (i) identifies environmental challenges, (ii) analyses poverty-environment links, (iii) lays out policy and program responses to meet those challenges, and (iv) describes an inclusive and participatory process. Two shortcomings of this assessment as an indicator for the EECCA Strategy are that not all EECCA countries are PRSP countries, and that it covers only the treatment in the PRSP document, not implementation. The maximum possible rating is 3. Here the EECCA region lags behind the world average – itself not very encouraging. But good examples, such as that of Azerbaijan, also exist.

Facilitating Progress

The organizations that have been designated as facilitator of this objective are OECD and UNDP. Cooperating institutions include EEA, the RECs, UNECE, UNEP and the World Bank.

Main Information Sources

Bojo, J. and R.C. Reddy. 2003. Status and Evolution of Environmental Priorities in the Poverty Reduction Strategies. Washington, DC: World Bank.

European ECO-Forum. 2003. Environmental Policy Integration: Theory and Practice in the UNECE Region.

UNECE. 2003. Report on Environmental Policy in Transition: Lessons Learned from Ten Years of UNECE Environmental Performance Reviews.

2.4.2 Energy Sector

80. In EECCA countries, energy use per unit of GDP is much higher than in the rest of the world. This can be partially attributed to climatic considerations – EECCA countries sit in cold latitudes. But policy decisions are a crucial driver. Many EECCA countries are rich in energy sources including coal, oil and natural gas, and hydropower. The Soviet Union responded to the oil crisis of the 1970s by increasing domestic supply rather than energy efficiency. By the beginning of the transition, EECCA economies were characterized by a large polluting power sector and heavy energy-intensive industries that caused serious problems such as forest decline and widespread respiratory diseases.

81. **Energy policy formulation**. Energy policy formulation does not include environmental considerations. During the transition process energy consumption and the pollution linked to it fell, largely due to the drop in industrial production rather than to energy policy reform. Energy policy has been determined by the conflicting considerations of increasing efficiency through market liberalization and price support for issues of social equity. Thus direct and indirect subsidies continue for social and industrial reasons.

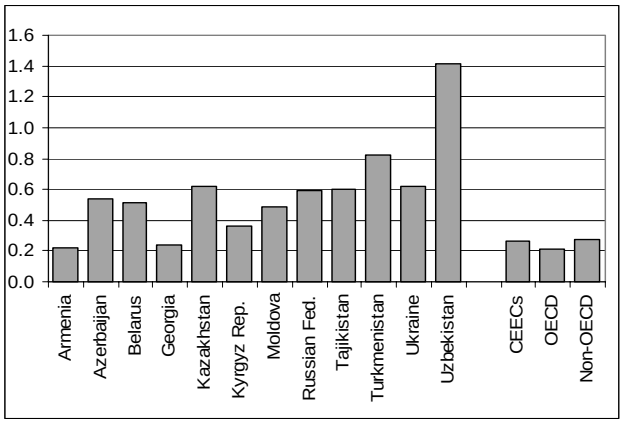
82. **Energy efficiency promotion.** Most countries have formulated explicit energy efficiency strategies – Tajikistan and Turkmenistan are the exceptions. Overall, there has been significant progress in design and implementation, although many countries are not devoting sufficient domestic resources, relying rather on the international community. Many countries that did not have information/awareness programs on energy efficiency in 1998 have started to develop them – examples include Armenia and the Kyrgyz Republic. But in most countries, the link between energy efficiency strategies and environmental issues is not well established – partly because the less immediate concern about meeting Kyoto Protocol obligations since the Protocol does not stipulate additional commitments to the majority of EECCA countries – and thus the region is failing to realise opportunities both under the Global Environment Facility (GEF) umbrella and Kyoto's flexible mechanisms.

83. **Pricing**. Energy tariffs and prices in most EECCA countries are quite inferior to the actual costs of energy production and distribution, leading to a distorted economic structure, economic efficiency losses, energy wastage and excessive pollution. There is some progress in reforming pricing systems, although at a slow pace in most countries. Armenia, Kazakhstan, Moldova, Ukraine and Tajikistan have recently set up pricing commissions or regulatory bodies; a similar body was already created in the Russian Federation in the mid 1990s.

Monitoring Progress

Figure 14. Energy intensity

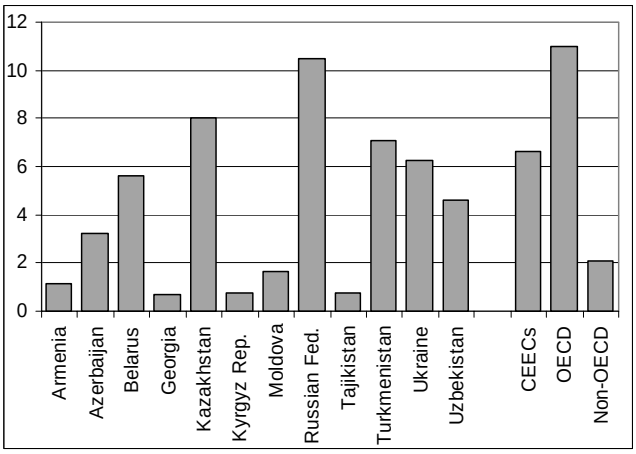
Energy supply per unit of GDP, tonnes of oil equivalent per 1000 US$ (based on 1995 PPPs)



Note: 2002 data. CEECs refers to Central and Eastern European Countries: Bulgaria, Czech Rep., Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Rep., and Slovenia.
Source: OECD/IEA, World Energy Statistics and Balances 2004.

Figure 15. Climate change

Tonnes of CO2 emissions per capita



Notes: 2001 data. CEECs refers to Central and Eastern European Countries: Bulgaria, Czech Rep., Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Rep., and Slovenia.
Source: OECD/IEA, CO2 Emissions from Fuel Combustion 2003.

Integration of environmental concerns in the energy sector requires inter-ministerial coordination mechanisms between the ministries dealing with environment and energy issues, development of effective capacities in those ministries and the application of appropriate policy instruments, including those that promote energy demand management. No country-level assessment of the existence of those elements is available in EECCA. The two indicators presented here are being used by the United Nations, jointly with other five indicators, to monitor progress towards achieving the MDG target of integrating the principles of sustainable development in country policies and programs and reverse the loss of environmental resources. The first indicator, energy intensity is only a proxy for energy efficiency improvements. Two major shortcomings for this type of indicators are the time lag in obtaining the data and the relatively slow responsiveness to policy changes. There is scope to develop indicators better suited to tracking progress of the integration sub-objectives in general, and the energy one in particular.

Facilitating Progress

The organization that has been designated as facilitator of this objective is UNECE. Cooperating institutions include OECD, UNDP and the World Bank.

Main Information Sources

Energy Charter Secretariat. 2003. The Road Towards an Energy Efficient Future. European ECO-Forum. 2003. Environmental Policy Integration: Theory and Practice in the UNECE Region.

2.4.3 Transport Sector

84. In EECCA there was a sharp decline in transport volumes after 1989 following economic recession. Data of limited quality suggests that freight and passenger transport is back at the level of the mid-1970s and still well below that in the 1980s. However, judging from the steady growth in passenger car ownership in the region, demand for passenger car use is likely also to have risen rapidly. Energy consumption and related emissions are expected to grow in EECCA as economies recover and the demand for transport increases. Currently, the most important short-term challenges are to phase out leaded petrol in those countries that have not done so yet, abolish fuel subsidies, introduce self-financing of the transport system via fuel taxes, and move towards cleaner vehicles and better inspection and maintenance regimes.

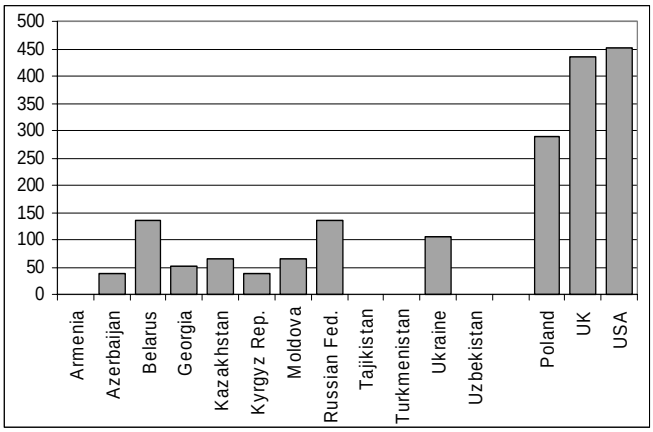
85. **Leaded petrol.** Many of the EECCA countries have banned leaded petrol or are planning to do so. Leaded gasoline is no longer found in Ukraine, Armenia, the Russian Federation, Azerbaijan, Belarus, and Georgia. In Moldova, leaded gasoline represents less than 1% of the market. In Uzbekistan, leaded gasoline represents still has 59% of market share; the government has committed to phase out by 2008. In Kazakhstan, where leaded gasoline represents 15 % of the market, will phase it out by 2005.

86. **Fuel pricing.** Although there are significant excise taxes in some EECCA countries, several EECCA countries levy hardly any tax on petrol or diesel. Moreover, some countries actually subsidise their transport fuels, in the senses that the fuel is sold below the world market price plus distribution.

87. **Car technology.** Most countries have introduced restrictions on car imports in terms of age and technical specifications, alongside tax incentives for cars with catalytic converters and lead free petrol.

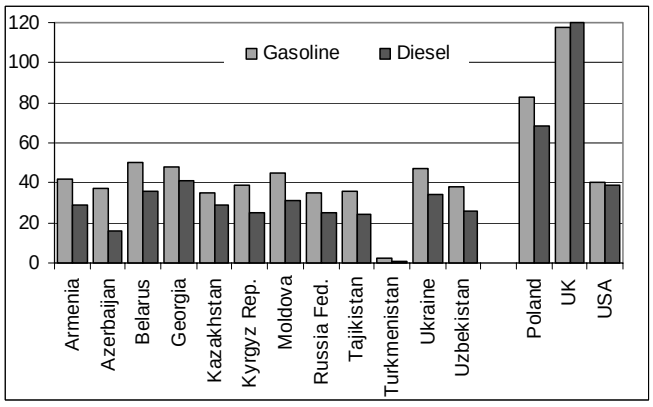
Monitoring Progress

Figure 16. Passenger cars
Cars per 1000 population



Note: 2002 data. No data available for Armenia, Tajikistan, Turkmenistan and Uzbekistan
Source: International Road Federation, World Road Statistics.

Figure 17. Pump prices for transport fuels
US cents per liter



Note: 2002 data.
Source: German Technical Cooperation (GTZ), Fuel Prices and Vehicle Taxation.

The challenges in identifying and selecting indicators to monitor progress in integrating environmental concerns in the transport sectors are similar to those described above for the energy sector. In addition, the MDG monitoring framework does not include indicators for transport. The first indicator presented here, number of cars, helps to identify pressures on the environment and also, but only to a very limited extent, integration of environmental concerns – for instance if an active public transport promotion policy were to be put in place. The second indicator, pump prices for transport fuels, is more closely linked to policy decisions that attempt to internalize environmental externalities in the behaviour of drivers.

Facilitating Progress

The organization that has been designated as facilitator of this objective is UNECE. Cooperating institutions include UNEP, OECD and the European Conference of Ministers of Transport.

Main Information Sources

DANCEE. 2003. Progress Report on the Implementation of the Pan-European Strategy to Phase Out Leaded Petrol.

EEA. 2003. Europe's Environment: the Third Assessment. Copenhagen, Denmark: European Environment Agency.

2.4.4 Agriculture and Forestry

88. **Agricultural pressures on the environment.** There is a legacy of significant environmental damage associated with agriculture in EECCA, often associated with unique ecosystems. During the Soviet era, government planning determined agriculture and food production with little regard to efficiency or the suitability of production for the environment. Arable land expanded at the expense of forest and grassland, increasing also the pressure on remaining pastures. The development of huge irrigation and drainage schemes, farm specialisation and investment in animal production resulted in a greater reliance on non-farm resources, including agrochemicals. Poor or non-existent containment of manure resulted in hotspots of nutrient loading in regions specialising in animal production.

89. During the transition period, the dramatic decline in resource use in the region, largely due to economic restructuring rather than policy, consumer or technological developments, has scaled back many environmental pressures. Some major problems remain, though – most prominently irrigation pressure in the Aral Sea basin. At the same time some new environmental pressures have emerged – lack of capital to maintain or improve farm infrastructure is putting pressure on freshwater resources, and inadequate storage and disposal of pesticides result in localised hotspots of contamination. Under the current framework, large untapped agricultural potential in the region may give rise to heavy use of fertilizers and pesticides as the EECCA economies strengthen.

90. **Environmental integration in the agricultural sector.** Throughout EECCA, increased awareness and recognition of the complexity of rural socio-economic problems is apparent. But agri-environmental policy development is still at an early stage, agricultural advisory services are weak (also as regards the provision of agri-environmental advice and training materials) and the storage of animal waste is not been tackled. Some positive developments are associated with grants and loans provided by IFIs to develop strategies and actions to mitigate the impacts of agriculture on the environment. There are some initial training programmes in EECCA to support the uptake of integrated crop management practices. As regards organic agriculture, despite a high share of low-input systems that could facilitate the shift to organic agriculture, its development is still minimal.

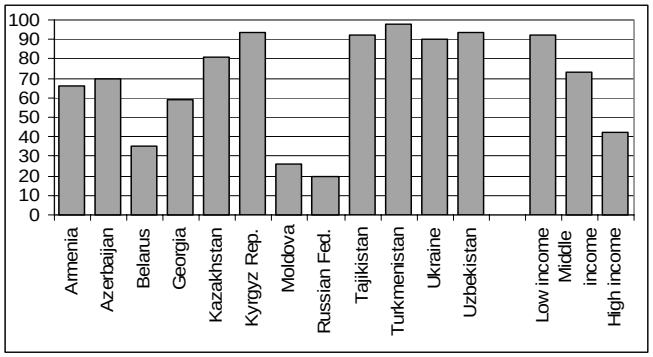
91. **Forestry pressures on the environment.** Forests in EECCA are experiencing many changes resulting from the opening-up of new export markets, institutional restructuring, and changes in ownership structures. In the Russian Federation the amount of virgin forest is declining in the western areas, western Siberia, the southern parts of eastern Siberia, and the Russian Far East. Unsustainable use of forest resources due to over-cutting and illegal logging has been reported. The financial crises of 1998 led to the highest rates of forest utilisation for a decade, as it become more profitable to harvest and export raw material, causing a real threat to the remaining intact forests. Industrial forest harvesting and the fires that follow logging, agricultural use and road construction are the main causes of another negative development – forest fragmentation.

92. **Sustainable forest resources management.** The possibilities of changing production forests into forested areas that are able to satisfy multiple functions (including recreation, education, nature protection, and buffer zones between built-up areas) are dependent on the importance of forestry for the national economies. In comparison to other regions, the contribution of the forestry sector to GDP is relatively high in EECCA – 4% versus an EU average of 1%. The EECCA average masks large differences between western EECCA, however – the forestry sector contributes to some 4.5% of GDP in the western EECCA while representing less than 0.1% of GDP in Central Asia and the Caucasus. Further increases in private ownership of forests may lead to an increase in felling as the owners continue to see the forest as a potential source of income. But concerns are also expressed that in those

countries where privatisation and restitution are expected to yield numerous forest owners, many will receive very small holdings for which they may show only limited interest with regard to management.

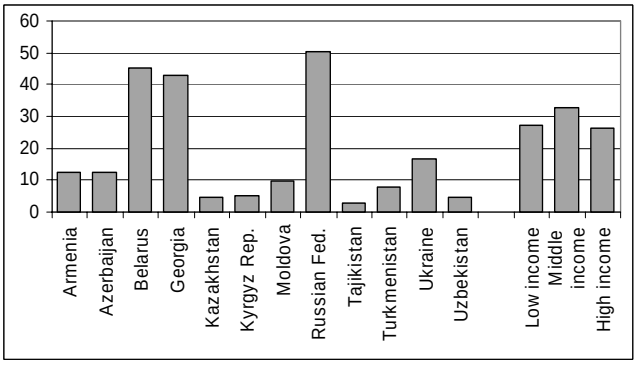
Monitoring Progress

Figure 18. Water abstraction for agriculture
Percentage of total freshwater resources



Note: Data refer to various years.
Source: World Bank, World Development Indicators 2004.

Figure 19. Area covered by forests
Percentage of total land area



Note: 2000 data.
Source: FAO, FAOSTAT database.

The challenges in identifying and selecting indicators to monitor progress in integrating environmental concerns in the agriculture and forestry sectors are similar to those described above for the energy and transport sectors. The first indicator presented here focuses on agriculture's contribution to water demand – this indicator is closely related to the one presented above in Figure 8. Agriculture is the dominant water user in Central Asia, accounting for more than 90 % of total use. Implementation of policies aiming to tackle inefficient irrigation practices, poor water resources management and lack of incentives for water conservation – that is, to integrate water resource considerations in water use decisions – would reduce the abstraction rates, but the caveat described in the section on Objective 3 also applies. The second indicator presented below belongs to the set put forward in the MDGs monitoring framework. A weakness of this indicator is that it does not reflect the particular problems of forest management in the EECCA region – which are more related to forest quality than to total coverage.

Facilitating Progress

No organization has been designated as facilitator of these objectives.

Main Information Sources

EEA 2003. Europe's Environment: the Third Assessment. Copenhagen, Denmark: European Environment Agency.

2.5 Objective 5. Establish and Strengthen Mechanisms for Mobilizing and Allocating Financial Resources to Achieve Environmental Objectives

2.5.1 Environmental Expenditure

93. In terms of financial effort, the EECCA region is significantly committed to improving environmental quality. Most EECCA countries seem to devote an almost equal share of their national incomes to environmental expenditure as Central and Eastern Europe and EU-15 countries[4]. The average masks, however important differences across countries. In 2000, the spectrum ran from Azerbaijan at a low 0.4% of GDP to Moldova at a high 2.4%.

94. There is a striking contrast between significant effort and unmet needs. Other sections in this report consistently point out the lack of financial resources to address key environmental problems. The low share of investments in environmental spending – only about 25% – also indicates the insufficiency of available funding.

95. How to explain this disconnect? One explanation is that the bulk of environmental expenditure goes to finance operation of environmental infrastructure – typically 50-85% of environmental expenditure corresponds to water supply and sanitation. The running costs of environmental infrastructure are high, and as GDP plummeted in the early 1990s, environmental expenditure as a percentage of GDP increased to reach EU levels, while spending in absolute terms was not able to fully cover operation and maintenance costs of environmental infrastructure and many other environmental issues remained under-funded.

96. **Domestic sources of finance**. Environmental improvements in EECCA are dependent on mobilizing domestic financial resources. Currently, domestic, not international, sources account for the largest share of total environmental expenditure in EECCA. In 1996-2001, domestic sources accounted for nearly or above 90% of environmental expenditures in Kazakhstan, Moldova, Ukraine, Turkmenistan, and Russia. External resources are more important in some poorer countries – domestic financing was less than half of total environmental expenditures for Kyrgyz Republic, Armenia and Georgia.

97. Environmental expenditures, however, are not always keeping up with economic growth[5]. Absolute levels of environmental expenditures show no clear trends over time. In the period 1996-2001 they rose in some countries (Armenia, Kazakhstan and the Kyrgyz Republic) and declined in others (Azerbaijan, Russia, Ukraine and Uzbekistan). But as a percentage of GDP, environmental expenditure has stayed constant or decreased over the 1996-2001 period.

98. For most EECCA countries, the amount of private environmental expenditures is uncertain. Solving environmental problems does not necessarily require government funding, as exposed by the "polluter pays principle". Applying this principle would require the effective implementation of policy

4 EU-15 refers to the 15 countries that formed the European Union before the 2004 enlargement.

5 There are no data available that would allow analyzing environmental expenditures in a strict sense. This report uses 'environmental expenditure' as short for the broader concept 'environmentally-related expenditure'. 'Environmentally-related expenditure' includes 'environmental' expenditures (as defined in OECD Pollution Abatement and Control methodology) plus drinking water supply and some natural resources management expenditures.

instruments aimed at creating an incentive structure that would make polluters abate pollution at their own cost.

99. **External sources of finance.** Mobilizing further domestic resources could be possible in some EECCA countries, but there is also scope to increase donor assistance. While donors have increased support to environmental quality in the region – both in absolute terms and as a share of ODA/OA – environmental assistance represents a significantly smaller share of total assistance than in other regions of similar income levels. Moreover, environmental assistance to the region comes from a small number of donors – in 1996-2001, three donors (the European Commission, the United States and Denmark) provided 48% of total environmental aid – making total figures vulnerable to changes in priorities in key donors. Much more could be done to improve the effectiveness of international cooperation and to ensure that it better responds to the need of the EECCA partners.

100. There seems to be a 'division of labour' between donors and international financial institutions (IFIs) when financing environmental improvements in EECCA. Donor environmental assistance spreads throughout the region, but concentrates more on the poorest countries. Although the Russian Federation has been the largest recipient of environmental assistance in absolute terms, when analysed as a share of recipient GDP the highest levels were recorded for six of seven low-income EECCA countries – the figures range from 0.33% of Armenian GDP to 0.01% of Belarus and Turkmenistan's economies. At the same time, the IFIs focus on the larger, relatively higher-income countries – the Russian Federation, Ukraine, and Kazakhstan accounted for more than two thirds of environmentally related loans. Loans for the low-income EECCA countries are much smaller in proportion to their borrowing capacity.

101. The low profile of environmental sustainability in national development agendas is a barrier to increased environmental assistance. In the current international development context, donor assistance and concessional lending increasingly takes place in the framework of national development plans – such as Poverty Reduction Strategies). In the EECCA region, only Kazakhstan has prioritised environment within the EC/TACIS programme.

2.5.2 Management of Public Environmental Expenditure

102. Management of public environmental expenditure is rather weak across EECCA. While the information base for public expenditure management is generally narrow, costing of environmental programs is a particular problem. The investment and operational costs of meeting environmental objectives are rarely calculated ex-ante in a robust way, so they are not used to inform policy development. Policy implementation is also plagued by financial management problems – most public resources in the environmental sector are spent without a clear programmatic framework and objectives to be achieved.

103. Inadequate expenditure patterns hinder progress in improving environmental outcomes. Existing programs are not prioritised, nor results oriented; they lack cost-effectiveness analysis, implementation instruments and realistic financial plans; and, although they often include investments to be undertaken by the private sector and municipalities, they fail to provide effective incentives for those actors to carry out the investments. As a result, scarce resources are spread too thinly among too many programs and projects, and programs are typically under-funded and not implemented. Awareness of this problem is increasing – for instance, the Russian Federation consolidated 15 federal special purpose programs into a single one in 2002.

104. But poor environmental expenditure management is also depriving the environmental sector of a larger pool of resources. Environmental authorities in EECCA are usually marginalized in the budget

process and public investment programs. Often it is the result of failure of the rest of government to recognize the real economic value of environmental improvements, and hence responsibilities for provision for environmental goods, services and infrastructure. But environmental agencies might improve their effectiveness in attracting more government resources and foreign finance if they operated according to acknowledged standards of good governance and sound public finance. Currently the institutional framework for managing public resources is weak when evaluated in terms of the three dimensions of environmental effectiveness, fiscal prudence and management efficiency.

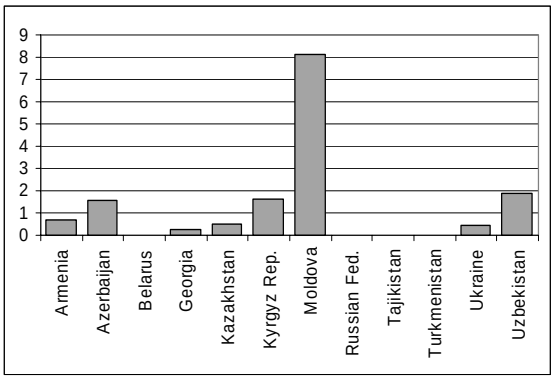
105. Environmental funds and pollution charges systems in particular are low performing. With the exception of Ukraine and Moldova, special, earmarked environmental funds are neither significant nor obviously necessary elements in environmental finance systems for mainstreaming environment in public expenditure programs. At the same time, the current systems of environmental charges in EECCA countries are not effective for raising revenues or for establishing disincentives to pollute – fewer charges, simpler and more transparent procedures and higher (and inflation-indexed) rates are needed. There is also scope for more ambitious revenue-neutral environmental fiscal reform – including new environmentally related taxes charges and other payments for environmental services.

Monitoring Progress

The six indicators presented here cover the issue of mobilizing additional financial resources. The first three indicators focus on domestic finance, while the rest focus on international assistance. OECD/EAP TF is currently working on assessment of the quality of environmental expenditure management, but the country coverage is too small to report at this stage. The indicator showing the relative distribution of public and private expenditures, in particular, needs to be interpreted with care as there are concerns with the reliability of the data. As it is the case for data on environmental conditions, improving data quality on environmental expenditures should be considered as it represents a key input to strategic planning processes.

Figure 20. Environmentally-related expenditure of the public sector

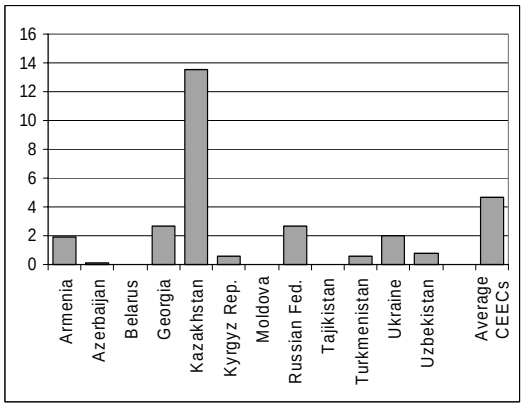
Share of total government expenditure



Notes: Average values over 2000-01. Data should be compared with caution, as definitions and sector coverage vary across countries.
Source: EBRD, IMF, OECD based on national data.

Figure 21. Environmentally-related investments

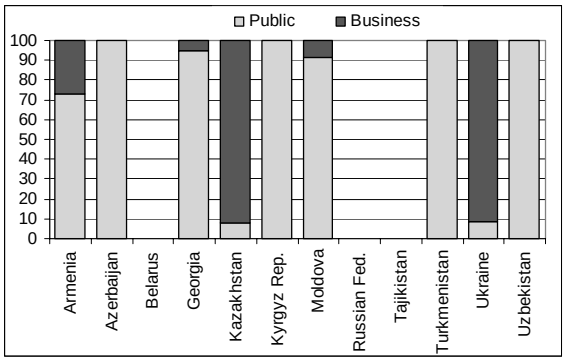
Share of gross fixed capital formation



Notes: Data refer to 2000 or latest available year. CEECs refers to Central and Eastern European Countries and includes average data for: Bulgaria, Czech Rep., Hungary, Lithuania, Poland and Romania.
Source: EBRD, IMF, OECD based on national data.

Figure 22. Environmentally-related expenditure in the public and business sectors

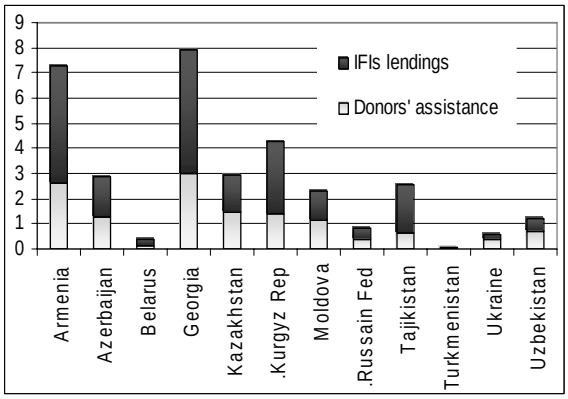
Percentage share



Note: Data refer to 2001 and to 2000 for Armenia, Kyrgyz Rep. and Uzbekistan.
Source: OECD based on national data.

Figure 23. Environmentally-related assistance and financing to EECCA

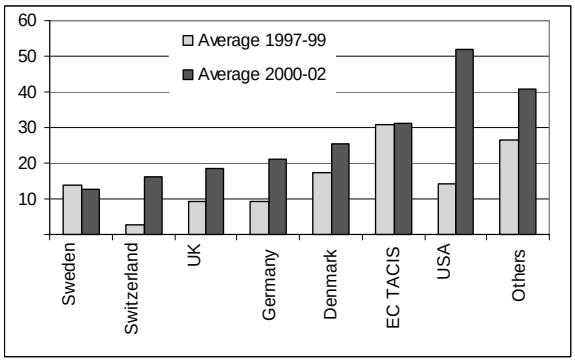
EUR per capita



Notes: Average values for 2000-02. Data refer to commitments of Official Development Assistance (ODA) and Official Assistance (OA).
Source: OECD DAC/CRS Aid Activity Database, donors and IFIs reporting.

Figure 24. Commitments of environmentally related assistance by donor

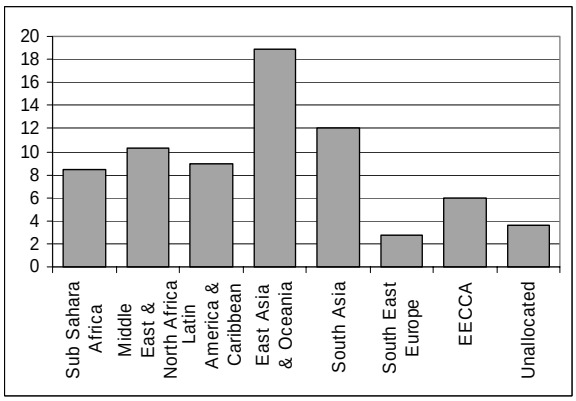
Million EUR



Note: Data refer to commitments of Official Development Assistance (ODA) and Official Assistance (ODA). Averages are calculated on available data only.
Source: OECD DAC/CRS Aid Activity Database, donors reporting.

Figure 25. Regional comparison of environmentally related ODA/OA

Share of total ODA/OA



Note: 2002 data referring to total net flow of bilateral and multilateral ODA/OA.
Source: OECD DAC/CRS Aid Activity Database.

Facilitating Progress

The organization that has been designated as facilitator of this objective is OECD/EAP TF. Cooperating institutions include UNDP, PPC, UNEP, the World Bank, EBRD, UNECE and the RECs.

Main Information Sources

OECD/EAP TF. 2003. Financing Environmental Protection in Eastern Europe, Caucasus and Central Asia (EECCA): Background Report.

OECD/EAP TF. 2003. Trends in Environmental Expenditure and International Commitments for the Environment in Eastern Europe, Caucasus and Central Asia, 1996-2001.

2.6 Objective 6. Provide Information for Environmental Decision-Making, Promote Public Participation and Environmental Education

2.6.1 Strengthening of Environmental Monitoring and Information Management

106. In comparison with other regions with similar income levels, EECCA countries have relatively well developed environmental information systems. But they still display a number of shortcomings, preventing them from meeting all policy needs. They are often characterized by poor monitoring (especially on urban air, surface water quality, and waste); inadequate measurements and data treatment systems; underdeveloped databases (especially electronic ones); inadequate assessment of environmental risks; and poor and irregular environmental reporting.

107. The current strengths and weaknesses of environmental information systems are linked to the recent past. In the Soviet Union, large volumes of data related to environmental conditions and trends were collected. However, data quality varied, data series were often not directly compatible, and agencies did not share their data. At the same time systematic evaluations of the state of the environment were hampered by difficulties in compiling and comparing data, little work was done to analyse, integrate and synthesise data for policy development, and environmental information was rarely released to the public.

108. **Legal and institutional issues**. The legislative framework for environmental information management is largely appropriate – typically covering environmental monitoring, reporting and public access to environmental information. The institutional framework, however, presents coordination problems. A few countries have sought to consolidate the agencies involved in monitoring, but given the broad array of monitoring bodies, most countries have focussed efforts on improving coordination and cooperation among those bodies. Belarus, Ukraine, and the Russian Federation have advanced on this front, but in most EECCA countries national monitoring responsibilities remain loosely defined, resulting in inefficiencies – such as duplication and fee-based data exchange. Coordination between central agencies and local offices is also a challenge.

109. **Environmental monitoring**. Monitoring capacity vary substantially across countries. A first group of countries (including Ukraine, Belarus, and the Russian Federation) has maintained the scope for monitoring activities over the past 10 years, or seen only limited decreases, but methodologies are not always well developed, equipment is ageing and authorities have difficulty in hiring and retaining monitoring experts. In the face of severe economic conditions and in some cases political conflict, a second group of countries (particularly the Caucasus and most Central Asian republics) has experienced a drastic decline in the range of environmental media monitored.

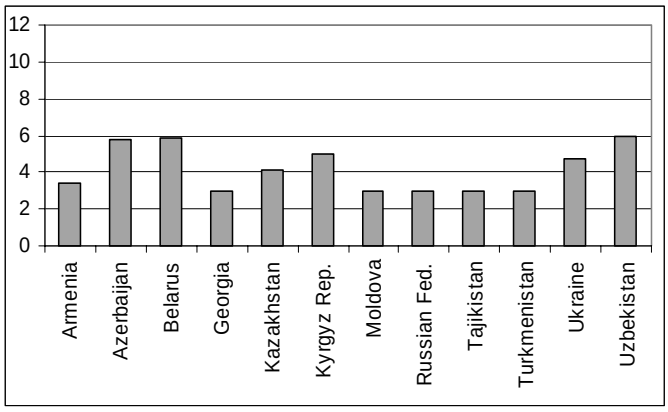
110. At the same time, environmental monitoring is not demand-driven. In many EECCA countries, the decline in monitoring work means that data are incomplete or simply not available in key environmental policy areas. But in some countries, a contrast remains between the large volume of data produced on certain topics and the difficulty in using these data to support decision-making.

111. **Environmental reporting**. The quality of environmental reporting is also mixed across countries. Half of the EECCA countries produce and publish regular national State-of-the-Environment (SoE) reports, some times involving a wide range of agencies – over 40 ministries and departments in the Russian case. Although SoE reports cover issues identified as national priorities, few reports provide information related to the implementation of policy efforts to address those priorities. Most reports make limited use of indicators tied to policy targets. Few reports provide extensive time series, discuss emerging trends and provide conclusions that can be used by policy makers.

112. Public access to SoE reporting is limited. The main obstacle is not the price of the reports, but rather very short print runs – only 300 copies in the Kyrgyz Republic and 1 000 in the Russian Federation. Some countries, like Georgia, have prepared summary versions and presented them to the public via the press. Small budgets to develop, write and publish SoE reports result also in restricted use of colour and user-friendly graphic design. A few countries have produced web-based versions, but few people have yet regular access to the internet.

Monitoring Progress

Figure 26. Environmental monitoring and information management
Rating



Source: EEA, OECD staff.

The indicator presented here combines a scoring exercise undertaken by EEA to assess the completeness and promptness of the country responses to the questionnaires on soil, water, and waste data collection for the Third Assessment report, and a scoring exercise undertaken by OECD staff to assess the completeness of the country responses to reporting obligations of the Long-Range Transboundary Air Pollution (LRTAP) Convention for eight air pollutants in 2001 and 2002. Low scores suggest problems either in monitoring or in information management. The maximum possible score would be 12 – three points per area: air, water, soil, and waste. However, for Tajikistan, Turkmenistan and Uzbekistan, the maximum score would be nine – as they are not parties to the LRTAP convention.

Facilitating Progress

The organization that has been designated as facilitator of this objective is UNECE. Cooperating institutions include UNEP, ECO-Forum, EEA and the RECs.

Main Information Sources

EEA and UNECE. 2003. Lessons Learned from Data Collection for the Kiev Report.

UNECE. 2003. Environmental Monitoring and Reporting – Eastern Europe, the Caucasus and Central Asia. New York and Geneva: United Nations.

2.6.2 Public Participation in Environmental Decision Making

113. After the collapse of the USSR, many democratic principles were adopted in the EECCA countries, including access to information and public participation in environmental decision-making. New tendencies of participatory democracy were born, new sprouts of democracy were raised and have grown in practice in the form of referenda, public hearings, or first court cases and litigation on environmental issues connected with the protection of citizen's rights. Nevertheless, the level of public environmental consciousness and awareness is still rather low because of the concern about economic issues, lack of tradition of public participation in decision-making, and distrust of government bodies and especially of the court system.

114. Detailed information on public participation in environmental decision-making in EECCA countries is not yet systematically available. The Aarhus Convention Secretariat will produce an implementation assessment based on national implementation reports in early 2005. The Convention addresses access to information, public participation and access to justice in environmental matters. All but two EECCA countries – the Russian Federation and Uzbekistan – have ratified it.

115. **Access to information**. In EECCA, the Aarhus Convention is primarily seen as a tool to foster further democratization, strengthen regional co-operation agreements, and adequately address their pressing environmental concerns. Access to information is often singled out as a priority for national implementation, as many States perceive it an area that will build a solid basis for public participation in decision-making on environmental issues.

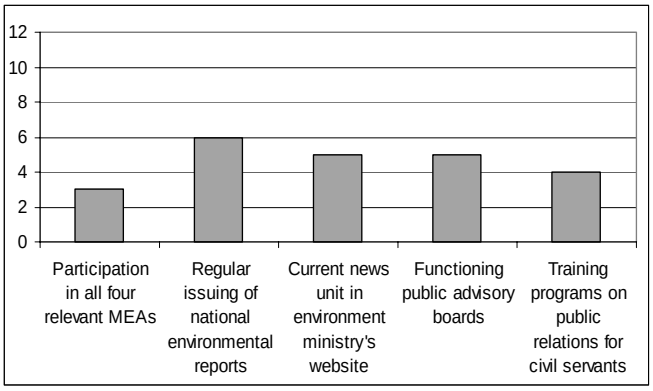
116. **Public participation**. At the same time, many governments are reluctant to allow for public participation believing that the public cannot provide a constructive input because of the lack of information. In any case, several States are introducing public participation provisions in their legislation and some are also developing mechanisms for regular public hearings on new legislation and State programmes affecting the environment. For instance, advanced legislation or practice allow public participation – even on policies and legislation – in Ukraine, Georgia, Kazakhstan, and Uzbekistan.

117. Participation provisions in the legislation do not guarantee that the public is properly involved in decision-making. In Central Asian countries, most provisions of the legislation in the field of access to information and public participation are declarative and are not supported by implementation mechanisms. Public consultation is often sought only in the initial phase of a programme of activity, and some countries lack mechanisms or procedures for continues public input. At the same time economic difficulties are often accompanied by a high level of public apathy, which is not conducive to active and constructive public participation in environmental decision-making processes.

118. **Access to justice.** Access to justice, the third pillar of the Aarhus Convention, is the most challenging area for implementation, with many countries lacking even adequate enabling legislation.

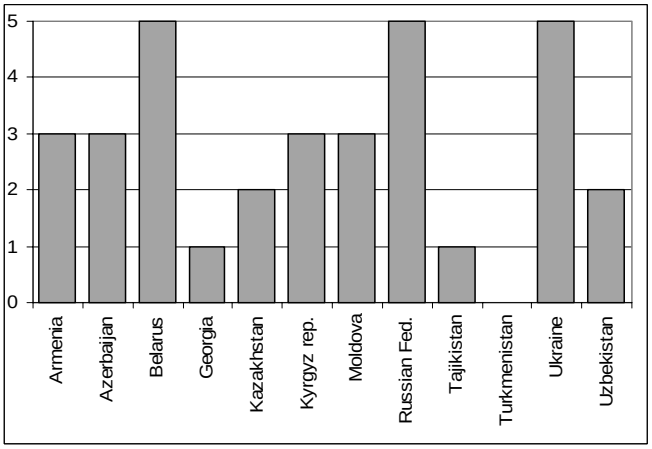
Monitoring Progress

Figure 27. Regional baseline on public participation
Number of countries



Source: ECO-Forum.

Figure 28. Assessment of official environmental web sites
Rating



Note: Turkmenistan does not have an official environmental Web site.
Source: UNECE staff, OECD staff.

The first indicator presented here tries to reflect measures taken by governments to promote public participation in decision-making. Those measures include (i) signature of multilateral environmental agreements (MEAs) that have a strong public participation component (the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters; the Espoo Convention on Environmental Impact Assessment in a Transboundary Context; the Protocol on Pollutant Release and Transfer Registries to the Aarhus Convention; and the Protocol on Strategic Environmental Assessment to the Espoo Convention), (ii) efforts to inform the public (regular issuing of national environmental reports, existence of a current news unit in the ministry's website), (iii) creation of channels for public participation in decision-making (functioning public advisory boards) and (iv) efforts to promote the government's responsiveness to public participation (training of civil servants in public relations). The second indicator presented below is a rating based on a recent assessment by UNECE staff on the quality of the websites of environmental ministries (covering content, broken links and connection speed) – the maximum score would be five points. Both indicators lean heavily on the area of public information, partly due to lack of more detailed information on public participation, and partly because public information may be a relatively good proxy for the promotion of active forms of public participation in environmental management.

Facilitating Progress

The organizations that have been designated as facilitators of this objective are UNECE, UNDP, and the RECs. Cooperating institutions include UNEP, ECO-Forum and OSCE.

Main Information Sources

ECO-Forum. 2004. Indicators of Public Participation in Environmental Decision-Making in the EECCA Countries – Analytical Survey.

Informal input by Russia REC.

UNECE. 2003. Progress Report on Status of Ratification and Implementation of the Aarhus Convention.

2.6.3 Education

119. Environmental education has gained greater visibility recently in EECCA. This is linked to the emergence of the concept of Education for Sustainable Development and the momentum that it gained during the World Summit on Sustainable Development and sustained during the Kiev Ministerial Conference, where a Statement on Education for Sustainable Development was endorsed. A Strategy for Education for Sustainable Development is under development in the UNECE region and will serve as a contribution to the UN Decade on Education for Sustainable Development that starts in 2005. While the EECCA Environment Strategy refers to environmental education, education for sustainable development is a broader concept. As the UNECE Strategy for Sustainable Development gets underway, more information on ESD will be available. The information that follows refers only to Environmental Education.

120. Across EECCA, the legal and normative basis for environmental education has generally already been established. Programs and frameworks of continuing environmental education have been adopted in various forms in all Central Asian countries, for instance.

121. But implementation is still a big challenge, due to both conceptual and resource shortcomings. Among public officials, there is still a strong association between environmental education and ecology, undermining the development of comprehensive programs for environmental education. Formal environmental education in the region is still largely characterized by outdated curricula, poor materials, and absence of trained educators.

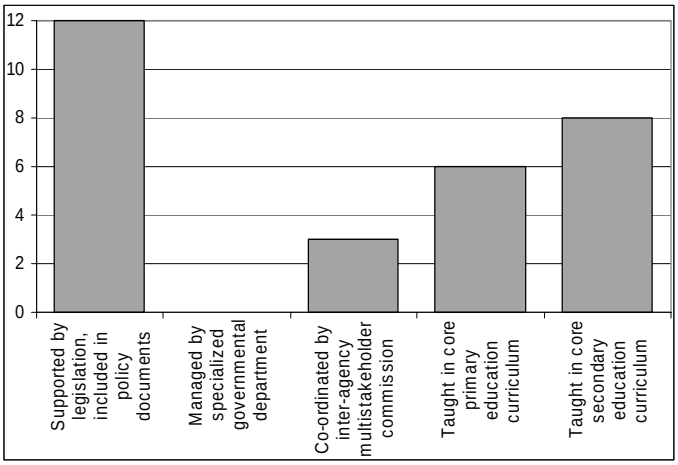
122. **Formal environmental education.** Pre-school education receives insufficient attention. Even in Kazakhstan, where all education programs contain a section on 'environmental education', actual work is carried out in just a few kindergartens. Primary and secondary educational levels do offer elements of environmental education – usually in Natural Science courses in elementary grades and in General Biology in higher grades – but those elements do not add yet to a comprehensive environmental education. At university level, several countries have made environmental courses mandatory for a large number of disciplines. But the absence of unified conceptual and methodological approaches results in fragmentation, inconsistency and alienation from the general university system. In addition, good professional training in environmental management is taking off slowly.

123. Lack of basic resources impairs implementation of formal environmental education programs. Often, textbooks and other materials are outdated and do not always reflect the specific environmental problems of each country. They are also often unaffordable – for instance, in Kazakhstan the education system 'Ecology and Dialectics', which was relatively widespread in the 1990s is practically not been used due to the high cost of the supporting textbooks. Nevertheless, positive developments are taking place. The process of curricula and textbook replacement has already been started in some countries – for instance, Tajikistan has developed textbooks on 'Ecology' and on 'Economy and Environment', and Uzbekistan has developed a plan to publish textbooks and aids for the topic 'People and Environment'. Educators are being trained – although, paradoxically, they do not always find jobs.

124. **Non-formal environmental education.** NGOs contribute greatly to the development of environmental education in the region. Many NGOs have links with international programs and thus enjoy much greater access to the world experience than representatives of the state education system. By developing their own programs and publications, NGOs play a special role as environmental education resource centres. In addition, extra-curricular activities in some schools are helping to improve the level of environmental literacy.

Monitoring Progress

Figure 29. Environmental education
Number of countries



Source: ECO-Forum.

The indicator focuses on environmental education, rather than on the broader concept of education for sustainable development. As it is the case with the first indicator related to public participation (presented in the previous section), the environmental education indicator has been developed in a joint effort by the OECD/EAP TF staff and ECO-Forum – a coalition of environmental NGOs. These indicators represent a first attempt to monitor policy responses in these two areas. Across the world, headline indicators that aim to track policy responses are less well developed that those referring to pressures on the environment or the status of environmental conditions. More work on policy response indicators (also referred to as environmental management indicators) will be needed to present an accurate assessment of the efforts undertaken by EECCA countries in trying to achieve the objectives of the Strategy.

Facilitating Progress

The organization that has been designated as facilitator of this objective is UNECE. Cooperating institutions include UNEP, UNDP, UNESCO, RECs, and ECO-Forum.

Main Information Sources

CAREC. 2003. Environmental Education in Central Asia.

Informal input by ECO-Forum and Russia REC.

2.7 Objective 7. Identify and Address Transboundary Problems and Strengthen Cooperation within the Framework of International Conventions

125. Several key environmental issues in EECCA have a transboundary dimension and thus managing them requires international cooperation. There is wider scope for cooperation between countries – for example in the area of alternative waste treatment, as several countries may not generate sufficient quantities of certain wastes to treat them in an efficient way. In many cases, multilateral environmental agreements offer good frameworks to tackle those issues. Closer geographical proximity between EECCA and the enlarged EU means that both regions will have shared interests in working together to tackle transboundary threats, including environmental ones. This section also looks more closely at the case of water – the Caucasus and Central Asia are experiencing major problems in the management of shared rivers. It could be argued that progress in such a thorny issue may be a good indicator of overall progress in tackling environmental issues multilaterally.

2.7.1 Participation in Multilateral Environmental Agreements

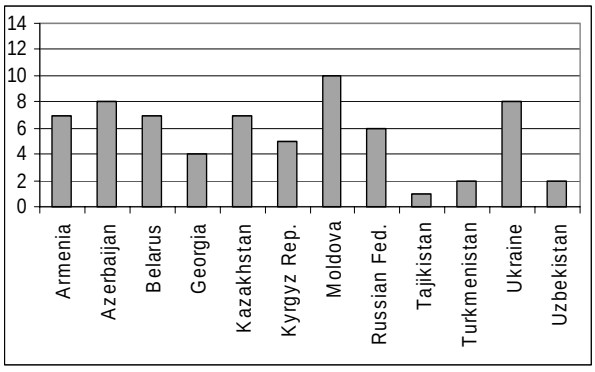
126. One way of approaching to measure progress on this objective is through the lens of multilateral environmental agreements (MEAs). A fair share of policy formulation in EECCA has been done at the international level – through global, regional, and subregional conventions.

127. Ratification of MEAs is uneven across the region. For instance out of 15 MEAs analyzed Moldova has ratified 10 and Tajikistan only one. At the same time, there is now widespread concern that signature and ratification of multilateral environmental agreements is no longer an indication of the likelihood of effective implementation. It would be useful to know more about country capacity to implement MEAs, as there is little value in ratifying agreements that will not be implemented.

Monitoring Progress

Figure 30. Ratification of environmental conventions and protocols

Number of agreements ratified



Source: Conventions' Web sites.

The indicator shows the number of MEAs that each EECCA country has ratified. The agreements reviewed are: the Convention on the Protection and Use of Transboundary Watercourses and International Lakes and its Water and Health protocol; the LRTAP convention and the four associated protocols signed after 1992; the Espoo Convention; the Convention on the Transboundary Effects of Industrial Accidents Convention; the Aarhus Convention; the Basel Convention; the Convention on International Trade in Endangered Species, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade; and the Stockholm Convention on Persistent Organic Pollutants.

2.7.2 Transboundary problems: Water

128. There is considerable inter-dependence between EECCA countries with regard to water resources, as many water allocation and pollution problems that were previously national issues within the Soviet Union are now transboundary issues. In particular in Central Asia, cooperation between countries sharing rivers such as Syr Daria and Amu Daria is crucial for life, economy and political stability. The reliance of Azerbaijan on drinking water from the transboundary river Kura, and disputes between Moldova and Ukraine over the use and pollution of the Nistru river are other examples. This requires a new and negotiated legal and regulatory framework for water resources management between sovereign States, which will take some time to achieve. In addition, new opportunities for transboundary water management cooperation will arise for those EECCA countries that are new neighbours with the enlarged European Union.

129. There is generally a positive attitude towards establishing good cooperation on transboundary water issues in EECCA, and cooperation in many transboundary rivers basins is developing well. Several new agreements have been concluded and joint commissions have been established. However, examples can be found where there are difficulties in establishing good cooperation. In some cases agreements have not yet been established between countries. If there are agreements, these are not always fully implemented, and may not be effective tools to tackle the relevant issues, nor address social, economic and environmental aspects.

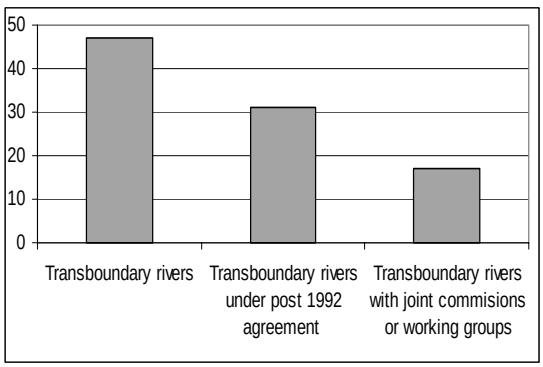
130. Cooperation takes place substantively within the framework of the relevant international convention – the Convention on the Protection and Use of Transboundary Water Courses and International Lakes. This convention is directly referred to in the Preamble of several recent agreement and its provisions are used in substantive articles. But there is scope for further work. Several EECCA countries are not yet parties to the Convention.

131. Competition among water users on how to share water internationally between upstream and downstream countries is in many cases not resolved. For example, in Central Asia upstream countries prioritise the use of water for hydroelectricity generation in winter while downstream countries mainly use water for irrigation in summer. In the Caucasus, reasonable and equitable use of water resources does not seem to be agreed upon in the Kura, Psou and Samur river basins (the latter two shared also by the Russian Federation).

132. An important obstacle to improved cooperation is the lack of a legal and regulatory framework for bilateral and multilateral cooperation. International cooperation in transboundary waters in EECCA also suffers from many bottlenecks characteristic of national water management – such as weak institutions and poor monitoring programs (see section on Objective 3). Indeed, cooperation in this area cannot be seen as a task separate from other national and international tasks of authorities responsible for water management.

Monitoring Progress

Figure 31. Cooperation on transboundary rivers



Source: UNECE, UNEP/ROE.

A crude way of tracking progress in cooperation on transboundary waters is looking at the number of rivers under some form of agreed joint management. The indicator presented here focuses on agreements signed after 1992. To try to take into account efforts towards actual implementation, the number of rivers with permanent joint bodies is also shown.

Facilitating Progress

The organizations that have been designated as facilitators of this objective are UNECE and UNEP. Cooperating institutions include UNDP, the RECs, and the secretariats of UNCBD and UNFCCC.

Main Information Sources

UNECE, UNEP/ROE, Ministry for Natural Resources of the Russian Federation, Swedish EPA and Ecoterra. 2003. Transboundary Water Cooperation in the Newly Independent States.