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ASSESSING ENVIRONMENTAL MANAGEMENT CAPACITY: TOWARDS A COMMON REFERENCE FRAMEWORK

JEL classification: O13; O17; Q01; Q56; Q58

Keywords: Capacity Assessment and Development; Government Functions; Environmental Management; Development Co-operation; Natural Resources Management; Environmental Policy Implementation

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ABSTRACT

The Paris Declaration on Aid Effectiveness calls upon donor and partner countries to enhance the effectiveness and efficiency of country systems in a way that guarantees ownership and sustainable results. Within this context, the current paper provides a synthesis of major elements and approaches of institutional assessment that may be applied to environmental management. It suggests that while a large number of diagnostic tools are in use, their level of elaboration is not sufficient for systemic sector-specific capacity assessments that would match partners' and donors' needs. In order to facilitate the improvement of these tools, the paper provides an inventory of core functions for environmental management. This inventory may be used by those involved in capacity assessments to consider more amply specifics of the environmental sector. Each function will need to be associated with benchmarks reflecting the multifaceted nature of institutional capacity. The evolving approaches to environmental management, as well as changes in the international and country context, impose the need to regularly update both the list of functions and complementary benchmarks.

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RÉSUMÉ

Afin de répondre aux engagements articulés dans la Déclaration de Paris sur l'efficacité de l'aide ainsi qu'aux priorités actuelles en matière de renforcement des capacités, les pays donateurs et partenaires doivent améliorer les performances des systèmes nationaux en garantissant une gestion au niveau local et des résultats durables. La présente étude offre une synthèse des principaux éléments et méthodes de diagnostic institutionnel pouvant être utilisés pour les systèmes de la gestion environnementale. Bien que les outils de diagnostic employés soient nombreux, leur degré d'élaboration demeure insuffisant pour permettre de procéder à des évaluations systémiques des capacités répondant aux modèles contemporains de partenariats entre les donneurs et les bénéficiaires de l'aide. Pour faciliter l'amélioration de ces outils, l'étude recense les fonctions essentielles des autorités publiques en matière de gestion environnementale. Ce recensement peut servir de point de départ à une analyse plus approfondie des capacités. Il sera nécessaire d'associer chaque fonction aux critères spécifiques et, si possible, aux étalons de référence internationaux susceptibles de mieux rendre compte de la nature pluridimensionnelle des capacités institutionnelles. Toutefois, le caractère évolutif des méthodes de gestion environnementale exige que ces fonctions et les éventuels critères d'analyse soient régulièrement mis à jour et affinés en fonction des changements sur le plan national et international.

Classification JEL : O13 ; O17 ; Q01 ; Q56 ; Q58

Mots-clés : évaluation et renforcement des capacités ; fonction publique ; gestion environnementale ; coopération pour le développement ; gestion des ressources naturelles ; mise en œuvre des politiques d'environnement.

FOREWORD

Providing support to partner countries to overcome constraints of institutional capacity has been on the development aid agenda for many years, and covered many sectors, including environmental management. The 2005 *Paris Declaration on Aid Effectiveness* places the emphasis of capacity development on partner countries' own priorities, and providing assistance through partner countries' own systems. Among other things, the Declaration calls for specialised technical and policy capacity necessary for environmental analysis and for enforcement of legislation. These messages are further reinforced in the *Accra Agenda for Action*, endorsed by the Third High Level Forum on Aid Effectiveness in September 2008. In addition, the Accra Agenda for Action includes the commitment to "jointly assess the quality of country systems in a country-led process using mutually-agreed diagnostic tools".

The new aid agenda means that the main responsibility for identifying capacity development needs and establishing specific targets lies with partner countries. Work at the international level could provide a useful contribution to such efforts by suggesting a reference framework for capacity assessment and minimum elements for the associated processes. The current working paper serves as a background for devising capacity benchmarks in the environmental[1] sector. It complements a series of documents addressing the environment and development nexus, which were prepared under the umbrella of the OECD DAC/EPOC Task Team on Governance and Capacity Development for Natural Resources and Environmental Management.

The Task Team aims to: (i) provide guidance and tools for aid agencies to integrate environmental considerations into their activities related to governance and capacity development; (ii) identify approaches to capacity development in line with the Paris Declaration on Aid Effectiveness; and (iii) promote greater coherence in the policies of donor countries. The Task team brings together experts from both development and environment ministries, as well as representatives of developing countries. Other international partners participate in the work of the Task Team.

The Task Team was established as a follow up to the OECD Environment and Development Ministerial Meeting in April 2006, where ministers recognised the need to join their forces for further analysing the two-way relationship between poverty and environmental degradation and working out win-win approaches to address environment and development problems in partnership with developing countries. Ministers endorsed a Framework for Common Action Around Shared Goals, which laid out an ambitious agenda for common actions in support of the objectives of the Paris Declaration on Aid Effectiveness and the OECD Environmental Strategy for the First Decade of the 21st Century. Governance and capacity development for natural resources and environmental management was identified as one of the priority areas and a thematic task team was established in November 2006, with Sweden as lead country.

[1] In this paper, the term "environment" is used in a broad sense and includes both pollution prevention and control and natural resource management.

The paper is based on a review of available literature and contributions by the Task Team members. The text largely draws from policy and technical documents produced recently by the OECD's Environment Directorate, most importantly from the two editions of the *OECD Environmental Outlook*, and the *OECD Framework for Effective and Efficient Environmental Policies*. Publications and results of research done by the World Bank and UNDP constitute another important source of information for the paper. This work also complements other two working papers – on greening the in-country development planning approaches [see ENV/WKP(2008)4] and on the lessons learned from the adoption of Medium-term Expenditure Frameworks [see ENV/WKP/(2009)2].

The paper was compiled by Angela Bularga (OECD Environment Directorate) with inputs from Task Team members, in particular Barbara Lang and Regine Dietz (GTZ, Germany), Marianne Tegman, Barbara Hessel, Elisabeth Wickström, Sandra Paulsen, and Kristoffer Darin Mattsson (SEPA, Sweden), Linda Ghanime, Jennifer Colville, Tom Twining-Ward, and Holly Mergler (UNDP), as well as Andrew Farmer (Institute for European Environmental Policy) and Karin Sheoardson (World Bank). Contributions by Rosa Vivien Ratnawati (Indonesia), Maria Nagornyi (Moldova), Alice Ruhweza (Uganda) and Elisea Gozun (Philippines) are gratefully acknowledged. Punctual research support was provided by Maria Terekhova (Yale University) and Valerie Sturm (Geneva University). The contributions provided by Nelly Petkova, Alexander Martoussevich, Tatiana Efimova, Roberto Martin-Hurtado (OECD Environment Directorate) and Tamara Levine (OECD Development Cooperation Directorate) are particularly appreciated. Various versions of the paper have been reviewed by Helen Mountford, Brendan Gillespie, Eija Kiiskinen and Shardul Agrawala, all from the OECD Environment Directorate.

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ABBREVIATIONS AND ACRONYMS

AEO	African Environmental Outlook
ADB	Asian Development Bank
CEA	Country Environmental Analysis
CEP	Country Environmental Profile
CIDA	Canadian International Development Agency
CPIA	Country Policy and Institutional Assessment
CSO	Civil Society's Organisation
DAC	OECD's Development Assistance Committee
DANIDA	Danish Agency for Development Assistance
DFID	The United Kingdom's Department for International Development
ECDPM	European Centre for Development Policy Management
EC	European Commission
EIA	Environmental Impact Assessment
EPI	Environmental Policy Integration, also Environmental Performance Index
EPOC	OECD's Environmental Policy Committee
EPR	Environmental Performance Review
ESI	Environmental Sustainability Index
EU	European Union
FI	Fragmentation Index
GBS	General Budget Support
GEF	Global Environmental Facility
GEO	Global Environmental Outlook
GIS	Geographic Information Systems
GTZ	*Gesellschaft für Technische Zusammenarbeit*, a German federally-owned an international cooperation enterprise
ICT	Information and Communication Technology
IFI	International Financial Institution
IGR	World Bank's Institutional and Governance Review
IRI	OECD's Investment Reform Index

IUCN	International Union for Conservation of Nature
JICA	Japan International Cooperation Agency
MDGs	Millennium Development Goals
MEA	Multilateral Environmental Agreements
MTEF	Medium-Term Expenditure Framework
NEPAD	New Partnership for Africa's Development
NGO	Non-governmental Organisation
NCSA	National Capacity Self Assessment
ODA	Official Development Assistance
ODI	Overseas Development Institute
OECD	Organisation for Economic Cooperation and Development
PEI	Poverty-Environment Initiative
PRTR	Pollutant Release and Transfer Register
PRS	Poverty Reduction Strategy
SEA	Strategic environmental assessment
SIDA	Swedish International Development Cooperation Agency
SME	Small and Medium-sized Enterprise
SoE	State of the Environment (reports)
SWAp	Sector-wide approaches
UN	United Nations
UNDP	United Nations Development Programme
UNECE	United Nations Economic Commission for Europe
UNEP	United Nations Environment Programme
UNIDO	United Nations Industry Development Organisations
UNITAR	United Nations Institute for Training and Research
USAID	United States Agency for International Development
USD	United States Dollar
VAT	Value added tax
WBI	World Bank Institute
WHO	World Health Organisation
WWF	World Wide Fund for Nature

EXECUTIVE SUMMARY

The quality and performance of environmental institutions need continuous attention and improvement in response to both internal and external changes in the work context. While this task is difficult under any conditions, raising institutional capacities is particularly demanding in developing and emerging economies, where resources are scarce and incentives for change are often weak. The trend towards increasing reliance on country systems within the donor aid framework may improve the incentives and resources for capacity development. In order to facilitate transition towards a wider use of country systems, this working paper examines the main elements of institutional diagnosis and development, particularly from an environmental management perspective. The following conclusions emerge from the analysis:

Although institutional capacity is multifaceted, assessments are often limited to specific dimensions. In order to enhance the impact of development aid, donors and partner countries need to adopt holistic diagnostic approaches that will help them define critical areas for capacity development.

Within public management systems, capacity relates to several dimensions, including (i) individual competences (knowledge and skills of individuals, as well as their ability to set objectives and achieve those objectives); (ii) the organisational capacity (an organisation's mission, planning and decision-making processes, structure and resources, and the organisational culture); (iii) partnerships/networks of organisations (including the quality of interaction and cooperation among relevant public and private actors, as well as with development partners); and (iv) the enabling environment (legal and policy frameworks, and work approaches). Only consideration of all these dimensions can give a clear picture of institutional capacity. The current assessments of environmental institutions often focus only on one or two dimensions, and there are no means to compare the level of capacity across different dimensions leading to sub-optimal allocation of financial resources.

To achieve results, capacity assessment and development activities need to be fully integrated into the normal programme and budget processes of the whole government and individual agencies. So far, capacity assessment in partner countries was very much driven by external stakeholders and by *ad-hoc*, supply-driven initiatives. The new aid agenda creates incentives for partner countries to internalise capacity assessments into their normal programme and budget planning. Thus, capacity assessments may be linked to the most influential processes, such as the preparation of longer-term national development strategies, and used annually to update medium and short-term action plans of government authorities and the respective budgets. This is particularly important in light of the increased use of general budget support and adoption of medium-term expenditure frameworks, which consolidate various sources of funding available to secure the achievement of the country's development goals. Quality control of capacity assessment results and related targets may be necessary by a higher hierarchical level to ensure cross-governmental coherence. Because of ever increasing ambitions of development goals, capacity will always be a "moving target".

Improved tools for capacity assessment are needed to better clarify the baseline and monitor progress. Capacity analysis at the country level could benefit from internationally-agreed reference frameworks that would cover both qualitative and quantitative benchmarks. This may help partner countries to better evaluate gaps, to monitor progress, and to increase the degree of credibility and, sometimes, legitimacy of assessment results. International good practice, particularly experience accumulated by OECD countries, and articulated in various policy and guidance papers, may serve as a source of such benchmarks. Internationally-established benchmarks may constitute a starting point for devising self-assessment frameworks that would be agreed among national-level stakeholders and adapted to the country context. More South to South peer learning is necessary in order to identify good practices in conditions of chronic and deep scarcity of human, material, and financial resources. Independent monitoring by non-governmental actors and the international community can serve as a basis for societal and peer support for enhanced capacity. Raising the non-governmental sector's capacity to analyse and influence government policies can be complementary to (or even a precondition for) capacity development within the government. Finally, cross-country comparisons may be used to analyse the efficiency of capacity development.

Country-level assessment frameworks could be structured around common functions that governments carry out to manage the environment. The assumption is that government's capacity, within a simplified model, can be related to the ability to execute core functions, while performance is linked to the achievement of objectives. Proceeding from this assumption, the paper identifies and describes the core functions for environmental management. These are grouped in several clusters, including the capacity to: establish policies and legislative frameworks based on robust data and analysis, and provide public finance for environmental improvements; integrate environmental policy into economic and social strategies; implement environmental policy objectives – by using a mix of regulatory and non-regulatory instruments; assure compliance with legal requirements; and strengthen and reinforce the organizational capacity and staff competence. Thus, the paper provides a skeleton for constructing a comprehensive framework for capacity assessment. A series of checklists or a "prototype" reference model could be built on the basis of the current working paper.

The evolving complexity and context of the environmental sector requires assessment frameworks to be periodically updated. The definition of capacity vis-à-vis the environmental sector is very challenging because of the diversity of problems to be addressed, and the complexity of policy responses necessary to solve those problems. In addition, the multitude of stakeholders with sometimes contradictory interests makes this sector particularly exposed to tradeoffs. Such an exposure very often works against environmental goals in developing and emerging economies. The sector's context has evolved significantly over the last decade and some governments attach a relatively high priority to environmental action. But unlike OECD countries, which are mostly confronted with the "second-generation" issues, the developing and emerging economies still have to deal with the "conventional" environmental management agenda related to pollution prevention and control, though against a much more challenging demographic and economic context. This implies the need for a very broad toolbox and a constant search for more cost-effective policy responses.

1. INTRODUCTION

1.1 Why is capacity development important?

Government capacity is crucial for creating a regulatory climate conductive to economic and social development and delivering the basic public services that affect people's living standards. Lack of capacity can undermine development or lead to the adoption of a development model that disregards production externalities, thus affecting the wealth of citizens and resulting in wrong signals about the real level of economic growth.

The nature of challenges that societies face today makes welfare increasingly dependent upon the capacity to put forward and implement successful environmental policies. First of all, costs of policy inaction in the environmental sector are high and steadily growing[2]. The significance of environmental institutions for economic development is rising and many governments, business actors, and citizens look for a green source of wealth[3]. As a result, the political interest for environmental action in most of OECD[4] and many non-OECD countries is at its higher point in years.

Translating this political interest into action on the ground needs important financial resources. But simply providing more finance for investment projects, which are most often associated with "real change", is not a panacea. There are many factors of institutional nature (ranging from staff competence to organisational structures and the quality of regulation) that will make environmental problems persist or reappear, even if they were once solved.

For many decades, capacity development has been the response to institutional deficiencies in partner countries. Despite a long history, capacity development still continues to be a major challenge for donor countries and their partners because of design flaws, lack of incentives for change, treatment of technical assistance as a "free good" by partner countries[5], and so on. In order to overcome such problems, a new aid agenda has recently been agreed between OECD and aid receiving countries. The Paris Declaration, signed in March 2005, establishes commitments for donors and partner countries and sets forth five major principles for aid programmes: ownership, alignment, harmonisation, managing for development results, and mutual accountability[6].

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[2] OECD (2008), *Cost of Inaction on Environmental Policy Challenges: Summary Report.* Meeting of the Environmental Policy Committee at Ministerial Level, April 2008. OECD, Paris.

[3] See, for example, *Ecological Industrial Policy: Memoranda for a "New Deal" for the Economy, Environment, and Employment* (German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, 2006) and *OECD Environmental Outlook to 2030* (OECD, 2008).

[4] See the "Environment and Climate Change" part of the *G8 Hokkaido Toyako Summit Leaders Declaration* (8 July 2008), http://www.g8summit.go.jp/eng/doc/doc080709_02_en.html

[5] Wubneh M., (2003), *Building Capacity in Africa: The Impact of Institutional, Policy, and Resource Factors*. African Development Bank, 2003.

[6] OECD (2005) *Paris Declaration on Aid Effectiveness.* OECD, Paris.

In line with these principles, a progressive shift has been happening from fragmented project support to more comprehensive mechanisms of aid delivery, notably sector-wide approaches (SWAp) and general budget support (GBS)[7]. By putting the accent on development results, the new aid principles call for a clearer definition of capacity and capacity targets. This is both a substantive and a process challenge. Capacity targets will not only need to be identified, but also agreed between donors and partner countries. Doing this internationally might not be the optimal approach due to the large number of parties involved. However, devising an indicative list of capacity benchmarks that would form a "sector capacity profile" may help to advance country-level work.

Political will can either catalyse or inhibit policy action[8]. Thus, a sector may well have sufficient capacity without producing results. Such a situation, however, will most likely wash out capacity by eroding popular support and morale of civil servants. In general, the quality of public management approaches in a country determines both institutional capacity and performance in any sector. Investing into sectoral capacity will be unproductive if the design and functioning of public management system is of poor quality.

In situations when overall government capacity restrains the improvement of sectoral capacity, a "compensatory" (or parallel) capacity development mechanism is to re-structure and amplify external (domestic or international) incentives, for instance, by investing into the non-governmental sector's capacity to analyse and, above all, influence government policies. This is particularly important in sectors with a global significance.

1.2 Capacity for environmental management in low income countries: key challenges

The GEO-4 assessment warns that the only way to address contemporary environmental problems is moving the environment from the periphery to the core of decision-making: environment for development, not development to the detriment of environment. It acknowledges that technology can help to reduce people's vulnerability to environmental stresses, but says that there is sometimes a need "to correct the technology-centred development paradigm". Raising institutional capacity for environmental management is as important as technological innovation.

According to the *Global Monitoring Report 2008*, which presents data on the Country Policy and Institutional Assessments (CPIA)[9] done by the World Bank, the capacity for environmental management in low-income countries is relatively stable since the late 1990s. The average value of the CPIA environmental score for this group of countries is nearly constant around 3.1, with the majority of countries belonging to the 2.5-3.5 interval. For comparison, high-income countries are close to the 5.0 goalpost (6.0 being the maximum score).

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[7] OECD (2006) *2006 Survey on Monitoring the Paris Declaration: Overview of the Results.* OECD, Paris.

[8] See Brettell, A. (2006), *Political Will and Capacity in Determining Environmental Policy Outcomes in China.* This paper reveals the relationship between political will and capacity in determining the effectiveness of environmental policy outcomes at the local level in China by using the case study method applied to the cities of Chengdu and Kunming, which share similar characteristics and environmental challenges. Also some other authors distinguish between political will and political capacity, *e.g.* Pridham, G. (2006), *Between Rhetoric and Action: Reflections on Romania's European Union Accession and Political Conditionality - The Views from Brussels and Bucharest.* Romanian Journal of European Affairs, Vol. 6, No. 3, October 2006).

[9] The World Bank's Country Policy and Institutional Assessment (CPIA) is conducted annually and covers core governmental functions in the environmental sector. Environmental sector is one among 16 sectors assessed through the CPIA methodology. Despite some methodological flaws, CPIA is the only tool measuring government capacity in a range of countries and across a range of criteria.

This means that in some 50 low-income countries the environmental sector has the following key characteristics: (i) regulations and policies cover some issues; (ii) limited environmental data exist but their use for priority setting is weak; (iii) environmental assessment systems exist but their quality is low; (iv) policy implementation is weak; (v) public information is limited; and (vi) consideration of environmental issues in sector ministries is minimal. According to the World Bank, the weakest dimensions are public information and participation, cross-sectoral coordination, and policy implementation. Disparities between the world's regions are not significant. The regions with the highest average scores are South Asia, followed by Latin America and the Caribbean, and Europe and Central Asia. The lowest scores were found in Sub Saharan Africa, and in East Asia and the Pacific.

Though it is clear that institutional capacity is often weak and fragile, more analysis is needed for understanding and quantifying factors that determine these characteristics and the political economy of reform, *i.e.* what strategies may be used to promote convergence with good international practice. At the same time, the fragility of institutions in partner countries and the state of "permanent institutional crisis" in some countries mean that the role of individuals, especially political leaders and mid-managers (that conserve the institutional memory), is crucial and will remain so for a while.

1.3 Objective of the report and audience

This paper aims to make a contribution towards operationalising the concept of "institutional capacity" in such a way facilitating better diagnosis of low-income countries' capacity in the field environmental and natural resources management (or "environmental management" in a wider sense). This can help both the donor community and partner countries to improve the capacity assessment approaches that they use and enable a better definition of capacity development targets and strategies for achieving these targets. While contemporary thinking recognises the increasing role of the private sector and civil society's organisations as part of a country's capacities, the paper focuses on the capacity of government authorities. However, where possible, the role of non-governmental actors is addressed.

1.4 Structure of the report

The report is structured in two parts:

- Part 1 prepares the ground for elaborating the concept of "capacity" *vis-à-vis* the system of environmental ad natural resources management by (i) introducing major elements of modern theory of capacity development; (ii) describing existing approaches to capacity assessment; (iii) presenting the particularities of the environmental sector, which help to understand contextual factors that influence the magnitude of sector's complexity; and (iv) identifying major stakeholders involved in environmental management;

- Part 2 provides the basis for a reference framework to assess environmental institutions by making an inventory of functions carried out by government authorities in the field of environmental management.

PART I:
GENERAL CONSIDERATIONS

2. MODERN THEORY OF CAPACITY DEVELOPMENT

2.1 Definition of "institutional capacity"

Though there is no internationally agreed definition, "institutional capacity" can be described as the ability to perform tasks and produce outputs, to identify and solve problems, and to make informed choices[10]. More generally, it is the ability of people and organisations to define and achieve their objectives. Despite a lack of precision, the above definitions point to the fact that capacity and, in turn, its diagnosis, is strongly influenced by two "variables":

- The ***diversity and complexity of tasks*** performed by various actors, and
- The ***scope and ambition of development and sectoral objectives***.

Regardless of the level of economic development or the sectoral focus, the set of tasks performed by public authorities is relatively uniform. Commonly, it includes programmatic functions, addressing information asymmetry, regulatory design and compliance assurance in order to correct markets' failures, policy support, *e.g.* financial or risk analysis, use of non-regulatory approaches, asset management, etc. Some of these functions, for instance regulatory design, are at the core of government action; others, for instance asset management, may be outsourced to the private sector.

The correlation with government functions permits to operationalise the relatively vague notion of capacity by identifying these functions and conditions that are necessary to undertake them. This can result in a qualitative description of institutional capacity through a set of minimum criteria (a sort of "quality standard"), devised based on good international practice.

The quantitative description of capacity is more challenging as it requires a constant fine-tuning with ambition of policy objectives, which fluctuate in time and are largely divergent among countries. Yet, financial analysis enables policy-makers to adjust policy objectives to existing capacity and define feasible capacity development strategies. One major concern, though, is the fact that the evidence-based policymaking is less established (comparatively to opinion-based policymaking) in countries that are most constrained in their capacity[11]. Another common problem for describing capacity in quantitative terms is lack of data that would enable a robust analysis.

[10] EuropeAid (2005) *Institutional Assessment and Capacity Development: Why, What, and How?*

[11] See, for example, ODI (2005), *Evidence-Based Policymaking: What is it? How does it work? What relevance for developing countries?* A research paper developed by Sutcliffe S. and Court J. http://www.odi.org.uk/Rapid/Projects/PPA0117/docs/EBP_Synthesis_Tools_Final.pdf

2.2 Building blocks of institutional capacity

There is a broad agreement that capacity relates to individual competences, intra-agency management and the enabling conditions. Most recent literature introduces a fourth layer of capacity that describes links among relevant public and private actors, as well as with development partners. This "four-layer" model of institutional capacity corresponds well to the extreme richness of stakeholders involved in environmental management (Figure 1).

Figure 1: The main building blocks of institutional capacity

Enabling conditions	Organisational set-up and stakeholder interaction	Intra-organisation processes	Individual competence
legal and policy frameworks, and work approaches, needed for the manifestation of capacities at other levels	organisational structure and interaction among relevant public and private actors, as well as with development	mission, planning and decision-making, structure and resources, and the organisational culture	knowledge and skills of individuals, as well as their ability to set objectives and achieve those objectives

Source: Based on ADB (2008) *Effectiveness of ADB's Capacity Development Assistance: How to Get Institutions Right*.

The apparently simple architecture of institutional capacity took time to crystallize. The aid programmes implemented in the 1960s-1970s equalled capacity development with provision of training and skills, tools and equipment for individuals in key positions. Later on, in the 1980s-1990s, the focus shifted from individual skills and competences on redesigning organizations, including policy-making approaches, human resources and financial management, and organizational structures. The stagnation of performance in the partner countries led to the understanding that turning individual competencies into organizational capacity, and organizational capacity into outcomes requires adequate incentives, hence the need to improve the enabling conditions and stakeholder interaction.

Simultaneously, views about the role of government institutions in the development process have been fluctuating. Two extreme views could be mentioned: (a) in the 1960s-1970s – that governments have a major and direct role in economic development, and (b) in the 1980s-1990s – that governments impede growth and development. These views were overridden by more balanced ones and presently there is clear recognition that growth largely depends on the quality of the public institutions, particularly their capacity for creating a climate conducive to growth and private sector development and for delivering the basic public services that affect living standards of the poor.

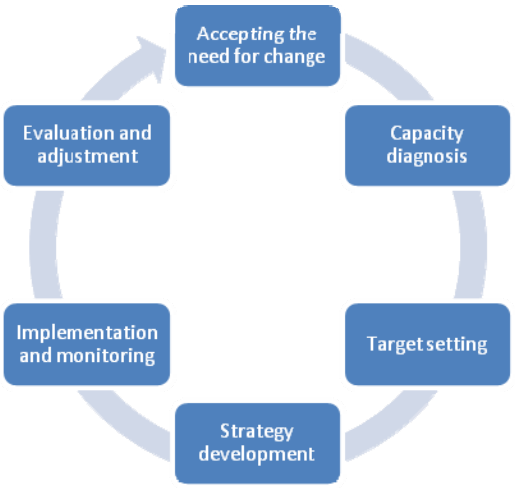
Although many characteristics of government capacity are generic, sector specifics do exist. Certain elements of the enabling environment, the extent and mechanisms of stakeholder interaction, as well as individual (particularly technical) competence, may have strong sector-specific elements. Important disparities in the level of capacity may exist as a result of sector complexities, either technical or political, adequacy of policy instruments *vis-à-vis* the incentives faced by those subject to regulation, public and business attitude towards policy action, etc. Even organisational capacity, which, in principle, should be relatively uniform within a government, may vary as a result of uneven ability of various ministries and agencies to "make the economic/social case" or otherwise raise budget support to enhance its human and material resources and expand its operations.

Given the multidimensional and interlinked nature of capacity, the level of capacity within a sector or the government structure as a whole will be determined by the weakest dimension(s). Investing into the weakest dimension(s) is likely to give the highest payoffs[12].

2.3 Capacity assessment and development cycle

Due to the constant evolution of national development goals and sectoral objectives, the necessary level of institutional capacity will always be a "moving target". In consequence, the capacity assessment and development process needs to be cyclical as well. Such a cycle will comprise several steps, from recognition of capacity deficiencies to the implementation of capacity development initiatives, as shown in Figure 2.

Figure 2: Main elements of the capacity assessment and development cycle



Source: Based on UNDP (2007), Capacity Assessment Methodology: User's Guide.

Acknowledging capacity deficiencies and making a political decision to launch capacity development initiatives is often overlooked while being a decisive step. Detailed baseline and context identification should only follow when capacity development needs are admitted. This second phase will consist of understanding the overall context, including the incentives and disincentives for capacity development, and assessing the current level and capacity development needs. Based on this information, the outcomes of capacity development need to be set in consultation with all relevant parties. Defining capacity development strategies and allocating resources for their implementation is another important step. Finally, these strategies will have to be implemented and their regular monitoring, evaluation, and adjustment be conducted. The entire process should be guided by considerations of effectiveness, efficiency, and sustainability.

[12] ECDPM (2006) *Monitoring and Evaluation of Capacity and Capacity Development: Workshop Report*. May 2006.

The capacity assessment and development cycle needs to be fully integrated into activity and budget planning. Such integration will enable countries, on the one hand, to set feasible development goals in the short-term perspective and, on the other hand, identify capacity that is required for achieving mid- and long-term goals, as well as measures and resources that are necessary to develop capacity. Where used, the Mid-Term Expenditure Frameworks (MTEFs) are the best ways to pool together resources for capacity development as MTEFs cover both domestic finance and external aid.

Capacity development is commonly a long process. To monitor and evaluate progress, regular reviews will be necessary. This need is dictated, among other things, by the fact that capacity may abruptly dissipate in some parts of the system[13]. Monitoring and evaluation will serve as a basis for learning from experience, improving capacity development outcomes, planning and allocating resources, and demonstrating results. The monitoring and evaluation framework should be participatory and owned. It should also be flexible: rather than proposing a "one size fits all" straightjacket, development organisations should focus on providing guidance on developing the relevant indicators to allow partners to adapt such a framework to their needs[14].

Finally, monitoring and evaluation should develop (not impede) the capacity of development partners and should serve both endogenous and external accountability needs. Independent monitoring by non-governmental actors or the international community can enhance the impact of this exercise. This can provide addition incentives not only for capacity development, but also for translating capacity into results on the ground.

2.4 Capacity development strategies and instruments

Donor aid for capacity development may be provided in different ways. Boesen et al.[15] link capacity development strategies with two models: (a) "functional", which assumes that management systems and organisations operate free of internal conflicts to achieve their primary task, and (b) "political", which assumes that the competitive aspect is dominant and vested interests drive behaviour at all levels. According to the authors, a combination of the two approaches might give the best results while the donor community has long concentrated on a "functional (non-political) approach" that does not correspond to reality. The use of "non-political" strategies, however, may be intended. The Japan International Cooperation Agency (JICA) in particular had a preference for what is called "incremental change methodology" that encourages gradual change from the bottom up reflecting "the stance of refraining from being involved in major changes in a partner country that may be considered external interference in the country's sovereignty"[16].

The instruments of capacity development (Figure 3) have seen an increased diversification as a result of the changing scope of aid programmes and cover, though to a different extent, all layers of capacity. They also may be used as part of different strategies of capacity development. Understanding the advantages and disadvantages of these instruments, and effectively packaging them, can enable donors and their partners to achieve the highest outcomes at optimal costs.

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[13] See DFID (2005) *Capacity Development and State Building: Issues, Evidence and Implications for DFID.*

[14] ECDPM (2006) Monitoring and Evaluation of Capacity and Capacity Development: Workshop Report. May 2006. http://www.ecdpm.org/

[15] DANIDA (2002) *Capacity Development Evaluation. Step 1: Contribution to an Analytical Framework.*

[16] JICA (2004) *Capacity Development Handbook for JICA Staff.*

Figure 3: Examples of capacity development strategies and instruments addressing different layers of institutional capacity

Individuals	Organisations	Networks of organisations	The enabling environment
In-country and overseas training, including workshops, on-the-job training, study tours, overseas higher education, etc. Promoting the adoption of competence profiles and clear job descriptions and a higher entrants level to public sector jobs Helping to introduce competitive hiring and performance-based payment of civil servants; Upgrading the education system	Provision of physical infrastructure Changing the "resource envelope", *e.g.* providing part of the operational budget for a sector under SWAp arrangements; Providing external advisers and experts Twinning* (which pairs an organization in a developing country with an organization with a similar mandate in a developed country)	Promoting political accountability In-country policy dialogues Building coalitions for change, *e.g.* providing support for the creation and operation of inter-departmental or inter-ministerial *ad hoc* bodies International networking Strengthening the non-governmental sector, in particular NGOs and mass media's role as watchdogs	Peer reviews and benchmarking Support for changes in legal mandates and regulatory frameworks, including through international conventions Promotion of performance-oriented budgeting

Note: (*) Twinning often "packages" different capacity development tools, including exchange of staff, formal off-job training courses, on-job training, support for equipment, long- and short-term experts

Source: Based on DANIDA (2002) *Capacity Development Evaluation. Step 1: Contribution to an Analytical Framework* and DANIDA (2005) A Result-oriented Approach to Capacity Change. Prepared by Boesen, N. and Therkildsen, O.

The need for, and use of, specific capacity development instruments may be influenced by the level of income in a given country and funding approaches. In many low-income countries, the need is high for donor support to ensure capacity development throughout all layers, down to staff payment and support to the routine operation of organisations. In middle-income countries, external aid could be less comprehensive and reduced to actions that help comply with international law, change regulatory frameworks, conduct economic studies, develop staff competence, etc. In higher-income countries, more "sophisticated" approaches, *e.g.* policy dialogues, twinning and joint actions, could be the most appropriate.

2.5 Major drivers for capacity development

In many countries where notable improvements in public sector capacity have been attained, domestic and internal calls for competent public services and better governance, and respective public administration reforms, have been a major driver of change. Demands for a better investment and regulatory climate had a particularly notable impact on certain (not all) dimensions of public management. In some cases, the preparation of poverty reduction strategies gives a strong capacity development spin. Accountability is another important driver for capacity development. However, expectations linked to increased "formal" accountability (*e.g.* mandatory disclosure of corporate reports) as a driver for change may need to be adjusted to the level of civil society's activism and the NGOs ability to use accountability rules as a tool of influence on decision-making outcomes.

International partners can promote capacity by facilitating policy innovation, encouraging partnerships, participating in relevant policy dialogue or advocacy, providing resources, etc. One significant vehicle to promote change is to encourage the demand for public sector capacity within the country. The European Neighbourhood Policy is a good example of a vehicle for inducing change[17]. In the mid 1990s, the process of accession to the European Union's membership gave a strong impetus to capacity development in Central Europe and enabled a rapid transformation of institutional frameworks in this region[18].

The likelihood of external actors being a positive catalyst for capacity development may be different at different levels: it tends to be high in regards to individual competence, medium *vis-à-vis* organisational capacity, and quite limited in bringing about change at the institutional level. In consequence, donors are likely to achieve more success in sectors "where tasks to be performed are precise and monitorable, and which have a relatively stable and predictable institutional structure as compared to institutionally chaotic sectors" [19].

Modern theories also recognise that institutions may become dysfunctional when decision-making is driven by vested interests[20]. This happens, for instance, when power resides in informal social configurations, and when "power-and-loyalty" considerations eclipse formal rules. At the same time, informal institutions can be supportive to the achievement of policy goals, *e.g.* when the nation's cultural values encourage constructive behaviour among citizens. Dealing with counter-productive informal rules can be difficult in a context of weak states with poorly established governance structures. Under such conditions, a thoughtful consideration of country specifics is necessary to avoid the trap of seeking to prescribe universal answers to matters of institutional development. Their consideration should not, however, diminish the value of general principles of good governance or internationally recognised sector-specific approaches and should not raise claims for peculiar reading of such principles and approaches.

[17] The European Neighbourhood Policy (ENP) applies to the European Union's immediate neighbours by land or sea. It was developed in 2004, with the objective of avoiding the emergence of new dividing lines between the enlarged EU and its neighbours. By adopting this Policy, the EU offered its neighbours a privileged relationship, building upon a mutual commitment to common values (democracy and human rights, rule of law, good governance, market economy principles and sustainable development). To find more on ENP, see: ec.europa.eu/world/enp/policy_en.htm

[18] See, for example, World Bank (2007), *Journey to a Cleaner Future*. Paper developed by Lytle P. and Shepardson K.: vle.worldbank.org/bnpp/en/publications/environment/journey-to-a-cleaner-future

[19] DFID (2005), *Capacity Development and State Building: Issues, Evidence, and Implications for DFID*. Department for International Development, Governance and Social Development Group. Paper by Teskey G. See www.jica.go.jp/cdstudy/library/pdf/20071101_30.pdf

[20] See, for example, materials presented at an international seminar organised jointly by OECD and the World Bank in late 2006: www.oecd.org/document/7/0,3343,en_2649_34565_37679943_1_1_1_1,00.html

3. DIAGNOSIS OF INSTITUTIONAL CAPACITY

The diagnosis tools used to assess public management institutions are very diverse. Several recent publications summarised such tools. Among these, the most complete are stock-taking and synthesis reports by DFID, DANIDA, the UNDP, and the World Bank. Also GTZ produced a number of guidance documents for capacity assessment and development in decentralized systems. Given the existence of these publications, there was no need to make a comprehensive inventory of individual assessment tools. However, a synthesis of lessons learned from their development and application remains relevant.

3.1 Purposes and sponsors of institutional diagnosis

Commonly, institutional diagnosis is used to capture the baseline, establish capacity development targets, and monitor the direction, pace, and magnitude of change – be it at the global, regional or national levels. Very often, the results of assessments provide input to policy dialogue and guide further improvement of the assessed systems. Through cross-country comparisons and peer learning, they also may provide additional incentives for change. Both national and international actors may sponsor institutional diagnosis.

In most OECD countries, national level performance assessments (which are not equivalent to capacity assessment but have many similarities in terms of drivers and processes) are conducted regularly and ensure transparency and accountability of governmental action[21]. Performance assessment is generally prescribed by legal frameworks and embodied into the management practices of public authorities. For example, in the United States, the *Government Performance and Results Act*, passed by Congress in 1993, provided both the motivation and a conceptual framework for performance assessments. The Executive Office of the President of the United States (Office of Management and Budget) has received the mandate to monitor its implementation and developed assessment tools, including self-rating in support to this process[22]. Another example is the Canadian government's *Results-based Management and Accountability Framework* system[23].

Many agencies in OECD countries, however, face barriers in the implementation of such systems. These originate in problems with data collection, difficulties to demonstrate the causal links between activities and social and economic outcomes (*e.g.* because of external factors that affect those outcomes), and long timeframes to achieve them.

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[21] OECD defines "accountability" as the obligation to present an account of, and answer for the execution of, responsibilities through the political and constitutional structures.

[22] For more information, including programme ratings, see www.whitehouse.gov/omb/expectmore/index.html

[23] There are many other examples of intra-government mechanisms in OECD countries to ensure accountability and motivate performance. A selection of examples of accountability mechanisms that accompany the transition towards "open governments" in OECD countries is available from a recent report prepared jointly by the World Bank and OECD. See World Bank and OECD (2007), *Beyond Public Scrutiny: Stocktaking of Social Accountability in OECD countries.* Report prepared by Caddy J., Peixoto T., and McNeil M.

Ensuring accountability of the sub-national level is required in order to guarantee national consistency of policies, regulation, and enforcement. In many cases, this is a task delegated to the national-level authorities within a specific sector. For example, the Dutch Ministry of the Environment introduced benchmarks of capacity for provincial-level environmental units responsible for enforcement and screened capacity *vis-à-vis* those benchmarks[24].

As pointed by Ackerman (2004)[25], one of the most popular pro-accountability reforms in the recent years has been the establishment of so-called "Independent Pro-Accountability Agencies", which are autonomous public institutions responsible for holding government accountable in a specific issue area. Examples include autonomous corruption control bodies, independent electoral institutes, auditing agencies, human rights ombudsmen, and public prosecutors. The World Bank notes that in the last decade there has been a veritable explosion in the creation of such institutions in the developing world and some countries have distinguished themselves as especially innovative cases in the creation of new pro-accountability institutions[26]. In Thailand, for example, the 1997 constitution mandated the creation of seven different such institutions, including an environmental review board responsible for evaluating the environmental impact of public projects. Such bodies (or similar ones) could be mandated to supervise national-level capacity assessments and monitor capacity development initiatives.

The application of nationally-driven assessments of environmental management in developing partner countries is also advancing. For example, most of low-income countries in Europe and Central Asia region produce the so-called "state of the environment" (SoE) reports[27], though these do not yet address issues of institutional capacity in a synthetic and systematic way. At the same time, this type of reporting may be considered as an eventual tool to strengthen accountability, especially in light of the progressive use of SoE reports in low-income countries over the last decade.

An important question related to accountability mechanisms is "accountability for what?" In traditional models of public management, authorities were mostly undergoing process-based evaluation, while the "new public management" approach promotes result-based evaluation. Combining the two approaches may give the best outcome in developing countries. This may help to overcome governance tradeoffs linked to the level of discretion that is needed for performance-oriented management and that may pose problems in societies exposed to chronic corruption.

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[24] In 2002-2005, a national project was carried out in the Netherlands by all environmental enforcement agencies (inspectorates) of the local, provincial and national governments to improve, or rather ensure, a "Professional environmental enforcement process" within these agencies. This project set minimum criteria for the professional enforcement process. All concerned agencies did a self-evaluation. None of the approximately 550 agencies fulfilled the minimum criteria, with a vast majority of the inspectorates not conforming to more than half of the criteria. This created a starting point for a collective improvement action. See Klein, W., "Minimum criteria for a professional environmental enforcement process", 2002, available at www.lim-info.nl/professionalisering

[25] Ackerman, J. (2004), *State-Society Synergy for Accountability: Lessons for the World Bank*. Working Paper 30, World Bank, Washington, DC.

[26] World Bank (2005), *Social Accountability in the Public Sector: A Conceptual Discussion and Learning Module*. World Bank Institute, 2005.

[27] The UNECE *Guidelines for the Preparation of Governmental Reports on the State and Protection of the Environment*, endorsed by the Kiev (2003) Ministerial Conference "Environment for Europe", gave impetus to the preparation of such reports.

In the international context, assessments are often conducted to support policy dialogue within so-called peer reviews. A peer review involves a systematic examination and assessment of the performance of a state by other states, with the ultimate goal of helping the reviewed country adopt the most advanced practices and comply with mutually established standards and principles.[28]. The peer review mechanism is free from any threat of non-compliance sanctions arising from the findings of the review: its impact relies on the influence and persuasion exercised by "peers" (equal partners in the review process). The OECD "invented" the modern peer review process in the 1960s. Commonly, peer reviews are designed to respond three main questions that relate to the achievement of national objectives and international commitments: To what extent is the objective achieved? Is the objective ambitious or modest? Are results achieved in a cost-effective way?

The practical benefits and high policy profile of peer reviews have been demonstrated due to vast international experience in the area, including regular (economic, regulatory, and environmental performance) reviews undertaken by the OECD itself and other international organisations, *e.g.* the UNECE. Today, this approach is in the process of being adapted to the needs of the New Partnership for Africa's Development (NEPAD)[29].

Within assessments done as part of donor aid programmes, the focus on follow up action and provision of incentives for change is particularly prominent. For example, UNDP-led assessment initiatives systematically result in some sort of action plans. Also development banks (*e.g.* the World Bank and ADB) and bilateral and multilateral donors (*e.g.* the European Commission) use assessments to make informed decisions on country assistance strategies, major lending operations, and other country-level processes. Notably, the World Bank has used the Country Policy and Institutional Assessment (CPIA) to decide on concessionary lending and grant allocation to low-income countries. In 2005, both the Asian Development Bank (ADB) and the African Development Bank (AfDB) adopted the World Bank's criteria as a starting point for their respective performance-based resource allocation processes.

Sometimes, NGOs carry out independent assessments of government authorities. The most famous example is the work done by Transparency International to measure the level of corruption. There are many examples of NGO-led independent assessments of environmental institutions. For example, assessments of progress, lessons learned, and capacity in the field of natural resources management, particularly biodiversity and protected areas, are done by IUCN[30]. Another example is the "Environmental Barometer" project, implemented by a coalition of NGOs led by WWF to measure progress with environmental policy reforms undertaken by the EU's Eastern neighbours[31] nationally.

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[28] See *Peer Review: an OECD Tool for Co-operation and Change*, OECD, 2003.

[29] The NEPAD-OECD Africa Investment Initiative aims to improve the capacity of African countries to strengthen the investment environment, taking advantage of OECD's peer learning. The Initiative's work has helped NEPAD countries improve the investment related content of the African Peer Review Mechanism and enhance capacities to implement investment climate reforms in sensitive sectors such as water and sanitation.

[30] Examples include: IUCN (2003), *Assessment of Policy Formulation and Implementation Processes in Environment and Natural Resources Management in Southern Africa;* IUCN (2003), *Capacités nécessaires pour la gestion d'aires protégées: l'Afrique* [Capacity needs to manage protected areas: Africa]; and IUCN (2003), *Capacidades necesarias para el manejo de áreas protegidas: América Latina y el Caribe* [Capacity needs to manage protected areas: Latin America and Caribbean region].

[31] WWF (2008), *Greening the European Neighbourhood Policy: A Handbook to Assess Implementation of the Action Plans in the Field of Environment.* Published in April 2008 by WWF-World Wide Fund for Nature (formerly World Wildlife Fund) and Heinrich Böll Foundation, EU Regional Office Brussels.

3.2 Main characteristics of government-wide institutional diagnosis

Government-wide institutional diagnosis may be comprehensive (multi-issue) or address a specific cross-cutting area. Many of the existing tools (or at least those that are available for review) were introduced by international organisations. Typically, they focus on major areas that determine development (Box 1), such as economic management, structural policies, governance and investment climate, policies for social inclusion and equity, and public sector management. Examples of such tools include the CPIAs and Institutional and Governance Reviews (IGRs), applied by the World Bank, or the Capacity Assessment Framework and functional reviews applied by UNDP.

A variety of dimensions and angles of assessment are considered. The majority of existing tools, however, address the enabling environment and organisational capacity. Stakeholder interaction (governance structure) may be sometimes part of assessment, *e.g.* within functional reviews done by the UNDP or within governance and anti-corruption surveys. Individual capacity is rarely reviewed while this dimension of capacity has been in the focus of donor support for a very long period. Nevertheless, there is a strong drive internationally for the professionalization of civil service that, among other things, calls for defining competence profiles.

More recent assessment tools reflect more amply the multi-faceted nature of institutional capacity. For example, the UNDP's Capacity Assessment Framework recommends a review of the enable environment, and organisational and individual capacity. The UNDP's functional reviews assess public management systems from both a vertical and horizontal perspective. Assessments may be conducted at the country or sub-national level, or be sector-specific. Some, *e.g.* civil service institutional assessments, address informal rules. In the majority of cases, contextual information is considered. Also indicators are used to reveal trends and some of the quantitative aspects of performance[32].

Comprehensive assessments are often connected to the scope and ambition of development goals and targets, set internationally, most importantly, the Millennium Development Goals (MDGs). At the national level, Poverty Reduction Strategies adapt the ambition of these internationally-agreed goals to national contexts. The required level of capacity is guided by other international benchmarks, which is a natural outcome of globalisation. Such benchmarks may be legally binding, agreed through international conventions or other type of agreements, or belong to the corpus of soft-law.

Commonly, assessments result in reports with policy conclusions and recommendations. When analysis is conducted by external parties, outcomes may or may not be agreed with government officials although the general trend is towards higher acceptance of such reports by the concerned parties.

[32] Debates around performance indicators are very intense due to the shift towards performance-oriented management. In particular, governments are looking for measures that could help linking regulatory interventions with changes on the ground. For example, the OECD is working on indicators of regulatory management systems. In the field of environment, efforts are put to devise indicators of societal response to environmental problems, *e.g.* indicators of environmental compliance and enforcement.

Box 1: Selected tools of comprehensive assessment, used by international organisations

Country policy and institutional assessment (CPIA). Annual CPIAs support performance based resource allocation by the World Bank. Within the CPIA methodology, policy and institutional framework is broken down into four areas (economic management, structural policies, policies for social inclusion and equity, and public sector management and institutions), which are assessed through 16 sets of criteria. One of the sets relates to environmental policies and institutions. Rating is done by experts and the assessment is undertaken annually for all IDA and IBRD countries. A major recent change is the move toward full disclosure for IDA countries. See http://go.worldbank.org/74EDY81YU0

Functional reviews. The purpose of functional reviews is to assist governments in moving toward a situation wherein public administration institutions collectively, and individually, perform all necessary functions and only necessary functions, in the most efficient and effective manner. This tool is used by UNDP in countries of Central Europe and EECCA. There are three types of functional review.

- A ***vertical review*** focuses on the activities of one institution (a ministry, an agency, or a central body such as the government secretariat or the presidential administration). The review focuses on the extent to which the institution performs the functions required to meet its objectives and the extent to which the organizational structure of the institution fits logically, without duplication or gaps, the performance requirements.

- A ***system review*** focuses on a comparative review of one or more common functions across a number of institutions, and thus mainly assesses the ability of administrations to function as in integrated system. A common function is one performed by all or most institutions, such as personnel management, internal administration, legislative drafting and budgeting.

- A ***horizontal review*** looks at the distribution of functions between institutions. The focus is primarily on objectives and competencies, seeking to establish if at the level of the administration as a whole the distribution of competences is rationalized, without undue duplications and gaps. A horizontal review can also focus on the extent to which all ministries follow the same methods in defining relations between central and deconcentrated units, or the extent to which financial and accountability relations between ministries and subordinated agencies are comparable across the system.

Capacity Assessment Framework. This tool was designed to guide in-country process to determine future capacity needs and assessing existing capacity asset. UNDP recognises that a country's capacity resides on different levels – enabling environment, organisation and individual – and thus needs to be addressed across these levels. A capacity assessment team selects one level as its point of entry, and may "zoom in" or "zoom out" from that level as needed. Core issues that a capacity assessment team may choose include: 1) leadership; 2) policy and legal framework; 3) mutual accountability mechanisms; 4) public engagement; 5) human resources; 6) financial resources; 7) physical resources; and 8) environmental resources. The issue of a human rights based approach serves as an "overlay" on any capacity assessment. The method coves the following functional capacities: 1) engage in multi-stakeholder dialogue; 2) analyse a situation and create a vision; 3) formulate policy and strategy; 4) budget, manage and implement; and 5) monitor and evaluate.

Civil service institutional assessments. Such assessments look at both formal and informal institutional arrangements for public sector employment, including the impact of pay policy and the relations between national and sub-national civil services. Survey questions focus on five areas: (1) size of the public sector; (2) architecture of the public sector; (3) personnel rules (career paths, pensions, recruitment, and promotion); (4) agency and sector issues (organizational culture, accountability, and participation); (5) common problems (e.g., government employment and wage concerns, corruption, staffing in countries with low wages). The methodology highlights the importance of considering both formal and informal rules and differences in organizational and administrative structures, which can result in variations in development outcomes and shape the sustainability of reform processes. Such assessments provide important contextual information regarding the broader constraints facing the civil service in a given country. See http://go.worldbank.org/D9AQ4TDJE0

Governance and anti-corruption (GAC) surveys. GAC surveys provide information on corruption within a country and the contributing factors. The methodology consists in surveying thousands of public service users, firms, and public officials. The surveys are undertaken by local consultants and are preferably conducted periodically, every two years. Their broader objective is to inform the preparation of a governance action plan, create consensus on reforms, and assist capacity building. See http://go.worldbank.org/1ZIGEKJYP1

While the majority of assessments result in the qualitative evaluation of institutions, quantitative measures, such as integrated indexes or scorecards, are emerging (see examples in Box 2). The main benefit of quantitative tools is their possible contribution towards measuring efficiency of capacity development. When used alone, however, quantitative tools are not well adapted to capacity assessment because of the failure to consider contextual information and guide follow up action.

Box 2: Selected non-environmental tools that support quantitative analysis

Investment Reform Index (IRI). The IRI was developed by the OECD's Investment Compact to measure progress made by South East European countries in improving their investment climate. The IRI is structured around the OECD Policy Framework for Investment, the IRI measures progress in 8 policy fields: (1) investment policy; (2) investment promotion and facilitation; (3) tax policy; (4) anti-corruption and business integrity; (5) competition policy; (6) trade policy; (7) regulatory reform; (8) human capital. Each policy dimension is divided into sub-dimensions, which in turn are divided into indicators structured around five levels of policy reform with 1 being the weakest and 5 the strongest. See www.investmentcompact.org

SME Policy Index. The OECD's SME Policy Index aims to monitor the implementation of the European Charter for Small Enterprises. This analytical tool is based on the 10 policy dimensions of the Charter: (1) education and training for entrepreneurship; (2) cheaper and faster start-up; (3) better legislation and regulation; (4) availability of skills; (5) improving online access for tax filing and company registration; (6) getting more out of the Single Market; (7) taxation and financial matters; (8) strengthening the technological capacity of small enterprises; (9) successful e-business models and top class business support; and (10) developing stronger, more effective representation of small enterprises. See www.investmentcompact.org

WBI governance indicators. Six aggregate governance indicators are considered: voice and accountability, control of corruption, rule of law, regulatory quality, government effectiveness, and political stability. They identify links between governance and economic outcomes. See www.worldbank.org/wbi/governance/govdata/

Furthermore, their design often suffers from a more or less pronounced level of subjectivity. For instance, the CPIA methodology has been criticized for its reliance on staff judgements rather than clear, objective, and measurable criteria of assessment[33]. In some cases, this problem was partially resolved by a detailed description of qualitative criteria used to rate capacity within a range of levels (usually, from one to five), as done, for example, in the case of the OECD's Investment Reform Index (IRI). Also in order to compensate for certain subjectivity of ratings, the IRI relies on a participatory process for assigning scores across assessment criteria. Very rarely the diagnostic tools that are currently in use, particularly those applied in low-income countries, have been developed through stakeholder consultations.

[33] Powell, J. (2004) *The World Bank Policy Scorecard: The New Conditionality?* Briefing Note. www.brettonwoodsproject.org/atissuecpia

3.3 Overview of tools used to assess capacity for environmental management

In the environmental sector, the majority of assessments address both capacity and performance. They include (Table 1): (i) various environmental outlooks produced globally and in the world's regions; (ii) comprehensive country assessments such as the OECD's and UNECE's environmental performance reviews, the ADB's and World Bank's country environmental analyses, or the UNDP's national self-assessments of capacity for global environmental management; and (iii) issue-specific assessments. Many of the resulting reports go beyond describing the baseline and monitoring progress and, in a way or another, provide policy recommendations and set priorities and incentives for improved capacity and performance. Such incentives may stem, for instance, from peer pressure or future aid opportunities.

Table 1: Examples of assessments focusing on environmental management systems

Type	Key sponsor	Brief description
Regional (multi-lateral) assessments		
Global environmental outlook (GEO)	UNEP	Initiated at the request of the UNEP Governing Council in 1995, GEO is both a process and a series of reports, analyzing environmental change, causes, impacts, and policy responses. It provides information for decision-making, supports early warning and builds capacity at the global and sub-global levels. GEO is also a communication process that aims at raising awareness on environmental issues and providing options for action. Four GEOs were produced so far: in 1997, 2000, 2002, and 2007. See www.unep.org/geo/
African environmental outlook (AEO)	UNEP	The development of the AEO was decided in 2000 at the 8th Session of the African Ministers Conference on Environment (AMCEN) and aims to provide a comprehensive assessment of the environment, policies, and environmental management programmes in Africa. Two AEOs were published so far, in 2002 and 2006. See www.unep.org/aeo/
Asian environmental outlook	ADB	Reports intended to provide periodic review of key environmental issues facing the Asia and Pacific region and to identify measures for addressing them. They were issued in 2001 and 2005. See www.adb.org/environment/aeo/
Europe's Environment	European Environmental Agency	The report assesses environmental progress in 53 countries with a total population of more than 870 million people. The region includes: Eastern Europe, Caucasus and Central Asia (EECCA), South Eastern Europe (SEE), as well as Western and Central Europe (WCE). Four reports are available: 1995 (Dobris Assessment), 1998, 2003, 2007. See www.reports.eea.europa.eu/
OECD environmental outlook	OECD	OECD released its first Environmental Outlook in 2001 and produced a second edition in 2008, providing economy-based projections of environmental pressures and conditions for a period of 20 years. Both reports identified policy packages to address the most pressing concerns and analyses their potential effects and costs. Also OECD develops single-issue outlooks. See www.oecd.org/environment/outlookto2030
Comprehensive country-level assessments		
Environmental performance reviews	OECD, UNECE	The EPRs aim to assess environmental performance and policy responses, and monitor progress over time. The OECD has carried out EPRs since the late 1970s and finalized the second cycle of review. This process covered the 30 member countries. Several non-OECD countries were reviewed, including China and Russia. The UNECE embarked into the EPR process in 1996 and reached the second cycle. See www.oecd.org/env and www.unece.org/env

Type	Key sponsor	Brief description
Country Environmental Analysis (CEA)	Asian Development Bank (ADB)	Similarly to EPRs, the ADB's CEA addresses both performance and policy responses. As inputs to the Country Strategy Papers, CEAs provide a strategic view on the lending and technical assistance pipeline. So far, CEAs were prepared for 21 countries in Asia and the Pacific. This work in ADB is in its inception phase therefore individual CEAs may actually differ in both format and substance. See www.adb.org/environment/cea.asp
	The World Bank	The World Bank's Environment Strategy (2001) identified the CEA as one of the key country-level diagnostic tools designed to evaluate the environmental priorities of development in client countries, the environmental implications of key policies, and countries' capacity to address their priorities. So far, some 20 countries were assessed. See http://go.worldbank.org/7HEH0FO380
Country Environmental Profile (CEP)	European Commission	The CEP includes the analysis of the country's environmental situation, current policies, capacities and environmental co-operation experience with clear recommendations for the Country Strategy Paper. A CEP is required for all beneficiary countries. See ec.europa.eu/external_relations
National Capacity Self Assessment (NCSA) for Global Environmental Management	UNDP/GEF	The overall aim of NCSAs is to provide countries with the opportunity to identify priority capacity needs in order to effectively address cross-cutting global environmental issues. Countries are encouraged to then develop a plan of action to achieve global environmental management objectives in the context of the three Conventions relevant for NCSAs: the Convention on Biological Diversity, the UN Framework Convention on Climate Change and the UN Convention to Combat Desertification. Between 2002 and 2006, more than 150 countries have engaged in the NCSA programme and followed the systematic capacity needs assessment and planning process. The first NCSAs reached completion in 2005, around 30 by the end of 2006, and by 2009, all are expected to have completed the Enabling Activity and prepared to implement the action plans they have devised. See ncsa.undp.org/
Issue-specific assessments		
Performance Review of Environmental Funds	OECD	Reviews of Individual Environmental Funds are voluntary audits requested by Ministries of Environment and/or Fund officials. The major objective is to conduct an independent and objective evaluation of all important aspects of the administration and management of an Environmental Protection Fund against good international practices, such as those presented in OECD's *Good Practices for Public Environmental Expenditure Management*. See www.oecd.oer/env/eap
IMPEL Review Initiative	European Union	This is a voluntary scheme applied within the Network for the Implementation and Enforcement of Environmental Law. It is used for offering advice on inspectorate development and inspection procedures. See www.europa.eu.int/environment/impel
The Access Initiative: Indicator Grid	A global coalition of public interest groups	The initiative aims to monitor and enhance government performance with respect to access to information, participation and justice. It covers more than 140 questions relating to legal, administrative and implementation issues linked with access to information and participation. Coalitions of civil society organizations in a specific country fill out the indicator set and use it as a basis of opening up a process of dialogue with the government and identifying areas of reform. See http://www.accessinitiative.org/resource/access-initiative-indicator-grid

Despite a widening use, comprehensive country assessments – quite similar in substance – do not have harmonised outlines and may or may not use similar quantitative indicators. However, there is broad consensus about the main building blocks of these studies that include policy and institutional analysis alongside with evaluations of environmental outcomes of government interventions (the state of the environment). All use environmental indicators as a diagnostic tool, and some – institutional performance indicators and international benchmarks. The UNDP-inspired national self-assessments of capacity benefit from a series of guidance documents that were developed to facilitate this task.

Issue-specific assessments are common and systematically done, *e.g.* within the framework of Multilateral Environmental Agreements (MEAs). To this end, a number of capacity assessment manuals are available, one of the latest being the guidance for capacity assessment regarding chemicals management[34], developed within the Inter-Organisation Programme for the Sound Management of Chemicals. In comparison with comprehensive assessments, issue-specific assessments offer the benefit of taking an in-depth perspective and provide guidance elaborated down to specific changes in national legislation or management practices. The issue-specific studies are often linked to a set of internationally accepted principles or recommendations. This is the case, for instance, of performance reviews of environmental funds, which are based on the OECD's *Good Practices for Public Environmental Expenditure Management*.

The quantitative assessment tools (see examples in Table 2) are relatively recent and generally take the form of composite indices[35]. The World Economic Forum's Environmental Sustainability Index (lately reformed into the "Environmental Performance Index") may be the best known. Also environmental scores of individual countries are calculated within the World Bank's Country Policy and Institutional Assessment (CPIA), assessment of Poverty Reduction Strategy Papers, and OECD's Self-Rating of Legislation, Policies and Institutions in Eastern Europe, Caucasus, and Central Asia. There are several systems to rate the industry's environmental performance, such as PROPER in Indonesia or Green Watch in China.

Table 2: Examples of quantitative assessments of environmental management systems

Diagnostic tool	Users	Methodology and particularities of application
Country Policy and Institutional Assessment (environmental score)	The World Bank	The methodology requires staff to fill out CPIA Environment Score Survey spreadsheet to arrive at a score from 1 to 6. The criteria used to calculate this score include the state of policy and regulatory frameworks, use of environmental assessments, availability of data for priority setting, the level of integration of environmental concerns into sectoral strategies, and disclosure of environmental information. Source: http://go.worldbank.org/EEAIU81ZG0
PRSP environmental scoring	The World Bank	The environmental scoring of Poverty Reduction Strategy papers (PRSPs) assessed the degree of environmental mainstreaming on a scale from 0 (no mention) to 3 (good practice) across 4 major areas: 1) diagnosis of environmental issues; 2) analysis of poverty-environment links; 3) environmentally relevant actions; and 4) extent to which participation and consultation processes have allowed environmental concerns to be heard. Source: http://www.unpei.org/PDF/introducingKM/Status-evolution-env-priorities-PRS.pdf

[34] See http://www.who.int/iomc/saicm/capacity_assessment_en.pdf

[35] See a more detailed discussion of such indices in OECD (2001), *Aggregated Environmental Indices: Review of Aggregation Methodologies in Use*.

Diagnostic tool	Users	Methodology and particularities of application
Environmental Sustainability Index (ESI)	World Economic Forum	The ESI benchmarks the ability of countries to protect the environment. It ranks countries on the basis on 21 indicators grouped in five categories: environmental systems, reduction of environmental stresses, human vulnerability to environmental stresses, societal and institutional responsibility to respond to environmental challenges, and global stewardship. There are five subcategories for societal and institutional capacity: scientific and technical capacity, capacity for debate, environmental governance, private sector responsiveness, and eco-efficiency. Source: http://www.yale.edu/esi/
Environmental Performance Index (EPI)	Yale and Columbia Universities	The EPI measures environmental sustainability and the current policy performance of individual countries. The 2008 EPI ranks 149 countries on 25 indicators tracked across six categories: (i) environmental health; (ii) air pollution; (iii) water resources; (iv) biodiversity and habitat; (v) productive natural resources; and (vi) climate change. EPI focuses on areas within governmental control. Source: http://epi.yale.edu/Home
Self-Rating of Environmental Legislation, Policies and Institutions	OECD/EAP Task Force	This rating aims to assess progress with environmental policy reform in Eastern Europe, Caucasus, and Central Asia (EECCA). The rating scheme uses three composite and twenty individual criteria. The self-rating is done by environmental authorities in consultation with other stakeholders. Source: OECD (2004), Environmental Management in Eastern Europe, Caucasus, and Central Asia. Annex B, p. 89. OECD, Paris.

Though quantitative assessments may help measuring the effectiveness and efficiency of aid and deciding on aid flows, their use is restricted by a comparatively low reliability. Most importantly, the design and use of composite indices suffer from a more or less pronounced level of subjectivity as they may involve expert judgement on a satisfactory/unsatisfactory design and operation of selected elements of environmental management systems. Another problem is poor definition of capacity intervals, as in the CPIA case, where scores 1 to 4 describe poor capacity and 5 to 6 – quite advanced capacity (Table 3). This distorts the picture by making officials and the general public think that capacity is higher than in reality. Where quantitative information is used to construct an integrated index, *e.g.* the Environmental Sustainability Index (ESI), the credibility of data, which are drawn from many data sets, may be questionable. Such indices may also suffer from the time lag problem.

Table 3: Description of CPIA scores for environmental policies and institutions

Criteria of assessment	Score 2	Score 4	Score 6
Regulations and policies	Partial and inadequate	With important gaps	Comprehensive
Environmental assessment	Exists but is ineffective	Applied but gaps exist	Effective and findings are acted upon
Implementation	Ineffective	Weak	Effective
Public information	Limited	Limited	Widely available
Robustness of policy making	Limited data exist but no priority setting takes place.	Priorities are set but only partially adhered to.	Priorities are set and adhered to
Policy integration	Sector ministries do not incorporate environmental concerns.	Sector ministries have basic knowledge of environmental issues.	Environmental concerns are integrated in sector policies; inter-ministerial coordination is effective

Source: http://siteresources.worldbank.org/IDA/Resources/CPIA2005Questionnaire.pdf

The existing tools cover relatively well the key aspects of environmental management, gravitating towards the assessment of the enabling environment and organisational capacity (Table 4). Individual capacity is the least addressed subject.

Table 4: Assessment criteria: review of tools used within the framework of aid programmes

Assessment criteria	European Commission's CEP	ADB's CEA	World Bank's CEA	CPIA	UNDP's NCSA
Capacity layer 1: The enabling environment					
Constitutional provisions for environmental management	●	●	●		●
Quality of public management	●	●	●	●	
Maturity of legal frameworks	●	●	●	●	●
Integration of environmental matters into development objectives	●	●	●		●
Integration of environmental matters into sectoral policies	●	●	●	●	●
Robustness of policy planning processes	●	●	●	●	●
Diversity and design of policy instruments	●	●	●	●	●
Use of project-level environmental assessments	●	●	●	●	●
Effectiveness of implementation	●	●	●	●	●
Information basis for decision-making	●	●	●	●	●
Public environmental expenditure	●	●	●		●
Quantity and quality of donor aid	●	●			
Capacity layer 2: Stakeholder interaction					
Clarity of mandates	●				●
Steadiness of information flows	●			●	●
Quality of decentralisation	●				●
Public participation	●	●	●	●	●
Capacity for international cooperation and negotiations	●				●
Quality of interaction with business circles	●	●	●		●
Capacity layers 3 and 4: Organisational aspects and staff competence					
Leadership and organisational culture					●
Human resources management, including training	●	●	●		●
Quality of infrastructure					●
Budget and finance management	●	●	●		●
Transparency and accountability	●	●	●		●

Source: Table compiled by Maria Terekhova, Yale University. Data as of July 2008.

Detailed criteria of assessment are missing, in most of the cases capacity levels being depicted by descriptors such as "weak, inefficient, advanced" etc., which are very subjective. Overall, capacity assessment tools can greatly benefit from a more precise and verifiable description of assessment criteria.

3.4 Process organisation

Process organisation is as important to the outcome of capacity assessment as a robust framework for assessment. It requires clarification of questions such as: Who initiates the assessment and who undertakes it? At what moment in time is it done and how often? How is the methodology of assessment selected/developed? Are stakeholders involved in the assessment? While previous sections answered some of these questions, the current section provides further details.

In many instances, diagnostic tools are accompanied by detailed descriptions of the processes that are recommended for performing assessments, particularly when the tool is designed for application by partner countries themselves. A good example is the UNDP's National Capacity Self Assessment methodology (Box 3). This methodology foresees five steps of assessment: (i) inception; (ii) stocktaking; (iii) thematic assessments; (iv) cross-cutting analysis; and (v) development of the Action Plan and an NCSA report.

Box 3: Typical steps used in the UNDP's National Capacity Self-Assessments (NCSA)

The National Capacity Self Assessment (NCSA) methodology recommends the following procedure:

Step 1. During **Inception**, the administrative, management and consultative arrangements for the NCSA are decided and organised, and a Work Plan prepared. This may involve analytical work to identify linkages of the NCSA with past and on-going processes, as well as stakeholder analysis to see which stakeholders should be involved, and a stakeholder involvement plan, which outlines how best to engage each group.

Step 2. The **Stocktaking** is a "situation analysis" that provides the baseline research for the next steps. Its objective is to ensure that the NCSA builds on other local or national work related to the conventions and on past capacity development efforts. The stocktaking involves identifying all national activities and documents that are relevant to the convention themes as well as core national environmental priorities. These include any laws, policies, plans, strategies, programmes and project documents that may be useful in Steps 3 and 4. This step involves also reviewing past capacity assessments and assessing the strengths and weaknesses of previous capacity development efforts. The latter may include capacity-building projects, capacity components of broader projects, and mainstream programmes. The Output is a Stocktaking report.

Step 3. The main objective of the three **Thematic Assessments** is to analyse the country's obligations and opportunities from each MEA, and the country's performance and achievements to date. The output is a succinct picture of "where we are now", including strengths and constraints in implementing the conventions, as well as priority capacity needs. Some thematic assessments identify emerging crosscutting needs that can be further analysed in Step 4, and possible capacity development actions to be investigated for the Action Plan. However, usually no recommendations are made at this time, unless immediate improvements are possible.

Step 4. The objective of the **Cross-cutting Analysis** is to assess capacity issues, needs and opportunities that cut across the conventions. This includes identification of common needs and possible synergies that could be achieved in the country by addressing requirements across two or more themes. This analysis may also identify capacity needs that are common to both national and global environmental management, and possible synergies between them. This step results in a list of priority national capacity needs and opportunities for synergies. It may also identify possible capacity development actions that can be refined for the Action Plan.

Step 5. The **Action Plan** draws on the assessment of priority thematic and cross-cutting capacity needs, to identify a program of capacity development actions. The Plan recommends goals, objectives and strategies for national capacity development. It should identify priority actions; the time frame; possible funding; responsibilities; and means of monitoring implementation and evaluation of outcomes and impacts. The Action Plan may be included in the NCSA Report. The NCSA Report is a required output. It summarises the work done under the NCSA, documents the process used to produce the outputs, including the methods, tools and participants, and highlights the major conclusions and lessons from the NCSA.

Source: UNDP (2005), NCSA Resource Kit. www.unpei.org/PDF/institutioncapacity/National-Capacity-Self-Assessment-Resource-Kit.pdf

Many assessments, as already mentioned, are executed by external actors, *e.g.* international organisations or private-sector consultants. They also can take the form of self-assessments, though self-assessments do not necessarily mean in-house reviews by civil servants and may largely rely on external experts. The assessment process may involve third parties, notably the NGOs. Consultations with non-governmental stakeholders are being conducted with increased frequency in order to evaluate the performance of public sector institutions. Such consultations, besides the data gathering function, provide the benefit of raising public awareness about improved governance. Various other data gathering methods are used, such as reviews of official documentation, interviews, household surveys, and stakeholder surveys.

Where conducted, self-assessment results may be reported to superior hierarchical bodies, *e.g.* to executive offices or the legislature. Placing the responsibility for reviewing results of self-assessments outside line ministries may be an effective tool for increasing the status and impact of institutional assessments. It can be assigned, for example, to the Courts of Audit or other body mandated to oversee the work of governmental actors. To do so, governments need a common assessment framework that would be sensible enough to disparities in the capacity of different ministries but also in the incentives to perform better. This can benefit governments by giving them the tool to identify sectors that represent the "weakest link" within the country system and promote horizontal and vertical coherence. There are, however, limitations of this approach: sector specificities might be dropped from the analysis or poorly understood. Also perverse incentives may exist to over-report capacity when assessments are associated with performance evaluation.

The frequency of assessment is variable. Often it corresponds to the planning cycles within the body performing the assessment rather than the government's planning cycles though the situation started to change and there are examples of synchronisation with in-country planning processes (see Box 4). Also the duration of the assessment exercise is variable and can take from several weeks to several months or even two-three years to complete.

Box 4: Capacity assessment within national systems in the partner countries: the case of Moldova

In 2008, the OECD Secretariat has studied the practice of capacity assessment in the environmental sector in Moldova, a lower middle-income country that has been undertaken steps towards making this process more structured. The improvements in capacity assessment and development were driven by public administration reform and, in particular, modernization of planning practices. At the government-wide level, there is a strong focus on adopting performance-oriented planning. Thus, since 2008 the hierarchy of development papers includes sector-specific medium-term plans that have a clear link to both strategic goals and budget allocation. Such medium-term plans, called "Institutional Development Plans" (IDP), are supposed to meet a small number of clear and simple criteria, such as: coverage of all functions carried out by the respective Ministry, a strong link to the Medium-Term Expenditure Framework (MTEF), and the need to identify priorities, including for capacity building, and specific performance targets. In a sense, IDPs are "capacity-bound": they oblige ministries to adjust their level of ambition to the capacity level. The timeframe of the IDPs corresponds to the MTEF timeframe: both have a "rolling" character, being updated annually by adding a year to the planning period. By promoting IDP use, there is a hope to overcome the current fragmentation of strategy papers and the unmanageable number of policy objectives and parallel activities (including as part of technical cooperation) to achieve them.

Although the main lines of evolution as concerns capacity assessment and development are good, the process of capacity assessment and IPD drafting was sub-optimal. The government did a remarkably good work in devising quality criteria for IDPs. But it was much less rigorous in establishing a good procedure for IDP development. Because of conflicting deadlines, the IDP and MTEF development was done in parallel thus achieving some, but not a full degree of harmonisation. Training on strategic planning was not provided though a guide on IDP drafting was available early in the process. Due to tough deadlines and lack of clear guidance on this point, staff participation in IDP drafting was very weak. The quality control of IDP papers by the government could not be ensured. In this context, the government could, instead of procuring consultancy services to compile IDPs, to allocate these resources for training and quality control.

Box 4 (continued)

Like other ministries, the Ministry of Ecology and natural resources (MENR) went through a capacity assessment exercise as part of the IDP drafting. This assessment, carried out in early 2008 by a team of two consultants[36], consisted of a questionnaire-based survey and analysis of collected data. The survey covered only 33 people working in the central body of the Ministry (other 816 people are employed in MENR sub-divisions that are separate legal entities)[37]. The capacity assessment did not use quantitative benchmarks for comparison; in many instances, this made data interpretation very difficult if not impossible. As part of the assessment, staff members were asked to rank on a 5-grade scale (from unsatisfactory to highly satisfactory) their own capacity to undertake some functions. The answers give very high ranks, *e.g.* to strategic and financial planning, and seem to be overly-optimistic. No topic-specific assessment was made thus it remains unclear what is the level of knowledge and skills in new areas of environmental management that are appearing on the agenda or are likely to appear together with European integration. Furthermore, the avenues to preserve staff integrity were not analyzed.

Apart from an underdeveloped methodology, there were other barriers that prevented the production of a more solid report. *Firstly*, the level of cooperation shown by the MENR staff was minimal due to the absence of incentives to embark in open discussions and admit capacity problems. Respondents suspicious that their answers might be turned against them during the individual performance reviews. *Secondly*, people perceived the exercise as being very abstract, with no clear impact at the individual or organizational level. *Thirdly*, deadlines were too tough and did not allow for a more inclusive process that would start with methodology discussion (including the structure of the questionnaire) and its full acceptance by the staff. It is not clear whether results of assessment were reported back to people involved in the exercise. Consultations with non-governmental stakeholders were not conducted.

The resulting report is, however, a good source of up-to-date information on the MENR human resources, including their age structure, educational background, knowledge of English and computer skills. It also reflects well issues of infrastructure for information technology use and various financial procedures. Unfortunately, the recommendations grasp only partially the organizational development needs and are very scarce in advice on individual capacity development and improvement of instruments and procedures specific to environmental and natural resources management. The report does not suggest any sequencing for capacity development and has no indication of possible costs.

At the same time, the capacity assessment process carried out within the MENR offers important lessons for future initiatives of this type, whether conducted in Moldova or in any other country. As a pilot exercise, it showed well the limitations of self-assessments and the need for clear incentives to conduct such assessments but also for a clear framework of assessment that produces objective results. Most importantly, the capacity assessment exercise was based on a relatively weak methodology that treated capacity as an abstract thing instead of linking it to development goals or specific qualitative or quantitative benchmarks. Contrary to this, the IDP-related capacity assessment did not use any benchmarks and was solely based on judgements affected by perverse incentives to over-state the capacity level. It is not clear why an exercise that had little sector-specific elements, had to be carried out in all ministries separately. While the use of electronic means of communication within the central government is all-encompassing, Internet-based tools that offer quick and easy avenues, as well as high confidentiality for surveying staff opinions was not used.

Overall, the incentive framework for Ministries to produce high quality IDPs (or even embark in this process) is very weak. In the MENR, the resulting product has many flaws and has to be improved. The process of IDP production, however, has to be maintained as a very useful framework to reconcile development targets, institutional capacity, and budget planning through an iterative mechanism of capacity assessment and planning.

Source: OECD (2009), Capacity Development Agenda in the Environmental Sector: The Case of Moldova; unpublished.

[36] International and local consultants were delegated to all ministries by the government's central unit and paid from the Trust Fund administered by the World Bank.

[37] It has to be mentioned that the scope of capacity assessment caused confusion whether the IDP should cover the whole environmental sector (meaning MENR's central body and subordinated autonomous or semi-autonomous units) or only the central body of the Ministry. The guidance document is quite clear that the whole functional diversity within a specific sector should be covered.

The resource intensity of different tools is variable, depending upon the comprehensiveness of assessment, availability of templates or other supporting materials, procedural maturity, and expected outputs. DFID, for example, summarized tools that are either simple models or checklists, which have rigorous theoretical underpinnings and are based on practical experience. Most importantly, the tools provide a common framework for encouraging discussion between the stakeholders involved in the institutional reform process.

Comprehensive tools applied by international organisations may be quite resource (and budget) intensive. For example, a comprehensive Institutional and Governance Review could cost about 200 thousand USD, while scoping notes for the review could costs about 50 thousand USD[38]. Another example comes from national self-assessments of country capacity needs for global environmental management that were implemented by UNDP/GEF through projects with budgets ranging from 200 to 250 thousand USD. The reviewed literature does not give any indicative figures regarding the resource intensity on the side of reviewed authorities. Given the number of actors that undertake assessments, it might be quite high in some regions (Table 5).

Table 5: Country-level environmental analyses implemented by different international organisations in Eastern Europe, Caucasus and Central Asia (situation as of mid 2008)

Country	ADB's CEA	EU's CEP[39]	World Bank's CEA	UNECE's EPR	UNDP/GEF's NCSA
Armenia	-	On-going	2008	2000, Planned	2004
Azerbaijan	2005	On-going	Planned	2003	2005
Belarus	N/A	2005 or 2006	2003	2005	2005
Georgia	-	On-going	Planned	2003	2005
Kazakhstan	2004	On-going	-	2000, 2007	2005
Kyrgyz Republic	2004	-	-	2000, 2008	2005
Moldova	N/A	2005 or 2006	-	1998, 2005	2004
Russia		N/A	-	(*)	-
Tajikistan	2004	-	Ongoing	2004	2006
Turkmenistan	-	-	-	-	2005
Uzbekistan	2004	-	Planned	2001, Ongoing	2006
Ukraine	N/A	2006	-	2001, 2007	2006

Notes: (*) conducted by OECD in 1999; N/A - Not applicable.

To address this problem, the World Bank in cooperation with other international partners launched an initiative in relation to the country environmental analysis (CEA). Workshops, conducted in 2002 and 2008, concluded that several opportunities for improvement exist, including: information sharing, guidance on methodological issues and good practices, and country-level coordination. Efforts for better cooperation, however, have been largely dependent on informal contacts so far. In light of the increased importance that development partners are assigning to environmental analytic work, it was emphasized that progress in this respect requires a more structured approach[40].

[38] See World Bank (2006), *CEA and Institutional Assessment: A Review of International and World Bank Tools*. Environment Strategy Papers No. 11, written by Poonam P. and Lunde L.

[39] Source: http://www.environment-integration.org/Download/D122_CEP/CEPList2007.pdf (2007). Data for 2008 do not include EECCA countries.

[40] See the minutes on the Country Analytical Website (CAW).

3.5 Lessons learned from the analysis of existing methods and tools

The existing assessment tools provide a useful starting point in their analysis of a few core elements of institutional frameworks for environmental management but these tools are insufficiently adapted to the challenge of capacity development within the new aid paradigm. None of the existing sector-specific tools provide a comprehensive coverage of capacity layers thus being poorly aligned with modern theory of capacity development. Many of them are either very generic or, when focused on environmental management systems, too resource-intensive to be used by developing countries themselves. Despite a high impact on public opinion, integrated indices have a limited applicability in guiding capacity development.

The analysis of current practices of capacity diagnosis leads to several important conclusions that may help partner countries and donors to cope with demands that have appeared together with the transition towards a higher reliance on country systems. These include the following:

- ***Carefully define the governmental actor who initiates and supervises capacity diagnosis***: Assessments for the sake of assessment have little value. They need to be linked to decision making and backed by strong incentives to dedicate sufficient time and money to capacity development. The existence of a unique governmental structure that would establish government-wide approaches, conduct training on these approaches, and monitor their application by individual ministries may help to form a responsible attitude towards capacity development.

- ***Conduct assessments systematically and link them to most influential processes***: The increasing ambition of goals, but also volatility of capacity development results[41] in partner countries means that, to a greater or smaller extent, capacity diagnosis will have to be done at every cycle of activity and budget planning. The most appropriate points in time to conduct capacity assessments are when national development strategies and plans are drafted, and budgets for their implementation defined. In order to understand whether good intentions to develop capacity are backed by budgets, it might be necessary to single out capacity development activities into specific programme areas, and, consequently, budgetary sub-programmes. The standard organisation of planning and budgetary processes, whereby several hierarchical levels are involved, requires capacity assessments at all these levels. Agencies at the higher hierarchical level will have the task of verifying the quality of assessments and identify issues that may be common for several of their subdivisions. At the governmental level, it may be necessary that a central unit does it *vis-à-vis* all ministries. Where possible, it is useful to compare organizational capacity across government authorities to address intra-government disparities.

- ***Involve organisations and individuals that will be assessed in the development of diagnostic tools:*** The ownership of many tools (and the results of their application) is insufficient among developing countries. To address this problem, assessment methodologies need to be discussed with those who will be assessed – that may build trust and support, and result in data that are more credible.

[41] Commonly, staff turnover is high, organisational structures instable to the point of changing every six to twelve months, laws are easily and rapidly amended, and intra-agency resources sometimes may instantly dry up. All these regularly wash capacity out of the environmental sector. See OECD (2007), Policies for a Better Environment: Progress in Eastern Europe, Caucasus, and Central Asia.

- ***Consult stakeholders and disseminate results to various audiences, in a format that is tailored to their needs:*** Due to the involvement of many stakeholders in environmental management, capacity assessments may need to be based on a series of policy dialogues that would, at first, define whether omissions or duplications in functions prevent the government from achieving development goals, and, at a later stage, assess the degree of interaction between these stakeholders. Stakeholder involvement also helps overcoming the problem of biased self-assessments. Policy dialogues could benefit from experience in other countries, *e.g.* by using twinning or other technical assistance mechanisms.

  Devising a rating system to undertake monitoring may be useful if competent authorities desire to attract more attention from political leaders and the general public. The easiest way is grouping capacity development goalposts in 5-6 intervals according to, for example, the deadlines established for their achievement and assigning scores when the goalpost is reached. This can help express very complex qualitative information in quantitative terms or through colour codes and thus simplify interpretation by stakeholders that are not interested in technical details of programme implementation. The multi-interval approach can provide incentives for continuous improvement by allowing an easier identification of progress.

- ***Develop a comprehensive diagnostic framework:*** In order to generate results that are robust and useful, the assessment needs to proceed from a well designed framework that uses a manageable number of credible criteria and indicators. Partner countries need to make sure that the coverage of assessment is adequate and assess all dimensions of capacity as they interrelate. For each core function, capacity can be depicted by benchmarks organised according to four layers of capacity, presented in Chapter 2. In comparison with past efforts, they may want to pay more attention to individual capacity assessment. Consideration of the contextual information is necessary.

- ***Use cross-country comparisons for analysing efficiency.*** The idea that the results can be used to compare across countries often leads to the perception that the assessment exercise and the results are not wholly country-owned, and that there may be ODA conditionality associated with it. Nevertheless, cross-country comparisons may be useful in determining the efficiency of capacity development. In general, the notion of efficiency (as compared to cost-effectiveness) is connected to the optimally of objectives. Determining optimally is quite challenging, and cross-country assessment might be a good way to overcome problems in this area, particularly when comparisons are done between countries with a similar level of economic development.

- ***Set up a monitoring and evaluation process that is learning-friendly and promotes positive change***. This requires more focus on the use of assessment results as avenue for learning and guidance and a greater acceptance of risk and failure in capacity development.

Overall, there is still a need for approaches that would be less resource-intensive and subjective, on the one hand, and, on the other hand, clearer, more user-friendly, and sufficiently adapted to the needs of various stakeholders, including government, donors, and the general public. At the same time, it is important to remember that assessing institutional frameworks is very difficult because of the complexity inherent to a large number of dimensions and stakeholders. Limited data constitutes a further complication, particularly in light of the need to harness benefits of combined qualitative and quantitative analysis. There is very limited guidance and supporting tools for costing capacity development needs.

International good practice could serve as a basis for establishing capacity benchmarks. Comparison with frontrunners in particular can help users to understand which elements are still missing in the environmental management system, and which ones are comparatively under-developed. This can help to optimise investment into capacity development and direct it there where it is really needed rather than continue upgrading areas that are most politically appealing (such as policy formulation), least accountable in terms of outcomes, or area where influential individuals work.

Experience from OECD countries can provide numerous examples of advanced approaches to environmental management, though countries with more modest levels of economic development are also an important source of good practice, especially in terms of adaptation to resource scarcity. The problem with the practices originating from non-OECD countries is a lack of documents, which would review such practices or would set “formal” benchmarks. The OECD work, on the contrary, is quite abundant in good practice reviews.

Finally, partner countries and donors need to carefully consider at which point in the process external assistance is most needed. The practice of using external expert to draft planning documents needs to be gradually abandoned and assistance channelled to training in planning and costing techniques, and to specialised research and analysis, where needed.

4. KEY TRENDS IN THE EVOLUTION OF ENVIRONMENTAL INSTITUTIONS

The primary objective of policy intervention in the environmental sector is to limit externalities that stem from markets' failures to capture the costs of pollution and unsustainable use of natural resources. This contributes toward protecting the integrity of ecosystems and human health, ensuring the sustainable use of natural resources, and guaranteeing fair competition. Similarly to other sectors, the recent evolution of environmental institutions has strongly been driven by the governments' agenda to "re-invent public management". This included, for example, the adoption of new approaches in budgeting and financial management that have promoted higher effectiveness, efficiency, transparency and accountability. Despite similarities with other sectors of public administration, the environmental management institutions exhibit a number of specifics. Understanding them is instrumental in order to define those factors that could have a particular impact on the effectiveness and efficiency of environmental management, and capacity development in this area.

4.1 Growing commitment to solve environmental problems

The history of environmental management has seen fluctuations in political and popular support. Most recently, the environmental agenda re-gained prominence in national and global political debates. This has been driven by the increased awareness about climate change, "new" environmental impacts on human health and the role of natural resources, particularly in developing countries where sectors linked to natural resources use provide important contributions for growth, exports, employment, and public revenues[42]. In some cases, resource degradation, alongside high costs of health and ecological damages, started to constrain economic development, *e.g.* in China[43]. Awareness has also developed about the ecological services provided by the environment and an eventual transformation of environmental problems, particularly those of a transboundary character (such as climate change, water scarcity and desertification, or depletion of fish stocks) into security threats and sources of conflict and forced environmental migration[44].

Better understanding of economic consequences of inaction (Box 5) resulted in maturing political commitments and action to develop capacity for environmental management, at least in some countries. Improvement of legal frameworks, creation or strengthening of environmental authorities, integration of environmental policy goals into economic policies and development strategies, and increased environmental expenditure are some of the most convincing examples of how such commitments have materialised at the national level. Simultaneously, business actors have begun to see the environment as a business case and corporate strategies have considerably moved towards higher environmental responsibility. The increased awareness of the banking sector led to initiatives such as the Equator Principles, which are a benchmark for greening the financial industry.

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[42] OECD (2008), *Natural Resources and Pro-Poor Growth: The Economics and Politics*, DAC Guidelines and Reference Series.

[43] OECD (2007), *Environmental Review of China.*

[44] In 1995 (latest date of assessment), environmental refugees totalled 25 million people compared to 27 million "traditional" refugees fleeing political, religious or ethnic persecution. [Myers, N. (2005), Environmental refugees: An emerging security issue. 13th Economic Forum, EF.NGO/4/05.]

Box 5: Costs of policy inactions in the environmental area: Selected examples of evidence

The literature reviewed for the OECD report "Cost of inaction on environmental policy challenges" suggests that the economic costs of failing to introduce environmental policies, or of introducing policies that are not sufficiently ambitious or timely (which can be considered to comprise some form of "inaction"), can be considerable, and are already directly affecting national economies in a variety of ways. For example:

Air pollution can lead to reduced agricultural yields, degradation of physical capital, and broader impacts on ecosystem health. The costs of not introducing the European Union's (EU) "Thematic Strategy on Air Pollution" are estimated to represent about 0.35-1.0% of EU-25 GDP in 2020. Although some of the tangible health costs of pollution (lost productivity, health service costs, *etc.*) may be more visible, economic studies suggest that more intangible costs, such as "pain and suffering", are very significant as well.

In non-OECD countries, the economic impacts of inaction with respect to ***water pollution*** may be even of a greater magnitude. According to the WHO, 1.7 million deaths and 4.4% of the so-called burden of disease (measured in terms of disability-adjusted life years – a common indicator used in cost-effectiveness studies in the health economics field) are attributable to unsafe water supply, sanitation and hygiene (WSH). Ninety per cent of these deaths involve children under 5 years old. Households devote significant resources (time and money) to securing access to clean water, in order to reduce these health impacts.

Estimates of the economic costs of ***climate change*** vary widely. The Stern Report estimated costs of 14.4% in terms of per capita consumption equivalents3, when both market and non-market impacts are included. Others have estimated much lower costs. While there is considerable uncertainty about the eventual costs of inaction with respect to climate change, few would doubt that climate change has the potential to have very important implications for the world economy – particularly in non-OECD countries. Reduced agricultural yields, increased sea-levels, and greater prevalence of some infectious diseases are likely to significantly disrupt these latter economies.

Environment-related ***industrial hazards*** – such as oil spills and land contamination – are already generating significant costs of inaction. For example, experience in Europe and United States indicates that the costs of cleaning up or restoring damaged ecosystems after industrial accidents have occurred can run into billions. Moreover, due to the irreversible nature of some of the associated impacts, the real losses to society will be higher than these direct financial costs no matter how comprehensive the remediation efforts may be.

While the economic risks associated with ***natural disasters*** (*e.g.* floods, hurricanes) are only partly attributable to environmental factors, and can only be partly reduced through public policy measures (*e.g.* mitigation of climate change, flood prevention measures), the costs of inaction in these areas can also be considerable – the World Bank (2006) has estimated that the costs of natural disasters for the poorest countries can be as much as 13% of annual GDP.

The costs of unsustainable ***natural resource management*** can be considerable too. For example, Bjørndal and Brasão (2005) conclude that inefficient management of the east Atlantic bluefin tuna fishery may be resulting in reduced fishery yields with a discounted value of USD 1-3 billion. However, the costs of unsustainable fisheries management extend well beyond these direct impacts on the resources themselves, to also include indirect impacts on "downstream" sectors and ecosystems.

Source: OECD (2008), *Cost of inaction on environmental policy challenges: Summary report*. http://www.oecd.org/dataoecd/60/45/40501169.pdf OECD, Paris.

Constitutional provisions have played the empowering role for an effective functioning of environmental institutions. Besides establishing government competencies, constitutions can guarantee environmental rights, which are increasingly recognised as a fundamental human right to "adequate conditions of life". This trend covers not only most OECD countries[45], but is quite prominent in

[45] Hyward T. (2000) *Constitutional Environmental Rights: a Case for Analysis*. Political Studies: 2000, Volume 48, p. 558-572. University of Edinburgh.

partner countries, *e.g.* in Africa[46]. Many constitutions stipulate both environmental rights and duties, including the state's duties. More recently, new procedural rights (such as the right of access to environmental information, public participation and the access to justice) have driven further improvements in environmental governance. The *Aarhus Convention on Access to Environmental Information, Justice, and Public Participation* is an important international benchmark in this context[47]. Constitutional guarantees of government's transparency, openness to public participation and accountability, and independence of the judiciary have an important supporting role.

Also legal frameworks evolved to accommodate the shift towards preventing resource degradation and maintaining non-commercial environmental services. Some OECD countries, for example, introduced tradable rights to address over-fishing or manage water resources. An important step in enhancing the constitutional basis for environmental management was the incorporation of the Polluter Pays Principle in legal frameworks and mandating policy integration and an ecosystem approach. In a longer-term perspective, the whole set of principles of sustainable development needs to be reflected in national legal acts. Eventually these principles and implementation mechanisms may evolve, particularly due to the evolution of international environmental law, and will need to be reflected in national legal acts within a reasonable period of time.

Still, what really matters is whether environmental rights and principles are implemented, and property rights guarantee a sustainable use of resources. Quite often, unfortunately, they remain "on paper". Direct enforcement by citizens (*i.e.* their access to courts) is an important vehicle to promote adherence to environmental rights particularly in developing countries where government resources to enforce environmental laws are scarce. The lack of procedural and liability rules may prevent citizens from using this vehicle.

4.2 Difficult policy choices in the context of economic growth

Against the background of a growing political standing, environmental management systems continue to face competing demands and interests. On the one hand, the general public and the international community demand high environmental standards and a socially and environmentally responsible behaviour. On the other hand, individuals want to see increasing personal welfare and business circles expect policy solutions that minimise compliance costs and bureaucracy.

Within this framework, policy design becomes a very delicate balancing exercise based on the analysis of costs and benefits of different policy options (even though the following policy choices may sometimes be defined by arguments beyond effectiveness and efficiency). Reconciling the goals of economic development and environmental protection is particularly challenging in developing countries, where popular support for environmental protection is only nascent while vested interests and corruption are particularly high and pervasive.

[46] For an ample review of environmental rights and duties in African constitutions, see Bruch C. *et al* (2001) Breathing Life into Fundamental Principles: Implementing Constitutional Environmental Protections in Africa. Environmental Governance in Africa: Working Papers Series. World Resources Institute.

[47] See the Internet page of the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters: www.unece.org/env/pp

On the contrary, widely spread convictions that the goals of economic development are in conflict with those of environmental protection undermine attempts to address environmental problems. Undoubtedly, economic growth and creation of jobs are a first-order priority for developing countries. However, it is also true that some economies grew fast while heavily disrupting their natural environments and society in these countries ended up paying more in terms of damages and their remediation than it would have had to pay had environmental regulations been in place and implemented at the time of rapid growth[48].

Governments (especially ministries of finance and economy) usually have a much clearer vision of the costs associated with implementing environmental regulations than of the benefits of these measures or the costs of inaction. One reason for this is that assigning monetary value to environmental benefits and losses is not easy. Unlike other goods and services, environmental ones are not subject to market transactions and their value is not revealed by market prices. Evaluating environmental impacts in monetary terms can enhance the ability of environmental authorities at national and at local level to hold meaningful dialogue with economic and finance ministries on the cost of environmental degradation to the national economy and on budget allocation to environmental improvements. Public awareness of the value of environmental benefits and costs[49] can also improve understanding of the trade-offs between environmental and other investments and help in the process of prioritization.

Valuation is just one of the techniques used within the framework of modern policy making to reconcile environmental and economic goals. Experience from OECD countries demonstrate that the introduction of a medium-term expenditure framework (MTEF)[50] may benefit environmental (particularly infrastructure investment) policies through a higher predictability of government commitments in a longer-term perspective that corresponds to the nature of these policies. Developing economically-sound and realistic programmes which can serve as a basis for annual budget allocations is key to the success of ministries of environment in the MTEF process. The OECD experience shows that where environmental programmes are well-designed and justified in economic terms, such programmes stand a higher chance of being funded through the regular budget process. Unfortunately, the lack of capacity in environment ministries in the aid-receiving countries to conduct economic analysis is further magnified in the MTEF context.

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[48] World Bank (1997) *Can the Environment Wait? Priorities for East Asia*.

[49] Recommendations for governments wishing to undertake an economic analysis of the environment and natural resources are presented in a complementary working paper (ENV/WKP(2008)4), published in 2008 under the title "*Greening development planning: a review of country case studies for making the economic case for improved management of environment and natural resources*". Key recommendations include: i) place overall responsibility with the ministry of finance or planning; ii) relate to central policy makers' priorities and language; iii) ensure a process that stimulates learning and interaction between policy makers and researchers; iv) draw on existing data and/or liaise with teams planning research; v) ensure that the analysis is evidence-based; vi) make findings broadly accessible. Last but not least, the importance of a credible researcher/spokesperson with strong communication skills should not be underestimated.

[50] MTEF seeks to structure the budget around broad programmes which are defined along government policy objectives and linked to specific outcomes, thus aiming to integrate policy, planning and annual budgets. This makes it clearer what a given level of expenditure is intended to deliver and allows accountability to focus more on performance. In return, sector managers are granted more discretion over detailed budget management and empowered to use their greater informational advantage to deliver results. See the working paper "Integrating public environmental expenditure within multi-year budgetary frameworks".

4.3 Prominence of the international agenda and regional disparities

The global and regional significance of environmental management means that goal setting in this area is increasingly a matter of multilateral agreements. Indeed, UNEP (2001)[51] reports that today over 500 international treaties and other agreements relate to the environment. Some 320 agreements are regional. Their development was significantly stimulated by the Stockholm and Rio conferences. The largest cluster of MEAs (40%) is related to the marine environment; the second largest cluster relates to biodiversity protection. Other important issues addressed through international means are climate change and the atmospheric air quality, and chemicals and hazardous waste management. All these promote a global convergence of environmental norms, though countries keep full sovereign right to set environmental requirements.

The abundance of MEAs was nurtured, besides objective needs, by expectations from developing countries that international aid will help them address environmental problems. Though such expectations were in part met, the strong external drive in environmental target setting meant that country's own resources – both technical and financial – were often diverted from the solution of local environmental problems. Limited public support for environmental action in the developing countries might be a collateral effect of this predominance of the global environmental agenda in countries with acute local environmental problems.

Besides MEAs, convergence of environmental policy goals and approaches is promoted through other avenues, such as international and regional trade agreements, foreign investment (particularly, where substantive and procedural norms established by International Financing Institutions are followed), and multinational enterprises (due to corporate standardisation of technical norms and management approaches). Product labelling and enterprise certification schemes (*e.g.* ISO 14 000 series environmental management standards) serve as additional instruments for promoting higher environmental standards.

Not always, however, promotion of higher standards is viewed as an exclusively environmental problem. In repeated instances developing countries raised concerns that environmental and consumer protection is used as a cover of economic protectionism that limits poor nations' export markets[52]. Capacity development through easy access to environmental technology, funding for environmental protection, and technical assistance is seen as an alternative to what is perceived to be "trade sanctions for poor regulatory infrastructure".

Another concern is linked to regional disparities in reducing environmental threat and the so-called "ecological debt". Unlike OECD countries, which are mostly confronted with the "second generation" of environmental issues, the developing and emerging economies in addition have to deal with the "conventional" environmental problems. Also new environmental issues arise quickly, such as increasing pharmaceutical contamination or electronic waste. Production and consumption patterns in some countries cause damages to ecosystems beyond their borders. Also outsourcing of production sometimes may outsource risks. This implies the need for the use of a very broad toolbox in developing countries and a constant search for cost-efficient policy responses. Identifying and implementing such policy responses is very challenging against the background of weak capacity.

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[51] UNEP (2001) *International Environmental Governance: Multilateral Environmental Agreements (MEAs).* UNEP/IGM/INF/3, New York, 18 April 2001.

[52] Center for International Environmental Law (2005) *Eco-Labelling Standards, Green Procurement and the WTO: Significance for the World Bank Borrowers*. Washington, DC, 2005.

4.4 Adoption of a multidisciplinary, demand-driven approach and policy mixes

In many countries, policy making – be it at the national or sub-national level – has gradually moved towards a more pragmatic and result-oriented approach that includes the following elements:

- Priority setting, which balances political considerations with analytical criteria (including economic and social analysis);
- Participation of major stakeholders including environmental and sectoral authorities, parliaments, NGOs, local/regional authorities, industry and the private sector;
- Development of a cost-effective and financially feasible implementation plan involving an appropriate mix of policy, institutional and investment actions, realistic objectives and quantitative target setting;
- Active monitoring of environmental conditions and policy implementation to assess the effectiveness of the environmental policy, to correct and update the policy.

Intensive policy-making has resulted in national and local environmental strategies, sector-specific policy documents, environmental chapters in national development plans and a myriad of other policy documents. In developing countries, the policy planning has heavily been driven by international processes and donor assistance, and there is a need to shift the attention and resources away from *ad-hoc* production of strategy papers towards a more systematic activity within standard domestic procedures of activity planning and implementation.

At the same time, the types of policy solutions changed. The early emphasis on "point sources" of pollution led rather naturally to an emphasis on those economic actors who could make the quickest (and cheapest) contributions to reducing that pollution – the polluting enterprises themselves. In turn, this led environmental policy to focus mainly on the *supply* side. Recycling – largely a *demand*-side issue – has been a notable exception. So has demand management in certain economic sectors, *e.g.* energy. As it became clear that not all environmental problems could be resolved (at least at reasonable cost) by focusing on enterprises, attention began to turn more toward the possible contributions from consumers and other parts of the *demand* system. New programmes emphasising the environmental implications of consumption patterns also began to emerge on the agendas of environment-related institutions. Within enterprises, managers began to examine the possibility that reduced demand for environmental throughputs could pay off in terms of increased profitability (i.e. eco-efficiency). More broadly, the idea of pricing as a leverage to achieve environmental objectives became more attractive. In the future, the evolution of the overall approach may result in new ways of reconciling both the supply and the demand sides of the economy. The idea of eco-efficiency at the level of the firm is already expending to encompass "resource management". Life cycle considerations and integrated pollution prevention and control both gain in profile, and emphasis on *strategic* environmental assessment is stronger.

The increasing ambition of environmental policy goals and widening of the regulatory field have called for more diverse instruments that translate policies and regulations into practice. Therefore authorities have gradually supplemented the traditional "command-and-control" instruments with economic incentives, then information-based and other non-regulatory instruments. New instruments have been introduced for integrating environmental considerations into the sectoral and broader development policies. Thus, integration is promoted by ascertaining the environmental impacts of proposed public spending, identifying sectoral and inter-sectoral environmental targets, promoting best practices, and monitoring long-term achievements. There is increasing interest in OECD countries

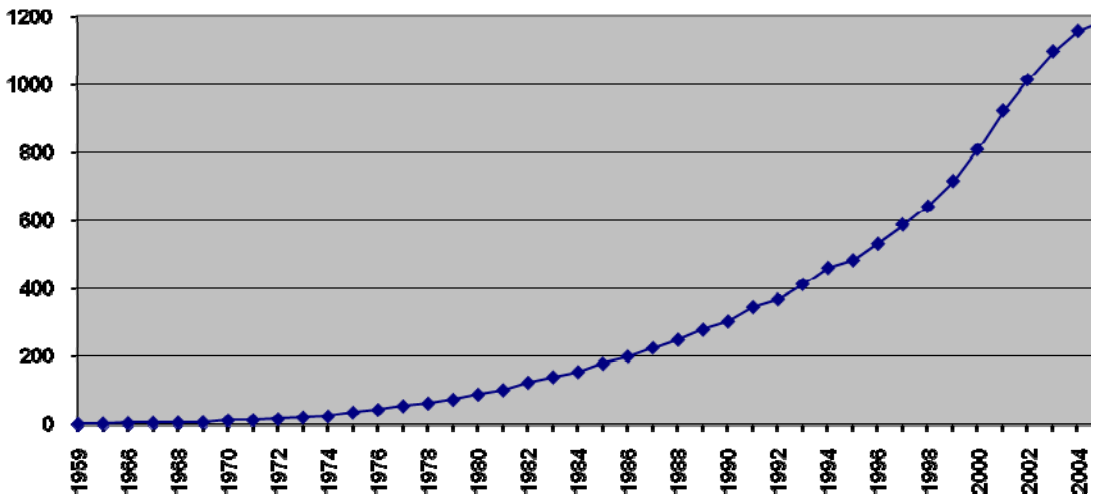
about how individual environmental policy instruments "mix" with each other to produce efficient and effective results. Various policy instruments may be included in a single policy package in order to address different stages in the cycle of production, consumption, disposal, and recycling.

Globalisation accelerates diffusion of policy innovation. At the same time, Kern K. et al. (2001) argues that global diffusion of environmental policy innovation depends, among other things, on whether national capacities for action facilitate change, whether there is national-level demand for policy innovation, and whether international organisations and transnational networks favour policy transfer. As concerns the role of such organisations as United Nations, OECD, and the World Bank, the authors state that the emphasis placed by these global actors on sound environmental policy planning "meant that this policy innovation has spread with almost equal speed in industrial, newly industrialised and developing countries"[53].

4.5 Widening regulatory coverage and heterogeneous regulated community

The scope of governmental intervention in the environmental sector is often the widest among all. For example, in the European Union the community-wide environmental legislative acts reached by 2005 the number of 1 187 items (Figure 4). In most countries, environmental legislation has developed over time in piecemeal fashion, acquiring a complexity that ultimately hinders implementation and results in unnecessarily high costs of administration accruing to both government agencies and regulated activities. Besides national environmental legislation, the sources for regulatory requirements include a large number of multilateral environmental agreements. In federal states, another layer of complexity involves provincial or state laws and regulations.

Figure 4: Cumulative number of items of the EU environmental legislation adopted in 1959-2005



Source: OECD, based on data from IEEP (2006), Manual of European Environmental Policy.

The diversity of environmental issues and piecemeal development of regulations have caused administrative inefficiencies that impede business operations. To address this problem, many OECD governments actively promote simplification, clarification, and integration of environmental

[53] Kern, K. et al. (2001), The Diffusion of Environmental Policy Innovation: A Contribution to the Globalisation of Environmental Policy. Social Science Research Center (WZB), Berlin.

regulations. For example, Sweden completed the codification of its environmental legislation by merging provisions previously contained in 15 separate acts into a basic environmental framework law (the Environmental Code), which came into force in 1999. Streamlining of permitting regimes received particular attention in OECD countries. For example, as part of the simplification initiative in the Netherlands, the Environment Ministry is integrating 25 different permitting systems into one system, starting in 2008. Simultaneously, the Government plans to reduce that number of enterprises that are required to have individual environmental permits from 100 000 to 40 000 by expanding the use of "generic" rules that are binding for all firms.

The latter intervention is linked to another characteristic of environmental management – a very heterogeneous regulated community – that ranges from multinational companies to small and medium-sized enterprises, and from large point sources to diffuse sources of pollution. Approaches to regulate different segments may be quite different thus adding another layer of complexity to environmental management and, consequently, to capacity development programmes. Regulatory Impact Analysis is a central tool for determining the realism of regulation. Lately, tools such as the Dutch "Table of Eleven"[54] were developed to screen both the feasibility and enforceability of regulations.

The very wide scope of regulation constitutes an important capacity challenge: in order to develop and implement issue-specific regulations, extremely diverse technical expertise is required. Upstream of regulatory design, at least basic scientific training and monitoring infrastructure are needed to reveal the existence of problems and their magnitude. At the same time, technological progress increased government's ability to accumulate information in regulated areas and facilitate the transition towards evidence-based policy making.

Developing countries have mostly "imported" regulations either from OECD countries or international programmes. When the transposition of requirements is mechanical, too rapid, or the level of ambition by far exceeds the capacity to implement them, environmental regulation becomes "symbolic" and even counter-productive as it affects governments' credibility as regulators. The transposition of regulations within bilateral aid outside a multilateral policy dialogue implies the danger of producing incompatible systems in neighbouring countries that may prevent them from resolving environmental problems jointly because of divergences in national regulatory systems.

4.6 Cross-cutting nature of environmental management and multiple stakeholders

The success of environmental management depends upon a wide range of sectoral economic policies that are the source of pressures on ecosystems and natural resources, including transport, energy, industry, agriculture, fisheries, tourism, etc. In consequence, the outcomes of environmental management will depend upon the actions of a constellation of government agencies that need to clearly delineate their responsibilities and maximize the co-ordination and coherence of their policy interventions. Overall, governments are increasingly seen as facilitators and catalysts of environmental policy development, rather than "direct providers" of environmental protection.

The devolution of regulatory powers and service provision from central to local government has been an important governance change in recent years. Roles and relationships between the national government and local governments can develop in many different ways, ranging from decentralisation or centralisation to various combinations of both approaches. Decentralization is likely to increase the problem of policy co-ordination and coherence at the national level. Therefore, sub-national

[54] The "Table of Eleven" uses a set of criteria to verify whether new legislation is designed taking account of compliance incentives and helps to decide on the level of enforcement (and implicitly resources) that will be necessary to ensure compliance. See OECD (2004), Assuring Environmental Compliance.

authorities need to be active participants in the setting of environmental objectives, and in the choice of instruments to meet those goals. Involvement of sub-national authorities is important because they are closest to the actual environmental problems and best able to efficiently identify and correct them. Great geographic dispersion of the regulated community provides another strong argument in favour of decentralisation.

Environmental decision-making has gradually involved stakeholders beyond public administration. In OECD countries, the introduction of laws that require the disclosure of official information but also the maturation of civil society organisations or development of information technology have been the driving force behind this process. In most countries, however, collaboration has involved preponderantly NGOs and industry, while a greater range of actors, including banks and insurers, can play an important role in environmental management.

Partnerships for sustainable development, which made a strong appearance at the 2002 World Summit on Sustainable Development, allow different stakeholders to work together to achieve sustainable development outcomes. They are likely to become an increasingly important complement to government commitments and multilateral environmental agreements. Consequently, there may be a greater reliance on "networking", which is based on the premise that individuals and groups – not formal organisations – drive innovation.

4.7 Incorporation of environmental matters into private sector strategies

Adoption of sound environmental management within the business sector is another important factor that has contributed to improved environmental management. Today, most enterprises find it in their own interest to minimize their negative impacts on the environment because of their personal ethical views, stakeholders' interests, but also to enhance growth and earnings. At the same time, understanding is growing that poor environmental quality and particularly access to resources (beyond energy resources) affects business development.

The very minimum level of responsible business conduct is the full adherence to the framework of laws, regulations and administrative practices in the countries in which companies operate. Furthermore, relevant international agreements, principles, objectives, and standards should be considered. Environmental performance "beyond compliance" is the last goalpost.

Currently, numerous codes of responsible business conduct are available that put forward the above-mentioned objectives. The OECD Guidelines for Multinational Enterprises stand out amongst them as the only multilaterally endorsed and comprehensive code that governments are committed to promoting. A company wishing to implement the recommendations of the Guidelines' Environment chapter will need to translate them into concrete managerial approaches. In doing so, it may choose to implement one or more of a growing number of off-the-shelf environmental management tools, reporting and information codes and sectoral guidelines and recommendations, or to develop tailored approaches to suit its specific needs.

Responsible corporations seek not only to comply with their own responsibilities, but also work to ensure that their vendors and suppliers produce their products in using environmentally-sound methods. This is particularly important for motivating SMEs to strengthen their environmental performance but also helps public authorities to deliver more results with less budget resources.

Finally, as noted by Yousif H. (2006), "inadequate institutional, organisational and human capacities in the private sector are likely to render privatization of public enterprises futile and risky

policies that might increase market failures and lead to unfavourable social repercussions"[55]. The path of evolution of the private sector and public institutions may be, in fact, relatively consistent (Table 6). According to Russel *et al.*, "as formal government organization improves, so do the private sector entities[56]. Table 6 below presents three relatively "standard" combinations of institutional settings – out of many possible – that authors use to illustrate the idea of public-private "co-development".

Table 6: Links between public and private sector capacity: Three alternative institutional settings

Sector	Government	Commercial/Industrial enterprises	Rural sector	Extraction industries
"Traditional model"	Highly centralized but lacking experience and skills. Laws and management structure are very basic. Revenue raising ability largely limited to the borders (import/export taxes).	Industry and commerce dominated by state owned enterprises. Relative prices distorted by vestiges of import substitution and urban subsidy strategies. A thriving grey economy operating in the lacunae of state control	Division into large and small estates. Agricultural production inefficient.	Natural resource exploitation often in hands of state enterprises.
"Transitional" model	Highly centralised, with advanced legal frameworks but still gaps in skills and experience. Management structure more integrated. Information gathering capacity limited. Revenue-raising capacity includes in-country sales taxes or VAT.	Privatization well underway but often producing private monopolies or at least single-firm dominated oligopolies. More competition pushing prices closer to marginal costs. Grey economy much smaller and concentrated in minor services.	Reforms of internal and export price policies, of arrangements for rural credit availability, in some cases of land ownership arrangements, and provision of technical advice (extension service) begin to change the incentives and opportunities facing both large and small farms.	Privatization in forestry (logging) and mining underway, but ability to regulate concentrated industry not developed.
"Modern" model	More decentralised, with considerable technical skills at every level. Information gathering machinery well developed. Management structures reasonably integrated both vertically and horizontally. Government revenue sources diversified and well-administered.	Generally competitive economy with regulated natural monopolies.	Large farms modernized and competing in global markets. Small farms producing surpluses that can be sold on local or regional markets to provide cash income.	Extraction industries competing globally. Open bidding access to state-controlled resources such as forests and mineral deposit.

Source: Inter-American Development Bank (1996), *Choosing Environmental Policy Tools: Theoretical Cautions and Practical Considerations*. Paper by Russel, C. and Powell, Ph.

[55] Youssif, H. (2006), Capacity Building for Sustainable Development in Africa. Africa's Sustainable Development Bulletin.

[56] Accordingly, policy instruments will evolve from most easily defined and enforced towards those relying on reduced information asymmetries.

4.8 Vulnerability to corruption

Corruption may have an important impact on environmental management systems. It can lead to (deliberate) design and implementation of environmentally damaging practices to enrich individuals. Environmental corruption also means trafficking in wildlife, hazardous waste, and natural resources, often through bribery during permitting or inspection. Besides being rooted in the lack of transparency and accountability, corruption is commonly nurtured by weak institutions, low salaries, a high level of bureaucracy, and low professionalism. It can also touch all levels of management – from high-level officials to field inspectors (see Table 7). Corruption either results in excessive red tape or makes the government withdraw from socially justified regulation; in both cases, corruption reduces welfare[57].

Table 7: Areas of environmental management vulnerable to corruption

Level of corruption	Areas vulnerable to corruption
Policy-level	• Relates mostly to high-level public officials and involves large illegal transactions or flawed policy making and law-making.
Mid-level	• Development of environmental and natural resources policy and regulations; • Improper use of state-owned resources and protected areas; • Public procurement and licence auctions; • Environmental assessments (including EIA), issuing permits and certificates.
Petty	• Inspections and non-compliance response to violations.

Source: Adapted from USAID (2002), Corruption and the Environment. USAID, Washington D.C.

Resource abundance may stimulate a culture of corruption in countries with opaque public administration. The main distinction of corruption in the environmental sector is its link to large amounts of formal and informal revenues gained from natural resources[58]. Thus, wildlife trafficking provides smugglers with annual profits of USD 8 to 12 billion. About 20 percent of global trade in rough diamonds is illicit. Weak forest governance costs USD 15 billion a year[59]. Equally, projects related to environmental infrastructure are prone to corruption because of their important scale and difficulties of monitoring financial flows[60]. Also the effectiveness of policy instruments, namely pollution taxes, may be diminished by corruption[61]. Besides corruption as such, in states with fragile democracies "resource royalties enable political leaders […] to fund a system of patronage that rewards followers and punishes opponents. Because such systems rely less on revenue derived from a broad-based system of taxation, they also have less need for legitimacy…"[62].

[57] Guriev, S. (2003), Red Tape and Corruption. New Economic School, Moscow, May 2003.

[58] USAID (2002), Corruption and the Environment. Paper by Wilbourne, S. Sectoral Perspectives on Corruption Series. USAID, Washington D.C, November 2002.

[59] See the Web page of the Forest Law Enforcement and Governance partnership, established at the World Bank in 2004: at http://go.worldbank.org/84WOFA2600

[60] Transparency International (2008), Global Corruption report. Transparency International, Berlin.

[61] Damania, R. (2002), Environmental Controls with Corrupt Bureaucrats. Article published in Environmental and Development Economics 7: 407-427. Cambridge University Press, 2002.

[62] Renner, M. (2002), The Anatomy of Resource Wars, WorldWatch Paper 162. October 2002.

The environment can be affected by corruption in other sectors, for example, in agriculture, privatisation, public procurement, customs, the judiciary, and others. Thus, privatisation conducted through corrupt procedures may allow new owners to use privatised land or facilities in an environmentally damaging manner; poorly formulated or implemented customs regulations and procedures may open opportunities for wildlife trafficking.

In order to fight corruption, civil service laws often prescribe strict rules of conduct backed by criminal sanctions. These may be supplemented with awareness raising activities and systematic promotion of transparency, accountability, and public participation, as well as better regulation initiatives to improve regulatory requirements and related administrative procedures. Overall, corruption will remain a concern if a general country context is not favourable and officials do not have adequate incentives to remain honest.

4.9 Environmental infrastructure: From service provision towards market regulation

Environmental infrastructure consists of various elements, including water supply and sanitation, waste management, flood protection, etc. Where this infrastructure is absent or fails, risks to human health and environmental quality are high. Currently, environmental authorities in OECD countries provide, regulate and advise on environmental infrastructure and have accumulated a lot of experience and evidence on how it is planned for, funded, regulated and how it performs.

Box 6: Areas where pressures on environmental infrastructure are most significant

In a policy brief published in 2007, the Environmental Agency of England and Wales indicates the key areas where pressures on environmental infrastructure are most significant, including:

- Effectively managing the demand for new environmental infrastructure;
- Ensuring the existence of long term planning frameworks for all types of environmental infrastructure (*e.g.* there should be 25 year planning for sewage and wastewater infrastructure in the UK);
- Establishing clear funding streams, with costs allocated to polluters, developers, consumers and the taxpayer on clear and defensible principles;
- Determining a correct location for environmental infrastructure to prevent damage from natural hazards. For example, in the UK of particular concern is the location of housing in areas of flood risk and where water quality and water resources are already at or approaching environmental limits.

Source: http://publications.environment-agency.gov.uk/pdf/GEHO0307BMEJ-e-e.pdf

The high investment costs and associated affordability constraints mean that governments have an essential role to play in financing environmental infrastructure. In developing countries, financing can come from a range of other sources, including international aid and private financing. In longer term, full cost recovery can help to generate the necessary funds for infrastructure development, renewal and maintenance, and provide incentives for efficient resource use. Worldwide, governments have been moving from direct provision of services towards creating and regulating new markets. Through privatization many governments have not only removed themselves from commercial enterprises but have also withdrawn from ownership and provision of energy, waste management, water, etc. At the same time, strategic financial planning should help to reach consensus on policy choices as concerns provision of infrastructure and how they could be achieved[63].

[63] OECD (2009), Managing Water for All: An OECD Perspective on Pricing and Financing. OECD, Paris.

In OECD countries, private alternatives to public services have gradually become not only available, but also affordable. For example, measures to ensure affordable access by all segments of society to environmental infrastructure and services include tariff-based mechanisms or income measures (*e.g.* through direct subsidies to low-income consumers), reducing VAT, use of progressive social tariffs, avoiding disconnection from services, and abolishing annual fixed fees.

4.10 Increasing sophistication of systems to support problem analysis and decision making

Asymmetric access to information often impedes effective decision making within environmental management systems. In order to correct such asymmetries, environmental authorities have established more or less developed networks for emission and ambient monitoring and complementary information systems for data management. Because of historical fragmentation of authorities with environmental management responsibilities, in many countries these networks are dispersed among several agencies. In the design of monitoring systems, important considerations are the optimality of monitoring points, the robustness of monitoring methods, integrity of the data production chain, etc. Often, monitoring is supplemented by computer modelling to enhance the analytical basis for decision-making. In many OECD countries, efforts have been made to optimise the infrastructure for data collection and processing as well as to adopt monitoring methods that reduce costs, such as self-monitoring by industrial operators and citizen's monitoring.

Information disclosure is another essential element of strategies to address the asymmetric access to environmental information. May be one of the most effective platform for disclosure is provided by Pollutant Release and Transfer Registers (PRTR). A PRTR is a database of chemicals released to air, water and land, and wastes transferred off-site. Based on a list of priority chemicals, facilities that release one or more of the listed chemicals are requested to report periodically – usually annually – on the amount released and/or transferred, and to which environmental media. Reported data are then made available to the public. Lately, in addition to environmental performance data, some countries have started to disclose compliance information. For example, the United States Environment Protection Agency has developed and maintained web tool called "ECHO" (Box 7).

Box 7: "ECHO" - Enforcement and Compliance History Online

The ECHO web site provides compliance and enforcement information for approximately 800,000 regulated facilities nationwide. It allows users to find permit, inspection, violation, enforcement action, informal enforcement action, and penalty information covering the past five years about facilities in their communities. ECHO integrates data from five different information systems. Due to existence of ECHO, the public can monitor environmental compliance in communities, corporations can monitor compliance across facilities they own, and investors can more easily factor environmental performance into decisions. See www.epa.gov/echo

The increasing sophistication of systems to support problem analysis and decision-making is demonstrated by a greater application of Information and Communication Technologies (ICT). This covers a range of tools from satellite observation to miniature sensors, from flood prediction to noise measurement. For example, in the EU the focus is currently put on using sensors and data in new information-based applications at a system level, in three key areas: (i) intelligent systems for risk and disaster management; (ii) intelligent environmental monitoring and management systems and (iii) technologies for humanitarian mine action. Overall, data and scientific research help strengthening environmental knowledge and support evidence-based decision-making. In developing countries, this requires a whole set of interventions, including measures to improve knowledge infrastructure and capacities, as well as to promote interoperability of data systems and tools, and information networks.

4.11 Lessons learned: need for capacity development in a dynamic context

The history of environmental institutions, as shown in this chapter, demonstrates that they appear and operate in a dynamic context where new problems could emerge while old problems have been or are being solved. The sectoral context has changed (Table 8) and it is likely that this process will continue.

Table 8: Main elements in the evolution of the environmental sectors

	"Conventional" agenda	Modern agenda
Issues	• Air and water quality • Noise and nuisances • Contaminated land • Wastes and recycling • Toxic chemicals • Radioactivity • Endangered species	• Climate change • Food security (Topsoil) • Fisheries • Forests • Biodiversity • Water • New contaminants and types of waste • Biotechnology, genetically modified organisms • Illegal trade
Policy response	• Mostly a technical approach • Direct regulation	• Multidisciplinary approach, integration • Use of policy mixes and partnerships • Global governance
Public driver	• Immediate threats to public health	• Threats to strategic natural resources and global public goods
Pace of change	• Visible and rapid progress	• Long-term improvements
Implications for business	• Environment is treated as part of running costs	• Environment is mainly a *business* issue, generating savings and profits

Source: Based on OECD (2000), Institutional Frameworks for the Environment – Outlook to 2020, ENV/EPOC/GEEI(2000)4.

To cope with environmental problems, governments and other stakeholders use solutions that have proven to be effective and efficient, but also pursue innovation and set more ambitious policy goals. Also the quality and performance of environmental institutions need a continuous attention and improvement. Most importantly, stakeholders involved in environmental management need to stimulate political will; promote the necessary legislative basis and minimize delays between policy decisions and implementation; and contribute towards the establishment of sustainable financing systems that are safeguarded from corruption.

5. STAKEHOLDER GROUPS AND THEIR ROLE

5.1 Governmental actors and structures

Several government authorities play a significant role in environmental management. The nature of their involvement will depend on the organisation of public administration in each country.

The legislative bodies may probably have the greatest, albeit rarely considered, impact on the design of environmental institutions. They establish legal requirements or adopt policy documents, which define the environmental goals to be met, the authority and flexibility to meet those goals, and the level of funding. Legislative institutions can influence policy and implementation decisions by issuing amendments to laws that impose certain duties on the executive institutions. They also can impose deadlines that executive institutions must meet.

Within the executive branch, environmental ministries still have a central role. At the same time, many other executive agencies may have authority in areas that affect or will be affected by environmental management. These include, for instance: (i) natural resource management agencies responsible for water, energy, minerals, forests, etc.; (ii) health-related agencies responsible for food safety, occupational health and safety, consumer products, pesticide use, etc.; (iii) land-use planning agencies, responsible for community development, industrial siting, transportation, etc.; (iv) agencies that regulate industry and commerce, and agricultural agencies; (v) criminal investigation and law enforcement agencies, as well as customs.

In some countries judicial institutions have the right to interpret the laws. They may also impose requirements on the executive institutions. Courts take enforcement action, may enforce administrative orders, and can play a significant role in assessing sanctions.

Early-stage organizational structures in the environmental sector were characterised by considerable rigidity, with competent authorities tending to have mandates that were limited to single (and narrowly-based) issues. Main environmental authorities typically were viewed as exclusively mandated to protect the environment. Environmental problems were commonly regarded through lenses of scientific and technical solutions and interaction with other policy communities was limited, even though these other communities were directly concerned by environmental policies.

The increased complexity of environmental problems, combined with the growing costs of environmental policies, ultimately began to force environment authorities to broaden their mandates (and the knowledge base) to include the economic (and more recently, the social) analysis of environmental issues. In parallel, technical solutions were complemented by more flexible approaches to achieving their policy goals that allowed for consideration of policy “tradeoffs” in addition to scientific arguments.

A similar shift was occurring on the non-environmental side of the government. Recognising the growing political importance of environmental matters, many economic and line ministries, particularly those managing natural resources, instituted “environmental units”. At the confluence of these trends, many countries have now created broadly-based inter-ministerial working groups or Cabinet-level committees, task forces, etc., to more fully examine the interface between the economy and the environment. In some countries, informal networks of government officials were established to support exchange and cooperation on issues of mutual concern.

Although integrating environmental oversight into sectoral development goals is crucial from the perspective of mainstreaming, conflicts of interest may develop when environmental oversight and resource management functions are combined within the same agency. Having adequate checks and balances in place is therefore necessary to resolve such conflicts of interests.

Sometimes, organisational structures are amended in line with coordination needs. Many OECD countries chose to consolidate structurally their environmental management authorities (Table 9), which is a way to reduce costs and avoid duplication of functions.

Table 9: Policy areas covered by selected OECD environmental ministries

Country	Water Management	Nature and Biodiversity	Air quality Management	Pollution Control (water, soil, waste)	Spatial Planning	Agriculture and Fishery	Energy and Climate	Environmental Health and Chemical Safety	Nuclear Safety and Radiological Protection
Australia	●	●	●	●	●	●	●	●	-
Austria	●	●	●	●	●	●	●	●	●
Belgium	●	shared	●	●	●	shared	●	●	-
Canada	●	●	●	●	-	-	●	-	-
Czech Rep.	shared	●	●	●	-	-	-	-	-
Denmark	●	●	●	-	●	●	●	●	-
Finland	shared	shared	-	-	shared	shared	-	-	-
France	●	●	●	●	●	●	●	●	●
Germany	●	●	●	●	-	-	-	●	●
Greece	●	●	●	●	●	-	●	-	-
Hungary	●	●	●	-	-	-	-	-	-
Iceland	-	shared	●	●	shared	-	-	●	-
Ireland	●	-	●	●	-	-	-	-	●
Italy	-	●	-	●	-	-	●	●	-
Japan	●	●	●	●	-	-	●	●	-
Korea	●	●	●	●	-	-	●	●	-
Luxembourg	shared	●	●	●	●	-	●	-	-
Mexico	●	●	●	●	-	-	-	●	-
Netherlands	shared	●	●	●	●	-	●	●	●
New Zealand	●	●	●	●	●	shared	shared	●	-
Norway	-	●	●	●	●	-	●	●	-
Poland	●	●	-	●	-	-	●	-	-
Portugal	●	●	●	●	●	-	●	●	-
Spain	●	●	●	●	shared	-	-	-	-
Sweden	●	●	●	●	-	-	●	●	-
Switzerland	●	●	●	●	●	shared	●	●	●
UK	●	●	●	●	-	●	●	●	-

Source: World Bank (2007) *Journey to a Cleaner Future*, and based on web-sites of environmental ministries and OECD Environmental Performance reviews (latest year available). Table compiled by Valerie Sturm, Geneva University.

Overly fragmented competencies for environmental management may sometimes result in very weak overall capacity in this sector. To quantify this phenomenon and see cross-country differences, the World Bank introduced a "fragmentation index" (FI) in its work in South Eastern Europe (see Table 10 below). In these countries, the comparatively higher fragmentation of responsibility for the environment across government institutions will make adjustment to the EU environment *acquis* much more difficult than in Central Europe. A further analysis of the public finance system, conducted by the World bank in Croatia, shows that the relative share of environment expenditure in line ministries with environment competence accounts for less than 10 percent of their budget. This fragmentation of budgets may magnify the problem of fragmented functions and lead to inefficiencies and, sometimes, lack of accountability for results.

Table 10: Fragmentation of environmental management systems in selected European countries

Country/ Territory	Primary environment ministry and its subordinated agencies		Other ministries and agencies		FI
	Primary Environment Ministry	Agencies	Ministries	Agencies	
South Eastern Europe					
Albania	Ministry of Environment, Forestry, and Water Administration	3	4	4	2.0
Bosnia and Herzegovina	Overall State – Ministry of Foreign Trade and Economic Relations	0	2	0	3.0
	Entity FBiH – Ministry for Environment and Tourism	1	2	2	
	Entity RS – Ministry of Physical Planning, Civil Engineering, and Ecology	1	2	5	
	Separate Brcko District – District Government (Department of Utilities)	0	5	0	
Croatia	Ministry of Environmental Protection, Physical Planning, and Construction	1	5	8	6.5
FYR Macedonia	Ministry of Environment and Physical Planning	2	6	2	2.7
Montenegro	Ministry of Tourism and Environmental Protection	4	5	2	1.4
Serbia	Ministry of Science and Environmental Protection	1	1	8	3.7
Territory of Kosovo	Ministry of Environment and Spatial Planning	2	3	0	3.0
European Union member countries					
Bulgaria	Ministry of Environment and Water	4	5	4	1.8
Czech Republic	Ministry of Environment	8	3	2	0.6
Estonia	Ministry of Environment	10	3	2	0.5
Hungary	Ministry of Environment and Water	9	4	3	0.7
Latvia	Ministry of Environment	12	4	2	0.5
Lithuania	Ministry of Environment	14	5	5	0.7
Poland	Ministry of Environment	15	5	1	0.4
Romania	Ministry of Environment and Water Management	8	4	2	0.7
Slovakia	Ministry of Environment	7	4	2	0.8
Slovenia	Ministry of the Environment and Spatial Planning	7	4	6	1.3

Note: The FI computation is simple: FI = SUM [the core environment ministry (1) and the number of other agencies that are coordinated by or which report to that Ministry / SUM [the number of other ministries and agencies with environment competences]. While per total the FI is useful in revealing the degree of fragmentation, this way of computation may provide the incentive to those assessed to increase the number of subordinated units. It has to be viewed strictly in the context of SEE and the purpose for which the FI was introduced.

Source: Karin Shepardson, the World Bank.

5.2 Decentralisation challenges

To what extent to centralise responsibilities for environmental management at the national level or decentralise them at more local levels is a very basic institutional question. There are advantages and disadvantages to both centralisation and decentralisation. As a result, roles and relationships between the national government and local governments can develop in many different ways, ranging from decentralisation or centralisation to various combinations of both approaches.

In many cases, national governments reserve the authority for defining minimum environmental standards, regulating resource management and issues of national interest, and regulating the largest enterprises. A national presence helps ensure that at least minimum environmental standards and requirements are met; that the system is consistent and fair throughout the country; and that national resources are available to support local efforts. Important difficulties can arise when local government is made fully responsible for environmental regulation and implementation. Concerns exist that the priorities of local governments are likely to be biased towards promoting economic development, often disregarding environmental requirements and objectives, and their enforcement, as well as costs of pollution or other environmental impacts. As a result, environmental regulation and its enforcement become a lower priority. Accountability mechanisms are needed to avoid such situations.

Due to the differences in social, cultural, political, and economic situation, it is hardly possible to identify a standard level of decentralisation. This will rather follow the national administrative traditions, although considering a number of commonly applicable issues when designing the vertical structure will be useful. These are: (i) clear distribution of responsibilities and policies; (ii) standardisation of work approaches; (iii) capacity building to achieve a shared knowledge, understanding, and homogenous application of national regulatory requirements; (iv) quality control (assuming that the performance of different sub-national units may be uneven); (v) creation of co-ordination mechanisms, including planning, reporting, information exchange, technical support, and meetings; and (vi) financial support to sub-national units to minimise disparities between different sub-national units.

A shift from a centralised to decentralised system should be gradual to ensure that lower-level authorities accumulate sufficient knowledge and practical experience, which often is a time consuming process. During the transition period, intensive training should be provided and quality control procedures put in place.

5.3 Non-governmental actors

Citizens can play a major role in shaping and implementing environmental management programmes. With a stake in environmental quality, citizens may seek to influence environmental legislation through lobbying efforts co-ordinated by public interest groups. If monitoring data collected by the environmental agencies are made publicly available, these groups may track the data and, if the law allows, file suits against the environmental agency for not doing its job, and/or against companies violating the law. Public interest groups also play an important role in disseminating information to regulated communities and to citizens who are concerned about the environment.

In the early days of the environmental movement, the input of civil society to policy discussions was provided by a fairly narrow base of special interest groups. These groups were often very successful in achieving their individual goals, but the process was relatively *ad hoc* and sporadic. It was also fundamentally confrontational. The result was that civil society organisations (CSOs) in particular tended to be “single-issue-oriented” and somewhat marginalised in the environmental policy-making process.

Although many CSOs still adhere to a strategy of confrontation with governments and industry, others have opted to channel their activism into more collaborative initiatives. Both approaches can generate benefits either by injecting into debates a different perspective on environmental problems or by promoting a more effective incorporation of environmental considerations into business decisions. Overall, contacts between government, business and NGOs on environmental topics are more frequent and more fruitful today than ever before and civil society is increasingly being seen as an important player in institutional processes related to environmental problems. Accordingly, there has been a trend to develop CSOs capacity to analyse and influence public policies[64].

Besides CSOs, other non-governmental actors become involved in environmental management. Industry or trade associations track and publicise developments that may affect their members. They may try to influence environmental legislation or programmes as they are being developed. They may also serve as valuable channels for disseminating information on regulatory requirements, methods of complying, and compliance activities. Also firms that make pollution monitoring equipment or control devices have strong economic incentives to disseminate information about environmental requirements. In theory, insurance companies that end up paying the cost of the environmental damage should have an incentive to educate their clients about environmental requirements and assist them in compliance. These companies are therefore a potential ally for government agencies. Trade unions or other organisations that represent workers at a regional or national level may become involved in development of requirements and policy for enforcement. Individual workers may also report violations by their facilities to authorities.

5.4 Learning platforms

The avenues for promoting knowledge and skills in the environmental sector are quite diverse, particularly due to the modern information and communication technologies. Such technologies spurred the development of web sites and interactive forums, e-manuals and internet collections of reference documents, and distance-learning courses – all of which permitting the functioning of so-called “learning platforms”. Most of these platforms address the needs of officials and other staff from government agencies. In some cases information is tailored to NGO needs. The last few years have seen the appearance of learning platforms targeted at the private sector, particularly at Small and Medium Sized Enterprises. Informal learning platforms may be associated with networks that operate at the national, regional, or global levels and, most often, constitute multi-stakeholder platforms.

In OECD countries, the national-level learning platforms are most often financed by the central government in order to facilitate policy implementation by provincial authorities or horizontally. For example, the Dutch Infomil – a learning platform that is active since 1995 – serves as a helpdesk and as a centre of expertise in the field of environment. The partners that established Informil include the Ministry of Housing, Spatial Planning and the Environment, in co-operation with the Association of Provincial Authorities, the Association of Netherlands Municipalities, and the Ministry of Economic Affairs. Many learning platforms exist to facilitate compliance with environmental law and improve environmental performance. Such platforms are operational, for example, in the United States and United Kingdom.

In non-OECD countries, national-level learning platforms are often established with donor assistance. One of the most ambitious projects perhaps is the joint UNIDO-UNEP Programme for National Cleaner Production Centres that resulted in 24 learning platforms being established in

[64] Overseas Development Institute (2006), *A Toolkit for Progressive Policymakers in Developing Countries*. http://www.odi.org.uk/publications/rapid/tools3.pdf

countries with acute problems of industrial pollution[65]. Norway helped to establish such centres in Russia and Azerbaijan. Similarly, the European Union provided help to Georgia, Moldova, and Kazakhstan.

Many international conventions and organisations promote and support national-level learning platforms. For example, the UNECE Aarhus Convention has been involved in the establishment of environmental information centres in Armenia, Azerbaijan, Georgia, Kyrgyzstan, etc. Several Secretariats of international conventions have formal "clearing houses", for example, the UN Convention on Biological Diversity maintains a Clearing House Mechanism in accordance to Article 18.3 of the Convention. The UNDP and UNEP jointly established the "Poverty -Environment Initiative" (PEI), which, among other things, provides technical support to low-income countries to develop capacity for mainstreaming poverty-environment linkages into national development planning processes. UNEP is particularly active in establishing learning platforms on the African continent. Also the World Bank Institute and the United Nations Institute for Training and Research have an important role in global knowledge diffusion. Also Interpol established a restricted access web-site with learning products in the field of environmental crime. At OECD, the Environment Directorate created a special Internet portal dedicated to the programme on Pollutant Release and Transfer Registers.

There are a number of institutionalised learning platforms for NGOs. Most often, they are maintained by large international NGOs, such as IUCN or the WWF. Sometimes, such platforms appear as a result of multi-stakeholder agreements. The Regional Environmental Centres that exist in Central Europe and eastern European countries may serve as example. Finally, industrial associations sometimes maintain their own learning platforms. Notably, the World Business Council for Sustainable Development helps its members with advice and relevant information.

Establishing learning platforms is not an easy task. The very minimum is demand for a platform from a group of stakeholders. Other major ingredients of success may include: (i) understanding the incentives that people might have to join the network/platform and setting specific objectives; (ii) identifying champions; (iii) clearly defining the scope of knowledge sharing, responsibilities of involved parties, and products to be delivered; (iv) finding a partner who is able to dedicated resources for hardware and for facilitating the process and may have a "competitive advantage" to provide such services.

[65] Countries that were covered include Brazil, China, Costa Rica, Czech Republic, El Salvador, Ethiopia, Guatemala, Hungary, India, Kenya, Korea, Lebanon, Mexico, Morocco, Mozambique, Nicaragua, Slovak Republic, South Africa, Sri Lanka, Tanzania, Tunisia, Uganda, Vietnam, and Zimbabwe. See more information at www.unep.fr/scp/cp/network/ncpc.htm

PART I BIBLIOGRAPHY

Bojo J., R.C. Reddy (2003), *Status and Evolution of Environmental Priorities in the Poverty Reduction Strategies: An Assessment of Fifty Poverty Reduction Strategy Papers.* Environmental Economics Series, Paper No. 93. The World Bank, Washington, DC.

Canadian International Development Agency (1996), *Capacity and Institutional Assessment: Frameworks, Methods and Tools for Analysis*. CIDA, Canada.

Danish International Development Assistance (2005), *A Result-Oriented Approach to Capacity Change*. DANIDA, Ministry of Foreign Affairs of Denmark, Denmark.

Department for International Development (2003a), *Promoting Institutional and Organisational Development: A Sourcebook of Tools and Techniques*. DFID, the United Kingdom.

DFID (2003b), *Conducting Institutional and Organisational Appraisal and Development: Guidelines for DFID and Sourcebook*. DFID, the United Kingdom.

European Centre for Development Policy Management (2004), *Institutional Development: Learning by Doing and Sharing: Approaches and Tools for Supporting Institutional Development*. Netherlands Ministry of Foreign Affairs.

European Commission (2004), *EC Support to Sector Programmes at-a-glance. An introduction extracted from the Guidelines on EC Support to Sector Programmes*. EC, Brussels.

EC (2005), *Institutional Assessment and Capacity Development: Why, what and how?* EC, Brussels.

EC (2007), *Information Society and Environment: Linking European Policies*. EC, Brussels.

European Environmental Bureau (2003), *Environmental Policy Integration: Theory and Practice in the UNECE Region*. EEB, Brussels.

Global Environment Facility (2001), *A Guide for Self-Assessment of Country Capacity Needs for Global Environmental Management*.

International Development Research Centre (1999), *Enhancing Organizational Performance: A Toolbox for Self-assessment*, Edited by the Lusthaus C. *et al.*

Lovei, M. and Ch. Weiss (1998), *Environmental Management and Institutions in OECD Countries: Lessons from Experience*. World Bank Technical Paper 391.

Lovei M. and P. Pillai (2003), *Assessing Environmental Policy, Regulatory and Institutional Capacity*. The World Bank, Washington, D.C.

OECD (1998), *Donor Support for Institutional Capacity Development in Environment: Lessons Learned*. OECD, Paris.

OECD (2000), *OECD Environment Outlook*. OECD, Paris.

OECD (2001), *Sustainable Development: Critical Issues*. OECD, Paris.

OECD (2004), *Sustainable Development in OECD Countries: Getting the Policies Right*. OECD, Paris.

OECD (2005), *Modernising Government: The Way Forward*. OECD, Paris.

OECD (2006), *The Challenge of Capacity Development: Working Towards Good Practice*. OECD, Paris.

OECD (2007), *Policies for a Better Environment: Progress in Eastern Europe, Caucasus, and Central Asia*. OECD, Paris.

OECD (2008), *OECD Environment Outlook to 2030*. OECD, Paris.

Overseas Development Institute (2006), *A Toolkit for Progressive Policymakers in Developing Countries*. ODI.

Segnestam, L; Persson, A; Nilsson, M; and Ijjasz, E (2003) *Country-Level Environmental Analysis, A review of international experience*, World Bank, Washington. D.C.

United Nations Development Programme (2003), *Capacity Development Indicators: UNDP/GEF Resource Kit*. UNDP.

UNDP (2004), *Governance Indicators: A User's Guide*. UNDP.

UNDP (2005a), *Measuring Capacities: An Illustrative Guide to Benchmarks and Indicators.* UNDP.

UNDP (2005b), *Resource Catalogue: Capacity Development*. Capacity Development Group, UNDP.

UNDP (2007a), *Capacity Assessment Methodology: User's Guide*. UNDP.

UNEP (2007b), *Global Environment Outlook: Environment for Development* (GEO-4). UNEP.

United Nations Institute for Training and Research (1997a), *Introduction to International Environmental Law*. UNITAR, Geneva.

UNITAR (1997b), *Techniques and Procedures in International Environmental Law*. UNITAR, Geneva.

UNITAR (1999), *Developments and Trends in International Environmental Law*. UNITAR, Geneva.

PART II:
ELEMENTS OF A REFERENCE FRAMEWORK

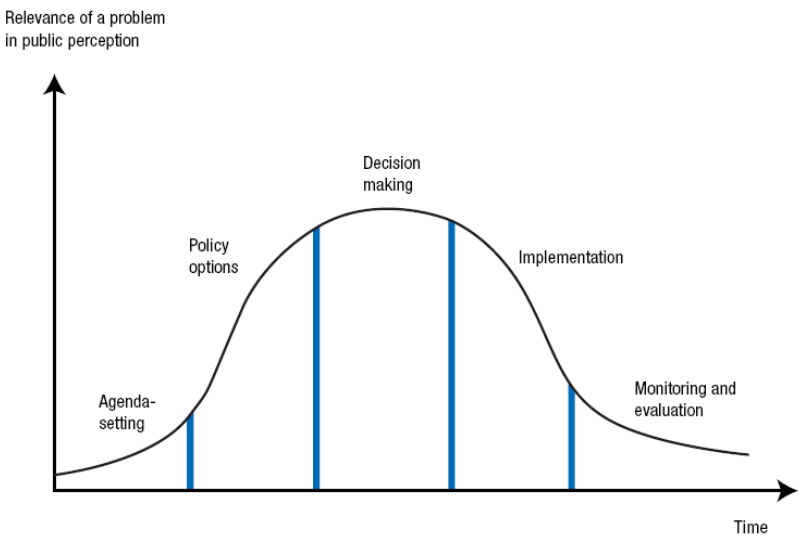
6. CONSTRUCTING A REFERENCE FRAMEWORK AROUND CORE FUNCTIONS

Defining the scope of evaluation is a first step in any diagnosis. What is being evaluated depends very much upon the purpose and sponsors of diagnosis. Capacity diagnosis imposes a particularly wide scope that may become more manageable if the assessment framework is structured around relatively universal functions that governments carry out to manage the environment. This approach has the benefit of being applicable in any domain of environmental management. At the same time, the assumption is that policy objectives are clear to the government.

6.1 Policy Cycle and the main clusters of functions

Commonly, the environmental management system is designed around the so-called "Policy Cycle", which is a good starting point for defining the scope of capacity assessments as it involves a sequence of governmental actions from the clarification of the environmental problem at hand to policy implementation. The motion along the Policy Cycle is fuelled by public concerns about a given problem and increasing political attention to this problem. The peak of a problem's relevance in the public perception very often coincides with the decision making phase hence the focus of many governments on the policy formulation function rather than policy implementation.

Figure 5: The typical Policy Cycle



Source: OECD (2005), *Environmental Fiscal Reform for Poverty Reduction*. http://www.oecd.org/dataoecd/14/25/34996292.pdf

In line with this cycle, the main clusters of functions for environmental management[66], include: objective setting and allocation of finance and the complementary environmental policy integration; policy implementation and compliance assurance, and strategic management, including monitoring and

[66] Please note that this is only one of several possible ways to cluster the core functions. The "entrepreneurial" aspect of government activity is not discussed.

evaluation. Figure 6 presents the elements of each cluster and Chapters 6-11 describe them in general lines. Each cluster may group four to seven core functions. Within environmental management systems, these functions relate to both brown and green agendas, and natural resources management.

Figure 6: Core functions of public authorities ensuring environmental management

I. Setting objectives and allocation of finance	**Formulating environmental policies** **Developing legal frameworks** **Creating the evidence base for problem analysis and decision-making** **Conducting economic analysis of policies and programmes** **Analyzing and addressing social effects of environmental policies** **Applying strategic financial planning** **Managing public environmental expenditure**
II. Environmental policy integration	**Balancing environmental with development and sectoral strategies** **Greening territorial development policies** **Integrating environmental and security policies** **Promoting environmentally sound product policies** **Ensuring preparedness and response to disasters and accidents**
III. Policy implementation	**Establishing environmental standards** **Conducting environmental assessments at the project level** **Setting company-specific requirements** **Correcting market failures through economic instruments** **Creating markets to achieve environmental goals** **Promoting environmental goals through "Information" regulation** **Facilitating corporate initiatives to improve environmental performance** **Enabling the provision of environmental services**
IV. Compliance assurance	**Conducting the identification and profiling of the regulated community** **Compliance assistance to the regulated community** **Detecting non-compliance** **Ensuring non-compliance response**
V. Overall management	**Defining organisational structures and providing leadership** **Ensuring intra-agency activity and budget planning planning** **Organising effective interaction, internally and externally** **Coordinating international cooperation efforts** **Managing human resources** **Monitoring and reporting performance**

Some of these functions are specific to environmental management; other ones are generic (applicable for any sector) but still indispensable for achieving environmental effectiveness. While being crucial in modern systems, international cooperation and public participation are not completely separate functions, as any activity may need to have elements of both. Also some functions can be treated as "secondary" and outsourced, while other ones must be "ring-fenced" and carried out by public servants, most importantly to ensure the integrity of regulation.

6.2 Functions that can be executed by actors other than civil servants

The scarcity of resources is often a limiting factor to the development and functioning of environmental management systems. Commonly, it forces governments to prioritise their objectives. Another angle of looking at this question is to identify those functions that could be outsourced. Despite its apparent simplicity and eventual gains in efficiency, the use of outsourcing very much depends upon specific conditions and requires an advanced level of technical capacity to ensure quality control, as well as robust procurement procedures. In general, a sensible approach would be to outsource those functions that do not require decisions by government authorities or those ones whose integrity and transparency would not be jeopardised by their implementation by the private sector actors. Additional criteria for deciding on outsourcing are fairness, effectiveness and efficiency, and meaningful involvement of the general public, when necessary.

All these suggest that outsourcing some functions is possible, but their implementation should be carefully supervised and guided. Totally dropping a certain function is not possible due to the chain-like organisation of regulation whereby results will not be achieved if one chain is missing or much weaker than other chains.

The mechanics of outsourcing is often poorly understood in partner countries where opinions may exist that if a private company is hired to, for example, develop a draft law, the same actor will be responsible for its discussion with stakeholders, including other government authorities, and for compliance with the rest of lawmaking procedures. Besides creating situations of conflict, such an approach undermines the government's credibility as a regulator, which has to be avoided by any means. Outsourcing does not mean irresponsibility. In fact, it means acquiring a new task to manage the sub-contracted agent and verify the quality of deliverables. Viewed from this perspective, outsourcing needs advanced individual competence and organisational capacity. An additional consideration is the level of market development in environmental services that might not be sufficient for effective outsourcing. This aspect would require a careful analysis by those willing to use outsourcing, including through corruption prevention lenses.

6.3 Relation between functions and organizational structures

Two fundamental questions concerning functions and respective organisational structures are: (i) whether one authority can be responsible for carrying out different functions, at least in relation to one component, and (ii) whether environment protection can be combined with natural resources management. These questions, most often, originate in the need to overcome the extreme fragmentation of environment-related structures within the executive branch of the government. The response to both questions can be found in the principle of guaranteeing sufficient checks and balances within a government structure. Following this principle, modern public administration systems tend to at least separate the regulatory functions from any entrepreneurial activity[67] that a government may have. Today it is good practice to separate policy formulation from compliance assurance. Also authorities that establish regulatory requirements for individual members of the regulated community may be separated from those that monitor their compliance although adherence to transparency allows combining these functions in one agency. At the same time, the trend towards adoption of integrated approaches and demands to increase cost-effectiveness ("doing more for less") makes the combination of pollution prevention and control with protection of natural resources not only feasible, but also largely desirable.

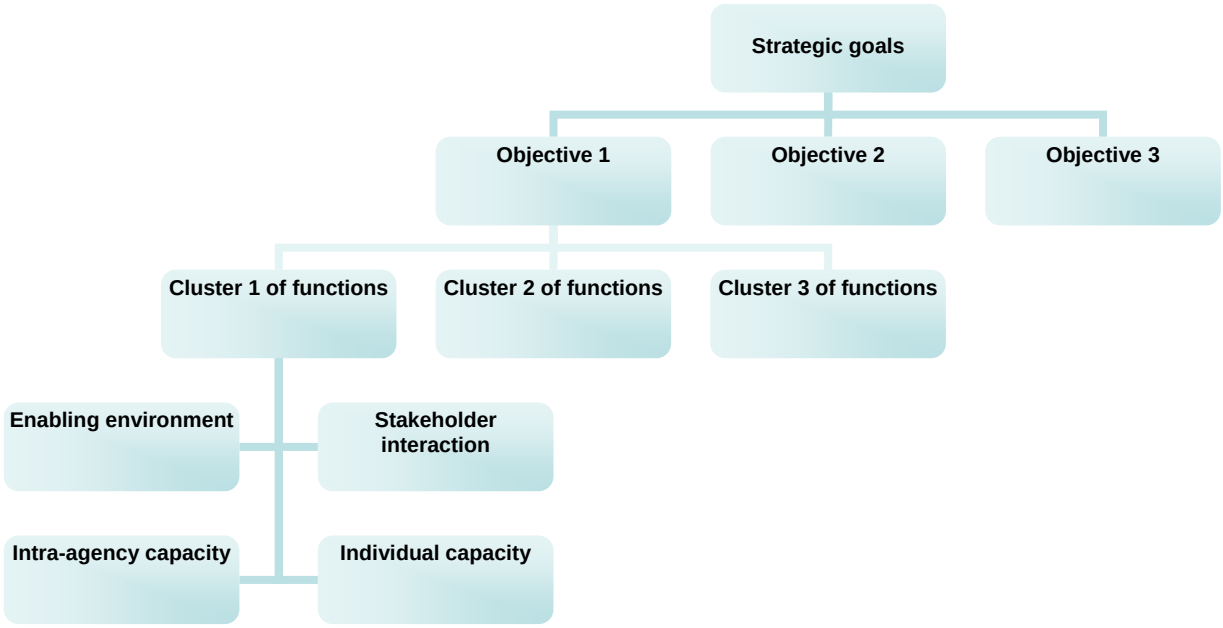
[67] The government's capacity for conducting entrepreneurial activity is strongly influenced by rules of business administration and the need to comply with rules established for the rest of business community.

6.4 Approaches to construct a capacity assessment framework

Assuming that policy objectives have been clarified, the three basic questions that need to be answered to construct a capacity assessment framework include: What should be the scope of assessment? What criteria the assessment will use? How data will be collected? The current paper deals only with the first two questions[68].

The ***scope of assessment*** will be imposed by considerations of both effectiveness and efficiency of capacity development. In consequence, assessments will need to reveal where capacity is the weakest. For any objective, this means that capacity may need to be screened across all functions that contribute towards the objective achievement and all capacity layers, as shown in Figure 7 below.

Figure 7: Possible hierarchy of assessment dimensions



The ***criteria of assessment*** will need to provide a "standard" according to which capacity is evaluated. Such criteria may be qualitative and quantitative. Governments wishing to devise such criteria can benefit from a large number of international good practices and benchmarks, which can reinforce the legitimacy and credibility of assessment results. These are mostly available for process evaluation (*i.e.* rules and working methods), but also for performance evaluation (*e.g.* the OECD's set of environmental indicators). Much less information is available for output and effort evaluation (*i.e.* intra-agency and individual capacity) since such measures are very context-dependent. Finally, when constructing assessment frameworks governments may want to correlate their comprehensiveness with data availability and staff's experience in conducting assessments.

[68] As concerns data collection approaches, a wide range of methods may exist, including routine reporting within government authorities, surveys and case studies, interviews and stakeholder workshops, etc. The choice of methods will depend upon resources and time available to conduct the assessment.

7. FUNCTIONS RELATED TO OBJECTIVE SETTING AND FINANCE ALLOCATION

This cluster includes the following functions: (i) formulating environmental policies; (ii) developing legal frameworks; (iii) creating the evidence base for decision-making; (iv) conducting economic analysis; (v) analysing social effects of environmental policies; (vi) applying strategic financial planning, and (vii) managing public environmental expenditure.

Policies, if treated in a wider sense of "vehicles for setting objectives", result in strategic papers (strategies, programmes, plans, etc.) and legislative acts. They provide legitimacy for government action, including for allocation of public finance. By establishing longer-term objectives, they also confer a higher degree of predictability to governmental interventions thus enabling public and private sector entities to assess different behaviour scenarios and make investment decisions related to environmental management.

The spectrum of problems addressed through environmental policies and laws is wide and ever evolving. Many of these problems, most prominently climate change, require international responses. Increasingly, policy debates involve non-governmental actors, such as industry, bankers, insurers, and non-commercial parties (*e.g.* academic circles or citizens' organizations).

As already mentioned, setting environmental policy objectives has gradually become a very delicate balancing exercise that aims to reconcile competing demands and interests. Most often, the general public and the international community demand ambitious environmental goals and adoption of an environmentally responsible behaviour by all actors. Individuals want to see increasing personal welfare. Business circles expect policy solutions that minimise compliance costs and bureaucracy. Within this framework, getting the hierarchy of objectives right requires a fair understanding of costs and benefits, as well as opportunities to gain political and popular support for policy action.

In consequence, the development of environmental policies needs to combine technical and economic analyses and consensus building that would involve at least major stakeholders. Also this process should acknowledge the dynamics of national-level strategic planning (*e.g.* the development of poverty reduction strategies or long-term programmes in non-environmental sectors), as environmental management is increasingly based on concerted efforts across the whole government.

Asymmetric access to information often impedes effective decision making within environmental management systems. Among others, this diverts policy-making from reliance on sound evidence to a wide use of individual opinion or ideologically driven arguments[69]. Good and timely information is needed to support policy development and implementation across different policy areas, guide allocation of financial resources, support environmental democracy and raise environmental awareness, and to support international negotiations and implementation of international agreements dealing with transboundary issues.

[69] Overseas Development Institute (2006) *A Toolkit for Progressive Policymakers in Developing Countries*. Written by Sutcliffe S. and Court J.

It is necessary to remember, however, that ultimately the decision-making process is political despite a high value of information about the potential consequences, both positive and negative, of political decisions.

Incentives to set optimal policies are not always present. From an economic perspective, government authorities should aim to maximise welfare when enacting policies and regulations and balance administrative and compliance costs with the environmental benefits from reduced pollution and sustainable use of natural resources. In practice, however, officials are often subject to political and other kind of pressures.

Under such conditions, they may target those that are less likely to reward them with political benefits or more likely to harm them politically in the absence of the policy action. In cases when financial resources are scarce, environmental authorities may be biased towards revenue-generating policies. Indeed, some of the methods used to address externalities can generate revenues but transforming revenue collection into a self-sufficient policy goal will seriously undermine the government's credibility in the environmental sector.

Corruption of officials in developing countries may be an important constraint to better environmental and natural resources management. A combination of economic, social and administrative factors, such as poverty, weak mechanisms of accountability and oversight, low salaries for civil servants responsible for the enforcement of regulations and the social acceptance of corrupt behaviour, creates favourable conditions for corruption and bad policy-making and regulatory design.

Under such circumstances, getting right the hierarchy of objectives goes through a better understanding of the costs of policy inaction. Explaining the potential costs of inaction to the legislature and key decision-makers in the executive and judicial branches could be a first step on the way of making the economic case for the environment.

The next step would be to quantify and make known to decision-makers the health-related costs of inaction and losses from environmental degradation and illegal activities in the natural resource sector. Additional avenues include informing decision-makers about the degree to which access to foreign investment and external markets is hindered because of poor environmental and natural resources management. Finally, decision-makers may become susceptible to scientific and economic arguments that reflect the degree to which the global environment is destroyed and the level playing field is distorted because of poor environmental and natural resources management.

7.1 Formulating environmental policies

To achieve results at least costs, *i.e.* to be effective and efficient, the process of policy formulation – at both national and local level – needs to be based on several elements, including:

(i) problem identification and analysis (see Section 7.3);

(ii) priority setting, within and across environmental media, rooted in political considerations and transparent criteria and analysis (see Sections 7.4 and 7.5);

(iii) consultation of major stakeholders to build political and public support for agreed actions;

(iv) development of effective, efficient, and financially feasible implementation plans which establish realistic objectives and quantitative targets and involve an appropriate mix of policy, institutional and investment actions (see section 7.6 and Chapter 9);

(v) development of realistic strategies to mobilise financial resources to implement institutional and investment action (see section 7.7); and

(vi) active monitoring to track the relations between policy implementation and changes in environmental quality for periodic policy reviews and updates.

While the process of policy formulation is generic, resulting documents are different in scope and depth, as they reflect specific national conditions.

Policy formulation and the subsequent implementation of policies are rooted in constitutional provisions for environmental management. Besides establishing government competencies, constitutions can guarantee a number of environmental rights and establish environmental management principles, clarify property rights for natural resources and mandate mechanisms that secure the enforcement of these rights.

Eventually these may evolve, particularly due to the evolution of international environmental law. New developments will therefore need to be reflected in legal acts within a reasonable period of time. Constitutional guarantees of government's transparency, openness to public participation and accountability, and independence of the judiciary will have an important supporting role.

There are some risks linked to policy formulation. Often, governments run the danger of transforming this process into a mechanical compliance with procedural requirements and thus producing policy papers for the sake of sustaining an image of "busy officials". Furthermore, there is a risk that a proliferation of problem-specific planning processes could overburden government departments and divert resources and attention to planning exercises which are overlapping and duplicative. Transparency, focus on results, and meaningful stakeholder involvement may limit such risks.

7.2 Designing regulatory frameworks

Regulatory frameworks cover the diverse set of rules by which governments establish environmental requirements for enterprises and citizens. They include laws and subordinate regulations issued by all levels of government, and rules issued by bodies to which governments have delegated regulatory powers. Besides national legislation, the sources for regulatory requirements include a large number of multilateral agreements. For a regulatory framework to be effective it must be feasible and enforceable; various techniques are available to ensure that this is achieved.

Lawmaking procedures play an important role in securing the quality of legislation. Lack or poor organisation of Regulatory Impact Analysis (RIA) and stakeholder consultations is detrimental to compliance because authorities may not find out about important factors impeding compliance or fail to secure target group support for a proposed regulation. RIA helps to quantify the likely costs of compliance on an individual citizen or business and clarify the costs of enforcement for the state. Consultation allows target populations to have an input into the terms of a proposed regulation so that they understand why it is necessary and how their concerns have been addressed. This can give them a sense of "ownership" or understanding that will increase their commitment to the objectives of regulation and, therefore, promote voluntary compliance.

Where the level of ambition by far exceeds the capacity to implement environmental requirements, they become "symbolic" and even counter-productive as lack of compliance affects governments' credibility as regulators. The diversity of environmental issues and piecemeal development of regulations have caused inefficiencies and motivated many governments to actively promote simplification, clarification, and integration of environmental regulations.

Several factors determine enforceability. Inter alia, every legal act should define the scope of its application, provide an effective date (for partial or full compliance), identify areas that would need elaboration in secondary legislation, and include a clear reference to sanctions in response to violation of its provisions. Tools such as the Netherlands' "Table of Eleven" are available to assess the enforceability of a law.

Regulations intended to reduce environment, health or safety risks may require the use of risk assessment techniques. Risk assessment is a process for calculating the probability and magnitude of identified adverse effects caused by exposure to a chemical or radiological agent. The process is used to define activities that require regulatory attention, to select the nature and stringency of an appropriate regulatory response, and to choose among the many potential objects of a regulator's efforts. Quantitative risk assessment may also provide an input into economic appraisal and vice versa.

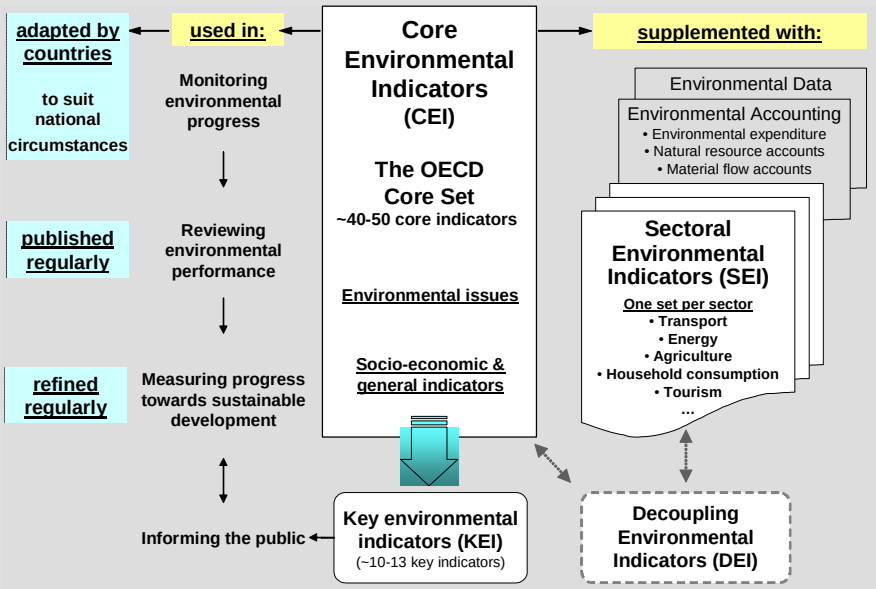
The very wide scope of regulation constitutes an important capacity challenge: in order to develop and implement issue-specific regulations, extremely diverse technical expertise is needed.

7.3 Creating the evidence base for problem analysis and decision-making

Good and timely information is needed to support policy development and implementation across different policy areas, guide allocation of financial resources, enhance public involvement and raise environmental awareness, and facilitate international negotiations and implementation of international agreements. Improving information management also helps to promote good governance. An inaccurate understanding of the problem could lead to ineffective or even counter-productive policies.

Evidence-based policy-making needs to be supported by several categories of indicators (including core environmental indicators, sectoral environmental indicators, indicators derived from environmental accounting, decoupling environmental indicators, etc. – see Box 8), each corresponding to a specific purpose and framework. Indicators are not designed to provide a full picture of environmental issues, but rather to help reveal trends and draw attention to phenomena or changes that require further analyses and possible action. In consequence, indicators are only one tool for evaluation. Scientific and policy-oriented interpretation is required to reveal their full meaning. They need to be supplemented by other information, particularly in explaining driving forces behind indicator changes. Also tapping into traditional knowledge might be helpful. One should also note that some topics do not lend themselves to evaluation by quantitative measures or indicators.

Box 8: OECD sets of environmental indicators



All OECD indicator sets are closely related to each other; the Core Set represents a common minimum set that also provides the basis for the small set of key indicators that are used for public communication purposes. Countries are encouraged to adapt them to suit their national circumstances.

Source: OECD (2003), *Measuring What Matters: Proceedings of an INECE-OECD Workshop.*

The quality of underlying data must be guaranteed to avoid misinterpretation of indicator values. Among other things, a correct design of ambient monitoring systems helps to achieve this objective. Several important considerations have to be taken into account in this sense, including the optimality of monitored substances and monitoring points, the robustness of monitoring methods, integrity of the data production chain, information exchange procedures, etc. Often, monitoring is supplemented by computer modelling to enhance the analytical basis for decision-making. In order to raise efficiency, the infrastructure for data collection and processing needs to be optimized, as well as approaches that reduce monitoring costs, such as self-monitoring by industrial operators and citizen's monitoring, need to be adopted. The increasing sophistication of data gathering and management is demonstrated by a greater use of Information and Communication Technologies (ICT) that cover a range of tools, from satellite observation to miniature sensors.

7.4 Conducting economic analysis of policies and programmes

Governments (especially ministries of finance and economy) usually have much clearer perceptions of the costs associated with implementing environmental policies and laws than of the benefits of these measures or the costs of policy inaction in the environmental sector. One reason for this is that assigning monetary value to these benefits and losses is not easy. Unlike other goods and services, environmental ones are not subject to market transactions and their value is not revealed by market prices. Evaluating environmental impacts in monetary terms can enhance the ability of environmental authorities at national and at local level to hold meaningful dialogue with economic and finance ministries on the cost of environmental degradation to the national economy and on budget allocation to environmental improvements (see a summary of main valuation techniques in Table 11). Public awareness of the value of

environmental benefits and costs can also improve understanding of the trade-offs between environmental and other investments and help in the process of prioritization.

Table 11: Scope and applicability of main valuation techniques

Technique	Main areas of application	Conditions of application
Hedonic prices	Local air and water quality changes; Noise nuisance (mainly road traffic and aircraft). Choice of location of environmentally hazardous facilities (sewerage, power stations, new roads, etc.). Evaluating impacts of neighbourhood improvement programmes. Amenities (forest, open land etc.).	Active and competitive property markets. Environmental quality perceived by populations as relevant factor in property values. Local variations of environmental quality, are clearly perceptible.
Travel cost	Recreational sites, e.g. nature reserves, national parks, forests and wetlands for recreation, water-based sites. Fuel-wood supply. Collection of drinking water.	The site is accessible. People expend significant time or other costs to travel to the site.
Contingent valuation	Can be applied to virtually any case, but in particular to air and water quality; recreation (including natural resorts), conservation of un-priced natural assets such as forests and wilderness; option and existence values for biodiversity; and risks to life and health.	Representative sample of population. Sufficient information is available to the population sample.
Avertive behaviour	Noise nuisance, safety (risk).	Market in abatement/avoidance equipment must exist.

Source: OECD (2001) Sustainable Development: Critical Issues. p. 130; OECD, Paris.

As one important input to decision-making, a comparison between costs and benefits needs to be done in order to determine whether government action is justified. At the same time, governments should take a pragmatic and realistic approach to the issue of economic analysis. Resources invested in cost and benefit estimation should increase with the potential impact of the regulation. Qualitative assessments may be a useful beginning where analytical skills are low, where the cost of information collection is high, or where there is little consensus on how to value benefits. Regulations with larger effects might justify, in addition to consultation, more precise forms of cost-benefit analysis or various kinds of market analyses of effects on competition, international competitiveness, or technological innovation.

7.5 Addressing social effects of environmental policies

Environmental policies imply different benefits for, and different burdens on, different groups in society (e.g. groupings according to income classes, age, regions, or ethnicity). They can weigh more heavily on low-income households than they do on the richer parts of society. A low-income household spends a larger proportion of its income on heating, for example, than its higher-income neighbours, so an energy tax might weigh more heavily on the former group than on the latter. Similarly, a low-income household could spend relatively more of their income on water consumption. Conversely, populations with low income distribution are often more likely to be subject to polluted conditions or other adverse impacts on the environment which environmental policy instruments seek to address. Several options exist for countering negative distributional effects; it is important, when using these options, to maintain the overall environmental effectiveness of the original environmental policy.

The distributive implications of a given policy proposal can only be properly judged in the context of: (i) the distribution of current environmental damages; and (ii) all other feasible future policy interventions. The important question is not "how much a particular policy proposal might affect low-income households in itself", but "how much a particular policy proposal might affect these households, relative to other policy options (including not doing anything at all about the environmental problem)".

Some types of mitigation measures for low-income households (or other groups in society in focus in income distribution debates), such as exemptions or lower tax rates, can reduce the environmental effectiveness of proposed policies. Under most circumstances, therefore, direct compensation measures are preferable for addressing distributive concerns related to low-income households. The latter approach will usually involve compensation through other public policy instruments, such as the social security or personal tax systems. For example, basic personal tax allowances can be increased (or tax credits introduced) for low-income households. For individuals whose incomes are so low that they pay little or no tax, compensation for the negative distributive effects of environmental policies can be provided by direct cash transfers. Compensation policies of this type can simultaneously maintain the abatement incentive embedded in the environmental policy, while still reducing the negative impact of this policy on low-income households.

7.6 Applying strategic financial planning

Severe financial constraints faced by the environmental sector, particularly when it comes to water and environmental infrastructure, call for well-costed policies and programmes, which make the best uses of available financial resources to at least rehabilitate, optimise and upgrade existing infrastructure, as well as ensure that internationally agreed targets (like MDGs) and commitments are met. Though the financial viability of individual projects is routinely assessed in many countries, realistic plans to finance broad-based infrastructure programmes are not yet a common practice. In order to address this problem, strategic financial planning has to be introduced at the national and sub-national levels.

A financing strategy (i) examines how investments and other activities addressing the major environmental policy objectives are financed, (ii) identifies and describes the main sources and forms of financing currently used, and (iii) estimates the annual level of expenditures. In addition, anticipated changes in financing are identified. A key component of this trends analysis is the assessment of the current capacity of polluters to finance investments out of their own resources or commercial credits and the identification of barriers that must be overcome to expand the availability and use of these sources of finance. The final, and most critical, part of the financing strategy is the analysis of financing sources in the context of financing needs. In support to financing strategies, sound investment projects need to be developed.

Strategic financial planning requires good co-ordination and consensus building among key stakeholders. These include: budgetary authorities (ministry or department of finance), ministries of economy (responsible for developing sectoral target programmes and/or investment programmes), environmental authorities (ministries of environment, or ministries of water, or agencies responsible for communal services sector: water supply and sanitation, municipal waste management etc.), municipalities, utilities (or associations of municipalities and utilities), and NGOs (environmental, consumer rights protection, etc.). The key stakeholders will typically have different responsibilities and interests in the process.

7.7 Managing public environmental expenditure

Public environmental expenditures may constitute a significant share of public budgets therefore sound management of this money has relevance in terms of public finance and social policy, as well as increase the confidence of partner countries and encourage them to provide additional financial resources.

A first step is applying sound public finance rules (including fiscal discipline, efficient allocation of public funds, operational efficiency, accountability, transparency and comprehensiveness of the budget) to the environmental sector. To be credible, public finance programmes need to be based on sound analytical studies of costs and benefits of environmental programmes and expenditure reviews which can support requests for higher levels of resources. Publishing information on the costs of programmes and making it available to the public at large helps improve transparency of public spending and holds politicians accountable for their promises. It is important for governmental bodies to adopt and promote a performance-based approach.

Countries that have successfully introduced such systems started from a very strong base in terms of public sector capacity and strength of public finance management systems, and did so over a number of years. Multi-year approaches to budgeting are another important element. They structure the budget around broad programmes which are defined along government policy objectives and linked to specific outcomes, thus aiming to integrate policy, planning and annual budgets. This makes it clearer what a given level of expenditure is intended to deliver. In return, sector managers are granted more discretion over budget management to deliver results.

8. ENVIRONMENTAL POLICY INTEGRATION FUNCTIONS

This cluster of includes the following functions: (i) balancing environmental and development policies; (ii) greening territorial development policies; (iii) integrating environmental objectives into security policies;(iv) promoting environmentally sound product policies; and (v) creating preconditions for effective preparedness and response to disasters and accidents. None of these functions can be entirely outsourced.

Environment is no longer a sector managed exclusively by the environmental authorities, but rather a theme that is increasingly incorporated into different policy areas – whether energy, transport, agriculture, industry or trade. This stems from the fact that many environmental problems find their origin, or solution, in the design of policies within "non-environmental" sectors.

A lack of policy integration may have impacts beyond the environment. There are examples of rapid economic growth heavily affecting environmental quality and forcing countries to allocate financial resources for the remediation of environmental damages and social consequences rather than preventing the occurrence of these costs. To avoid such situations, governments need to pursue environmental policy integration.

The Environmental Policy Integration (EPI) implies a systematic *ex ante* and *ex post* review of environmental aspects of the development and sectoral policies, laws, and programmes, and of the functioning of central planning and line ministries. The overarching aim of EPI is to balance economic and social objectives with environmental objectives in line with Target 9 of the Millennium Development Goals. Overall, a modern approach to achieving environmental objectives promotes synergies between policies, reduces inconsistencies, maximises policy effectiveness and/or service delivery, and provides a framework for pursuing "win-win" policies and solving potential inter-sectoral conflicts. A very effective avenue for EPI is making budgetary allocation conditional on setting, but also delivering, environmental objectives although the use of this avenue is still limited. In developing countries, Poverty Reduction Strategies provided an entry point for environmental integration that was not used at full. More universally, the Strategic Environmental Assessment is a central tool of EPI.

EPI requires supporting structures (ranging from formally established inter-ministerial commissions to more informal structures) to ensure cross-sectoral co-operation. Within an environmental ministry EPI challenges working methods and requires sufficient knowledge and robust data to "make the case" for better environmental management.

There are important international dimensions of EPI. Thus, under certain conditions, foreign direct investment can be both a transfer mechanism for environmentally sound technologies and vehicles for raising environmental standards. Incorporating environmental matters in trade agreements and removing restrictions on imports of environmentally sound technologies can contribute to better environmental performance. Technical assistance can help to improve institutional frameworks for EPI. And so on.

Technological change, which involves both changes in the means by which products are produced and changes in the characteristics of the products themselves, may either create or mitigate pollution, and either

reduce or increase the use of scarce natural resources. Table 12 shows the economic and environmental impacts of current and potential future technological change in selected environmentally-sensitive sectors.

Table 12: Economic implications and environmental effects for selected technologies

Sectors	Technologies	Economic implications	Environmental effects
Agriculture	Pesticides and fertilizers	Agricultural productivity improvement	Pollution of ground and surface waters
	Modern biotechnology	Improved crop productivity	Potential adverse health and ecosystem impacts; Potential for limiting adverse impacts from chemicals
Fresh water	Drop-irrigation	Reduced water expenditures; High equipment installation costs	Decrease in water intensity; Increase in energy intensity
Wastewater	Tertiary wastewater treatment	Increased infrastructure requirements; Reduced costs of pollution clean-up downstream	Reduced water pollution
Fisheries	Computer-aided fishing	More efficient fish harvesting	Decreased fish stocks and overfishing
Forestry	Better tree breeding techniques and use of biotechnology	Faster tree growth; More desirable tree characteristics	Increased forest area; Increased carbon sinks; Monoculture forests Potential adverse ecosystem impacts
Energy	New drilling techniques for fossil fuels	Enlarged stocks of economically accessible fuels	Continued reliance on fossil fuel and reduced opportunity of being used by future generations
Transportation	Hybrid/electric vehicles	Fossil fuel saving	Reduced air emissions
Steel	Electric arc furnaces	Reduced energy and raw material consumption	Increased recycling of scrap steel; Reduced air emissions
Pulp and paper	Totally chlorine free (TCF) bleaching	High capital investment; Improved paper quality	Reduced pollutant emissions and energy consumption

Source: OECD (2001) OECD Environmental Outlook. p.80

Also regular efforts should be made to identify those subsidies whose removal (or reform) would benefit the environment. A major factor that can promote the reform of environmentally harmful subsidies is increased transparency. It should therefore be made clear to the public-at-large who is benefiting from existing subsidy programmes, and the conditions under which these subsidies are being provided.

Many OECD countries have also launched major initiatives to change their regulatory culture in order to achieve the same or better results, including environmental ones, more efficiently. Such “Better Regulation” initiatives have objectives to ensure that the regulatory environment is simple and of high quality, since the regulatory framework in which businesses operate is a key factor of their competitiveness, growth, and employment performance. These, therefore, represent a further context for the analysis of priorities across all areas of government action, thus requiring effective analysis of the objectives of environmental and other policy areas and how these can be reconciled.

8.1 Balancing environmental with development and sectoral policies

Strategic Environmental Assessment (SEA) is the main mechanism for EPI and refers to a whole range of approaches. Such approaches need to be applied at the early stages of decision making, most importantly within central and line ministries, in order to promote a more prudent management of natural resources and the environment. SEA can also assist in building stakeholder engagement for improved governance, facilitate transboundary cooperation around shared environmental resources, and contribute to

conflict prevention. SEA is not a substitute for Environmental Impact Assessment but a complement to this instrument.

Where SEA is applied to plans and programmes, a structured approach to integrating environmental considerations could be used. Key stages for carrying out SEA on the level of plans and programmes includes: establishing the context, undertaking the analysis with appropriate stakeholders, informing and influencing decision making, and monitoring and evaluation. Legal, procedural, institutional and political factors in different circumstances and countries will generally determine the way in which SEA is defined and applied. The key deliverable of an SEA is a process with development outcomes, not a product. The achievement of development outcomes while maintaining environmental sustainability is the key measure of success in a long-term perspective.

In a development aid context, the shift of emphasis from development projects to programme and policy support has created a number of entry points for the application of SEA, including strategic planning processes by the developing country, development agencies' own processes, and other related circumstances. Experience of applying SEA has highlighted two major challenges: lack of awareness about the value of SEA, and, when this challenge is overcome, lack of knowledge on ways to implement SEA.

8.2 Greening territorial development policies

Territorial development policies are usually set out in strategic plans for particular geographically defined areas. For small countries these might be developed for the whole nation. More usually, territorial strategic development policies are developed for particular regions or local areas. These most commonly follow the administrative divisions of a country and, indeed, may be developed for each level of administration. Developing such policies requires coherence between objectives established at the national level (which in turn should reflect international objectives) with those developed locally. Indeed, greater emphasis on decentralized decision-making in many countries has led to greater emphasis on local planning in recent years. Effective territorial planning requires the integration of top-down and bottom-up objective setting, identifying the levels of administration mandated to take forward the policies and objectives that are prioritized within that plan. Clearly, conflicts can arise between perceived priorities at different spatial scales and managing these conflicts and seeking coherent and achievable outcomes in the policy development process is a major challenge.

Environmental objectives are core to territorial development planning. Nationally identified environmental objectives may require interpretation at the local level in order to achieve concrete expression. Many national environmental objectives (e.g. on ambient air quality or nature protection) can be considered as an amalgamation of locally identified issues set in a wider context. However, many instruments adopted to achieve environmental objectives (standards, taxation, etc) are set nationally. There is, therefore, a need to marry this spatial interaction within environmental management itself.

Furthermore, territorial development policies bring all (or most) policy areas together in a single process. This provides an important impetus for achieving EPI. The tools identified for achieving EPI at national level are equally useful at the local level. It is, however, important for national administrations to provide clear exposition and guidance of high priority objectives (not least those that are legally binding), which may provide constraints in options analysis for policy development at the local level. Conversely, local planning provides an opportunity to engage closely with local communities, thus not only enabling an elaboration of broader policies set nationally, but also achieving buy-in to those policies through awareness-raising activities.

8.3 Integrating environmental objectives with security policies

Environmental degradation, inequitable access to natural resources and transboundary movement of hazardous materials increase the probability of conflict and thereby pose a risk to human and even national security. Transboundary pollution often negatively affects the relations between neighbouring states sharing the common resource base. Health risks and involuntary migration due to, for example, water scarcity, inequitable access to land resources, uncontrolled stocks of obsolete pesticides or other forms of hazardous waste, constitute threats to stability and peace. Ongoing disputes and disagreements over the management of natural resources shared by two or more states can deepen divides and lead to hostilities.

But common problems regarding the use of natural resources may also bring people together in a positive manner. Communities and nations can build confidence with each other through joint efforts to improve the state and management of natural resources. Environmental co-operation between countries can thereby act as an important tool for preventing conflicts and promoting peace between communities. It is, therefore, critical that environmental authorities build close working relationships with border and security authorities so that the latter understanding the threat that environmental degradation poses to national security and how they can contribute to enhancing national protection.

8.4 Promoting environmentally sound product policies

Growing international economic integration, along with increased consumer concern about the environmental impact of what they buy, have intensified the tension between a narrow focus on the physical characteristics of products, and a broader one on the environmental externalities generated throughout the production process. To promote sustainable development, a range of environmentally sound product policies are currently being put in place, such as eco-labelling, extended producer responsibility and green public purchasing.

The main objective of ***eco-labelling/product certification*** is to promote the production and consumption of more environment friendly products. The International Standard Organisation (ISO) specifies the three types of eco-labels: eco-labels approved by an independent third party; declaration of enterprises informing consumers about particular environmental characteristics of a product, *e.g.* energy efficiency; and environmental product declarations (EPD) providing quantitative information about a product in a standardised form. Commonly, eco-labelling requires significant human and financial resources from the government and companies that would like to label their products.

Establishing national eco-label schemes in small countries often does not pay off because of a limited market and relatively high cost for companies. In some cases, it could be economically and practically feasible to establish a simplified national product certification scheme for particular products widely produced in the country.

To be effective, product certification systems should be backed by an intensive marketing campaign and other promotional activities to get appropriate attention from both enterprises and consumers. In order to avoid these schemes becoming disguised market barriers, they need to be non-discriminatory, transparent, involve widespread consultation on eco-label criteria and, above all, be non-protectionist in intent. This is especially important when criteria related to the production phase are included. They may then also serve as a means to enhance the competitiveness of developing-country products.

Extended producer responsibility (EPR) places ultimate responsibility for a good's disposal and recycling process on the producer, by promoting the internalisation of environmental externalities in the treatment and disposal of a product's life cycle. EPR shifts the responsibility, financial or physical, upstream towards the producer and away from municipalities, and provides incentives to design more

environmentally friendly products. Some EPR programmes require producers or retailers to "take back" the product, or its packaging, after use.

Greener public purchasing (GPP) programmes provide incentives for public authorities to purchase environmentally friendly goods. Given high rates of public consumption, such programmes can have a considerable impact in improving natural resource management. As a general rule, tenders for goods to be procured can include environmental specifications among other technical characteristics — such as quality, safety, dimensions, packaging and labelling. The main product categories to which green procurement is now applied are paper products (recycled, chlorine-free), heating appliances, information technology equipment, cleaning products, packaging, furniture, motor vehicles, and energy and waste services.

The main barriers to implementing green procurement are a lack of training for public procurement officers, intergovernmental coordination, and information on financial benefits as well as initial higher costs. Procurement decisions which take life-cycle costs into account are still rare, partly due to methodological difficulties. To overcome the lack of green products and services on the market, partnerships with suppliers, training programmes and competitions could be used. Use of GPP can be optimised through credible and factual information, so that the criteria for making GPP decisions result in improved resource allocation rather than in the establishment of hidden trade barriers.

8.5 Ensuring preparedness and response to disasters and accidents

Over the last years, the impact of natural hazards and industrial accidents has been raising in terms of human, economic, and environmental losses. The poor are more vulnerable to disasters: developing countries tend to experience more losses compared to developed countries for a disaster of the same magnitude. While developed countries suffer more absolute economic damages, developing countries lose more as percentage of GDP. Moreover, developed countries continue to suffer more casualties than developed countries when measured as a share people exposed to the same hazard. Many disasters could have been averted if more attention had been paid to adequate environmental management: evidence shows that areas where the integrity of ecosystems has been compromised are impacted more by disasters than those that are under sustainable environmental management regimes.

Beyond the need to invest in better environmental management systems, countries should be well equipped to respond to disasters. More generally, the three core components of an emergency/disaster management cycle include: (i) prevention: the minimisation of the likelihood that an accident/disaster will occur; (ii) preparedness and mitigation: the mitigation of the consequences through emergency planning, land-use planning, and risk communication; and (iii) response: limiting adverse consequences to health, environment and property in the event of an accident/disaster. The response includes actions needed to learn from the experiences in order to reduce future incidents (prevention).

Individuals and policy makers have two options to reduce losses from disasters related to natural hazards: mitigation and risk financing. The first, and highest priority, is to invest in preventing and mitigating damages from disasters, including human and environmental, losses in addition to economic losses. The residual economic risk can then be managed with risk-financing strategies. Mitigation, therefore, reduces physical/environmental vulnerability; risk financing reduces economic vulnerability. The role of non-governmental stakeholders, in particular local communities, is considerable and ever increasing.

9. POLICY IMPLEMENTATION FUNCTIONS

This cluster includes the following functions: (i) establishing environmental standards; (ii) conducting environmental assessments at the project level; (iii) setting company-specific regulatory requirements; (iv) correcting market failures and creating markets to achieve environmental goals; (v) "information regulation"; (vi) facilitating corporate initiatives; and (vii) enabling the provision of environmental services and managing infrastructure. All these functions clearly belong to the public service, although management of infrastructure is increasingly done through public-private partnerships. The role of governmental stakeholders in ensuring the effectiveness and efficiency of indirect regulation (including "informational regulation") is crucial.

In order to implement policies, single policy instruments or their mixes are used. Over a long period, direct regulation was the major solution to environmental problems but the evolving context resulted in the adoption of instruments that are better adapted to current economic and governance models. Several types of instruments form the toolbox available to policy-makers:

- *Instruments of direct regulation* primarily include standards (which prescribe the quality of the environment, the level of environmental impacts, processes or procedures to be used, etc.), as well as underlying procedural requirements, such as environmental impact assessment, licensing or permitting, which are tools to manage the attainment of the standard.

- *Economic instruments* create price signals to encourage polluters and consumers to make decisions that help achieve environmental objectives. They increase the cost of behaviour that harms the environment, and reduce the cost (or increase the value) of behaviour that protects the environment.

- *Information-based instruments* (ratings of industry's environmental performance, pollutant inventories, education and training, earlier discussed eco-labels, etc.) exploit modern approaches of data processing and communication to achieve policy objectives in a less interventionist and more efficient way. Many of these instruments are based on the assumption that environment quality and integrity of ecosystems constitutes a societal value.

- As a complementary tool, *voluntary approaches* can succeed within the framework of systems that already achieved a high degree of regulatory compliance.

Often, a mix of instruments is required in order to address market failures, such as lacking information, ill-defined property rights, market power, etc. Sometimes such mixes can also limit compliance-cost uncertainty, enhance enforcement possibilities and reduce administrative costs. Certain instruments can underpin each other, e.g. a labelling scheme can enhance the responsiveness to an environmental tax, while the existence of the tax helps draw attention to the labelling scheme.

When applying several instruments in a mix, there is a danger that one instrument will unnecessarily hamper the flexibility to find low-cost solutions to a problem that another instrument could have offered if

it had been used on its own. In other cases, some of the instruments in a mix are simply redundant and only increasing total administrative costs.

Table 13: Diversity of environmental policy instruments

Instruments of direct regulation	Instruments that correct or create markets (indirect regulation)	"Information" regulation and voluntary approaches
Ambient or emissions standards	Property rights	Public consultations
Process or product standards	Tradable permits	Information disclosure
Prohibition bans	Removing perverse subsidies	Education campaigns
Land use planning	Environmental taxes and charges	Eco-labelling
Zoning and EIA	User charges	Diffusion of technical information
Permits and quotas	Deposit-refund systems	Social advertising
Mandatory self-monitoring	Liability and penalties	Voluntary agreements
Damage compensation and compulsory insurance	Performance bonds	Public-private partnerships
Extended producer responsibility	Resource pricing and payment for ecosystem services	Environmental management
	Green procurement	Audit schemes

Source: Based on *Sustainable Development: Critical Issues* (OECD, 2001) and *Geo-4* (UNEP. 2007); and Policy Instruments for Resource Efficiency" (GTZ, 2006).

Table 14: Examples of policy instruments for environmental and natural resources management

Policy instrument	Natural resource management Water, fisheries, agriculture, forestry, minerals, and biodiversity	Pollution control Air pollution, water pollution, municipal and industrial waste
Technical standards and bans	Regulation of fishing (e.g. dates or equipment) Bans on ivory trade	Specification of car design Bans on chemicals
Performance standards	Water quality standards	Fuel quality standards
Using or correcting markets (taxes, fees, or charges)	Water tariffs Park fees Fishing licenses Stumpage fees	Waste disposal fees Industrial pollution charges Energy taxes Congestion (road) pricing
Creating markets (tradable quotas or rights)	Individually tradable fishing quotas Transferable rights for land development or forestry	Emission permits
Information regulation	Labelling of forest products	Industry rating schemes

Source: Based on Sterner T. (2003) Policy Instruments for Environmental and Natural Resources Management.

Box 8: Criteria to select instruments of environmental policy

While there is no rule to define an "optimum" policy mix, several criteria can guide the choice of instruments, most importantly:

Environmental effectiveness: the extent to which instruments will achieve their specific environmental objectives;

Efficiency: achievement of policy goals at a minimum cost to society and provision of incentives for continuous improvement;

Flexibility and reduced transaction costs: allowing the choice on ways to comply with requirements and minimization of costs (monitoring, licensing, enforcement, etc.);

Simplicity of operation: guarantees that the instrument will not result in poor compliance, fraud, and excessive administrative and compliance costs.

Minimisation of regressive distributive effects: policy instruments may have unintended regressive impacts, for example by increasing the price of certain commodities.

Adherence to international practice: conformity with international agreements and trade rules;

Economic impacts: assessment and consideration of economic effects (e.g. effects on prices, employment, competitiveness, economic growth).

Source: Barde, J.P. (2000), "Environmental Policy and Policy Instruments", in H.Folmer and H.Landis Gabel (ed.), *Principles of Environmental and Resource Economics* (second edition), Edward Elgar, Cheltenham, UK, Chap.7

Sometimes, reforming one instrument can create a basis for increasing the environmental effectiveness of others. For example, better monitoring and reporting can facilitate the use of information-based instruments which can, in turn, contribute to promoting compliance by multiplying different types of pressures (reputational, financial, judiciary) on firms.

When considering which particular instruments should be used to meet a given environmental objective, an assessment should be made of how much each instrument (or each "instrument mix") is likely to contribute to the goals of environmental effectiveness and economic efficiency. Regular *ex post* reviews should also be made of these contributions, to ensure that the programme performance anticipated *ex ante* has indeed been realised.

The acceptance of a given instrument by the public-at-large is strongly related to the degree of awareness of the environmental problem the instrument seeks to address. Internationally, it is becoming more important to share "good practice" experiences in the search for low-cost policies that contribute to both environmental protection and economic development.

9.1 Establishing environmental standards

Environmental standards are established by the government that also monitors and enforces their implementation. They are applied to reduce pollution and increase resource and energy efficiency. Furthermore, they may contribute to the diffusion of environmentally-friendly technologies and products. In addition, they promote a level playing field for businesses, particularly where markets are insufficiently mature. Different standards are not mutually exclusive. Rather they can be used simultaneously by governments to ensure the maximum protection of the environment in line with the existing economic, social, and technological reality. The global and regional significance of environmental management means that standards-setting is increasingly driven by multilateral agreements.

A ***specification (technology) standard*** tells companies precisely what measures to take to protect the environment. Such a standard requires little interpretation on their part as it is defined in terms of specific methods that must be used in a specific situation and puts emphasis on the design and construction of environmental safeguards. Specification standards are easier to follow and check. They have particular relevance for small and medium sized enterprises, which may lack the knowledge or resources to apply performance standards. The specification standards also offer administrative simplicity and ease of enforcement. However, to be effective, they must be extremely detailed and therefore tend to result in a mass of detailed rules, difficult to comprehend or keep up-to-date. Because such standards are prescriptive they do not allow companies to seek least cost solutions and accordingly are unlikely to be cost-effective in the majority of circumstances. Similarly, they inhibit innovation.

In contrast, a ***performance (ambient and emission) standard*** is one which specifies the environmental outcome but leaves the concrete measures to achieve this open-ended. They can accommodate to changes in technology and the creation of new hazards. Performance standards also allow firms flexibility to select the least costly or least burdensome means of achieving compliance. On the other hand, performance standards are more difficult to verify and enforce. They present serious compliance problems for small and medium sized enterprises.

Product standards specify certain product characteristics, e.g. its chemical composition or energy efficiency. ***Process standards*** address procedures for achieving a desired result. These standards specify the processes to be followed in managing nominated hazards and have been most used in respect of hazards that do not lend themselves to measurement, or to address risk assessment more generally. They are based on a systematic approach to controlling and minimising risks. One example is the European Union's *Control of Major Accident Hazards Directive*.

It is important that environmental standards are established through a process of deliberation which seeks to balance multiple constraints and viewpoints. Ultimately, feasible environmental standards, based on sound scientific criteria and economic and technical analysis, applicable to all producers, will determine the effectiveness of regulation. The process of establishing standards should be transparent, open and participatory in order to ensure the legitimacy of the requirements and their acceptance by the regulated community.

9.2 Conducting environmental assessments at the project level

Environmental assessment is a process of systematic analysis and evaluation of environmental impacts of a proposed activity, consultation with affected parties and due consideration of both analysis and consultation results in planning, authorizing, and implementing the activity. National environmental assessment systems vary in relation to the scope and coverage of procedures, principal responsibilities, and arrangements through which it is linked to decision-making. Despite these differences, effective environmental assessment systems are based on the key principles of prevention, integration and participation.

The key outcome of the EIA is the decision whether the physical location of a project is acceptable and under what conditions. This decision is very much linked to the territorial planning schemes and particular uses of land. The EIA process should result in a report that documents the possible risks and impacts of the proposed project, presents an analysis of alternatives, as well as the suggested measures for mitigation, and provisions for monitoring and evaluation. Though many international financial institutions have internal procedures of EIA, it is desirable that national legislation is sufficiently advanced to fully substitute those. In this context, both EIA procedures and outputs should be clearly described in national law.

Closely related to the EIA is land use planning, which is a way to restrict or prevent potentially polluting development projects in environmentally sensitive areas and/or consolidate industrial facilities in certain areas (industrial parks or zones) where special environmental infrastructure is provided to mitigate their impacts. The outcomes of EIA should be linked to the environmental permitting through harmonised procedures and re-use of information.

9.3 Setting company-specific regulatory requirements

Environmental permitting/licensing is a procedure by which an authorisation is granted to a company or individual to perform an activity under specific legal conditions deemed necessary to ensure the protection of environmental quality and public health. Thus defined, environmental permitting encompasses a very wide range of procedures, including licensing of various environmental significant activities, such as operating a waste disposal facility or an environmental monitoring laboratory. Most often, however, environmental permitting is defined in a more narrow sense, as a tool for regulating pollution, waste generation and natural resource use associated with industrial and other economic facilities.

At a minimum, environmental permits should define the Emission Limit Values (ELV) that an enterprise must adhere to. These could be facility-specific or draw from sector-wide ELVs. A combined approach is desirable when high value ecosystems or other sensitive receptors are likely to run the risk of being degraded by pollution from the permitted process. Other conditions, including “good housekeeping”, self-monitoring, self-reporting, and de-commissioning should also be included.

Permitting can draw from environmental audits that identify the environmental issues associated with existing or past business activities and evaluate their nature. Audits are “stand-alone” studies undertaken with guidelines or protocols identified in national legislation or, very often, the financial institution. Besides clarifying the compliance status and liabilities, audits need to identify corrective actions and environmental improvement opportunities. Preferably, they should be conducted by an independent third party, such as environmental consulting firm or certified auditors.

Regulating the use of natural resources by individuals or companies is more complex, as there are many resource-specific aspects to be considered (See OECD, 2008b).

9.4 Correcting market failures and creating markets

Many environmental objectives could be met in a more cost-effective manner by using market-based instruments, which allow an effective integration between economic and environmental goals and provide government revenue. Environmentally related taxes are well suited to reduce the total amount of a given type of emission (or the use of a given polluting product) within the geographical area in which the tax is applied. However, taxes are less well-suited for addressing problems where the environmental harm varies with the location of emissions (e.g. local “hot spots” of pollution), and when approaches and timing of handling a certain polluting product matter. Closely linked to the use of environmentally related taxes are prices, fees, and charges for various environmentally related services (e.g. waste collection, water supply, waste water treatment). As is the case for taxes, the prices facing firms and households for these services should gradually reflect the full marginal social costs of providing them.

Box 9: Definitions of selected economic instruments

Taxes on natural resource extraction: Many of natural resources are legally owned by the state and provide important sources of revenue when they are commercially extracted. The state takes a share of the extractors' profits – or, in economic jargon, "economic rent". This applies both to renewable (e.g. forests and fisheries) and non-renewable resource (e.g. minerals).

Emission charges and taxes: direct payments based on the quantity and quality of a pollutant.

Product charges and taxes: payments applied to products that create pollution when manufactured, consumed or discarded (e.g. sulphur and carbon content of fuels, fertilisers, pesticides, or batteries).

User charges: payments for the cost of collective services; primarily used for the financing of local authorities as in the collection and treatment of solid waste and sewage water. In the case of natural resource management, user fees are payments for the use of a natural resource (e.g. park, fishing, or hunting facility).

Marketable permits: these consist of environmental quotas, permits, maximum rights allocated to economic agents by a competent authority. Once the initial allocation is made, these permits can be transferred (or traded) between sources, geographical areas or time periods.

Deposit-refund systems: payments made when purchasing a product (e.g. packaging). Payment is fully or partially reimbursed when the product is returned to the dealer or a specialised treatment facility.

Performance bonds: payment of a deposit in the form of a "bond" imposed on polluters or users of natural resources. The bond is refunded when compliance is achieved.

Environmental subsidies: all forms of explicit financial assistance to polluters or users of natural resources (e.g. grants, soft loans, tax breaks, accelerated depreciation, etc.) for environmental protection. Environmental subsidies are in contradiction with the polluter-pays principle, except in certain circumstances.

Source: OECD (1998), "Economic Instruments for Pollution Control and Natural Resources Management", in "OECD Countries: A Survey", Document No. ENV/EPOC/GEEI(98)35/REV1/FINAL, Paris.

Removing market failures and price distortions is one condition for making markets work for better environmental performance. Another facet of this approach is to *create* markets where transactions would not otherwise occur without the establishment of a specific framework. Specific markets have been set up for the management of natural resources and pollution control in some OECD countries. Within this framework, tradable permit systems provide similar flexibility as taxes do for polluters/resource users to choose the method by which they will achieve a given environmental goal. By establishing "caps" or promoting direct investment in environmentally beneficial outcomes, they also emphasise the achievement of environmental goals.

Box 10: Different types of transferable permits

Transferable permits fall into four main categories differing according to the benchmark used to determine individual permits and the nature of the problem targeted (pollution control or natural resource management):

Emission reduction credits (baseline and credit for emission reduction) correspond to credits earned by participating agents when their emissions or abstractions fall below the level which had been authorized for a given agent over a given period. The reference situation is given by the pre-existing administrative permit system.

Quotas or allowances (cap and trade or minimum limits and trade) correspond to quantified maxima or minima assigned to agents for a given period. Individual limits are determined by setting an overall volume for a delimited area. An example of a quantified maximum is the maximum annual volume of sulphur dioxide emissions from power plants on U.S. soil following the enactment of the Clean Air Act Amendments of 1990.

Averaging consists in the competent authority setting average limit values for an entire range of similar products (e.g. cars or engines) manufactured by firms within the same industrial branch. Firms may exceed these limits for some of the products they sell, provided that they offset the excess with lower than average levels for other products. Transfers can also be made externally — i.e. if the overall product performance of a firm is better than the average, it can transfer unused permits to other firms whose performance is poorer. This approach was adopted in the CAFE programme to regulate the unit consumption of vehicles sold by automobile manufacturers in the United States.

Usage rights or rights to abstract natural resources (transferable rights) regulate access to resources that are freely available or whose ownership is shared; and, in the case of building and construction rights, alleviate failures in property rights to secure environmental and development objectives. Transferable fishing and construction rights (separated from land ownership rights) are two examples of this approach in New Zealand.

Source: OECD (2001), Strategic Guidelines for the Design and Implementation of Domestic Transferable Permits, Paris

Nevertheless, there are several issues that need to be considered when using this approach, in order to increase the environmental effectiveness and economic efficiency of permit trading. As for environmentally related taxes, emission trading systems are better suited to addressing the total amount of a given pollution within the geographical area it covers than affecting where, when or how a polluting product is being used. It takes time for permit market participants to become accustomed to trading in the market, and to fully understand the nature of the commodity that is being traded. At the early stages of policy implementation, this can result in “thin” markets, price volatility, and other phenomena which can undermine the development of the market. Efforts should therefore be made to provide long-term stability for the trading scheme.

9.5 Promoting environmental goals through information-based instruments

An increasingly important alternative or – more often – supplement to conventional regulation is what is becoming known as “informational regulation”, i.e. the use of information-based instruments. Governments can use this approach to convince the regulated community and the public of the need for better environmental management.

Most known are the instruments of information disclosure. One example is the Toxic Release Inventory (TRI) programme under the US Community Right-To-Know Act which makes publicly available information on toxic chemical releases. The OECD in its work on Pollutant Release and Transfer Registers (PRTRs) has been promoting wider use of such instruments. Despite the apparent success of some initiatives, particularly the TRI, there remain some considerable problems related to such inventories. There are concerns that the data supplied suffers from many limitations, and about how it is presented to the public. There is little if any, government oversight of the quality of information provided and the rate of non-reporting is substantial. In the absence of greater enforcement, there is a serious risk that those companies that do report accurately will be disadvantaged compared to non-reporters. Furthermore, PRTR or similar schemes are usually sophisticated thus resource-consuming. To lower costs, simplified systems,

such as Indonesia's PROPER programme, have been introduced. The programme gathers information about releases of key pollutants and environmental management in selected enterprises. On that basis, regulators rank the performance of individual facilities. The ranking is then communicated to the media and the public using a simple colour label pattern (gold, green, yellow, red and black).

Educational initiatives geared towards the public at large can both promote environmentally-responsible behaviour and represent an effective tool for developing policy mixes targeted at improving the management of particular problems. Environmental education is not restricted to formal education or to school children and young people. This is continuing education and involves broad public awareness-raising and education on environmental management and sustainable development for all ages. An integrated strategy, using "informational regulation" in combination with other instrument types, is likely to be more effective than a stand-alone approach. For example, the effectiveness of PRTRs and industry ratings is dependent upon the willingness of civil society's organisations to follow through on its results and to both shame bad performers and praise good ones. A better understanding of such factors will help deciding on the need for, and design of, information-based instruments.

Box 11: Possible elements of educational strategies

A number of actions can help improve educational strategies at the national level, including:

- Provide legal support to education for sustainable development (ESD) through education laws (not specific ESD laws), so that ESD is included in the national curriculum as a cross-cutting topic.
- Improve the conceptual understanding of education for sustainable development among public officials, teachers and NGOs.
- Develop and implement a training programme for teachers.
- Introduce modern interdisciplinary multimedia educational programmes that enable discussion of sustainable development principles in all obligatory subjects.
- Update current educational materials and training manuals on environmental education, and develop, publish and catalogue new educational resources.
- Consider using NGO materials in formal education and invite NGOs to take part in the development of ESD programmes.
- Work on getting the co-operation of mass media and provide training for journalists on environmental issues.

Source: Based on OECD (2007), Policies for a Better Environment.

9.6 Facilitating corporate initiatives to improve environmental performance

There is a whole range of voluntary approaches that could be applied by the business sector to improve environmental performance. The government can facilitate the use of such approaches by raising awareness on the need for action, but their role in this area is much less prominent due to the corporate character of action. The effectiveness and efficiency of corporate initiatives largely depend on their relevance for the overall business strategy.

A corporate environmental management system (EMS) provides the internal framework necessary to control a company's environmental impacts and to integrate environmental considerations into business operations. Instituting an EMS can reduce operating and insurance costs, improve energy and resource conservation, reduce compliance and liability charges, improve access to capital and customer satisfaction, and develop community and public relations. An EMS can be formal (*i.e.* be certified according to

international standards such as ISO 14001) or informal. Sector-specific EMSs (such as "Responsible Care" or the "Tour Operators Initiative for Sustainable Tourism Development") are emerging. In practice, many organisations implement certified EMS because their customers require it, or because it increases their chances of gaining new customers. Some organisations also get a certificate as a strategic move since they may need such a certificate in the future.

A limiting factor for the effectiveness of an EMS can be too much involvement of consultants in EMS implementation. In such cases, there is a risk that the EMS will not fit in with the overall management system and will be ineffective. In contrast to larger enterprises, implementing an EMS in SMEs is often not feasible from an economic perspective, not to mention the limited human resources that are available to SMEs. One way to reduce financial costs for SMEs that want to adopt an EMS is to implement an informal EMS, *i.e.* implement the key elements of an EMS to ensure improvement of environmental performance, but without formal certification/registration.

Unlike an EMS, which entails creating a framework for the management of all environmental aspects and issues of a company's activities, the "cleaner production approach" generally entails implementing a specific project to improve environmental performance. Cleaner production assists companies in their specific efforts to design and operate industrial processes and to develop and produce products and services in ways that increase eco-efficiency.

Environmental management accounting (EMA) is a complementary procedure with which a company tries to calculate all the internal costs of environmental pollution. A high percentage of these costs are hidden under non-environmental cost headings and their systematic detection demands much determination to overcome organisational resistance.

9.7 Enabling the provision of environmental services

The shift towards using technology-led responses to environmental challenges created new markets for environmental goods and services to remedy and prevent problems of water pollution, waste treatment, air pollution, habitat protection and sustainable resource use. The traditional definition of environmental services has referred to facilities that provide water and waste treatment, often by the public sector. Over the past decade or so, the transition to pollution prevention extended that definition to the application of design, installation, managerial, environmental auditing and engineering know-how. The precise boundaries of the environmental services sector are not yet delineated. The broad definition (that also covers agriculture and forestry, fishing, mining and quarrying as well as all electricity generation and water supply and extraction) leads to the conclusion that in the EU the total direct turnover linked to environmental services and goods is €3 trillion and the total number of direct jobs amounts to 21 million.[70]

In OECD countries and now increasingly on a global scale, governments have been moving from direct provision of services towards creating and regulating new markets. At the same time, high investment costs and associated affordability constraints mean that governments have an essential role to play in financing environmental infrastructure. Privatisation is not always feasible because of technical or economic considerations. For example, even where the water system remains publicly-owned, service management is increasingly being delegated to private operators. Global trade liberalisation can play a role in building international markets for environmental services. However, a diverse and cumulative range of trade barriers, inhibit the deployment of technology and service-based solutions to global environmental challenges.

[70] GHK et al. (2007). Links between the environment, economy and jobs.

10. ENVIRONMENTAL COMPLIANCE ASSURANCE FUNCTIONS

This cluster includes the following functions: (i) identification and profiling of the regulated community; (ii) compliance assistance; (iii) detection of non-compliance, and (iv) non-compliance response. Public authorities commonly implement these functions though the use of indirect enforcers (such as banks, CSOs, or even industry associations) is increasing. Compliance assistance, in principle, can be outsourced and based on cost-recovery, but this will largely depend upon the affordability considerations linked to specific segments of the regulated community or to conditions in individual countries.

Failure to curtail non-compliance and its most dangerous manifestation – crime – leads to environmental and human health damage; erodes the rule of law; undermines the level playing field and – quite often – reduces tax revenues. Though in many cases enforcement is perceived as a companion of direct regulation, it also preserves the viability of policy instruments that use or create markets. New instruments (*e.g.* industry rating or supply chain pressure) that operate with little or no reliance on enforcement have recently emerged. They raise policy efficiency and need to be applied more widely.

Compliance assurance involves a mix of mutually supportive tools (such as identification of the regulated community, compliance promotion, non-compliance detection, and response to non-compliance) to make the regulated community implement environmental requirements. Compliance assurance starts with ***identification*** of those who are subject to specific legal requirements in order to understand as far as possible their particularities, including ability, motivation and willingness to respect the law. ***Compliance promotion*** covers activities encouraging voluntary compliance, *e.g.* provision of technical guidance. ***Non-compliance detection*** (also known as "compliance monitoring") consists of collecting and analysing data on the compliance status. ***Non-compliance response*** (enforcement) is a set of actions that the government or third parties take to compel the offender to return to compliance and remediate the damage resulting from the violation, as well as to impose sanctions on the offender.

The principle of deterrence underlies the design of compliance assurance interventions. Deterrence (*i.e.* widespread perception that violations will not be tolerated) stimulates voluntary compliance thus eliminating the need for omnipresent enforcers and reducing costs of enforcement. A deterrence atmosphere can be achieved in several ways, *e.g.* by establishing social disapproval of violators or by providing formal response to non-compliance.

Internationally, recognition is growing that "smart" regulation should be coupled with an enforcement approach that concentrates resources where risks are the highest and compliance/performance the poorest. For example, there are high-risk sites (*e.g.* some major chemical plants or some waste disposal facilities) which should receive regular visits so that authorities can be sure that risks continue to be effectively managed. Sometimes, however, a relatively low risk site that is poorly managed has potential for greater impact than a higher-risk site where proper control measures are in place.

Emphasis is also given to a consistent and transparent behaviour of regulatory agencies when applying enforcement tools. Not only would this allow firms to know the rules and processes when making

compliance decisions, but it also increases the regulated community's trust in enforcement agencies and limits the agencies' misuse of discretionary powers.

Integrity and accountability are other fundamental principles. Enforcers should base decisions on best professional judgement consistent with legal requirements and resist pressure from interest groups. Professional ethics should prohibit theft, fraud, bribery, abuse, and misconduct of any kind. The danger should be avoided that, under the justification of professional ethics, transparency is restricted or conditions are created to hide misconduct.

Accountability of the managers and other staff, *i.e.* their willingness to explain and justify their decisions and performance, is instrumental for ensuring integrity. This is especially important when the enforcement action or non-compliance response is taken on the basis of an inspector's own judgement.

Decision-making policies should be established and applied within enforcement authorities, against which the staff and the entire agency should be accountable. They should apply to areas where decision-making is likely to be flexible or discretionary. Without being a blueprint for all possible decisions, these written rules should be commonly accepted, transparent, unambiguous and reader-friendly, helping to reassure staff and all other stakeholders that decisions are made on a sound basis.

The understanding of the factors that determine compliance can help governments to design more effective regulations and compliance assurance systems. Regulatory design is optimal when the requirement is simple to implement and produces a maximum level of spontaneous (voluntary) compliance. If the latter is low, then either compliance assurance function has to be strengthened, or the regulatory regime redesigned, in order to achieve the desired level of compliance and intended policy objectives.

Traditional environmental economics theory assumes that regulated entities are rational when making compliance decisions: they decide whether to comply or not based on the balance between compliance costs (*i.e.* expenses for technological and management improvements to meet environmental requirements) and expected non-compliance costs (*i.e.* value of monetary penalties, civil liability, etc.). If it is „cheaper" to violate a requirement, an operator would do so. Under this theory, competent authorities must raise the „costs" of non-compliance by raising the probability of detection of an offence; making non-compliance response swift, certain, and fair; imposing penalties high enough to outweigh non-compliance benefits; and raising awareness of enforcement actions.

But intrinsic (internal) motivation, such as honesty or social norms, may also lead to environmentally friendly behaviour and compliance. This factor may be magnified in cooperative cultures with very widely shared social values where many more people act based on non-economic reasons.

Compliance may sometimes be higher than expected with the current levels of monitoring and enforcement by regulatory agencies. This may happen for a number of reasons. Firms often subjectively overestimate the expected penalty, and perceived levels of inspections and sanctions determine firms' compliance behaviour and explain compliance despite low sanctions. Compliance may also be the effect of an expectation of becoming subject to more intensive compliance monitoring and stricter enforcement if previously found non-compliant.

Market forces may influence compliance behaviour via potentially adverse reactions of customers, investors, insurers, or stock-market valuations. Such information could also influence the general public image of the firm concerned, or lead to pressure from local communities. Regulators may provide direct or indirect financial incentives, such as tax breaks, or disincentives (e.g. restricted access to credit) to promote compliance.

10.1 Identification and profiling of the regulated community

A first step in developing compliance assurance programmes is to identify which groups are regulated. A regulatee (also referred to as the “regulated community”) can be a natural person or legal entity, including governments and their subsidiary bodies that are subject to legally-defined environmental requirements.

Competent authorities need to identify regulatees and understand as far as possible their particularities, including ability, motivation and willingness to comply with environmental requirements. A well-elaborated profile of the regulated community enables authorities to make the right choice of compliance assurance instruments, to prioritise inspections in a specific jurisdiction and to focus communication and enforcement thus optimising the costs and results.

The regulated community will have been described at least briefly in the legislation to be enforced. Ideally, the exact nature of the regulated community will have been studied in the phase of legislative drafting to design enforceability into the law. Nevertheless, before enforcement is possible the inspectorate should gather data about the actual enterprises to which the law should apply, and analyse the compliance assurance challenges that the data suggest. The scope of identification and profiling partly depends on the size and number of sources. If the regulated community consists of numerous small facilities, it may be impractical or impossible to perform a comprehensive survey. In such cases, programme officials may decide to identify a subset of the regulatees, e.g. only those companies within a specific geographical area that is highly polluted.

Data request procedures should take into account the goal of administrative simplification, identified by many governments in the framework of their regulatory reform policies. For instance, attention should be paid to transfer of information between the regulated community and the authorities, and tools and strategies to store and share information required according to regulations. To prevent excessive information requirements being developed, a set of general norms can be established for individual regulators and the government to observe when requesting information from businesses and citizens.

10.2 Compliance assistance to the regulated community

Activities linked to compliance assistance consist of providing information and technical advice to the regulated community to help it meet the requirements of environmental law. Through very diverse activities (such as telephone assistance, presentations and workshops, legal and technical advice during on-site visits, etc.), compliance assistance programmes aim at ensuring that the regulated community understands its obligations and finds cost-effective ways to comply, or even to go "beyond compliance". Compliance assistance may be organised around specific regulations and problems, business sectors, or be directed to specific regions.

Box 12: Categories of compliance assistance in the US

The United States Environment Protection Agency (USEPA) groups compliance assistance activities into five major categories:

Telephone assistance that includes assistance provided by hotlines, where the telephone is the primary outreach vehicle.

Presentations, which are specific compliance assistance materials communicated to a group of regulated entities at meetings that may or may not be sponsored by the compliance assistance programme. Presentations include speeches, multi-media demonstrations, and panel discussions. Presentations are briefer and less resource intensive than workshops.

Workshops that include training sessions and seminars, sponsored by the compliance assistance programme, that involve a group of regulated entities or assistance providers. Workshops are more substantial than presentations and tend to involve greater participant interaction.

Technical advice that includes printed materials (*e.g.*, newsletters, fact sheets, information packets, brochures), videos, slide shows, and websites. Examples of compliance assistance tools also include plain language sectoral guides, self-audit checklists, etc.

On-site Visits that include visits to potentially regulated facilities to provide technical assistance, compliance assistance, environmental management reviews, and pollution prevention assistance. On-site visits do not include inspections where the intended purpose is to carry out enforcement.

The USEPA believes that understanding how effectively the target audience was reached will subsequently help to choose the most appropriate tools. If the hotline, compliance guidelines, or training events are reaching only a small portion of the intended audience, there will be limited corresponding changes in understanding and behaviour. To this end, specific compliance assistance indicators were developed.

Source: USEPA (2002) *Guide for Measuring Compliance Assistance Outcomes*, revised.

The role and involvement of authorities in compliance assistance are variable. While certain activities can be implemented directly by government agencies, many tasks can be outsourced, such as establishing law registers or developing compliance guidelines. A key role for the government is initiating compliance assistance programmes and providing the necessary support to direct providers of assistance, including by securing funding from public sources or international donors. Also practical implementation of compliance assistance activities can then be partly outsourced. Sometimes, legislation specifically requires authorities to initiate and sponsor compliance assistance programmes.

Small and medium-sized enterprises (SMEs) constitute the most vulnerable segment of the regulated community. Their “compliance vulnerability” stems from a lack of resources exacerbated by higher compliance costs and poor access to finance; the ignorance of regulatory obligations and environmental impacts, as well as of technological solutions for their environmental problems; poor integration of environmental management activities into core business activities; and a lack of exposure to public scrutiny, etc. Therefore most of compliance assistance efforts need to be focused on this segment of the regulated community.

10.3 Detection of non-compliance

Systematic checks of compliance, which imply collecting and analysing information on the compliance status of the regulated community, are essential to detect and correct violations, to provide evidence supporting enforcement actions, and evaluate progress in environmental policy and law implementation.

Besides government checks (inspections), the status of compliance can be verified through ambient monitoring near a facility, results of operators' self-monitoring programmes, supply chain inspections, independent audits or citizens' compliance monitoring (mostly complaints). Inspection by state authorities (or third parties sub-contracted by the government) remains the backbone of any compliance assurance system. The very visit to a site, in particular if combined with a rigorous check, may exercise in some cases a higher impact on the company's performance than penalties.

Table 15: Comparison between sources of information on compliance status

Information source	Advantages	Disadvantages
Ambient monitoring	Useful to detect violations without entering a facility. Give certain indication whether permit requirements are correctly set to meet environmental quality objectives.	The connection of pollution with a certain facility may be difficult to establish and prove. Generally, is resource-intensive.
Self-monitoring programmes	Provide much more extensive information on compliance. Shift the financial burden of monitoring to the regulated community.	Require integrity and capability of polluters to provide accurate data. Place a burden on the regulatees and increase paperwork.
Complaints	An additional way to detect violations.	Sporadic. Quality of data or reasons to report violations may be questionable.
Inspections	Potentially, provide the most relevant and reliable information.	Can be very resource-intensive; therefore, must be carefully targeted and planned.

Source: Based on Principles of environmental enforcement (USEPA, 1992).

A good understanding of priorities, minimum inspection frequencies, and time allocated per visit can help to optimise the inspection activity. To achieve best results, inspections should be prepared in advance, carefully conducted on site and communicated in inspection reports. The competent authorities should have the right to conduct both routine (planned) and unplanned inspections. Unannounced inspections should be practised, especially in response to repeated violations. An integrated approach needs to be progressively applied. This approach, however, should not fully replace media-specific (soil, water, air, etc.) or other kinds of inspection.

10.4 Non-compliance response

In spite of all preventive efforts, environmental harm does occur, sometimes through intentional or negligent conduct, sometimes by accident. In such cases, enforcement will be necessary. Enforcement mechanisms may be designed to achieve one or more objectives: (i) return violators to compliance; (ii) punish and deter violators, and so prevent violations; (iii) remove the wrongful gains from non-compliance and so maintain fair economic competition; (iv) require that specific actions be taken to test, monitor, or provide information; and (v) correct environmental damages and company's environmental management problems. In order to deter wrongful conduct and remedy violations that take place, the law must determine appropriate enforcement actions and remedies. Legal systems must also indicate who should bear the loss when accidental harm occurs. Without such action, unfair economic competition from "dirty" enterprises will force "clean" competitors to go out of business, in addition to eroding the rule of law and bringing environmental degradation.

A good way of achieving an optimum mix of persuasion and coercion is through the implementation of a regulatory enforcement pyramid. Under this approach regulators start at the bottom of the pyramid assuming that business is willing to comply voluntarily. However, they also make provision for circumstance where this assumption will be disappointed, by being prepared to escalate up the imposed sanctions. For example, an enforcement pyramid might begin with the provision of advice and formal directions, move to the issuing of administrative notices, and on-the-spot fines, and then escalate to prosecutions with increasingly serious consequences. The signalled capacity and readiness to escalate sanctions channels most of the action to the base of the pyramid where more informal measures are taken. In a majority of cases penalties will be based both on the harm to society and the gain to the offender. In addition, further criteria such as the blameworthiness of the offender, his cooperativeness or his ability to pay also impact the level of penalty.

Third-party enforcement is an important element of modern enforcement systems. Increasingly, citizens and private groups are empowered by law to bring enforcement actions against violators. Insurance companies and financial institutions may require facilities to comply to be eligible for insurance or a loan. The public may choose to boycott certain products if they believe the manufacturer is harming the environment. In general, social norms can become an effective method of ensuring compliance in societies where there is strong social sanction for non-compliance.

11. STRATEGIC MANAGEMENT FUNCTIONS

This cluster of functions does not have very strong sector particularities and incorporates those functions that need attention from a public administration perspective. These include: (i) defining organisational structures and providing leadership; (ii) ensuring intra-agency activity planning and budget management; (iii) organising effective communication, internally and externally; and (iv) managing human resources and performance. None of these functions can be outsourced but using external advisors to better shape them up is possible.

Modernisation of public administration has been the central avenue for addressing systemic factors that limit capacity. In OECD countries and now increasingly on a global scale, the role of public administration has been going through substantial transformations. Over the past decade, many governmental organisations have been exposed to a new philosophy of public administration that emphasizes establishing clear objectives, and greater efficiency and cost-effectiveness (*i.e.* reaching goals at least costs). In this vein and to function adequately, environmental authorities will increasingly need to meet the following characteristics:

- Existence of a founding law that establishes their mandate and strategic directions, which is supplemented by a number of internal decision-making policies;
- A degree of decision-making autonomy and decentralization;
- Clear definition of goals and outputs, and linking resource allocation to performance;
- Flexibility in hiring staff, compensation policy, and labour discipline;
- Possibility to manage budgets independently but within the rules set by the government;
- An increasing degree of political and public accountability.

The degree to which environmental authorities cope with systemic reforms is not quite clear. The comparatively poor access to public finance to pursue sector operations, hints to finance-related barriers. But there may be other internal and external constraints that prevent faster improvements of performance. For example, major internal barriers may include the lack of leadership and strategic direction for reform; poor sequencing of reform; issue-specific and technocratic planning systems (that allow for little public participation and inter-sectoral co-ordination and co-operation); constant changes in both the intra-government and intra-agency structures; poor access to and management of information, etc.

Major external barriers often include general governance weaknesses regarding rule of law, checks and balances, autonomy of local governments, and public scrutiny of government action. Good, effective public governance helps to strengthen democracy and human rights, promote economic prosperity and social cohesion, reduce poverty, enhance environmental protection and the sustainable use of natural resources, and deepen confidence in government and public administration.

The budget and accounting process has become the operational planning tool of government and provides the architecture for accountability. The current vogue for including performance targets and measures has further strengthened the role of the budget (and finance ministries) as a lever for change.

During the first-generation reforms, some of the biggest impacts – not always good – occurred in those countries that put large numbers of public servants outside the rules of the core civil service system by creating arm's-length public bodies. The other area of high impact has been major changes in selection and incentives for senior public servants.

Over the last decade, the growing number of laws requiring the disclosure of official information has been a powerful force in piercing the secrecy of government, and thereby closing the power gap between officials and the public. Also, more local transparency measures such as customer charters and remedies, public score sheets and "league tables" appear to have a high impact on behaviour.

Governance is about who takes decisions. The most important governance change in some OECD member countries in recent years has been the devolution of powers from central to local government. In the managerial domain however, the devolution of decision rights to the boards of arm's-length public agencies is of considerable interest. Where these boards have been advisory, they have operated very much as delegates. However, where countries have introduced boards in non-commercial public bodies with broad decision-making powers, it has given rise to numerous political and governance problems.

The creation and closure of organizations is a very powerful lever for change – and also a risky one. Confronted with an issue of public concern, a minister or senior official can create new agencies or parts of agencies. However, simply setting-up a new body does not of itself solve the problem, and may create new ones. In those countries where departments have truly been delegated managerial power over both money and staff, real change does occur – sometimes to the point where the centre wants to rein them back in after a few years.

One fundamental problem in achieving change is separating rhetoric from reality. Much reform activity in governments consists of slogans and new processes that are not followed through and so do not significantly change behaviour. One reason for this is that public administration has become a more prominent item on political agendas. There is therefore a perpetual temptation to be seen to be reforming, even if in reality not much is changing. There are political advantages in launching reform initiatives but political disadvantages in carrying them through, since they upset the status quo and it takes time and effort to get them imbedded in the civil service culture.

As remarked in the OECD's "Public Sector Modernisation: A New Agenda" (2002), the implicit assumption of some first-generation reformers was that given political will, anything is possible. In reality, countries respond very differently to pressure for change. Nations' choices are constrained by their social and political context, by their history and by the presence or absence of political opportunities for major change. In addition, significant human problems rarely yield to a single intervention. So, effective remedial action requires not only an orchestrated and sustained use of a range of means of influencing behaviour, but also an intervention strategy calibrated to local circumstances. Contextual variables between countries mean that societies have different public sector reform priorities and different areas where, for historical and cultural reasons, it is or is not possible for assertive action to be taken. Countries differ widely too in their systemic characteristics. Interventions that work in one country may not work in another because, for example, of major differences in the public transparency of government action.

Finally, when a problem has emerged in government, it requires careful diagnosis to identify the possible contributory factors in the managerial environment. There is scope for tools to help governments be more precise about the problem they are trying to solve (it is easy to forget that reform is not an end in itself); to identify the factors in the managerial environment that have helped cause the problem; and to formulate an appropriate intervention plan.

11.1 Defining organisational structures and providing leadership

Organisational structure refers to the ways the tasks and responsibilities are allocated to individuals and the ways that individuals are grouped together into directorates, departments, divisions, etc. The structure designates formal reporting relationships and defines the number of levels in the hierarchy. The span of control, *i.e.* the range of employees who report to a managerial position, should be clearly identified as well. Assessing the current organisational structure will be generally useful, although standard rules do not exist to determine how appropriate the structure is as compared to strategic goals.

Adoption of differing structures by organisations with a similar mandate is not contradictory: a number of determinant factors can limit the choice in each case, due to some of their peculiar combinations, including: (i) scope of activity (*e.g.* pollution control or nature protection, or both); (ii) complexity of the regulatory framework and instruments utilised; (iii) size of organisation and the degree of specialisation; (iv) external environment: political, economic, social, etc. Since these factors are in a constant evolution, adjustment of the structure will be necessary.

Reorganisations, in the case of some countries occurring with a biannual frequency, are another factor that influences the level of capacity and costs for its development. Most of these reorganisations aim to increase the effectiveness and efficiency of operations within public administration but may incur additional costs in the short-term perspective. Potential resource-intensity of reforms should not detract the governments from any attempt to change structural organisation. However these changes should be introduced in a limited period of time with full consideration of costs and benefits. After the restructuring, the new structures should be allowed to operate over a longer period so that the benefits show clearly, and therefore the efficiency of reforms can be demonstrated.

Organisations, as any other systems, go through various stages of development. “Embryonic” organisations are often characterised by impulsive, highly reactive decisions in response to changes in the internal or external environment and are mostly driven by the willingness to «stay in business», as opposed to more mature organisations where a better sense of perspective exists and decisions are well grounded. Commonly, the development and maturity of organisation leads also to growth in size. However, it is difficult to establish a precise benchmark for the size of an organisation or the number of staff that the environmental sector needs. In OECD countries, most of environmental ministries have over 300 staff members. Implementation arms are larger and can be thousands staff strong. Their size is more variable and largely depends upon the regulatory load.

Box 13: Major types of organisational structure

Several types of structure can be adopted by an organisation; the major ones are as follows:

Functional structure: A very popular type that is constructed around the division of labour based on the belief that specialisation brings greater efficiency and higher output per person. Several advantages and disadvantages of functional structuring can be identified. The positive characteristics are: focus on organisation's responsibilities (mandate); effectiveness, improvements and innovation within a department due to synergies in the interaction of its members; lower turnover of personnel rooted in the unity of professional interests; easier management and more efficient staff development that is centred around standard types of skills. On the minus side, the functional structure creates a narrow perspective of the organisation among its members where common objectives are not perceived in their integrity and where communication among departments becomes difficult or even distorted by group interests. Thus in functional structures the managers will need to coordinate activities so that the common goal is achieved and each department is able to contribute to this in the most effective way.

Issue-specific structure: This type of structure brings the advantage of focusing on results (*e.g.* state of certain media) and greater orientation towards customer (public) service and satisfaction, as well as easily identifiable accountability for results achieved. Furthermore, it encourages the development of management skills within the organisation. However, structuring based on issue criterion, especially at the first level of organisation, can be more expensive because more "functional" personnel may be needed, can bring dissonance in application of procedures and policies across the organisation, and cause dissatisfaction of customers when they are asked to deal with too many departments. In fact, converting issue-specific structure into functional structure may bring impressive savings in administrative costs.

Matrix structure: A type constructed around projects where people work in a team to achieve projects' goals. A project may cover selected or all departmental areas in the organisation. Often, people working on a project have dual subordination to the manager of their permanent department and to the leader or manager of the project. The matrix organisation is advantageous for sharing information and enabling people to coordinate their efforts with larger organisational goals and strategies; it increases the cost-efficiency and flexibility within the organisation. However, dual subordination of staff can be confusing. Conflicts over personnel and budgets may appear. More time is spent on meetings to share information. Finally, working in a matrix structure can put too much pressure on functional employees and lower their motivation/capacity to deliver high quality service.

Flat structure: This type appeared as response to inefficiencies that organisations accrue after growing in size and multiplying their organisational layers. The horizontal structure is a structure with fewer hierarchical layers. Restructuring that leads to this type is usually called "downsizing" and is accompanied by two major and inter-related changes: (a) eliminating one or more hierarchies, often at the level of middle managers, and (b) delegation of decision making to a lower level who is closer to customers. The goal is to reduce costs and bureaucracy, but warning should be made against continuing to refer most decisions to higher level that can overload top managers.

Source: OECD (2004), Assuring Environmental Compliance.

Not only structures, but also the way in which people behave and deal with their colleagues, especially the style of management, are very important for the fulfilment of the organisation's objectives. An organisation's climate where people know what to do, feeling appreciated, supported and stimulated, has proven – all over the world – to create success. Organisational culture generally has a long period of development. Deficiencies in organisational culture can prevent the achievement of an organisation's targets. Leadership and style of management are one of the decisive factors that influence organisational cultures. A manager who shows more interest in his personal enrichment than in his organisation's interests will not be able to motivate people.

11.2 Ensuring intra-agency activity planning and sound budget management

Successful and long-lasting organisations, either private or public, are those with a strategy that sets clear objectives. Planning strategically means being clear about the organisation's objectives and available resources, and relating both to a dynamic environment. Planning is a management tool used to help an organisation to focus its energy, to ensure that staff members are working towards the same goals, to assess and adjust the organisation's direction. Strategic planning implies that some goals and actions are more important than others: much of the strategy lies in making tough decisions about what is most important to achieving success.

The process of planning should be disciplined and call for a certain order and pattern to keep it focussed and productive; it addresses a sequence of questions that helps planners examine experience, test assumptions, gather and incorporate information about the present, and anticipate the environment in which the organisation will be working in the future. It is also important to know what strategic planning is not: it does not attempt to make future decisions. Over time, the organisation must stay abreast of changes in order to make the best decisions it can at any given point – it must function strategically.

In its budget and financial management, the environmental authorities should follow national rules and best international practices. Intra-agency financial planning should match the government's budget cycle and be synchronised with its internal programme cycle. To be convincing to the rest of government and to the parliament, the environmental authorities should be able to explain both accomplishments in environmental management and address any complaints of insufficient action.

Whether the environmental authorities should be authorised to collect and spend the pollution charges or monetary penalties in addition to money provided from the state budget, is a question that governments should address with great care. Directing such revenues to agency's budget could encourage it to maximise revenue instead of targeting environmental results. This approach may also facilitate corruption, particularly if the flow of public payments is exempt from regular budget discipline and treasury control, and generally undermine the credibility and integrity of the environmental authorities. Exceptionally, this might be allowed in the case of dramatic budget shortfalls, for a limited period and under strict provisions. Generally, the preferred approach should be to treat the revenues from economic instruments and penalties as public revenue subject to treasury control and to be collected by fiscal or treasury services.

11.3 Organising effective stakeholder communication

Communication is an on-going process – any communication strategy that focuses on the short-term is unlikely to yield many benefits and can be demoralising. Communication, as an ongoing process, can take many forms. Several factors influence the choice of an appropriate format for information dissemination, including: size and characteristics of the target group (e.g. all inhabitants versus a certain neighbourhood), cost (e.g. leaflets versus videos), duration of use (e.g. short-term awareness raising versus long-term reference source). In terms of delivery mechanisms, the authorities may use their own means to communicate or rely upon those of the media, advertising agencies, and civil society organisations.

All forms of communication are interrelated; if their relation is consistent they reinforce each other. If there is no cohesion, or worse, if they contradict each other, the effectiveness of the communication strategy will suffer from it. Choosing the product and the delivery mechanisms require the understanding of potential benefits that each of them could bring. Using external advisers with a better understanding of communication techniques may be appropriate.

Table 16: Stakeholder involvement approaches

Type of approach	Definition	Examples	Advantages
Two-way communication	Basic information collection and timely response to public questions or concerns.	Survey, questionnaire, Internet discussion groups, workshops, discussion papers, feedback lines.	Opportunity to interact with stakeholders and adapt assessment to address specific concerns more directly.
Advisory bodies	A short-term body with a mandate to gather expert opinion on an issue or bring together different types of expertise.	Scientific advisory boards, expert advisory panels, programme advisory committees.	Provide informed, multi-stakeholder insights and recommendations; forum for public to influence decision.
Stakeholder consultation	A facilitated process for fostering dialogue and gathering public input. Stakeholders can contribute to process design and implementation.	Consultation meetings, teleconferencing, focus groups, community meetings.	Involvement of professional facilitators to lead discussion and seek common ground can build trust and demonstrate government's commitment to openness and transparency.
Partnerships	A participatory process in which two or more parties accept joint responsibility for various aspects of the process.	Co-hosting workshops, co-production of educational materials, joint delivery of a service.	Facilitators help to ensure that all voices are heard. Representatives of participating organisations share information with their members and act on their behalf.
Joint Decision-making	An approach in which two or more parties make decisions about a policy, programme and/or process, and share responsibility and accountability for the outcome.	Joint working group for drafting policy guidance documents, multi-stakeholder board of directors, cosponsored programmes, roundtables, consensus building.	Key stakeholders usually become involved at an early stage, and share ownership of the process and outcome.

Source: GEF (2001), *A Guide for Self-assessment of Country Capacity Needs for Global Environmental Management*.

11.4 Coordinating international cooperation efforts

While many countries have displayed genuine interest in addressing environmental issues through international means and instruments, the international community has not been able to create a coherent system to support those countries. The system of MEAs has evolved largely in a piecemeal fashion, and as the number of MEAs has increased, problems of multiplicity, overlap and conflict have become more evident. The next decades are likely to witness significant efforts to streamline the system of MEAs and strengthen its coherence.

Many developing and transition countries have signed MEAs in the hope that significant support for implementation would be provided, but the result may have been counter-productive. The proliferation of international processes has placed a particularly heavy burden on developing countries which often lack the capacity to engage meaningfully and consistently in the lengthy negotiations for the development of international environmental policy.

When MEA-related funding arrives, activities linked to MEAs may be given priority over more pressing national environmental priorities that do not receive adequate attention by national governments. A possible solution is greater co-ordination of capacity-building across MEAs, such as that spearheaded by the Global Environment Facility/United Nations Development Programme projects on capacity building for implementing the Rio Conventions. There is also a need for better tracking of donor assistance, results, and donor coordination.

11.5 Managing human resources

Environmental authorities need solid scientific, economic and legal expertise to support its decision-making. Therefore, they should be able to select and reward adequately qualified staff. Minimum requirement to retain staff include civil servant status for employees, adequate salaries, other types of remuneration for good or exceptional performance and social protection (*e.g.* insurance and secure pensions).

The human resource management should tend to exhibit an incentive-based approach, which attracts highly competitive staff and rewards merit rather than the number of "years with organisation". To this end, a system should be established to address staff selection and appraisal procedures, promotion criteria and professional development schemes. As part of staff motivation, continuous personal development and training programmes should be established. Initially, employees should be trained to understand their professional roles, the limits of their responsibilities and powers, and the basic application of their professional skills to environmental management. Then their competencies should be expanded by cross-sectoral training. The national environmental authorities should be able to offer training to its sub-national units and, when possible, to other central government authorities and local governments. Finally, in order to fight corruption, civil service laws need to prescribe strict rules of conduct backed by criminal sanctions.

Competences for environmental management now stretch far beyond technical knowledge (for instance the general principles and instruments of environmental management, scientific and engineering knowledge, risk assessment and management, and so forth) and often include the knowledge of procedural aspects, *e.g.* lawmaking procedures or inspection procedures; communication with stakeholders, management approaches, etc. Also the level of competence will vary from the basic level that reflects the "core" competence level to advanced ("super-specialist") level. Competence profiles will be different for political leaders, managers, and field staff.

Where brain drain has a serious impact on the organisation, additional measures might be necessary to both adapt the capacity development approach to current realities and stop the brain drain so as training has sustainable results in the future. Brain drain is a symptom of poor staff motivation. Performance-related pay is one important incentive for people to remain in the organisation, but managers have to realise that financial rewards only will not suffice to motivate staff. In this sense, capacity development as such can be a motivator for staff members by facilitating the fulfilment of their daily tasks, increasing staff value for the employer (thus chances to be promoted) and raising a staff member's competitiveness in the labour market. Another important motivator is a supportive organisational culture.

11.6 Monitoring and reporting performance

Information is a powerful tool for managers and politicians. Environmental management systems that rely on agencies that are not held accountable for outcomes and managed to maximise these outcomes are less likely to be effective in achieving environmental policy goals. For inspectorate managers it is vital to have information on the success of their activities and can help to adjust strategies and work programmes to changing conditions and lessons learned. External accountability is also extremely important, including for mobilising resources for environmental management.

Measuring the success of government interventions is not easy. What exactly should be measured? How should it be measured? Many indicators can be used to evaluate the programme's effectiveness (see Box 14 below). Some of them measure results, like improvement in environmental quality and rates of compliance. Some measure activity levels, like numbers of inspections and enforcement actions. Others provide qualitative assessments of performance.

Box 14: Categories of performance indicators

It is possible to evaluate performance by reference to several categories of indicators:

1. Effects/Impacts/Outcomes: These are the environmental results;

2. Behavioural Outcomes (or: Intermediary Outcomes): Compliance rates or other outcomes (*e.g.* adoption of best practice, other risk reduction activities, "beyond compliance" activities, voluntary actions);

3. Agency Activities/Outputs: For example, enforcement actions; inspections (number, nature, findings); education/outreach; collaborative partnerships; administration of voluntary programmes; other compliance-generating or behavioural change inducing activities;

4. Inputs: This mostly concerns the use of agency's and regulatees' resources.

Traditionally, regulatory agencies' performance and cost-effectiveness are managed and evaluated largely by reference to their level of activity, rather than the outcomes they accomplish. If governments are interested in evaluating whether inspectorates are actually achieving the policy objectives of regulations then category 3 and 4 performance measures must be supplemented by category 1 and 2 performance measures.

At the same time, relying on category 3 and 4 measures alone does not account for qualitative differences in the effectiveness of various enforcement activities. Category 1 and 2 measures enable governments to hold agencies accountable for whether their activities are actually having any impact, and help governments to see whether their policy instruments are accomplishing anything.

All personnel involved in gathering or analysing data need to clearly understand exactly what data should be reported. Problems can arise if different individuals within a programme have different interpretations of what data are needed. National data systems will benefit if they are designed from the bottom up. Since local personnel collect the data, they will have a greater incentive to gather accurate data if they believe the data will be useful to them. Mechanisms will be needed to gather and store the data, and to transfer it at appropriate intervals to other programme levels that will analyse the data and adjust strategies and plans.

PART II BIBLIOGRAPHY

Aid Harmonisation and Alignment (2005), *A Common Framework for Environmental Impact Assessment (EIA): A Good Practice Note*.

EC (2007), *Information Society and Environment: Linking European Policies*. EC, Brussels.

EC (2007), *Environmental Integration Handbook for EC Development Co-operation*. EC, Brussels.

GTZ (2006), *Policy Instruments for Resource Efficiency: Towards Sustainable Consumption and Production.*

OECD (1991), *Recommendation of the Council on Environmental Information and Indicators*. OECD, Paris.

OECD (1992, 2003), *Guiding Principles for Chemical Accident Prevention, Preparedness and Response*. OECD, Paris.

OECD (1995a), *Recommendation of the Council on Improving the Quality of Government Regulation*. OECD, Paris.

OECD (1995b), *Reference Checklist for Regulatory Decision-Making: Recommendation of the Council*. OECD, Paris.

OECD (1996), *Recommendation of the Council on Improving the Environmental Performance of Government*. OECD, Paris.

OECD (1998a), *Recommendation of the Council on Environmental Information*. OECD, Paris.

OECD (1998b), *OECD Principles on Good Laboratory Practice*. OECD, Paris.

OECD (2001a), *Best Practices for Budget Transparency*. OECD, Paris.

OECD (2001b), *OECD Guidelines for Multinational Enterprises: text, commentary and clarifications*. OECD, Paris.

OECD (2003a), *Environmental Performance of Public Procurement: Issues of Policy Coherence*. OECD, Paris.

OECD (2003b), *Environmentally Harmful Subsidies: Policy Issues and Challenges*. OECD, Paris.

OECD (2003c), *Guidance on Safety Performance Indicators*. OECD, Paris.

OECD (2004a), *Assuring Environmental Compliance: A Toolkit for Environmental Inspectorates*. OECD, Paris.

OECD (2004b), *Funding Environmental Compliance Assurance*. OECD, Paris.

OECD (2005a), *Environment and the OECD Guidelines for Multinational Enterprises: Corporate Tools and Approaches*. OECD, Paris.

OECD (2005b), *Integrated Environmental Permitting Guidelines for EECCA Countries*. OECD, Paris. OECD, Paris.

OECD (2005c), *Modernising Government: The Way Forward*. OECD, Paris.

OECD (2006a), *Applying Strategic Environmental Assessment: Good Practice Guidance for Development Cooperation*. OECD, Paris.

OECD (2006b), *Recommendation of the Council on Good Practices for Public Environmental Expenditure Management*. OECD, Paris.

OECD (2006c), *Cost-benefit Analysis and the Environment: Recent Developments*. OECD, Paris.

OECD (2006d), *Mechanisms for Managing Public Environmental Expenditure in Selected OECD Countries*. OECD, Paris.

OECD (2007a), *Handbook for Appraisal of Environmental Projects Financed from Public Funds*. OECD, Paris.

OECD (2007b), *Guiding Principles of Effective Environmental Permitting*. OECD, Paris.

OECD (2007c). *Business and the Environment, Policy Incentives and Corporate Responses*. OECD, Paris.

OECD (2008a), *An OECD Framework for Effective and Efficient Environmental Policies*. OECD, Paris.

OECD (2008b), *Natural Resources Management and Pro-Poor Growth*. OECD, Paris.

UNECE (2006), *Guidance on the Practical Application of the Espoo Convention*. UNECE, Geneva.

UNEP (2005), *Good practice in emergency preparedness and response*.

UNEP (2007a), *Discussion Paper: Developing a new UNEP Strategic Framework for Risk Reduction, Emergency Response and Recovery*.

UNEP (2007b), *Manual on Compliance and Enforcement of Multilateral Environmental Agreements*.

UNEP *et al.* (2008), *Green Jobs: Towards decent work in a sustainable, low-carbon world*.

UNDP (2005), *Measuring Capacities: An Illustrative Catalogue of Benchmarks and Indicators*.

UNDSD (United Nations Division for Sustainable Development) (2001), *Environmental Management Accounting Procedures and Principles*.

World Bank (1999), *Environmental Assessment Sourcebook*. World Bank, Washington, D.C.