3 Effectiveness of environmental policies

Most countries have introduced environmental policies and established a governance structure for such policies, and there are now hundreds of multilateral environmental agreements in existence. Part B of GEO-6 addresses the question: "How effective have these policy innovations and governance approaches been in addressing the problems and achieving the agreed targets?" The analysis combines an evaluation of case studies on implemented policies with an indicator-based approach covering a diversity of policy approaches from various levels in the thematic areas of the report, including the following: {10.5, 10.7}

- Provision of information: for example, access to data on air quality or coral reefs;
- Voluntary agreements: for example, voluntary reporting on the use of water, voluntary guidelines for sustainable soil management or standard-setting for best management practice and sustainability reporting;
- Economic incentives and market-based instruments: for example, free water allowances**,** individual transferable quotas for fishers**,** or payments for ecosystem services;
- Planning for the environment: for example, adaptive water management and urban biodiversity management;
- Promotion of innovation: for example, innovation for sustainable agriculture or financing for clean cookstoves;
- Regulatory approaches: for example, car exhaust emission standards or regulating wildlife trade through the Convention on International Trade in Endangered Species of Wild Fauna and Flora;
- Governance approaches that include communities, and private sector and civil society actors: for example, city actions to limit food waste or to promote community-based conservation.

Indicators for the evaluation include, for example for air, annual mean $PM_{2.5}$ concentrations (population-weighted), ozone-depleting substance emissions and long-lived greenhouse gas emissions. The indicators address a wide range of multilateral environmental agreements and Sustainable Development Goals.

There has been innovation in environmental policies and instruments to reduce emissions and resource depletion (*well established*). There is no single superior approach that addresses the wide variety of barriers to sustainable development and that is applicable in all contexts. A diversity of approaches and innovation in policymaking is justified. {10.3}

Policy design is at least as important as the choice of policy instrument for policy effectiveness (*well established*). Common elements of good policy design include the following: (i) setting a long-term vision through inclusive, participatory design processes; (ii) establishing a baseline of environmental conditions, quantified science-based targets and milestones; (iii) effectively integrating environmental, social and economic concerns; (iv) conducting ex ante and ex post cost-benefit or cost-effectiveness analysis to ensure that public and private funds are being used with optimal efficiency and effectiveness and that social aspects are being considered in sufficient detail; (v) building-in monitoring regimes during implementation that support adaptive policies, ideally involving affected stakeholders; and (vi) conducting post-intervention evaluation of policy outcomes and impacts to close the loop for future policy design improvement. {11.2.3}

In many cases, environmental policymaking does not meet the suggested criteria for effective policies, meaning that it does not reach its full potential (*established but incomplete*). For example, in many cases neither ex ante nor ex post cost-effectiveness analysis of policy outcomes has been attempted, making success or failure difficult to evaluate, or clear and measurable targets are missing. {Chapter 18}

Policy innovation increasingly takes place in developing countries (*established but incomplete*). This includes market-based and regulatory approaches that provide environmental improvements while also meeting access rights for the poor. Examples exist of environmental policy instruments that provide access to natural resources and income for the poor, such as the provision of free water in South Africa and sustainable fisheries policies in Chile. {Chapters 12 to 17}

Environmental policymaking can become more dynamic through scaling-up over time (*established but incomplete*). Policies are revised and improved, based on experience; for example, by increasing the level of ambition or choosing more effective instruments. However, such ratcheting-up is not applied on a systematic basis. There are few policies which have policy feedback mechanisms built in; hence the potential of temporal dynamics is not fully exploited. In many cases, no baseline of existing environmental conditions, which would be necessary for ex post or ex ante evaluation, is established. {11.2.2}

Policy diffusion between countries is increasingly taking place (*well established*). Successful policies serve as role models for adoption in other countries when national circumstances, priorities, capabilities and legislation allow for it. Multilateral agreements and policy networks at the subnational level serve as catalysts for policy learning between countries. However, there are indications that policy diffusion takes place more often in the field of voluntary and innovation promotion, while market-based instruments or redistributive policies, such as the removal of environmentally harmful subsidies or regulatory approaches, are less often subject to policy diffusion. {11.2.1}

Multilevel governance is a source for policy innovation (*well established*) **at the international level and multilateral environmental agreements support environmental policymaking at the national level to pursue related policies.** Stakeholder participation in all phases of the policy cycle from design to implementation to monitoring and evaluation is crucial. At the subnational level, communities, cities and the private sector are all establishing their own policy approaches, which is also supportive for advancing policies at other levels. {11.4}

An integrated approach is key for effective policies (*well established*). The integration of environmental concerns into

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the various sectors of policymaking at all levels, including agriculture, fisheries, tourism, forestry, industry, manufacturing and processing, energy and mining, transport, infrastructure and health, is key for effective protection of the environment. Social and economic aspects require particular consideration when environmental policy is being developed. Similarly, a gender-integrative approach could support more effective and transformative environmental policies and interventions. {11.3}

There is no consistent consideration of environmental aspects in other sectors. Environmental aspects find consideration in other sectors when demonstrating economic and social co-benefits (*established but incomplete*). Tools for ex ante assessment can reveal potential co-benefits. For example, "green investment" of just 2 per cent of global gross domestic product would deliver long-term growth over the period from 2011 to 2050 that could be at least as high as an optimistic business-as-usual scenario, while minimizing the adverse impact of climate change, water scarcity and the loss of ecosystem services. Although analyses such as strategic environmental assessments, environmental impact assessments and assessments of natural resources are increasingly being carried out, their potential has not yet been fully exploited. Environmental integration is insufficient if there are no benefits to other sectors or if costs are imposed on influential groups while benefits are widely dispersed in society (*well established*). Departments of the environment are often too weak to enforce environmental policy integration. Effective legal, procedural and institutional mechanisms for environmental policy integration are not widely applied or implemented (*well established*). {11.3, 11.3.3}

An analysis of policy-related indicators shows that despite considerable innovation and effort in advancing environmental policies, the efforts and effects to date remain insufficient (*well established*). Existing policies have proven insufficient to address the backlog of environmental problems, and policy gaps remain in the agenda areas of pollution control, efficiency improvement and planning for the environment. Besides more ambitious and better-designed policies, urgent action is needed, as resource depletion and growing emissions have a partially irreversible impact on ecosystems, human health and economic costs. {Chapters 12 to 17}

To pursue the 2030 Agenda for Sustainable Development and the Sustainable Development Goals and to achieve the internationally agreed environmental goals on pollution control, clean-up and efficiency improvements will not be sufficient (*established but incomplete*). Instead, transformative change, in the sense of reconfiguration of basic social and production systems and structures, including their institutional framework, social practices, cultural norms and values, is necessary. Transformative change enables and combines visionary, strategic and integrated policymaking with the enabling of bottom-up social, technological and institutional innovation and the systematic use of experience drawn from such experimentation. {Chapter 18}

Successful models of environmental governance should be built upon well-designed policies and their implementation, compliance and enforcement. Such models should pay close attention to early signals from science and society and ensure adequate oversight capacity and investment in knowledge systems, such as data, indicators, assessments, policy evaluation and sharing platforms. Greater investment is needed in environmental accounting systems to ensure that external costs are addressed and that processes are incorporated that will identify possible future risks, opportunities and conflicts. {Chapter 18}

Greater application of the precautionary approach, in accordance with international agreements (where applicable), can reduce environmental risk. Coalitions between government institutions, businesses and civil society to agree on pathways for tackling societal risks can achieve progress, even in conditions of great uncertainty. Multilevel coordination between local and national policy levels will be instrumental in accelerating the transition towards sustainable development models. {Chapter 18}

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