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United Nations Development Programme

UNDP GUIDE FOR INTEGRATING THE SOUND MANAGEMENT OF CHEMICALS INTO DEVELOPMENT PLANNING



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The use of chemicals permeates modern life. While chemicals play an important role with respect to development, including through the production and use of life-saving medicines, purification agents for treating drinking water supplies, and agricultural chemicals that boost on-farm productivity, the use of chemicals can, in absence of good management practices, pose significant risks to human health and the environment.

The world's poorest people routinely face the highest risk of exposure to toxic and hazardous chemicals, due to their occupations, living conditions, lack of knowledge about safe handling practices, limited access to sources of uncontaminated food and drinking water, and the fact that they often live in countries where regulatory, health, and education systems are weak.

At the United Nations Conference on Sustainable Development (Rio+20) countries reaffirmed the aim to achieve, by 2020, the sound management of chemicals and hazardous waste throughout their life cycle and in ways that lead to minimization of significant adverse effects on human health and the environment.

Our Common Vision section of the Future We Want outcome document of Rio+20 also acknowledges the "need to further mainstream sustainable development at all levels integrating economic, social and environmental aspects and recognizing their interlinkages".

The United Nations Development Programme (UNDP) thus promotes the sound management of chemicals as an important aspect of our work to reduce global poverty, promote human health and help countries achieve the Millennium Development Goals (MDGs). We at UNDP advocate for the importance of addressing issues related to chemicals management and chemically-linked pollution in developing countries by integrating rigorous chemicals management schemes into national development policies and plans. We also help countries to obtain the necessary resources to improve their chemicals management regimes.

In support of the Strategic Approach to International Chemicals Management (SAICM) adopted in 2006, and with support provided by the Norwegian and Swedish Governments, UNDP has developed a Guide to help governments and UN Country Teams to mainstream or incorporate sound management of chemicals into development planning.

This *UNDP Guide* is one of several tools that UNDP's Environment and Energy Group, Bureau for Development Policy, has developed to enhance assistance to partner countries through a comprehensive approach to mainstreaming environmental sustainability. As such it provides guidance on chemicals management and informs understanding of effective processes to integrate a wide range of environmental issues into national development policies and plans.

The UNDP Guide, building also upon experience of UNDP-UNEP Poverty-Environment Initiative, explains in detail the approach governments can use with the objective of i) incorporating sound management of chemicals into development policies and plans, ii) assessing and updating development policies and plans that already contain sound management of chemicals elements and iii) identifying donor funding opportunities for a country's chemicals management capacity building needs.



FOREWORD

The UNDP Guide builds on applied, practical experience accumulated in countries under the *UNDP-UNEP Partnership Initiative for the Integration of Sound Management of Chemicals (SMC) into Development Planning Processes* and was revised in preparation of the third session of the International Conference on Chemicals Management (ICCM3). It is considered to be a “*living document*” in which the lessons-learned and practical field experiences from countries will continue to be recorded as they progress with the integration of sound management of chemicals in their MDG-based development planning processes.

This Guide represents a follow-up to calls made at Rio+20 for additional efforts to enhance work towards strengthening capacities for sound management of chemicals throughout their life cycles by sharing knowledge, experience and best practices.

A handwritten signature in black ink, which appears to read 'Vandeweerd', is centered on a white rectangular background.

Dr. Veerle Vandeweerd

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1.0 INTRODUCTION TO THE UNDP GUIDE

The *UNDP Guide for Integrating the Sound Management of Chemicals into Development Planning* is a learning tool, a primer that provides information on important concepts with respect to the Sound Management of Chemicals (SMC) and its role in supporting countries' efforts to achieve sustainable development as well as the Millennium Development Goals (MDGs).

Above all, the UNDP Guide provides a systematic approach to countries to help assess their capacity for sound management of chemicals, identify needs, and ultimately "mainstream"¹ or incorporate identified priorities into national development planning. Following a step-by-step approach (**see Figure 1**), the Guide describes in detail the mainstreaming methodology, while addressing key considerations and providing "how-to" information associated with each step.

The Guide is based firmly on applied, practical experience accumulated in mainstreaming countries under the *UNDP-UNEP Partnership Initiative for the Integration of Sound Management of Chemicals into Development Planning Processes (UNDP-UNEP PI)*. It aims to help countries:

- i) Incorporate sound management of chemicals priorities into development policies and plans;
- ii) Assess and update development policies and plans that already contain sound management of chemicals elements; and
- iii) Identify donor funding opportunities for a country's chemicals management capacity building needs.

This Guide is particularly suited to countries that are committed to a rigorous, step-wise process for mainstreaming SMC issues into national development policies and plans. Decision-makers and managers engaged in aspects of the management of chemicals, and also those involved in the drafting, priority setting, implementation, monitoring or reporting with respect to national development plans will find the contents of the Guide very useful. UN Country Teams will also find the guide helpful to identify high priority opportunities for donor support in sound management of chemicals capacity building in the context of the United Nations Development Assistance Framework (UNDAF).

Considering that guidance and experiences regarding the mainstreaming or "incorporation" of the sound management of chemicals have become available relatively recently, the Guide focuses on those elements of the approach that have not yet been addressed by other capacity building guidance tools or materials. In the case the reader might be interested in further exploring certain concepts; the Guide provides such reference information.

This UNDP Guide is one of the thematic components of guidance provided by UNDP's Environment and Energy Group on "**Mainstreaming Environmental Sustainability**".² The Guide is considered a "living document" in which the lessons-learned and practical field experiences from countries, especially the pilot countries noted above will continue to be recorded as they progress with the integration of sound management of chemicals in their development plans.

1 See Box 1 for an description of the term "mainstreaming" as used throughout the UNDP Technical Guide

2 <http://www.undp.org/energyandenvironment/>



An early draft UNDP Guide for pilot countries was revised in preparation for the 2nd session of the International Conference on Chemicals Management, at which occasion it was officially released. A second revision was completed in the first quarter of 2010 to reflect accumulated practical experience from mainstreaming countries and wider international consultations, including with respect to the rationale for a greater emphasis being placed on mainstreaming SMC priorities into development planning. This third revision has been completed in advance of the 3rd session of the International Conference on Chemicals Management.

Box 1

Throughout this document the term “mainstreaming” is used to signify the integration of Sound Management of Chemicals priorities into a country’s development plans, but also into sector strategies, local level implementation and programmes.

Incorporating or “mainstreaming” the Sound Management of Chemicals into national development plans and processes involves establishing the links between poverty and sound chemical management – such as improved human and environmental health, and increased economic security and income opportunities for the poor – and then identifying the policies and programmes needed to bring about pro-poor chemical management.

The overall aim is to establish enduring institutional processes within government ministries and the wider stakeholder community to bring about sound management of chemicals – focusing on the government bodies responsible for poverty reduction and growth policies, and also strengthening the role of environmental agencies and non-governmental actors.

It also involves looking at potential chemical risks arising from implementing sections of the development plans, and trying to mitigate such risks at the planning stage. The integration of chemicals management priorities into national development planning processes will be a means to help governments foster national budget commitments as well as bi-lateral donor assistance.

1.1 Introduction to the SMC Mainstreaming Approach

The mainstreaming approach, as described in detail in **Chapter 3**, comprises 5 main steps as depicted in Figure 1:

- **Step 1:** Baseline analysis
- **Step 2:** Diagnostics and Needs Assessment
- **Step 3:** Identification of National SMC Priorities
- **Step 4 a & b:** Economic Valuation and Targeted Policy Instruments
- **Step 5:** Mainstreaming SMC Priorities



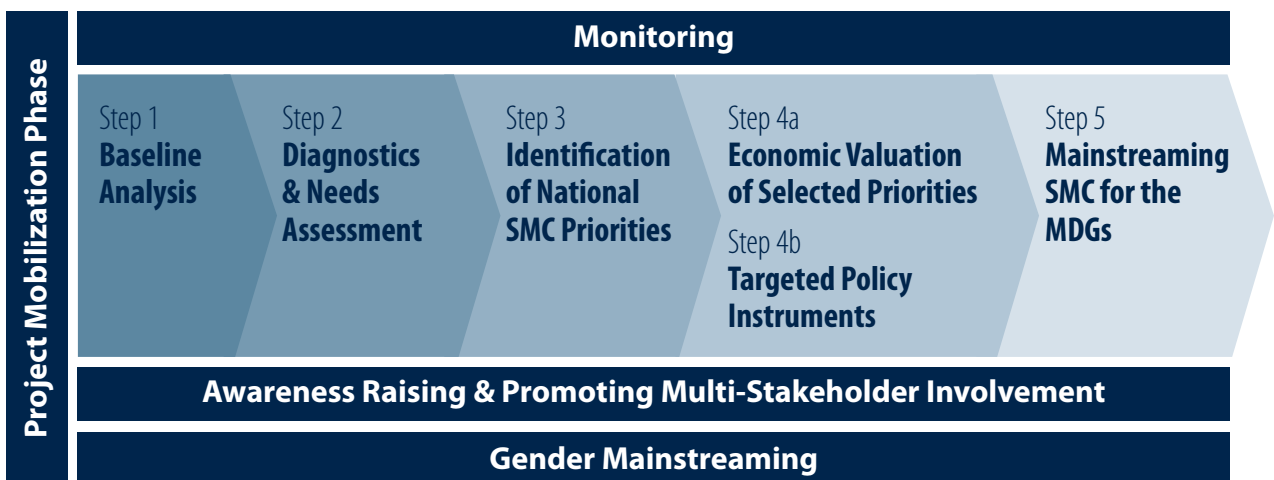
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These steps are preceded by a *Project Mobilization Phase*, which includes critical elements to prepare for a successful mainstreaming effort.

Stakeholder Consultation & Awareness Raising, Monitoring & Evaluation and Gender Mainstreaming are important elements of the mainstreaming approach and are applied throughout all five steps. For the purpose of keeping this Guide concise, the reader is referred to existing UNDP guidance on Monitoring & Evaluation and Gender Mainstreaming. Actions that would normally be taken for Stakeholder Consultation & Awareness Raising are discussed in the descriptions of the 5 steps of the mainstreaming approach.³

Similarly, Step 1 – Baseline Analysis will avoid duplicating efforts with existing SMC technical guidance documents issued by many different organizations and available to the reader over the internet (see Annex 1).⁴ Finally, Step 4a is the subject of a *Supplemental Guidance Document on Economic Valuation in the SMC Mainstreaming Approach*, which has been produced as a companion to this document.⁵

Figure 1: Overview of the Mainstreaming Approach



3 UNDP. 2007. Chemicals Management: The why and how of mainstreaming gender in chemicals management http://www.undp.org/content/undp/en/home/librarypage/environment-energy/chemicals_management/chemicals-management-the-why-and-how-of-mainstreaming-gender.html, and UNDP, Evaluation Office. 2002. Handbook on Monitoring and Evaluating for Results <http://www.undp.org/gef/05/documents/me/ME-HandBook.pdf>.

4 Also see IOMC. 2006. National Implementation of SAICM: A Guide to Resource, Guidance, and Training Materials of IOMC Participating Organisations. http://www.who.int/iomc/saicm/resource_guide.pdf

5 UNEP Chemicals 2009. Supplemental Cost-Benefit Economic Analysis Guide, <http://www.chem.unep.ch/unepsaicm/mainstreaming/UNDPPartnership.htm>. Also see, UNDP-UNEP Poverty-Environment Initiative. 2009. MAKING THE ECONOMIC CASE: A Primer on the Economic Arguments for Mainstreaming Poverty-Environment Linkages into National Development Planning.



This section reviews important concepts that are essential for understanding the SMC mainstreaming approach but might be unfamiliar to readers who have not worked in SMC or development planning capacities.

2.1 Objective of the Sound Management of Chemicals

The objective of the sound management of chemicals is to apply managerial best practices to chemicals throughout their *life cycle* to prevent, and, where this is not possible, to reduce or minimize the potential for exposure of people and the environment to toxic and hazardous chemicals (i.e. through polluting emissions, use, disposal, etc.).⁶ This requires strengthened governance, and improved techniques and technologies in the production, use, storage, and disposal or recovery of chemicals.

The term *life cycle* originates with a methodology initially introduced in the 1970s, life-cycle assessment (LCA), which evaluates affects upon the environment and human health of a chemical substance from the moment of its extraction from the earth until the return of the substance to the ecosystem in an environmentally sound manner. This cycle has, in turn, been characterized as “cradle-to-grave” with disposal (e.g., in a landfill) or destruction of a substance considered the “end” of the life cycle.⁷

To be effective, SMC initiatives should be applied broadly to include not only the chemical products and polluting emissions of factories that manufacture chemicals but also the full value-chain, which includes other chemical products and goods that are produced using basic chemicals or other “downstream” industrial consumers of chemicals, inclusive of formulators, distributors and retailers of chemicals.

However, we must also recognize that most developing countries are not producers or at least significant producers of chemicals and are primarily chemical importers. Thus, the goal is to manage those aspects of the chemical *life cycle* that start with the border to control what chemicals gain access to the local market and, if they are allowed access, how they are managed for the rest of their *life cycle* once they are in the local market.

To accomplish these objectives there is an overarching need to have a good understanding of the legislative infrastructure needed to manage chemicals throughout their life cycle. Legislation should have both powers to prevent and to mitigate risks associated with chemicals. Preventive legislative capacities, for example, should enable the government to address the risks from the intrinsic hazards and widespread use of chemicals to achieve sustainable use of chemicals.

To be effective, SMC-initiatives should also address the area of placing chemicals on the market by manufactures or importers. Proper legal frameworks regarding information on chemicals’ hazards and the appropriate risk reduction measures have to be installed, in order to ascertain the transfer of

6 See Agenda 21, Chapter 19. www.un.org/esa/sustdev/documents/agenda21/index.htm

7 UNEP. 1996. Life Cycle Assessment: What it is and How to do it.



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information to downstream users. The Globally Harmonized System of Classification and Labeling of Chemicals (GHS) can substantially assist in this regard to provide to downstream users information on hazards of chemicals accumulated in the international community.

Key components of a national sound management of chemicals risk reduction program can be found in the Strategic Approach to International Chemicals Management (SAICM), the global strategy and policy that has been adopted by governments and stakeholders to promote the safe management of chemicals. The SAICM provides a framework to assist the efforts of stakeholders in achieving sound management of chemicals. SAICM was adopted during the first International Conference on Chemicals Management (ICCM-1) held in Dubai, February 2006 by a consensus of over 100 countries. Stakeholders that were also involved in the process included trade unions, non-governmental organizations (NGOs), international intergovernmental agencies and industry representatives. While the treaty is not legally binding, it highlights the political commitment to reach the overall objective of SAICM, which is to, *“achieve the sound management of chemicals throughout their life-cycle so that, by 2020, chemicals are used and produced in ways that lead to the minimization of significant adverse effects on human health and the environment.”*



Woman working in a field of sea-buckthorns. ©UNDP Mongolia GEF/Eskender Debebe



2.2 Sound Management of Chemicals as related to the MDGs

At the September 2000 Millennium Summit, world leaders adopted the Millennium Development Goals (MDGs), which set clear targets, to be achieved by 2015, for reducing poverty, hunger, disease, illiteracy, and environmental degradation, and promoting social objectives such as universal primary education and the empowerment of women.

At the national level, countries may further refine MDG targets within a national MDG plan to take into account national circumstances and challenges. Some countries have taken their MDG plans a step further and developed work plans applicable to the local level in support of their national MDG targets.

With respect to the sound management of chemicals, to date, most importance has been given to the linkages between the sound management of chemicals and MDG-7: *ensuring environmental sustainability*. However, chemicals play an important role with respect to human development more broadly and without good management practices they can pose significant risks to human health and the environment, with the poorest members of the global community most vulnerable to their negative effects.

Annex 2 provides examples of SMC linkages with the MDGs illustrating that strong SMC contributes to achievement of all of the MDGs, while weak SMC has the potential to impede achievement of the goals.

The Sound Management of Chemicals (SMC) should thus be considered an important component of a country's efforts to reduce global poverty and achieve the MDGs.

2.3 International SMC Commitments and Tools

Most countries, including a vast majority of developing countries and countries with economies in transition have recognized that SMC is in their national interests for sustainable development, and have adopted various international commitments towards that end.

Chapter 19 of Agenda 21 agreed to at the 1992 World Summit on Sustainable Development (WSSD) was the world's first global consensus surrounding the concept of sound management of chemicals. It remains a key source document for global consensus on this subject.⁸

Various legally binding, multilateral environmental agreements (MEAs) also reflect a global interest in SMC. Among the most central MEAs are:

- The *ILO Convention No. 170* concerning safety in the use of chemicals at work (i.e., moving from a single chemical to all chemicals affecting workers);
- The *Montreal Protocol on Substances that Deplete the Ozone Layer*, which addresses a class of substances, rather than individual substances;
- The *Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade*, which provides for prior notification of exports and imports of toxic and hazardous chemicals in global trade (currently 41 chemicals listed);

8 See Agenda 21, Chapter 19. www.un.org/esa/sustdev/documents/agenda21/index.htm



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- The *Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and their Disposal*, which addresses environmentally sound management of chemical wastes and waste streams that involve 1000s of chemicals and considers life-cycle management of substances as these pertain to prevention, minimization and environmentally sound management of wastes; and
- The *Stockholm Convention on Persistent Organic Pollutants*, which emphasizes life-cycle management for listed persistent organic pollutants (currently 12 chemicals listed - However, at the May 2009 Conference of the Parties to the Convention (COP 4), nine new chemicals will be considered for action).

The 2002 Johannesburg Plan of Implementation of the WSSD renewed the comprehensive commitment, as advanced in Agenda 21, “to the sound management of chemicals throughout their life cycle and of hazardous wastes for sustainable development as well as for the protection of human health and the environment, inter alia, aiming to achieve, by 2020, that chemicals are used and produced in ways that lead to the minimization of significant adverse effects on human health and the environment...” including through support to developing countries in strengthening their capacity for the sound management of chemicals and hazardous wastes by providing technical and financial assistance.⁹

The SAICM, the most recent among international chemicals efforts, represents the first mechanism, albeit non-legally binding, that attempts to strengthen SMC governance across all relevant sectors for purposes of achieving the WSSD goal.¹⁰

The SAICM document¹¹ provides details on the SAICM Overarching Policy Strategy (OPS) and the Global Plan of Action (GPA) that is associated with the Strategic Approach. This document is a key component of identifying SAICM’s approach to sound chemicals management, which includes the environmental, economic, social, health and labor aspects of chemical safety. The Approach takes into consideration agricultural and industrial chemicals, but not the aspects of chemicals that are regulated by either a domestic food or pharmaceutical authority.

The SAICM OPS is structured to identify the scope, statement of needs, the five objective areas of SAICM (risk reduction, knowledge and information, governance, capacity-building and technical cooperation and illegal international traffic), and provide details on financial considerations, principles and approaches and steps required for implementation and taking stock of progress. The SAICM GPA is a working tool and lists actions that can be undertaken to fulfill the goals of achieving SMC according to needs and capabilities in a country.

SAICM also created a Quick Start Programme (QSP), as noted previously, to support the initial enabling activities in developing countries and countries with economies in transition. The QSP is funded through a trust fund established by donations and cooperation, and is geared towards keeping within the strategic objectives of the OPS.

9 See Johannesburg Plan of Implementation, http://www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/WSSD_PlanImpl.pdf

10 See Strategic Approach to International Chemicals Management, <http://www.saicm.org/index.php?menuid=3&pageid=187>

11 SBN: 978-92-807-2751-7. http://www.saicm.org/documents/saicm%20texts/SAICM_publication_ENG.pdf UNEP (2006)



In contrast to SAICM, earlier adopted multilateral environmental agreements on chemicals focused on management of a specific chemical or a class of chemicals with similar characteristics. In addition to seeking discrete outcomes, such as elimination and/or minimization of exposure to particular chemicals, these agreements variously emphasize general concepts or principles relating to SMC governance. Examples, as generalized here from different agreements and decisions, include:

- “Pollution prevention” (i.e. which is preferable to ‘end-of-pipe’ measures);
- The Precautionary Approach (e.g., where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation);
- Best available scientific information and assessments should be utilized;
- The right to development that occurs equitably, so as to meet development and environmental needs of present and future generations;
- Recognition that environmental protection is integral to the development process and cannot be considered in isolation from it;
- Internalization of environmental and human health costs, including through the use of economic instruments (e.g. polluter pays or extended producer responsibility) (i.e., the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment);
- Right-to-Know (i.e., information on chemical safety, use of chemicals and their hazards for purposes of awareness raising, outreach and education should be transparent, readily available in a timely fashion to governments and the public, including vulnerable groups);
- Cooperation between States to discourage or prevent relocation and transfer to other States of any activities and substances that cause severe environmental degradation or are found to be harmful to human health;
- Recognition of the special situation and needs of developing countries, particularly least developed countries (LDCs) and those most environmentally vulnerable, which shall be given special priority, especially regarding the need to strengthen their national capabilities for the management of chemicals, while international actions in the field of environment and development should also address the interests and needs of all countries; and
- Recognition that efforts to ensure SMC, within a context of sustainable development, have important gender dimensions.

2.4 The Rationale for Mainstreaming the Sound Management of Chemicals

The rationale for mainstreaming of SMC priorities in national development planning is strong and broadly accepted building on the following main justifications:

- Environmental sustainability is essential for sustainable development (i.e. economic, social and health dimensions), including achieving the Millennium Development Goals (MDGs), in ways that are now widely accepted and/or are increasingly better understood in the global community



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Bauxite residue from a nearby industry. ©UNDP/AF

- A growing body of research demonstrates that SMC is a vital issue for environmental sustainability across all environmental media and sectors of society
- It is now well accepted on a global basis that prevention (e.g. pollution prevention) of an environmental problem by improved assessment and development planning in the first place is almost always far less costly (i.e. for recipient countries, and donor countries alike) in financial, human health and environmental terms than after-the-fact mitigation of a problem
- Development assistance programming moves billions of dollars between developed and developing countries and countries with economies in transition (CEITs) each year in support of sustainable development; resources that greatly exceed otherwise important movements of financial and technical assistance through dedicated environmental financial mechanisms
- Under conditions of resource scarcity it is critically important that SMC priorities established at the national and international levels attract a greater share of these development assistance resources by clearly showing how these priorities relate to sustainable economic development across all sectors of society
- Increased mainstreaming of SMC priorities in development assistance programming influences national budgetary processes through such mechanisms as co-financing and profiling of SMC in national decision-making.



Furthermore, the international development assistance partnership that emerged out of the Monterrey Consensus and the Paris Declaration has emphasized the importance of country driven programming established in national development policies and plans. When sound management of chemicals (SMC) priorities are of sufficient magnitude, it is important for the country to mainstream these priorities to support representation in national budgeting and discussions with international donors and the private sector. This notion has also been well reflected in SAICM and increasingly in the financing discussions of multilateral environmental agreements (MEAs) in the chemicals cluster, including those agreements for which the Global Environment Facility (GEF) serves as the predominant multilateral financial mechanism.

The logic of mainstreaming applies for all globally agreed chemicals management objectives (POPs, hazardous wastes, mercury, SAICM Overarching Policy Strategy, etc.) as well as for current and emerging chemical management priorities identified at the national level. This is especially the case as MEAs for chemicals management dig deeper to affect change in areas that are progressively more technically demanding and costly in terms of governance and infrastructural enhancements. Deeper integration into national development planning becomes ever more critical as improvements to the SMC regime are advanced beyond “low hanging fruit”. For this reason, this UNDP Guide can provide a very important and synergistic service for the specific obligations of MEAs as well as for the broader goal to ensure that, by the year 2020, chemicals are produced and used in ways that minimize significant adverse effects on the environment and human health.

This need can clearly be seen in projections of financial needs for national implementation plans on the first 12 POPs under the Stockholm Convention roughly estimated to be in the billions.¹² These resource requirements will need to be mobilized well beyond the capacities of dedicated funding mechanisms such as the GEF, including through mainstreaming in national development planning and associated budgets, albeit still supported by international assistance.

In addition to the strength of the broad rationale for mainstreaming, the UNDP-UNEP PI has undertaken extensive international consultations to calibrate and strengthen the rationale for the specific elements of its programmatic approach and associated guidance. Much has been learned about the rationale for mainstreaming in these consultations.

Results of international consultations for programme design were first reflected in an Information Paper for the Second Meeting of the International Conference on Chemicals Management (ICCM2) developed through four regional workshops involving participants from 22 countries, including: environment, health, planning and finance authorities; the United Nations Development Programme and the United Nations Environment Programme; and international experts.¹³ Another consultation

12 Reproduced from UNEP/POPS/COP.4/27. Assessment of funding needs for Parties that are developing countries or countries with economies in transition. While this document is dated and new numbers are not available, the point is that the total dollars needed is very large relative to traditional levels of funding for international sound chemicals management work.

13 Workshops were held in: Kampala, Uganda, September 9-11 2008 for six countries in the Sub-Saharan African Region, Malawi, Mali, Mauritania, Rwanda, Uganda and Zambia
Phnom Penh, Cambodia, December 10 -12, 2008 for six countries from the Asia-Pacific, Bhutan, Cambodia, Laos, Maldives, Malaysia, and Vietnam
Ohrid, Macedonia, February, 25-27, 2009 for six countries selected from two regions, Albania, Belarus, Kazakhstan, Kyrgyzstan, Macedonia and Serbia
Belize City, Belize, March 18-20, 2009 for four countries from the Latin America and Caribbean region, Belize, Chile, Ecuador and Honduras.



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Meeting of Partners on Chemicals Mainstreaming was held in Geneva, Dec 14-16, 2009, with a particular emphasis on the experiences of project managers from the early mainstreaming countries.¹⁴

Participants in the consultation meetings, while noting that mainstreaming might not be achieved rapidly, concluded as a result of their experience with mainstreaming projects, first, that there is now strong evidence that steps must be taken to cooperate with ministries of planning and finance to include high SMC priorities (e.g. POPs, pesticides in agriculture more broadly, mining contaminants, etc.) in future development plans and programmes. Second, improved economic and financial content of SMC policy proposals and initiatives are vital to justify access to limited national financial resources and to encourage international donor assistance. History indicates that environmental technical experts have not made adequate progress with their SMC priorities because improvements are needed in the way economic and development decision makers were being engaged, including by enhanced economic sophistication of SMC proposals for action. Third, this new reality should transform the types of technical assistance that are needed to enhance SMC capacities in developing countries and CEITs. Annex 3 provides additional detail on the specific points made by participants.

In accomplishing SMC mainstreaming, many developing countries face challenges in terms of technical capacity which have brought to the surface the need for the UNDP-UNEP PI:

- They often lack adequate capacity to identify and analyze chemical management issues of concern within their jurisdictions;
- They often face difficulties to adopt new policy and legislative instruments to control the widespread use of chemicals by putting the responsibility on importers and suppliers for ensuring safe placing on the market; a new policy for many countries and at the same time a crucial part of SMC since it positively affects other areas where chemicals safety is a concern;
- Even when the country has an adequate understanding of its chemical management issues, a relatively new set of skills, experts and institutional participants are required to analyze the linkages between chemical management issues and the development priorities of the country, including the economic costs of inaction or benefits of action on chemical management priorities;
- Governance institutions and decision making processes in many jurisdictions have limited experience with cross-agency and cross-sectoral dialogue, perhaps especially between chemical management priorities seen from an environmental and human health perspective and the development driven priorities of central finance, treasury and development planning agencies; and
- Because mainstreaming brings about new perspectives on the relationships between chemicals management and vital development priorities, such as alleviating the conditions of poverty, public health, and food security, i.e. the MDGs, there is a need for broader public education and consultation to build support for and coordinate action, for which many developing countries are currently less than adequately equipped.

14 Generously funded by Sweden and Norway.



2.5 Development Planning Cycle

Development planning in most (though not all) developing countries is typically on a 4-5-year cycle, with a mid-term review to allow for adjustments to changing circumstances. Development planning is a major cross-sectoral effort for any country, usually led by a central agency, such as the Ministry of Finance and/or Development Planning, a National Planning Commission, a Prime Minister or President's Office, etc. The major development plan of the government is a key (but, of course, not exclusive) driver for national budgetary decisions and expenditures, and is the main basis for discussions with development partners (donor countries) regarding assistance for the development of the country.

The key issue for chemical management practitioners and advocates in the country, therefore, is to make sure that the highest priority environmental issues are noted in the development plan as a basis for national and international implementation funding. This requires early and regular engagement with the key central planning agencies about the importance and factual relevance of priority environmental issues to the country's sustainable development objectives and targets.

Typically, development planning work starts at least 12-18 months in advance of the conclusion of the 5-year development plan that is in place. The following generic elements of development planning are typical:

- Diagnostics to determine the highest development priorities for the country and the key issues related to those priorities (e.g. poverty assessments, sector and sub-sector papers, assessments of technical and financial assistance needed to achieve the MDGs over the long term, etc.);
- Identifying policy options and choices to move towards national development objectives and targets (e.g. sectoral and cross-sectoral policy reforms and frameworks needed to accelerate growth with equity and promote long-term human development, etc.);
- Identifying national capacity development needs to support implementation of priority actions to achieve national development objectives and targets (e.g. enable effective service delivery at the national and local levels, institutional changes, training needs, etc.);
- Development of implementation plans and schedules for high priority objectives and targets; and
- Investment planning and resource mobilization (costing infrastructure investments, equipment investments, micro-finance initiatives, assessing national budgetary implications, awareness raising and discussion with development partners, etc.).

Experience from around the world indicates that extensive interagency and public consultation is critical for all these elements to conclude in a successful national development planning effort.

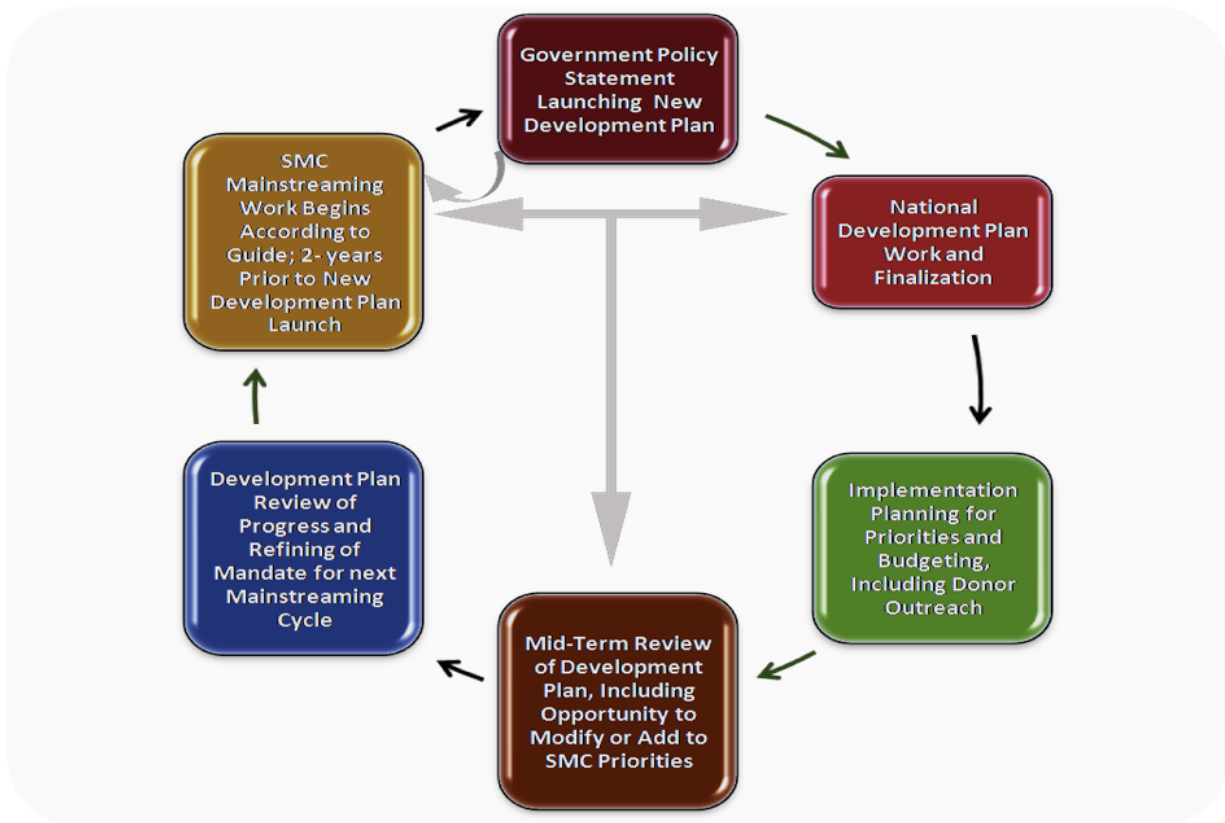
The end result of the development planning process can, depending on the country circumstances, culminate in different forms of development planning and policy documents including, for example, Poverty Reduction Strategic Papers (PRSPs), National Development Plans (NDP), MDG-Based Development Plans, etc.



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It is extremely difficult for issues that do not appear in the national development plan to receive attention as a priority by the government and donor partners. For that reason, mainstreaming into the major national development plan at the time of its elaboration/drafting is critically important.

Figure 2: *Depiction of Mainstreaming Process in Development Planning*



2.6 SMC is a Multi-Sectoral, Multi-Stakeholder Undertaking

SMC is necessarily a crosscutting issue and a fundamental issue for national development for a wide range of stakeholders because chemicals are now used in all sectors of our societies. In general, however, knowledge of SMC best practices and the need for SMC remains low among government ministries and affected stakeholders in many countries. Therefore, a first step is general awareness raising about SMC within ministries and as outreach to stakeholders.

A formalized channel for routine exchange of information among sectoral ministries is important for SMC issue identification, priority setting, planning and implementation, and monitoring and assessment. One key example is routine exchange of information between health, labour, agriculture



and environmental ministries on disease vector and pest control strategies and management practices as these pertain to chemical exposure risks of workers and farmers etc.

A number of countries have established formal mechanisms to coordinate their response to commitments under a particular chemicals-related MEA. As chemicals MEAs often have substantial synergies with one another, it usually makes sense for countries to consider consolidating their chemicals expertise within one interagency coordination mechanism for SMC. Such a mechanism would normally have as its main objective development or review of SMC-related priority setting, policy and implementation efforts, as well as provision of advice to other processes on which SMC has a bearing, including MDG-based national planning activities.

Key non-governmental stakeholders should be represented on the SMC coordinating mechanism whenever that is possible, including representatives of industry, worker unions and non-governmental organizations (NGOs; environment, health, agriculture, etc.), reflecting the important role they inevitably must play in national efforts to achieve SMC and sustainable development. Representation of these groups in the SMC coordinating mechanism improves prospects for achieving economically sustainable, pro-poor, rights-based policies and programs.

Industry stakeholders clearly play a significant role as contributors to sustainable development. Industries in the aggregate or industrial subsectors are usually a major contributor to a country's gross domestic product. The inclusion of industry stakeholders in development and implementation of SMC initiatives is vital to their success. Industry is usually eager to participate because of the desire to influence ongoing regulatory undertakings and complicated regulations with objectives that might more readily be achieved through alternative means, regulatory or otherwise. A particular challenge in developing nations is how to effectively engage the full range of SMC industrial actors. Typically, the majority of larger facilities producing and distributing chemicals in a developing nation will be multi-nationals and/or joint ventures. But there will also be many small-and-medium enterprises that manufacture and/or formulate chemicals and engage in trade. SMEs may comprise the majority of the chemicals sector in some countries. Therefore, strategies for their inclusion in consultation and implementation, and ideally representation on the SMC coordinating mechanism, will be important to the success of SMC initiatives.

Non-Governmental Organizations, for their part, can play an important role in assisting with implementation of SMC, in particular with respect to development of legislation, awareness-raising and outreach strategies, and in monitoring and training exercises at the community and local level (e.g., in monitoring techniques, such as use of simple bioassay kits to detect contamination at the municipal and local level that exceeds national and/or State standards), which, in turn, can contribute to community empowerment and support for national compliance and enforcement efforts. In many developing nations, the number of NGOs with SMC experience is limited. Therefore, national strategies for engaging NGOs will need to consider how they can first be assisted in a meaningful way to build their capacity on SMC. More commonly, developing nations have NGOs with legal expertise. These NGOs can contribute to dialogue on SMC legislative policies and frameworks, including on the SMC coordinating mechanism.



2.0 BACKGROUND ON IMPORTANT CONCEPTS

2.6.1 *Vulnerable Groups*

Vulnerable groups who are at highest risk of exposure should also be consulted although they would not typically sit on the SMC coordinating mechanism for a range of practical reasons. Beyond viewing these groups as “recipients” of pollution, societies need to recognize that they also can make unique and key contributions to decision making and development of SMC strategies for prevention, risk avoidance and minimization and likewise can play significant roles in implementing such strategies.

Women, children, workers, indigenous communities and the poor are among those members of society most directly affected by exposure to chemicals, although they might not, in all societies, be well represented by the worker unions and NGOs noted above.

Women come into contact with toxic chemicals through multiple routes, including domestic cooking (chemical by-products of burning), as workers in cottage-scale industries (e.g., recycling of lead-acid batteries), and labourers in factories and crop fields. As key decision-makers regarding purchases for the home, food preparers, and caretakers, they make choices about chemicals brought into the home and their handling, storage and disposal. Engaging women’s groups in decision-making and also implementation of strategies on SMC can have a far-reaching impact with respect to minimizing chemical exposure to themselves, their families, and their communities.

Workers (including women and youth) are a high-risk group because of direct contact with toxic and hazardous chemicals. In many developing countries workers are often not supplied with protective gear (boots, gloves, hats, respirators, protective suits), while a warm climate can also make wearing of some equipment designed to protect their skin against chemicals they handle impractical. Workers exposed to chemicals can transport contaminants on their clothing and person into the home, contaminating other family members. Workers are therefore in a position to contribute information to monitoring and compliance implementation, and, through awareness-raising can reduce exposure risk. Workers, as they have a stake in the success of their employer, also have a strong incentive to contribute suggestions for improvement of SMC practices in the work place that work to both their and their employer’s advantage.

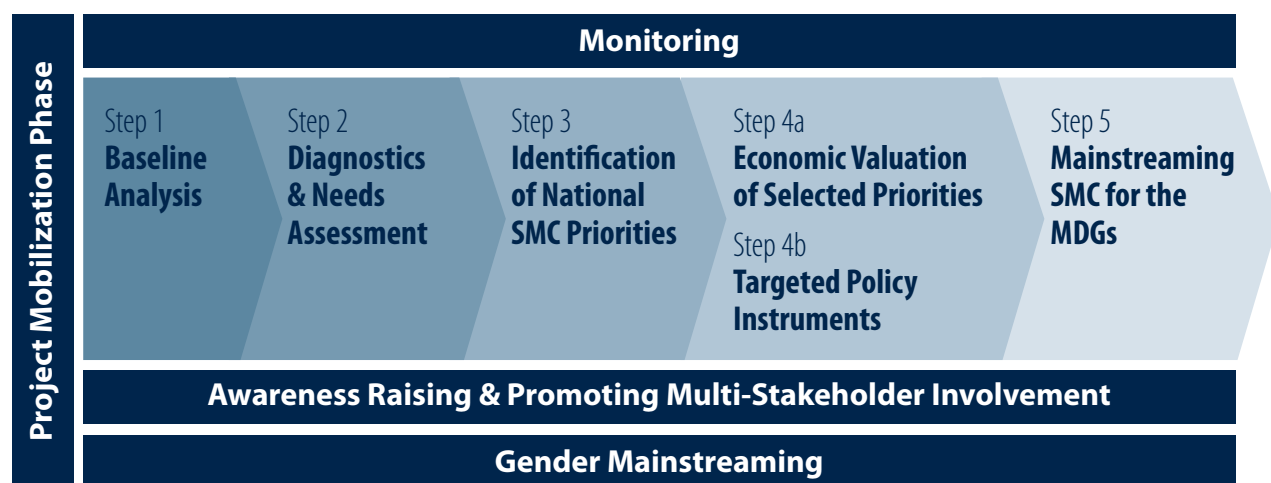
Indigenous cultures typically depend on ‘country foods’ (fish, wild game and fowl). As a result, indigenous people are often at a higher risk of exposure than general populations when chemicals contaminate these food sources (pesticides, persistent organic pollutants, heavy metals, etc.). These foods are also central to their social customs, so that when food sources are threatened, the culture as a whole is also weakened. Indigenous people’s traditional knowledge of ecology (land, climate and weather patterns, species biodiversity, etc.) can contribute to monitoring changes associated with chemical use, as well as practices that promote resistance to pests.

The poor as a group are generally at higher risk of exposure as well. For example, a relatively high percentage of poor people are illiterate, hence unable to read warning and use labels on chemical products. They are more likely to live near factories and contaminated sites, and to engage in unsafe activities that put them at risk, such as recycling of electronic products and batteries, ship recycling, and scavenging open dumps to recover materials for resale and for use in constructing make-shift shelters. They are often disenfranchised in decision-making but should be consulted and included within development and execution of implementation strategies.



This section of the guidance document describes specific activities associated with the 5 main steps of the mainstreaming approach. Figure 3 provides a reminder of the mainstreaming approach introduced in Section 1.1.

Figure 3: The Mainstreaming Approach



3.1 Project Mobilization Phase

Project Mobilization Phase	Checklist for Project Mobilization Phase¹⁵	
	<ul style="list-style-type: none"> ■ PM (i) – High level project buy-in ■ PM (ii) – Appoint project director ■ PM (iii) – Review national development planning schedule and process ■ PM (iv) – Appoint project coordinator 	<ul style="list-style-type: none"> ■ PM (v) – Agree on work plan and anticipated schedule ■ PM (vi) – Finalize project communication package ■ PM (vii) – Compile list of key stakeholders ■ PM (viii) – Institute Interagency Coordinating Mechanism (ICM) ■ PM (ix) – Multistakeholder Project Inception Workshop

¹⁵ This section assumes that the project funds are available to the project’s executing agency, either directly through the government’s own financing or through the assistance of an international agency(ies) and donor(s).



3.0 A SYSTEMATIC APPROACH FOR MAINSTREAMING

3.1.1 PM (i): High Level Project Buy-In

SMC initiatives are all too often addressed with narrowly technical approaches that infrequently extend beyond the activities of government officials with core responsibilities for SMC. The implications of this are not unfamiliar: SMC-specific recommendations, strategies and plans often stay at the margins of government with inadequate and unsustainable policy authority and financing. To advance beyond this situation, awareness of SMC must be transformed to a higher policy and political level through systematic efforts to engage government-wide development planning initiatives.

Mainstreaming projects differ considerably from technical SMC projects because they focus on influencing national development policies and plan and require the buy-in and involvement of high-level policy, budgeting and planning authorities in the central Government. National development planning is one of the few comprehensive priority setting and integrating governance tools available to many governments and their political leaders.

If an issue is deemed “important”, it will usually be discussed in the development planning context. If it is not discussed, it is because the issue is a), of lesser importance relative to many other issues or b), has been inadequately explained and justified to decision makers at the center of government. Mainstreaming is primarily concerned with problem b). Mainstreaming SMC priorities into development policies and plans is by necessity a cross-sectoral, policy-intensive, economic and political awareness raising effort, occurring in a highly competitive government environment where many important issues compete for attention and limited resources available to the government.

To increase chances for project success, therefore, mainstreaming work requires a higher threshold of policy buy-in prior to the work beginning than is characteristic of technical SMC projects. First, at least at the most senior civil service levels, ministries responsible for development planning, health, and environment, at a minimum, should be fully aware of and supportive of project objectives at the planning stages. They should view themselves as partners with differentiated responsibilities in the project effort. Second, these ministries should be empowered to work together to encourage the participation of other ministries with significant responsibilities for chemicals once the project work commences (see the discussion of the Interagency Coordinating Mechanism later in this guidance document).

Countries can signal high-level policy buy-in in various ways suitable to their unique circumstances. Some examples, which can work independently or together, include:

- Direction from the senior political office (President or Prime Minister’s Office) mandating the ministries to function in this way;
- A high-level letter of agreement between the ministries at the planning stages of the project;
- Letters of support for the project in efforts to mobilize resources from funding agencies; and
- Project document signings between, for example the government finance or development planning focal points and the representative of the implementing agency or UN Resident Coordinator.



Normally, these types of approvals should signal a project lead ministry that would establish the project management unit or secretariat (typically the ministry that has the most active chemicals-related mandate) supported by the full cooperation of the other ministries to achieve the project's intended activities, outputs and outcomes.

3.1.2 PM (ii): Appointing the Project Director

The appointment of the **Project Director** signifies that all project approvals have been negotiated and agreed.

The Project Director is ultimately responsible for overseeing (directing) project implementation, including managing the national project team and working with any international agency(ies), donors and/or experts that might be supporting the project.

The lead ministry would normally appoint the Project Director. The Project Director candidate should:

- Have management responsibilities for SMC issues;
- Not be too busy to adequately perform the role as part of his or her overall job; and
- Be senior or experienced enough to facilitate required access within the national government's systems and to problem-solve within the lead ministry, and with other involved ministries and project stakeholders.

3.1.3 PM (iii): Review of National Development Planning Process and Schedule

The development planning process cannot be influenced without an adequate understanding of its functioning. Environment and health officials must have a clear understanding of the way the development planning process is working within the unique circumstances of the country and where are the opportunities for interventions to influence the process. This should be one of the Project Director's first and most important tasks.

The Project Director should prepare a brief document to be shared later with the entire project team describing the national development planning process from an SMC mainstreaming perspective, including:

- When does the next development planning cycle, or the mid-term or annual review of the existing development plan, begin?
- Has the high political executive issued a policy statement on development priorities and what are the priority development sectors, goals, objectives and targets identified for the country?
- Which of these sectors, goals, objectives and targets are likely to involve chemical intensive activities and where are these sensitive issues likely to occur based on national and international knowledge and experience (would there be a need for further research as part of the SMC mainstreaming activities)?



3.0 A SYSTEMATIC APPROACH FOR MAINSTREAMING

- What does the existing national development plan prioritize in terms of sectors, goals, objectives and targets and how are these likely to carry forward to the new plan or mid-term review?
- Have we seen chemical management problems associated with the sectors, goals, objectives and targets of the current or previous national development plan(s)?
- How will the development planning or review process be organized:
- List of important contacts in the planning ministry and key sectoral ministries;
- Important research and decision-making groups that are current or likely to be established in the development planning process;
- Schedule of important meetings;
- Required inputs to the process and when; and
- How should inputs to the development planning process be prepared and in what form to be effective (i.e. presentation style suitable to the process and the audience to be influenced)?

It is likely that the completion of this document will require review of applicable primary and secondary documents but also meetings with officials responsible for development planning in key central and line ministries. The Project Director should also consult extensively with UNDP and/or World Bank country offices as applicable to understand the role of these development planning support agencies and their experts. Finally, a round of meetings with key bilateral development assistance agencies and regional development banks will also be useful.

While a mainstreaming project can begin at any time, with results to be delivered to the development planning process when opportunities permit, it is most effective to schedule the completion of mainstreaming project deliverables to correspond as closely as possible with the beginning of the development planning timetable. This usually means that a mainstreaming project, as previously mentioned, should begin at least 24 months (i.e. after the midterm review of the current development plan) in advance of the anticipated beginning of work to develop a new national development plan or the mid-term review of the existing development plan.

3.1.4 *PM (iv): Appointing the Project Coordinator*

While the Project Director oversees implementation of the mainstreaming project as part of a larger portfolio of SMC-related management responsibilities, the **Project Coordinator's** main job is day-to-day management, coordination and review of work being performed by the national mainstreaming project team and interaction on specific work tasks with any international agencies, donors and/or experts that might be supporting the project. The mainstreaming approach, if done well, is sufficiently demanding to require at least a near full-time effort by the Project Coordinator for the duration of the project.

The Project Director should directly oversee recruitment of the Project Coordinator and development of the terms of reference or job description. The Project Coordinator candidate should be:

- Free of ministerial line duties during the course of the mainstreaming project;
- A citizen and resident of the country to help ensure that national capacity for mainstreaming is being built-up and retained within the country;



- Experienced in research, policy analyses and/or team work in the area of SMC;
- Capable of managing a fair and transparent process for cross-sectoral and multistakeholder interests, needs and concerns in the mainstreaming approach;
- Senior enough to facilitate collegiality between project team members; and
- Experienced working on international development projects, if not in the development planning process directly.

3.1.5 PM (v): Work Plan and Anticipated Schedule

The main steps of a work plan will often already be in place as part of initial proposal preparation for a mainstreaming project. However, the Project Coordinator should ensure that a work plan is summarized and made readily understood by cross-sector stakeholders who might be unfamiliar with political or technical project language. A project schedule should also be clear in terms of quarters within which key project deliverables can be expected to arrive on people's desks and computers for consultation or comment or when they might be expected to attend meetings or workshops. This document should be kept updated throughout the project if and when circumstances change, with changes clearly notified to important stakeholders, preferably combined with a brief project progress update to be as informative and as interesting as possible.

3.1.6 PM (vi): Project Information Package

The mainstreaming approach, in addition to other key advances, seeks to substantially improve communications with government and non-government stakeholders who might not be experts either in SMC or development planning, let alone be very familiar with the important relationships between the two. It is well recognized that there is often limited capacity and expertise in the environment and health ministries to talk the language of development policies and plans. SMC experts need enhanced capacities to convey environment and health information in a way that is more relevant to development planners.

The opposite is also true in development planning ministries that have to-date rarely been challenged to engage SMC issues as part of their development planning processes. The mainstreaming approach works on building capacities for this type of information exchange and uptake going beyond intra-sector communication, that is familiar and comfortable, to achieve effective cross-sector communication which is challenging but essential for SMC mainstreaming into the government's development planning priorities.

The Project Director and the Project Coordinator are strongly advised to spend a considerable amount of their available time on the cross-sector communication requirement for a successful mainstreaming project. The communication effort starts with a clear, concise (i.e. summarized from project documents) and non-technical project information package explaining how the mainstreaming project will have important value to the interests and concerns of key government and non-government stakeholders across sectors. The information package should address project:

- Purpose;
- Rationale;



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- Objectives;
- Steps (from PM (v) above);
- Activities; and
- Outputs and outcomes (results).

This should be an early and important task for the Project Coordinator under the supervision of the Project Director, and with significant cross-sector peer review of the information package before it is released to the wider government and non-government stakeholder community.

3.1.7 *PM (vii): List of Key Stakeholders*

A mainstreaming project, because of its cross-sector policy significance, will usually require that the lead agency, which is often more accustomed to sector specific, technical SMC projects, broaden its consultations to non-traditional stakeholders, especially in the economic development and trade sectors. This is an essential ingredient for the improved communication noted above. It is important to recall the need, noted in Section 2.6, to ensure the active involvement of industry, including importers, and NGOs in the entire mainstreaming process, including on the SMC coordinating mechanism where possible while ensuring the productivity of the group.

The Project Coordinator, under the supervision of the Project Director, should assemble a stakeholder list, in consultation with other concerned ministries, to reflect the broader scope and policy significance of the cross-sector mainstreaming effort. From an SMC standpoint, in mainstreaming efforts, we are not discussing technical issues with the converted but rather finding a common language and understanding among the as yet unaware.

3.1.8 *PM (viii): Interagency Coordinating Mechanism (ICM)*

Chemicals management issues are best addressed through a multi-sectoral approach because chemicals are used in all sectors of our societies and have impacts in all sectors. To address these linkages, cross-sector cooperation and multidisciplinary approaches in development planning processes are needed. By addressing SMC through development planning we can begin to see all these linkages more clearly rather than working in sector silos.

The mainstreaming effort will have very little chance for success without an Interministerial (SMC) Coordinating Mechanism (ICM) to foster common understanding and adoption of project recommendations at key decision points throughout the process. At a minimum, an ICM that can support the mainstreaming effort should include senior management representatives (with policy responsibilities) from the ministries responsible for environment and/or natural resources, health, finance and/or development planning, agriculture, industry, mining, labor, social affairs and women's affairs¹⁶. However, in practice, the range of ministries involved with key aspects of SMC or whose

¹⁶ Each country's institutional settings are different: While some countries may have a separate line ministry addressing Women's issues, others may have a Women's Affairs department within a ministry i.e. Labor, Social Affairs.



activities may have a significant impact upon SMC is much broader. Logically, an ICM should include their representation as appropriate to a country's circumstances and development sector priorities.

There are good opportunities to build on existing ICM type mechanisms to advance SMC mainstreaming. With supplemental representation from finance and development planning ministries and an enhanced mandate geared to informing national development planning, these SMC mechanisms can have a *raison d'être* for sustainability that they have not had under previous sector or topical SMC projects. This needs to be coupled with continual institutional strengthening in areas of analysis and coordination, especially with economic portfolios.

First Meeting of the ICM on the Topic of the Mainstreaming Effort

The Project Director would normally have the responsibility, often supported by his or her management and/or Minister and partner ministries, to establish and convene the first meeting of the ICM. The first meeting of the ICM, to be held in support of project mobilization, should:

- Establish or renew its rules of procedure (i.e. how they will work together; regular meetings, meetings as needed in important project steps, supplemented by email exchange, etc.)
- Establish or renew its terms of reference, including oversight and consultation as applicable to the role of engaging the development planning process and discussing, approving and adopting recommendations from the mainstreaming project;
- Discuss the mainstreaming project work plan, schedule (**PM (v)**) and information package (**PM (vi)**) to approve them, with changes as needed, for circulation to the broader stakeholder community; and
- Discuss and approve of the process that will be used to announce the project to the broader stakeholder community, including at a multistakeholder project inception workshop.

3.1.9 *PM (ix) –Multi-stakeholder Project Inception Workshop*

This task signifies the end of the Project Mobilization Phase. It also signifies the beginning of broader public communication and involvement that seeks support for the mainstreaming project initiative and, eventually, project results.

The **Stakeholder Project Inception Workshop** (typically 2-3 days) would normally include, with adequate attention to regional and gender representation, cross-sector participation from:

- Ministries having SMC-related mandates;
- Non-government stakeholders drawn from the enhanced stakeholder list produced in **PM (vii)**, including industry and trade, agriculture, public health groups, women's issues, academic experts and environmental groups;
- UN agencies operating within the country;
- Key bilateral donors and multilateral financial institutions operating within the country; and
- National media.



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The workshop would normally enable, at a minimum, presentations with opportunity for significant stakeholder comment and discussion from the:

- Project Director on the project purpose, rationale, objectives and general approach (**PM(vi)**);
- Sector line ministries on what they consider to be their high priority SMC needs;
- Ministry responsible for development planning to share with stakeholders how the development planning process works within the country;
- Academics with research programs in SMC-related topics within the country;
- Established NGOs, including industry associations, with SMC-related programs or initiatives;
- International and national agencies with significant involvement in development planning or SMC-related projects within the country;
- International SMC and development planning experts that might be available to the project; and
- Project Coordinator on the project general work plan and schedule (PM (v)).

The workshop should conclude on summarizing significant multi-stakeholder comments on the:

- High priority SMC needs for the country prior to project research;
- Project objectives and approach;
- Project work plan and schedule developed under PM (v); and
- Project information package developed in PM (vi) as a key background document for the workshop.



Karial slum in Dhaka. ©UN Photo/Kibae Park



3.2 Step 1: Baseline Analysis - The National Situation Report

STEP 1

Needs Assessment

Checklist for Step 1 Baseline Analysis

- S1 (i) - Agree on sectors of focus for Situation Report
- S1 (iv) - Conduct research
- S1 (ii) – Constitute Core Analytical Team
- S1 (v) – Draft the National Situation Report
- S1 (iii) – Constitute Sector Teams

Step 1 Summary

Purpose: Determine what information is available on a country's chemicals management situation and record it. Relevant information could be contained in a National Chemicals Profile, National Implementation Plan (NIP) under the Stockholm Convention on Persistent Organic Pollutants, State of the Environment Report, Millennium Development Goal (MDG) report, Poverty Reduction Strategy Plan (PRSP) or other information sources.

Goal: Development of a National Chemicals Management Situation Report that provides information on the degree of integration of sound management of chemicals into national development planning.

Rationale: A National Chemicals Management Situation Report is an essential prerequisite for an integrated assessment and analysis of the linkages between chemicals management and related economic, health and environmental impacts.

3.2.1 S1 (i): Agree on Focus for Situation Report

Development of a National Situation Report on sound management of chemicals is an important first step to identify SMC issues, capacities and needs within the major development sectors of the country. It involves, a) pragmatically identifying the highest priority, chemical-intensive development sectors for investigation that are profiled or likely to be profiled in the national development plan (See the results of **PM (iii)**), and b) making effective use of available primary and secondary information from technical studies on SMC (chemical profiles, national implementation plans, basic chemical inventories, sector environmental studies, etc.), and filling information gaps through field work where essential, practical and cost effective.

However, it is important to keep in mind that while development planning is usually sector-based, and thus SMC mainstreaming needs to accommodate this reality, there is a risk that exclusively addressing existing sectors may lead to important components of SMC to be overlooked. One policy area of great concern that serves chemicals safety in all other areas is the control of manufacture, import and placing of chemicals on the market. Responsibilities for legislation, institution building



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and enforcement of regulations in this area are better mandated to one ministry, the one where the comparative advantages of the arrangement are deemed the best. That is usually, though not always, the environment and/or health ministries.

The primary objectives of this step in the mainstreaming approach are to:

- Aggregate diverse SMC information sources into one National Situation Report focused on SMC-related issues in the status of import of pesticides, industrial chemicals and articles containing chemicals as well as in major development sectors (e.g. mining, textiles, agriculture exports, oil and gas, etc.). This should be contrasted with a general national chemical profile, or implementation plan linked to the specific requirements of an MEA, both of which would present the information quite differently, in a more traditional way with which the environment and health sectors have become accustomed. However these processes and their resulting profiles and/or plans have only in a few cases resulted in actually influencing development planning processes.
- Provide a stronger justification for SMC governance improvements that are cross-sector and link to improving the quality and sustainability of national development. This means reducing unnecessary human and environmental exposure from chemicals in general, but also more specifically in the major development sectors of the development plan. It also means changing the minds of development planning officials to view chemicals management issues as more than simply marginal requests contrasted with the “more pressing” development needs of the country. This includes assessing the need for improvements in national legislation regarding placing chemicals on the market in order to clarify responsibilities for importers and distributors; and
- Encourage SMC priority setting that is more closely linked to the country’s development priorities and the policy discussions at the center of the government. This requires focusing on how SMC improvements will enhance the quality and sustainability of prioritized national development objectives within the society as well as within the chemically intensive development sectors of the development plan.

3.2.2 S1 (ii): *Constitute Core Analytical Team*

Mainstreaming efforts, as noted previously, are by definition cross-sector, multidisciplinary and intensive in terms of economic analysis and related communication of findings in a language that officials and stakeholders in the development planning process can understand. Mainstreaming also tends to make heavy use of public health protection data and information to complete qualitative and quantitative cost-benefit analysis for SMC improvements. As a result, the Core Analytical Team for the project should reflect these characteristics from the outset, which is another notable difference with most traditional SMC technical studies.

The Core Analytical Team for the project, ultimately reporting to the Project Director, should be comprised of:

- The **Project Coordinator** as environmental SMC expert;
- A **Senior Economist** with experience in environmental economics; and
- A **Senior Public Health Expert** with experience in environmental health data and analysis.



The Senior Economist and the Senior Public Health Expert should be:

- Citizens and residents of the country to help ensure that national capacity for mainstreaming is being built-up and retained within the country;
- Experienced in research, analysis and team work in the area of SMC;
- Familiar with participating in cross-sector and multistakeholder processes; and
- Experienced working on international development projects, if not in the development planning process directly.

However, because of the newness of mainstreaming work in most developing countries and CEITs, the core analytical team will often be supplemented by (an) international expert(s) with knowledge of SMC, development planning, public health issues related to chemical exposure, and environmental economics as applied directly to chemicals management issues.

3.2.3 S1 (iii): *Constitute Sector Teams*

Most countries that undertake a mainstreaming effort would normally seek to organize their research efforts around **Sector Teams** that focus on prioritized, chemical-intensive development sectors of the development plan (see **S1 (i)**).

Sector Teams would normally be comprised of:

- Focal point(s) appointed from ministries with responsibilities for the sector. For instance, if the sector is agriculture, the focal points would normally have responsibilities for such issues as agrochemical/pesticide registration, food inspection, fresh water protection, transportation and trade;
- Key NGO representatives from the sector, such as agriculture producers' associations, workers' associations, and academics from agriculture education/training programs; and
- The Core Analytical Team (see S1 (ii)) as observers and advisors to the research effort.

The main responsibilities of the sector teams are to:

- Provide their sector expertise to the mainstreaming effort by helping to identify major development trends in the sector that will have a bearing on SMC issues, gaps and needs for the sector;
- Identify studies that are relevant to development trends and SMC in the sector;
- Open doors to primary information held within the various ministries, which is essential for the mainstreaming effort;
- Assist with cost effective and timely ways to fill information gaps related to the sector; and
- Review and approve of the sector write-up that will be prepared by the national consultant assigned to the sector team.

The terms of reference for the sector teams should be developed by the Core Analytical Team to ensure that data needed for subsequent stages of the mainstreaming effort is provided by the sector teams as far as possible. In this fashion, the Senior Economist would ensure that the terms of reference ask



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questions about relevant and available economic data in the sector, while the Senior Public Health Expert would do the same for health data, and so forth. This is an important issue to attempt to avoid retracing steps for the sector team's research at later stages of the mainstreaming effort.

3.2.4 S1 (iv): Conduct Research

Sector Research

The sector research effort for the National Situation report should have the following important features:

- Establish the economic baseline information for the priority, chemical-intensive development sectors (see **S1 (i)**) for such factors as:
 - ▶ Contribution to GDP;
 - ▶ Geographical profile relative to communities and ecosystems;
 - ▶ Levels of employment;
 - ▶ General socio-economic characteristics of the work force;
 - ▶ Volumes of production;
 - ▶ Levels of export and major markets;
 - ▶ Levels of chemical feedstock imports;
 - ▶ Trends in development over previous years;
 - ▶ Predominant production technologies used in the sector;
 - ▶ Land and water use characteristics;
 - ▶ Characteristic pollution problems; and
 - ▶ Chemicals used in the sector (e.g. types, volumes, imported, produced domestically, etc.)
- Description of the current state of life-cycle management of chemicals in the sector compared with best practices applied/promoted at international level (e.g. environmental laws and regulations, industry codes of conduct, worker safety laws, public health laws, available infrastructure for SMC such as storage facilities, transportation equipment, waste management sites, etc.);
- Description of the expected development trends in the sector for the duration of the current or proposed new development plan and how this is likely to affect the above noted factors over time (i.e. anticipated change from the baseline);
- Analysis of the environment, health and economic implications of changes (*see Annexes 1 and 3*) from the baseline if improvements to SMC were not made at the same time (e.g. the impact of mining effluent on major fresh drinking water sources if development within the sector did not include improvements to SMC relative to the current baseline); and
- Gaps and needs for SMC to protect the environment, human health and economic sustainability under the sector development scenarios contained or likely to be adopted in the development plan. Stated another way, what level of damage related to chemical pollution could we expect if a country was successful in growing the sector from the current baseline, as called for in the



development plan, but did little to improve SMC in the sector at the same time? What costs might this impose on the country's environment, public health and economic sustainability, which should be taken into account to explain the need for parallel improvements in SMC as the sector grows? What additional benefits in the quality and sustainability of development within the sector can be achieved by taking SMC improvements fully into account in the development planning scenarios for the sector?

Cross-Sectoral SMC Governance

The Situation Report would also include research and analysis of current status, gaps and needs for SMC governance that crosses (i.e. applies to all or many) of the sectors prioritized in the national development plan. These governance factors would constitute a separate chapter of the Situation Report. This analysis is usually more familiar to officials within environment and health sectors. However, in mainstreaming efforts it is important to show how gaps in SMC governance directly affect the quality and sustainability of development within the priority development sectors of the national development plan.

The Project Director and Project Coordinator, normally in consultation with government lawyers, would typically take charge of assessing the cross-sectoral environmental management capacity of the country as applicable to SMC, including at a minimum considering:

- The current legislative infrastructure to manage chemicals within the country to determine whether there are major gaps in legislation, or shortfalls in implementation of current legislative authorities;
- Major institutional gaps, inefficiencies or capacity shortfalls in the implementation of legislation to manage chemicals;
- Possibilities to introduce or improve systems for risk management of chemicals through establishing or strengthening the appropriate tools for this purpose (assessment and information requirements) and the implementation of the Globally Harmonized System of Classification and Labeling of Chemicals; and
- Description of the status of current information requirements and the current information flow within industry regarding data on chemical hazards and recommendations for risk management (classification and labeling systems, safety data sheets).

An analysis of legislative capacity would typically include a discussion of:

- The prime or source law (e.g. the constitution of the country) that gives authority to develop legislation in the area of SMC. What is the scope of this prime law and what are the limitations? For instance, the prime law might give certain powers to different levels of government thus limiting the scope of the legislative instruments that can be developed and implemented at any one level of government.
- What existing government legislation is applicable to the management of chemicals within the country? Are there major gaps in this legislation to manage the life cycle of chemicals taking into account that many developing countries are not producers of chemicals but rather import most if not all of their chemical needs?



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- Are there major implementation gaps for legislation that already exists? What are the key factors that explain the implementation gaps?
- Are there major regulatory gaps for managing the life cycle of chemicals? For instance, legislation might be in place, but regulations have not yet been developed to give operational effect to the legislation. Where are the gaps in regulations, and is the legislative authority to fill these gaps adequate to the task?
- Are there enforcement rules of procedure in place? These rules are required to give legality to the process used to enforce chemicals regulations. This is a separate requirement to consider in a legislative analysis because the rules of procedure for enforcement must adhere to more than just the chemical related legislation. Rules of procedure for enforcement must also be consistent with other aspects of constitutional law, civil rights law, laws of due process in criminal law, and so forth in order to stand-up before the courts. It is not uncommon for countries to neglect this key aspect of the implementation of chemicals legislation and therefore never proceed to full enforcement of regulatory requirements because they are unsure of the legal procedures for doing so or, alternatively, cases brought before the court fail to enforce the government's will for SMC.

Research Guidance

There are many guidance documents that can help inform research into SMC issues (see **Annex 1** for web links). The substance of those guidance documents will not be reproduced here to avoid redundancy and to keep our focus on the new aspects of guidance related to mainstreaming SMC priorities into development planning. A useful place to start with respect to guidance on researching SMC issues can be found in the annexes to this guidance document and the January 2008 IOMC publication, *National Implementation of SAICM: A Guide to Resource, Guidance, and Training Materials of IOMC Participating Organisations*.¹⁷

3.2.5 S1 (v): Draft the National Situation Report

The National Situation Report will be built from the contributions of the sector teams and the review of SMC governance as indicated in **Si (iv)**. The **Core Analytical Team** will review all of the contributions to the Situation Report, and one person from the core team should be assigned to complete the drafting of the report (i.e. “hold the pen” on integration of the various contributions to the report) while the other core team members address questions and information gaps along with and in assistance to the main report drafter. The main report drafter is often, though not necessarily always, the Senior Economist to help ensure that the report retains a focus on SMC issues in the development planning context, by contrast with an exclusively technical SMC research exercise. At the end of the day, however, the entire Core Analytical Team, reporting to the Project Director, should assume responsibility for the multi-disciplinary, cross-sector quality of the Situation Report.

17 IOMC. 2006. *National Implementation of SAICM: A Guide to Resource, Guidance, and Training Materials of IOMC Participating Organisations*. http://www.who.int/iomc/saicm/resource_guide.pdf



3.3 Step 2: Diagnostics & Needs Assessment

STEP 2 Diagnostics & Needs Assessment

Checklist for Step 2 Diagnostics and Needs Assessment

- S2 (i) – Convene workshop of the entire project team to assess the draft National Situation Report
- S2 (ii) – Fill information gaps on the highest SMC priorities and revise the Situation Report
- S2 (iii) – Circulate Situation Report for Multi-Stakeholder Comments
- S2 (iv) – Revise the Situation Report and SMC priorities as required by stakeholder comments

Step 2 Summary

Purpose: Identify high risks of chemical exposure above acceptable burdens for vulnerable ecosystems, and humans (both acute and long term effects) using information gathered through a multi-stakeholder approach.

Goal: Preparation of an in-depth assessment of chemicals management issues relevant to national MDG-based development planning.

Rationale: The root causes of human and environmental health issues should be taken into consideration from the outset to ensure that they are fully addressed in policies to integrate sound management of chemicals into development planning.

3.3.1 S2 (i): Convene Workshop of the Entire Project Team to Assess the Draft Situation Report

A workshop of the **Entire Project Team** should be convened to: a) formally review the draft National Situation Report, b) raise awareness among government officials about the major SMC issues that are being identified in the mainstreaming project and why, and c) develop the major conclusions and recommendations that will be presented in the revised National Situation Report.

Workshop participants would normally include:

- The Project Director
- Senior managers from each of the core ministries represented on the Interagency Coordinating Mechanism (i.e. people who are in a position to brief ICM members);
- The Core Analytical Team;
- The members of the Sector Teams; and
- International/national experts that might be available to the mainstreaming project.



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The workshop would normally occur over 2 days, with **Day 1** allowing for:

- Presentations on the results of each of the main chapters of the National Situation Report to generally raise awareness about the SMC issues that are emerging out of the mainstreaming effort;
- Discussions on data and information gaps that remain to be addressed in each Chapter of the Situation Report;
- Identifying strategies for addressing important information gaps, including who will help address the gaps and by when; and
- Decisions on areas for needed strengthening of the analysis in general with instructions to the Core Analytical Team.

Day 2 would normally allow for:

- Discussion of the highest priority SMC needs for the country seen in context of the national development plan, which will constitute the major conclusions and recommendations of the National Situation Report;
- Building arguments for why these needs are the highest priorities relative to other needs that will have been identified but are not as critical in the next 4-5-year planning horizon (i.e. only so much can be done by any country in context of a 4-5 year national development plan; other issues could well re-emerge in later planning cycles);
- Identifying the types of additional data that would be needed to strengthen arguments for certain priorities in context of the national development plan; and
- Identifying strategies for finding the additional data, including whom will do so and by when.

3.3.2 S2 (ii): Fill Information Gaps on the Highest SMC Priorities and Revise the Situation Report

Building on the results of the workshop in **S2 (i)**, the **Core Analytical Team** would normally revise the National Situation Report drawing on help from the **Sector Teams**.

3.3.3 S2 (iii): Circulate Situation Report to Stakeholders for Comments

The revised National Situation Report with major conclusions and recommendations added would normally be circulated for comment to every person or organization that attended the Project Inception Workshop (see **PM (ix)**). The intent is to:

- Allow stakeholders to formally review the draft National Situation Report and submit comments;
- Raise awareness among stakeholders about the major SMC issues that are being identified in the mainstreaming project and why; and
- Add value to the major conclusions and recommendations of the National Situation Report from their unique perspective as stakeholders.



3.3.4 S2 (iv): Revise the Situation Report as Required by Stakeholder Comments

Building on stakeholder comments in **S2 (iii)**, the **Core Analytical Team** would normally revise the National Situation Report drawing on help from the **Sector Teams** as required. After this revision, the report would normally be circulated back to government officials from the workshop in **S2 (i)** with an explanation of any major changes that might have been made to the draft National Situation Report. The government participants would normally be given 2 weeks to raise concerns about any of the changes made to the Situation Report before it is circulated back to all stakeholders, who have participated in the mainstreaming effort thus far, as a **Final National Situation Report**.

3.4 Step3: Identification of National SMC Priorities

STEP 3

Identification
of National
SMC
Priorities

Checklist for Step 3: Diagnostics and Needs Assessment

- S3 (i) – Prepare concept papers on proposed highest priorities for mainstreaming
 - S3 (ii) – Convene a full meeting of ICM
- S3 (iii) – Revise Issue Concept Papers and Circulate Back to the ICM for Final Approval

Step 3 Summary

Purpose: Undertake a qualitative analysis of the links between major chemical problem areas, human and environmental health, and the quality of national development to identify opportunities and priorities for national decision-making on sound chemicals management.

Goal: List and describe opportunities (legal, technical and institutional) that can strengthen the national chemical management regime. Identify the highest national priorities based on a priority-setting exercise taking the practicality of opportunities for improvement fully into account.

Rationale: Describing the links between improper management of chemicals and its effects on human and is a necessary foundation for identifying the full range of actions that can help a country improve its chemicals management regime. A priority chemical management issue will be one that is significant to national health, environment and development objectives and is practical and achievable.



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3.4.1 S3 (i): Prepare Concept Papers on Proposed Highest Priorities for Mainstreaming

To start this step, the Project Director would normally convene a meeting of the Core Analytical Team to reach decisions on the approach to be taken. The main challenge is to agree on arguments for why some priority issues identified in the National Situation Report will proceed for further analysis in the mainstreaming effort, while other issues fall off the priority short-list at least for the next 4-5 year development planning cycle, perhaps reemerging in subsequent planning cycles.

The second important challenge is one of communication. Environment and health ministry officials in most countries typically need enhanced capacities to convey environment and health information in a way that is more relevant to development planners. Packaging of data and information has often been inadequately convincing to make the case for mainstreaming in terms that development and finance officials can understand. **In this Step, the project team focuses on addressing this communications challenge and receiving high-level approval of SMC priorities for further investigation under the mainstreaming effort.**

Firstly, building on the information in the National Situation Report, the Project Director and Core Analytical Team should carefully prepare to provide members of the Interministerial Coordinating Mechanism (ICM) (see PM (viii)) with a clear and concise qualitative explanation of the highest priority SMC improvements recommended for the chemical-intensive sectors prioritized in the national development plan.

Secondly, a qualitative explanation should be provided on what the environment chapter, typical of national development plans, should contain with respect to SMC priorities, emphasizing SMC improvements that have cross-sector significance in terms of enhancing the quality of life and development in many sectors of the society, including prioritized development sectors.

To address this analytical and communication challenge, **Issue Concept Papers** (usually not more than approximately 5 pages each) should be prepared, in easily understood policy terms, for each SMC priority recommended by the Project Director and Core Analytical Team. **The list of concepts ought not to be too long because practically speaking a country can only do so much in a 4-5 year planning cycle. This reality should be vigorously deployed to force discipline on what is proposed to the ICM.**

The **Issue Concept Papers** would normally include:

- **Issue Statement** - Succinctly explain the issue in simple and direct terms;
- **Rationale** – Succinctly explain why this is a priority issue relative to others linking the explanation to the priorities of the national development plan;
- **Summary of Costs of Inaction** – Provide a qualitative description, adding quantitative data if available, of the risks (i.e. effects on the environment, public health and economic viability of



other impacted economic sectors, etc.) that are likely to emerge if action is not taken during the course of the development plan, taking the current baseline and sector economic growth scenarios into account (e.g. moving from 10 copper mines to 15 copper mines or doubling agricultural exports in context of the next national development plan: what happens if SMC practices remain underdeveloped under those scenarios?);

- **Summary of Benefits and Options for Actions** – Provide a qualitative description, adding quantitative data if available, of the probable environmental, public health and economic benefits of action to improve SMC related to the issue. Provide a description of practical options to respond to the risks noted above (i.e. policy options, technology enhancements, worker training, information systems, public outreach, infrastructure improvements, etc.) outlining the potential benefits and main responsibilities (i.e. levels of government, which ministries, industry, other non-government parties, etc.) for each option. Note the approximate costs of action if those are known at this stage; and
- **Next Steps** – Describe how the issue will be further investigated to provide additional information through the remainder of the mainstreaming effort. Try to be as clear as possible so that people have confidence, especially if the issue is controversial and/or political, about how the issue will be treated going forward, especially with regard to efforts to strengthen the qualitative arguments of this stage with quantitative analysis (i.e. economic cost-benefit analysis; see Step 4a) if that is deemed to be feasible for the issue.

3.4.2 S3 (ii): Convene a Full Meeting of ICM

The **Project Director** should convene a full meeting of the ICM to consider the Issue Concept Papers produced in **S3 (i)**. To allow for a meaningful discussion and approvals of priority SMC issues, the **Issue Concept Papers**, supported by the **Final National Situation Report**, should be circulated to the ICM at least 2 weeks in advance of the meeting.

The ICM meeting would normally produce decisions on whether the Issue Concept Papers:

Identify the right priorities (i.e. should anything be removed, substantially changed or added);

Need to be strengthened in any way before a decision can be taken; and

Are defensible in terms of next steps for each priority SMC issue in the mainstreaming effort.

3.4.3 S3 (iii): Revise Issue Concept Papers and Circulate Back to the ICM for Final Approval

If revisions to the **Issue Concept Papers** are requested by the ICM, changes should be made promptly to avoid a loss of momentum in the approvals process, and circulated back to the ICM for final approvals, usually via email exchange.



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3.5 Step 4 a & b: Economic Valuation and Targeted Policy Instruments

STEP 4a Economic Valuation of Selected Priorities	Checklist for Step 4a: Economic Evaluation and Targeted Policy Instruments
	<ul style="list-style-type: none">■ S4a (i) – Develop economic (cost-benefit) analysis framework■ S4a (ii) – Convene a workshop of the entire project team to review the economic analysis framework(s)■ S4a (iii) – Conduct the economic/cost-benefit analysis studies/reports■ S4a (iv) – Update the Issue Concept Papers with the results of the economic analyses■ S4a (v) - Convene a meeting of the ICM to discuss results of the economic analyses
STEP 4b Targeted Policy Instruments	Checklist for Step 4b: Targeted Policy Instruments
	<ul style="list-style-type: none">■ S4b (i) – Conduct studies/reports of policy instrument options to enable government action on identified priorities■ S4b (ii) – Update the Issue Concept Papers with the results of the policy analysis■ S4b (iii) – Convene a meeting of the ICM to discuss results of the policy instruments analyses■ S4b (iv) - Build the Business Case for the agreed policy instrument(s) to be proposed for adoption

Step 4a Summary: Economic Valuation of Selected Priorities

Purpose: Estimation/quantification of the “costs of inaction” imposed on human and environmental health and the quality of national development when no action is taken as compared to costs of taking practical action

Goal: Determination of economic costs and benefits of policy options to address chemical management problems identified as national priorities (including potentially ‘hidden’ costs). Buy-in of the government’s central finance and economic development agencies, for which valuation is a crucial decision-making tool.

Rationale: Demonstrating a threat does not in itself provide a solution. Identifying and measuring environmental, health and development impacts is often not sufficiently convincing to ensure that these threats are given the attention they require when policy decisions are made. Actions to address these impacts have financial implications. Determining economic costs and benefits of policy options will help decision makers understand and act on the outcomes of a sound management of chemicals assessment.



Step 4B Summary: Targeted Policy Instruments

Purpose: Development of practical policy and regulatory responses for selected chemicals management priorities.

Goal: Initiation of legislative and institutional reforms to facilitate the implementation of selected priorities and their integration into national development planning.

Rationale: It is important to consider the wide range of potential interventions that could be implemented identifying those that can have practical effect to improve the situation in a meaningful timeframe and within the financial constraints of the society.

3.5.1 Step 4a: Economic Evaluation and Step 4b: Targeted Policy Instruments

3.5.1.1 S4a (i): Develop Economic (Cost-Benefit) Analysis Framework

As mentioned in Section 1.1, Supplemental Economic Analysis Guidance has been produced to support this Guidance Document on mainstreaming. The supplemental guidance addresses technical aspects of conducting economic cost-benefit analysis on SMC issues in practice, whereas this Guidance Document on mainstreaming addresses the process issues associated with Step 4a in the overall mainstreaming effort.

Capacities for economic analysis are vitally important to support integration of SMC priorities into national development policies and plans, including:

- Quantitative assessment of the costs and benefits of action or inaction to address a priority SMC issue; and
- Communicating results to finance and planning ministries and political leaders in an economic language that they are accustomed to working with.

The economic cost-benefit analysis would normally begin with two tasks:

- A decision by the Project Director, in consultation with the Core Analytical Team and members of the ICM, on which of the shortlisted priorities approved by the ICM (see S3 (iii)) will be the subject of economic analysis efforts and in what order; and
- Development of a Cost-Benefit Analysis Framework for each of the SMC priorities that will be the subject of economic analysis.

The Senior Economist should develop the Cost-Benefit Analysis Framework in a concise format (e.g. spreadsheet, tabular format, etc.) allowing for informed and intuitive discussion by non-economists. The framework would normally address:

- Study objectives;
- Summary of the analytical method to be used in the study;
- Study scope (e.g. sector definition, geographic area, technology type, etc., as applicable);



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- Costs and benefits to be used/estimated in the analysis:
 - ▶ The benefits to be quantified;
 - ▶ The costs to be quantified;
 - ▶ How the costs and benefits will be valued¹⁸;
 - Identification of probable data gaps important to the analysis;
 - Methodological approaches to address data gaps (e.g. further data gathering needed; extrapolating from experience and data in other countries under similar scenarios, etc.);
- Proposed assumptions and estimates to be used in the analysis including:
 - ▶ Base year to be used in the analysis;
 - ▶ Evaluation period (length of economic assumptions);
 - ▶ Sector growth rate assumptions;
 - ▶ Discount rate¹⁹; and
- Risk and uncertainty assumptions (i.e. identification of all the risks that could impact on conclusions of the analysis).

3.5.1.2 **S4a (ii): Convene a Workshop of the Entire Project Team to Review the Economic Analysis Framework(s)**

The Project Director would normally convene a one day workshop for the Entire Project Team (**see S2 (i)**) to: a) formally review the economic analysis framework(s), b) raise awareness among government officials about and produce comments on the major benefits and costs that are identified in the framework(s), c) produce comments on and revise as needed major assumptions in the framework, and d) develop possible solutions to major data gaps anticipated by the framework, including identifying by whom and when data gaps will be filled if possible.

Workshop participants would normally include:

- The Project Director
- Senior managers from each of the core ministries represented on the Interagency Coordinating Mechanism (i.e. people who are in a position to brief ICM members);
- The Core Analytical Team;

18 In general, all benefits and costs should be quantified and valued in money (e.g. dollar) terms unless it is clearly impractical to do so. This may happen because the costs and benefits:
Cannot be reliably measured, or
Are not significant to the analysis, or
Are significant to the analysis but the resource/staff cost of attempting to value them outweighs the advantage of including them in the analysis.

19 The term discounted means that cash flows which occur later are given less weight than flows which occur sooner, with larger reductions the further into the future the cash flows occur. The discounted value is also known as the present value. The justification for discounting is that most people would prefer receiving a dollar today over receiving a dollar in a year's time. This is referred to as time preference or the time value of money.



- The members of the Sector Teams; and
- International/national experts that might be available to the mainstreaming project.

The economic analysis framework(s) should be revised by the **Senior Economist** as required prior to commencing the economic analysis and circulated back to the **Entire Project Team**.

3.5.1.3 *S4a (iii): Conduct the economic/cost-benefit analysis studies/reports*

The **Senior Economist** will lead the analysis supported by the other members of the **Core Analytical Team** (see **S1 (ii)**) and members of **Sector Teams** (see **S1 (iii)**) who were involved in producing the relevant sector analyses in the Situation Report.

3.5.1.4 *S4a (iv): Update the Issue Concept Papers with the results of the economic analyses*

A summary of the results (i.e. main points, conclusions and recommendations) of the economic analyses should be added to the Issue Concept Papers (see S3 (i) and S3 (iii)) replacing the section on Next Steps as follows:

- **Issue Statement** - Succinctly explain the issue in simple and direct terms;
- **Rationale** – Succinctly explain why this is a priority issue relative to others linking the explanation to the priorities of the national development plan;
- **Summary of Costs of Inaction** – Provide a qualitative description, adding quantitative data if available, of the risks (i.e. effects on the environment, public health and economic viability of other impacted economic sectors, etc.) that are likely to emerge if action is not taken during the course of the development plan, taking the current baseline and sector economic growth scenarios into account (e.g. moving from 10 copper mines to 15 copper mines or doubling agricultural exports in context of the next national development plan: what happens if SMC practices remain underdeveloped under those scenarios?);
- **Summary of Benefits and Options for Actions** – Provide a qualitative description, adding quantitative data if available, of the probable environmental, public health and economic benefits of action to improve SMC related to the issue. Provide a description of practical options to respond to the risks noted above (i.e. policy options, technology enhancements, worker training, information systems, public outreach, infrastructure improvements, etc.) outlining the potential benefits and main responsibilities (i.e. levels of government, which ministries, industry, other non-government parties, etc.) for each option. Note the approximate costs of action if those are known at this stage; and
- **Summary Results of Costs and Benefits Analysis** – Summarize the results of the economic analysis for this issue.
- **Summary of Policy Options Available to the Government** – See S4b (iii) below.

3.5.1.6 *S4a (v): Convene a Meeting of the ICM to Discuss Results of Economic Analyses*

The Project Director would normally circulate the updated Issue Concept Papers two weeks in advance of the ICM meeting.



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3.5.2 Step 4b: Targeted Policy Instruments

3.5.2.1 S4b (I): Conduct studies/reports of policy instrument options

The Project Coordinator would normally lead this work to produce focused policy instruments options analyses for the priority SMC issues identified thus far in the mainstreaming effort, often with the assistance of a national consultant and (an) international expert(s) that might be available to the mainstreaming effort. This work should be done in close coordination with the economic analysis of **S4a**.

Key objectives of the policy instrument options analyses are to ensure that:

- For SMC priorities that have been targeted for economic cost-benefit analysis in **Step 4a**, the government's policy options to respond to the issue are clearly understood and can be budgeted as part of the economic analysis; and
- If the government is convinced to take action on a priority SMC issue as part of the national development plan, the government has a clear view of the supportive policy or governance infrastructure that must be put in place to ensure that the priority issue has the best possible opportunity to be effectively addressed.²⁰

For example, if one priority SMC issue identified in the mainstreaming effort is construction of a certified hazardous waste disposal facility, that work cannot proceed effectively and in a commercially viable fashion (i.e. for instance to encourage private investment) without modern laws and regulations being in place to require that the facility be used by industry for certain listed hazardous wastes, and that the volumes of these wastes are well understood in advance. Similarly, if another priority SMC issue is safe storage and distribution of agro-chemicals, appropriate laws and regulations must be in place before any investment into such facilities or transportation equipment would be sustainable.

In addition, problem areas in different sectors and subsequent needs for improved legislative instruments drawn from the analysis conducted under Section 3.2.4 on cross-sectoral environmental governance may be identified with the overall goal of identifying legal development goals in addition to the specific goals of the sectors. Experience from the sectors will also contribute with valuable input to the assessment of the national legal framework using an iterative approach, which makes use of the results from the stakeholder consultations. In this regard, UNEP has developed additional guidance for the development of improved legislative infrastructure.²¹

Finally, beyond commonly understood legislative and regulatory actions, policy instruments can include a wide range of other actions that could enhance regulatory activities, and complement them with compatible non-regulatory approaches as noted in the SAICM Overarching Policy Strategy²².

20 See UNEP, Project on development of legal and institutional infrastructures for sound management of chemicals in developing countries and countries with economies in transition. <http://www.chem.unep.ch/unepsaicm/riga06/default.html>

21 Guidance on the Development of Legal and Institutional Infrastructures for Sound Management of Chemicals and Measures for Recovering Costs of National Administration. <http://www.chem.unep.ch/unepsaicm/riga06/default.html>

22 See the SAICM Overarching Policy Strategy which is comprehensive in identifying policy instrument options that can be used to advance the objectives of SAICM. <http://www.saicm.org>.



Nubarashen burial site of obsolete and banned pesticides. ©GEF Small Grants Programme, UNDP, Armenia

3.5.2.2 **S4b (ii):** *Update the Issue Concept Papers with the results of the policy analysis*

A summary of the results (i.e. main points, conclusions and recommendations) of the policy options analyses should be added to the **Issue Concept Papers** (see **S3 (i)** and **S3 (iii)**) replacing the section on Next Steps as indicated in **S4a (iv)**.

3.5.2.3 **S4b (iii):** *Convene a meeting of the ICM to discuss results of the policy instruments analyses*

The Project Director should convene a full meeting of the ICM to consider the updated Issue Concept Papers produced in S4a (iv) and S4b (ii). To allow for a meaningful discussion and approvals of priority SMC issues, the updated Issue Concept Papers should be circulated to the ICM at least 2 weeks in advance of the meeting.

The ICM meeting would normally produce decisions on whether the updated Issue Concept Papers:

- Are complete and adequately substantiated by the analyses of the various steps of the mainstreaming effort;
- Can result in ICM conclusions on including the priority SMC issues in the development plan, and how options (see Step 5) for doing so will be formally submitted to high political office for approval; and
- Can result in identification of other opportunities that would facilitate the adoption of the priority SMC issues in the activities of concerned government ministries and stakeholders (e.g. sector strategic plans, sector policies, industry codes of conduct, etc.).



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3.5.2.4 S4b (iv): Construct the preliminary business case for selected policy instrument options

Once the ICM has agreed on the policy instrument options that will be proposed to address the high priority SMC issues, a business case should be made for these options building on all of the accumulated work in the Issue Concept Papers, which were last updated in S4b (ii). The reason for this is to give the government adequate information about what will be the general scale of cost considerations to implement the proposed options and over what phased period of time.

For example, if the project was to conclude that new enabling or framework legislation is required, it is not enough to simply propose this priority without some sense of the practicality regarding its implementation. Laws, like all other policy instruments and initiatives, cannot be adequately budgeted in the abstract but rather must be converted to work plan elements for which resource requirements can be assigned. Key questions for costing in this example would be:

- What regulations under the law will be phased in first?
- In what timeframe(s)?
- Through what institutional mechanism(s)?

When these key questions are answered, the government can then assess:

- A. How the law's phased implementation will change the work that the government has to do and when;
- B. What approximate new and/or additional compliance costs will be imposed on the regulated community (beyond the fees and charges imposed by the government) e.g. new techniques, technology or processes; and
- C. The potential for fees and charges to be imposed by the government on private entities to offset costs associated with implementation of the law (i.e. permitting or licensing charges for chemicals).

With respect to item A, costing government work related to new activities will typically involve 5 components:

- Identifying the specific products and services required of the activity area (i.e. the preferred policy option);
- Identifying the core functions required to deliver on these products and services;
- Building and analyzing a resource model (budget) that reflects the financial and human resource requirements to implement the core functions (i.e. how many people, at what level of compensation, and what operating budget will these people need to perform their jobs adequately?);
- Identify major, high probability future requirements on the products and services, and anticipate how these changing demands might affect the scale of the core functions; and

Forecast in the resource model the financial and human resources required for implementing the core functions at the scale of activity anticipated for phased implementation (typically forecasted over 5 years).



3.6 Step 5: Mainstreaming SMC Priorities

STEP 5 Mainstreaming SMC for the MDGs

Checklist for Step 5: Mainstreaming SMC Priorities

- S5 (i) – Prepare specific text for inclusion of the approved SMC priorities into chapters of the development plan
- S5 (ii) – Circulate specific text to the ICM for comment
- S5 (iii) - Convene a multi-stakeholder workshop to review projects results and proposals for the development plan
- S5 (iv) - Present project final results to senior political office holders to encourage political uptake of project results (e.g. President or Prime Minister's Office, cabinet, inter-ministerial body, etc.)

Step 5 Summary

Purpose: Integration of sound management of chemicals priorities into national development planning to address the most serious problem areas. Fostering national budget commitments, in partnership with donor assistance, following the integration of priorities into national policy and planning documents.

Goal: Making clear to national finance and treasury departments, and aid agency officials, the linkages between sound management of chemicals and progress in achieving major national development objectives, including the Millennium Development Goals. Awareness raising targeted to political decision makers. Inclusion of priorities for sound management of chemicals in national policy and planning documents.

Rationale: Decision makers are far more likely to opt for practical actions when the costs to human and environmental health and the quality of development are understood as fully as possible. Significant responses to hazards often only occur when a long-standing environmental risk erupts into a health crisis, or economic or political emergency. By moving from a reactive to a proactive policy approach, risks that might develop into full-scale environmental and health emergencies can be mitigated, and crises that otherwise might have serious implications for a country's economic, political and physical infrastructure can be limited or even prevented.



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3.6.1 *S5 (i): Prepare Specific Text for Inclusion of the Approved SMC Priorities into Chapters of the Development Plan*

The Project Director should lead an effort by the Core Analytical Team to develop specific textual language indicating how the approved SMC priorities can be brought into:

- The cross-sector environment chapter of the national development plan, emphasizing SMC improvements that have cross-sector significance in terms of enhancing the quality of life and development in many sectors of the society, including prioritized development sectors; and
- Chapters addressing the chemical-intensive sectors prioritized in the national development plan.

Developing specific text will ensure that the results of the mainstreaming effort are accurately reflected in the development planning process rather than leaving the text drafting responsibility to other people who might otherwise have been only marginally involved. The Project Director and his or her managers should be able to justify in detail the inclusion of every part of the proposed text. The rigorous process followed in the mainstreaming effort will give the Project Director a very strong basis to provide such justifications (e.g. well prepared analyses in each step of the mainstreaming approach and step-by-step approvals by the ICM).

Annex 4 provides text examples for a few of the high priority items typically identified as priorities for mainstreaming countries regarding the cross-sector environment chapter. These examples are not intended to be comprehensive or prescriptive, but rather to serve as indications of text that could possibly be incorporated into national development plans. Countries will reach their own conclusions about what their priorities should be by following this mainstreaming approach. Similarly Annex 5 provides text examples for a few of the high priorities that could be prioritized for chemical-intensive sectors of national development plans.

3.6.2 *S5 (ii): Circulate Specific Text to the ICM for comment*

The **Project Director** would normally circulate proposed text for the national development plan to all members of the ICM for comment and further negotiation as required.

Based on comments received, the Project Director would normally revise the text where possible to achieve agreement with ICM members as long as changes are consistent with the findings of the mainstreaming effort, including ICM decisions taken to-date within the project.

3.6.3 *S5 (iii): Convene a Multistakeholder Workshop to Review Projects Results and Proposals for the Development Plan*

The **Project Director** should convene a one-day multi-stakeholder meeting including those people and organizations that participated in the Project Inception workshop of **PM (ix)**.

The workshop should:

- Report out on the results for each step of the mainstreaming effort and how decisions were taken throughout;



- Seek support from participants to encourage their organizations and political leadership to adopt as policy the results of the mainstreaming effort; and
- Identify and generally agree on specific ways that stakeholders can support the results of the mainstreaming effort.

3.6.4 S5 (iv): Present Project Final Results to Senior Political Office Holders

This task can take many different forms considering countries have unique political cultures, institutions and processes. However, the political-level adoption of the results of mainstreaming effort cannot be understated in terms of its importance. The results of the mainstreaming effort could be compromised until this task has been fully implemented in terms of all available options to influence political leadership building on the results of the mainstreaming analyses and the results of the ICM meeting in S4b (iii).



A chemical factory in Mexico City. ©UN Photo/F Botts



4.0 TIMELINES AND BUDGETING CONSIDERATIONS

Table 1 below provides a recommendation for the distribution of time and resources to implement the mainstreaming approach. The table assumes the project will be conducted over 24 months, as recommended in this guidance document. It assumes that mainstreaming countries will adopt the entire approach and that each checklist item for each step in the approach will be completed generally as recommended. However, there are cases where a country might decide to lesson the role of one or more steps in order to give additional time and resources to other steps. This could happen, for example, when work similar to the Situation Report has recently been completed in the country and the decision has been taken to put more time and resources into the economic analysis step. In that case, the country would reassign resources accordingly.

Table 1: Example Time and Budget Distribution Table for Mainstreaming Projects

Steps in Mainstreaming Methodology	Work Items	Project Personnel	Approximate Time Allotment Assuming 24 Months Project Measured in Months	Budget Percentage In Cases When Budget Sizes Vary % Percentage
Project Mobilization	PM (v) Work Plan and Schedule	Project Director	1	5
	PM (vi) Project Communication Package	Project Director, Manager, Coordinator		
	PM (viii) Compile List of Stakeholders	Project Director, Manager, Coordinator		
	PM (ix) Project Inception Workshop	Project Director, Manager, Coordinator and International Consultant		
Baseline Analysis	S1 (i) Agree on Sector Focus	Project Director and Manager and International Consultant	.25	30
	S1 (ii) Constitute Core Analytical Team	Project Director, Manager, Coordinator	2.0	
	S1 (iii) Constitute Sector Teams	Project Director, Manager, Coordinator	5	
	S1 (iv) Conduct Research	Core Analytical Team, Sector Teams, International Consultant		
	S1 (v) Draft the National Situation Report	Sector Teams, Core Analytical Team, Project Coordinator, Project Manager, International Consultant, Project Director		

4.0 TIMELINES AND BUDGETING CONSIDERATIONS



Steps in Mainstreaming Methodology	Work Items	Project Personnel	Approximate Time Allotment Assuming 24 Months Project Measured in Months	Budget Percentage In Cases When Budget Sizes Vary % Percentage
Diagnostics and Needs Assessment	S2 (i) Project Team Workshop on Situation Report	Sector Teams, Core Analytical Team, Project Coordinator Project Manager, International Consultant, Project Director	.25	10
	S2 (ii) Fill Information Gaps on Highest SMC Priorities	Sector Teams, Core Analytical Team, Project Coordinator, Project Manager	1	
	S2 (iii) Circulate Situation Report for Multi-Stakeholder Comments	Project Coordinator, Project Manager	1.5	
	S2 (iv) Revise the Situation Report and SMC Priorities Based on Comments Received	Sector Teams, Core Analytical Team, Project Coordinator, Project Manager, International Consultant	1	
Identification of National SMC Priorities	S3 (i) Prepare Concept Papers	Sector Teams, Core Analytical Team, Project Coordinator, Project Manager, International Consultant	1	5
	S3 (ii) Convene a Full Meeting of the ICM to Consider Concept Papers	Project Director, Project Manager, Project Coordinator	.25	
	S3 (iii) Revise Issue Concept Papers	Sector Teams, Core Analytical Team, Project Coordinator, Project Manager, International Consultant	.25	



4.0 TIMELINES AND BUDGETING CONSIDERATIONS

Steps in Mainstreaming Methodology	Work Items	Project Personnel	Approximate Time Allotment Assuming 24 Months Project Measured in Months	Budget Percentage In Cases When Budget Sizes Vary % Percentage
Economic Valuation and Targeted Policy Instruments	S4a (i) Develop Economic Analysis Framework	Senior Economist and Other Members of Core Analytical Team, International Consultant	.5	30
	S4a (ii) Project Team Workshop	Sector Teams, Core Analytical Team, Project Coordinator, Project Manager	.25	
	S4a (iii) Conduct the economic/cost-benefit analysis studies/reports	Senior Economist and Other Members of Core Analytical Team, International Consultant	4.5	
	S4a (iv) Update the Issue Concept Papers with Economic Content	Senior Economist and Other Members of Core Analytical Team, Project Coordinator, Project Manager, International Consultant	.25	
	S4a (v) Convene Meeting of the ICM	Project Director, Project Manager, Project Coordinator, International Consultant		
	S4b (i) Studies/ Reports of Policy Instruments	Core Analytical Team, Project Coordinator, Project Manager, International Consultant	2	10
	S4B (ii) Update Issue Concept papers with Policy Instrument Analysis	Core Analytical Team, Project Coordinator, Project Manager, International Consultant	.25	
	S4B (iii) Convene ICM Meeting to Discuss Policy Instrument Analysis	Project Director, Project Manager, Project Coordinator, International Consultant	.25	
	#4b (iv) Build the Business Case for the agreed policy instrument(s)	Senior Economist, Project Director, International Consultant	.5	

4.0 TIMELINES AND BUDGETING CONSIDERATIONS



Steps in Mainstreaming Methodology	Work Items	Project Personnel	Approximate Time Allotment Assuming 24 Months Project Measured in Months	Budget Percentage In Cases When Budget Sizes Vary % Percentage
Mainstreaming SMC for the MDGs	S5 (i) Prepare text for Inclusion of SMC Priorities into National Development Plan	Project Manager, Project Coordinator, Project Director, International Consultant	.5	10
	S5 (ii) Circulate text to ICM for Comment	Project Director, Project Manager, Project Coordinator	.5	
	S5 (iii) Convene Multistakeholder Workshop	Project Director, Project Manager, Project Coordinator, Core Analytical Team, Sector Teams, International Consultant	.5	
	S5 (iv) Present Project Final Results to Senior Political Office	Project Director, Project Manager	.5	
Totals			24	100



ANNEX 1: PROMINENT WEB LINKS APPLICABLE TO SMC

Agenda 21, www.un.org/esa/sustdev/documents/agenda21/index.htm

Air & Waste Management Association www.awma.org

American Chemistry Council , www.americanchemistry.com

Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (Basel Convention), www.basel.int

Bureau of International Recycling, <http://www.bir.org/welcome/welcome.asp>

Center for International Environmental Law (CIEL), www.ciel.org

CropLife International, www.croplife.org

Food and Agriculture Organization (FAO), www.fao.org

Global Environment Facility (GEF), www.gefweb.org

Global High Production Volume (HPV) Chemical Initiative,
www.cefic.be/activities/hse/mgt/hpv/hpvinit.htm

Greenpeace Toxics Campaign, www.greenpeace.org/international/campaigns/toxics

Health Care Without Harm, www.noharm.org

Intergovernmental Forum on Chemical Safety (IFCS), www.who.int/ifcs

International Council of Chemicals Associations (ICCA), www.icca-chem.org

International Council on Mining and Metals, www.icmm.com/

International Labour Organization (ILO), www.ilo.org and <http://www.ilo.org/public/english/protection/safework/chemsfty/index.htm>

International Maritime Organization (IMO), www.imo.org

International POPs Elimination Network (IPEN), www.ipen.ecn.cz

International Oil and Gas Producers Association, www.ogp.org.uk

Inter-Organization Programme for the Sound Management of Chemicals (IOMC), www.who.int/iomc

International Programme on Chemical Safety (IPCS) (WHO, ILO, UNEP),
<http://www.who.int/ipcs/publications/en/index.html>

Millennium Development Goals (MDGs), www.un.org/millenniumgoals

Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal Protocol),
www.unep.org/ozone/index.asp



Organization for Economic Co-operation and Development (OECD), www.oecd.org

Pesticide Action Network (PAN), www.pan-international.org

Registration, Evaluation, and Authorization of Chemicals (REACH), <http://ecb.jrc.it/REACH/>

Rio Declaration on Environment and Development (Rio Principles),
www.un.org/documents/ga/conf151/aconf15126-1annex1.htm

Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (Rotterdam Convention), www.pic.int/index.html 8 Stockholm Convention on Persistent Organic Pollutants (POPs) (Stockholm Convention), www.pops.int

Strategic Approach to International Chemicals Management (SAICM), www.saicm.org/

UN Framework Convention on Climate Change (UNFCCC), www.unfccc.int

UNEP Chemicals, www.chem.unep.ch

UNEP GC/GMEF 2005 Decision 23/9 on Chemicals Management (including Mercury Programme), www.unep.org/gc/gc23/documents/GC23-Proceedings.doc

United Nations Development Programme (UNDP), www.undp.org

United Nations Industrial Development Organization (UNIDO), www.unido.org

United Nations Institute for Training and Research (UNITAR), www.unitar.org

World Bank, www.worldbank.org

World Health Organization (WHO), www.who.int

WWF Toxics Campaign, www.worldwildlife.org/toxics/



ANNEX 2: LINKAGES BETWEEN THE SOUND MANAGEMENT OF CHEMICALS AND THE MDGS

Millennium Development Goals	Sound Management Of Chemicals (Smc) Linkages To MDGs	
	Positive synergies	Impacts of weak SMC
<p>1. Eradicate Extreme Hunger and Poverty</p> <p>Target 1. Halve, between 1990 and 2015, the proportion of people whose income is less than \$1 a day (Millennium Summit)</p> <p>Target 2. Halve, between 1990 and 2015, the proportion of people who suffer from hunger (Millennium Summit)</p>	<p>Proper use of chemicals, e.g., as part of Integrated Pest Management (IPM), can play a significant role in boosting crop yields. FAO has had considerable success demonstrating that higher yields with lower synthetic pesticide inputs combined with other measures can dramatically increase crop yield and lower costs to farmers.</p> <p>Cleaner production increases efficiency, reducing pollution, and water and electricity consumption and increases profits. Case studies suggest investments are paid back within two years, and increased profits are often realized as result of greater efficiency (Keml, 2005).</p> <p>SMC correlates with reduced health care costs. The US EPA estimates that the benefits of America's Clean Air Act will be around US\$ 690 billion over the period 1990 to 2010. The European Commission estimates that an investment of around seven billion Euros to reduce air pollution will deliver benefits totaling Euro 42 billion as a result of fewer premature deaths, less sickness, fewer hospital admissions and improved labour productivity (UNEP SAICM news release, 2006).</p> <p>SMC, including cleaner production, can help both large and Small-and-Medium Enterprises (SMEs) to improve financial viability. Cleaner production capital outlay includes no-cost measures; payback is typically realized within a few years of investment (Keml, 2005).</p>	<p>The poor at higher risk of exposure to chemicals: Poor people routinely face unacceptably high risks of poisoning because of their occupations, location, and lack of knowledge about proper chemicals management. Malnutrition increases sensitivity to chemicals. An estimated 80% of all poisonings occur in developing countries where regulatory, health, and education systems are weakest. Housing materials in urban slums in developing countries are often constructed from cardboard and scrap materials, some of which may have been exposed to or contain high concentrations of hazardous chemicals.</p> <p>Inappropriate use of chemicals can increase costs to poor farmers: When pesticides are used inappropriately (e.g., where pest resistance exists or is created or by killing off predators of pests), they can lower crop output. There are many documented and reported instances of small farmers paying from 30% to 50% of their total cash outlay for agrochemicals.</p> <p>Pesticide and fertilizer runoff contributes to lowered productivity of freshwater and marine fisheries, which are the main or significant sources of protein in many developing countries.</p> <p>Inadequate SMC is correlated with higher health, environmental and development costs, and lowered worker productivity. The Asian Development Bank (ADB) in a regional assessment of 2001 warned that neglect of the environment was costing Asian economies as much as 8% of national growth, with the extent of degradation expected to increase as 50% of Asia's populations move to urban centers. China is believed to be losing as much as 10% of its national income to pollution and India 5%-6%. The direct cost of water and air pollution in India is believed to be as high as US \$10 billion annually (Asian Times, 2001).</p> <p>In 2000, Brazil's Ministry of Health estimated that there are 300,000 poisonings a year and 5000 deaths from agricultural pesticides; the cost of treatment and lost work was estimated at US \$540 million. The Philippines has estimated that health costs for farmers exposed to pesticides is 61% higher than for those not exposed, while Sri Lanka estimates health costs to farmers from pesticide exposure is equivalent to 10 weeks' income (Pesticide News, 2003).</p> <p>In Germany, skin diseases and asthma caused by occupational chemical exposures were estimated at €275 million, while the cost of lost work days was about the same, likely doubling the total cost to employers (Keml 2005, citing Rühl et al. 2004).</p>

ANNEX 2: LINKAGES BETWEEN THE SOUND MANAGEMENT OF CHEMICALS AND THE MDGS



Millennium Development Goals	Sound Management Of Chemicals (Smc) Linkages To MDGs	
	Positive synergies	Impacts of weak SMC
<p>2. Achieve Universal Primary Education</p> <p>Target 3. Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling (Millennium Summit)</p>	<p>Building basic knowledge of science in the primary grades will lay the initial foundation for development of much needed skill sets to enable countries to progress in many areas of life (manufacturing; health management; legislative enforcement, etc.). Better science education at the primary level is an important building block of SMC as it is necessary to enable students to assimilate science-based curricula within the secondary and tertiary levels within their countries.</p> <p>Raising awareness about SMC safety issues at the primary level can reduce the potential for accidents.</p>	<p>Weak science capacity is a significant factor in weak national capacity for monitoring and evaluation of chemicals, including as related to food safety and security, and exposure of people and the environment to chemicals. It has implications for national ability to enforce legislation (e.g., as related to inspections and detection of releases of chemicals above regulatory limits).</p>
<p>3. Promote gender equality and empower women</p> <p>Target 4. Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015 (Millennium Summit)</p>	<p>Women, as the primary care takers, food preparers, and gatherers of fuel used in the household, can play a role in protecting or minimizing the risk of themselves and their families to exposure from chemicals when they are informed about the risks and how to prevent/respond to them. For example, women's knowledge of proper storage, handling and disposal of chemicals within the home can help protect themselves and their families.</p> <p>Where adverse effects from chronic exposure to chemicals via food is known to be a concern, consumption advisories related to food choices and food preparation can inform women of how to minimize exposure to their families, while maintaining healthy eating habits.</p>	<p>Women are disproportionately affected by indoor air pollution, and water and food-borne illnesses.</p> <p>Women are affected by unsound management of chemicals in their work, e.g., agriculture (e.g., pesticide exposure), gold mining, cottage-recycling that does not follow best-practices, scavenging materials from dump).</p>



ANNEX 2: LINKAGES BETWEEN THE SOUND MANAGEMENT OF CHEMICALS AND THE MDGS

Millennium Development Goals	Sound Management Of Chemicals (Smc) Linkages To MDGs	
	Positive synergies	Impacts of weak SMC
<p>4. Reduce child mortality</p> <p>Target 5. Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate (Millennium Summit)</p>	<p>SMC monitoring of resistance in chemicals used to control vector-borne disease is important to determining their continued effectiveness. Diseases that affect children caused by such vectors include malaria, Kala-azar, Dengue Fever, and Chiaga's Disease.</p> <p>Improving nutrition will decrease sensitivity to chemicals. Currently around 200 million children are suffering from malnutrition (WHO, 2004).</p> <p>Including children as "end-points" in health assessments of chemicals will inform SMC strategies as geared to children's health.</p>	<p>Improper labeling and storage of chemicals in the home is a significant cause of poisoning, including in young children, particularly in developing countries. IFCS in 2003 estimated that each year there are 3 million acute poisonings worldwide, with more than 200,000 fatalities. WHO estimates that 1 million to 5 million cases of pesticide poisonings occur each year, resulting in several thousands of fatalities, including in children.</p> <p>In many developing countries, children are exposed to chemicals through agricultural work. For example, in 2002, the International Institute of Tropical Agriculture estimated that over 150,000 children apply pesticides in West African cocoa production. Half of Cambodian farmers surveyed by the United Nations Food and Agriculture Organization (FAO) said they allowed their children to spray crops.</p> <p>Environmental pollution, to which chemicals have been a major contributor, contributes to the incidence, prevalence, mortality, and costs of pediatric disease in children. For example, one study estimates total annual health care costs within the United States to be US\$54.9 billion or 2.8% of total U.S. health care costs: US\$43.4 billion for lead poisoning, US\$2.0 billion for asthma, US\$0.3 billion for childhood cancer, and US\$9.2 billion for neurobehavioral disorders (EHP, May 2002).</p>
<p>5. Improve Maternal Health</p> <p>Target 6. Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio (Millennium Summit)</p>	<p>Improved capacity for SMC lowers the potential for exposure of the population to toxic and hazardous chemicals, hence lowers risk of contamination, with implications for maternal health and, consequently, health of future generations.</p> <p>Improved nutrition can reduce the susceptibility of a woman to adverse effects of chemicals to which she is exposed.</p> <p>Including women of child-bearing age as "end-points" in health assessments of chemicals will inform SMC strategies as geared health of women, their children and the fetus.</p>	<p>Women's exposure to some types of chemicals commonly used in industrial and industrializing societies (e.g., chlorine-based compounds and "gender-bender" chemicals) is correlated with epidemic rates of some cancers in women within some cultures. However, far fewer studies are done on risks posed by chemicals in poor countries, whether on women or the general population.</p> <p>Women who have accumulated some types of chemicals (e.g. in their lipids or body fat) pass these chemicals on to the foetus via the placenta and during breastfeeding (with the first-borne child receiving the greatest concentration of such chemicals from the mother and each subsequent child proportionately less). For example, in the United States, where "lifetime" accumulations of dioxins and furans remain high owing to daily chronic exposure via fatty foods, such as milk and hamburger, 33% of a woman's adult "body burden" of these chemicals is transferred to the foetus. Some types of chemicals to which the female foetus may be exposed by the mother can adversely affect the lifetime "store" of eggs which the female foetus develops, with implications for the health of future generations of both women and men, as well as that child, should adverse affects occur at a critical stage of development. Hence there is a direct correlation with chemicals and maternal health as affecting both the mother and her children.</p>

ANNEX 2: LINKAGES BETWEEN THE SOUND MANAGEMENT OF CHEMICALS AND THE MDGS



Millennium Development Goals	Sound Management Of Chemicals (Smc) Linkages To MDGs	
	Positive synergies	Impacts of weak SMC
<p>6. Combat HIV/AIDS, Malaria and other Diseases</p> <p>Target 7. Have halted by 2015 and begun to reverse the spread of HIV/AIDS (Millennium Summit)</p> <p>Target 8. Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases (Millennium Summit)</p> <p>Target 9. Integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources (Millennium Summit)</p> <p>Target 10. Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation (Millennium Summit)</p> <p>Target 11. Have achieved by 2020 a significant improvement in the lives of at least 100 million slum dwellers (Millennium Summit)</p>	<p>Where malarial medications (prophylactics) and other chemical products (e.g., treated bed nets) are applied as part of holistic prevention and treatment response programmes (e.g., inclusive of rapid diagnosis; targeted application of sprays within endemic areas and other best practices recommended by WHO) the impact on environment is minimized.</p> <p>Awareness-raising on proper use and disposal of medications (e.g., to control tuberculosis) lowers risk to environment and prevents/retards development of drug resistance.</p> <p>SMC prevents/minimizes harmful chemicals from entering the environment where they can cause degradation of ecosystems, including land, water and air, and to flora and fauna. Environmental contamination is also linked to health. For example, environmental pollution is thought to be responsible for 2% of cancer deaths (Harvard Report on Cancer Prevention, 1996).</p> <p>Chemical environmental assessments contribute to knowledge about chemical hazards and risks of exposure so as to enable decision-making pertaining to protection of the environment (e.g., prohibitions and restrictions on chemicals used in industry and agriculture where the risk is deemed to be significant and the chemical unmanageable or difficult to manage).</p>	<p>Few developing countries have adequate national monitoring provisions in place to systematically determine effectiveness of chemicals used to control disease vectors. Use of chemicals to which vectors have developed resistance is costly, not only in terms of outlay for the product and workers hired to apply chemicals and associated activities, but in terms of health care costs and illnesses that lower worker productivity where chemicals are ineffective. There is little reliable data on how well developing countries monitor chemical use for vector control as this has not been high among developing country priorities, owing to low financial and human resources capacity within countries and low awareness of health implications.</p> <p>Chemicals contribute to global warming and climate change. For example, CFCs contribute to creation of greenhouse gases. The toxic brown cloud that has resulted from rapid Asian industrialization without adequate pollution controls is thought to be a contributing factor to changes in the Earth's atmosphere that are linked to climate change (National Geographic, 2003).</p> <p>Improperly managed chemicals are a major contributor to environmental contamination of water bodies. The World Commission on Water for the 21st Century calculates that more than half of the world's major rivers are so depleted and polluted that they endanger human health and poison surrounding ecosystems (Interpress, 1999). An estimated 80% of the pollution load to oceans originates from land-based activities, including chemical and solid wastes. More than 60% of the world's population lives within 100 kilometers of marine coastal waters and the majority of the remaining 40 % live near rivers and other waterways. In Latin America, seepage from improper use and disposal of heavy metals, synthetic chemicals and hazardous wastes reaching groundwater from waste dumps appears to be doubling every 15 years (UNEP 1999).</p> <p>Once environmental contamination has occurred, remediation is often difficult and very costly (often millions to billions of dollars), while a contaminated environment also drives up health care costs, both locally and globally.</p> <p>Waste disposal of chemicals (long-term storage in landfills) removes land from productive uses. An estimated 400,000 million tonnes of hazardous waste were generated in the early 1990s (UNEP, 1999). The amount of solid waste (inclusive of hazardous chemical and also human and organic wastes) is expected to increase as much as four fold in some countries (e.g., India) and 500% in others (e.g., Indonesia) (UNU/IAS, 2002). Overall, the 85% growth in chemicals production forecast for 2020 will have enormous implications for waste disposal. Currently, most developing countries lack national waste policies and legislation, as well as the infrastructure required to prevent releases to the environment and for disposal/destruction of wastes.</p> <p>Most developed countries lack adequate resources (human and financial) to systematically monitor for pollution in the environment, including in marine and freshwater systems (lakes, rivers and aquifers) and of the fish and seafood on which key segments of their population may depend for protein.</p>



ANNEX 2: LINKAGES BETWEEN THE SOUND MANAGEMENT OF CHEMICALS AND THE MDGS

Millennium Development Goals	Sound Management Of Chemicals (Smc) Linkages To MDGs	
	Positive synergies	Impacts of weak SMC
8. Develop a Global Partnership for Development	International and bilateral ODA represents a potential international funding source to support national capacity building for SMC. Regional partnerships for some aspects of SMC (e.g., training; information exchange; infrastructure) may help to improve cost efficiencies and reduce transaction costs to donors and countries alike. Promoting partnerships with private sector benefits development of new technologies for SMCs.	Failure to follow-through on commitments to financial support for SMC will result in delays or inaction on SMC capacity building in developing countries.

Source: Resource Futures International, 2006.



Needed economic development is leading to increased chemical intensity and exposure in our countries

- ✓ In all developing countries and CEITs, chemicals production, consumption and disposal will continue to increase rapidly as will their impact on the sustainability for our development
- ✓ Chemicals are increasingly used in the everyday lives of our citizens unlike as little as a decade ago
- ✓ This entails that larger portions of our populations are being exposed to those chemicals that are found to be toxic or hazardous
- ✓ Therefore, there needs to be better linkages drawn between the development aspirations of our societies and the volumes of chemicals produced and/or used and disposed of in our countries.

Chemicals management is a development planning issue of current and growing importance

- ✓ Environment, health and development are very closely linked and threatened by the unsound management of chemicals
- ✓ If chemicals are soundly managed, that may positively influence other economic sectors, e.g. sound management of pesticides will increase yields and food quality contributing to sound economic development
- ✓ We have already been witnessing that in the case of agricultural products, sound chemicals management is important for international trade and sustainable development
- ✓ Linking SMC to the MDGs is one useful way to draw attention to these linkages
- ✓ It is internationally agreed that sound chemicals management is important for sustainable development.

Chemical vulnerability is directly linked to the conditions of poverty

- ✓ Developing countries (being highly dependent on natural resources; agriculture, fisheries etc.) are especially vulnerable to negative chemical effects
- ✓ Our higher proportion of poor people also adds to our vulnerability
- ✓ When we address poverty through our development plan we need to address the exposure of the poor to chemicals as our chemical intensity increases
- ✓ It is the responsibility of governments to protect their citizens from chemical risks and hazards
- ✓ It is a human right to be protected from the effects of these chemicals.

Development planning processes facilitate needed cross-sectoral linkages

- ✓ Chemicals management issues must be addressed multi-sectorally because chemicals are in almost all sectors and have impacts in all sectors
- ✓ Development planning is one of the few comprehensive priority setting and integrating governance tools available to many of our governments and these processes must be used much more effectively



ANNEX 3: KEY CONCLUSIONS OF PARTICIPATING COUNTRIES

- ✓ By clearer integration into the development plan (which is future oriented) we can also identify and maximize the economic benefits of chemicals when they are properly managed, and to anticipate and avoid problems (pollution prevention) associated with some chemical uses for the future
- ✓ Currently management of chemicals is all too often inadequately addressed within a piecemeal technical approach, and this needs to be improved through integrative planning initiatives, government-wide
- ✓ Mainstreaming imposes a stricter discipline on identifying SMC priorities rather than creating wish lists from a purely SMC technical standpoint
- ✓ Seeing linkages between sectors in the development plan helps us understand how unsound chemicals management in one sector can negatively affect people and economic prospects in other sectors of the economy (e.g. mining effluent damages fisheries, etc.)
- ✓ National development planning can also send clear messages to the private sector on how the country values sound management of chemicals and can help put in place programs to help the private sector to comply.

Resource mobilization is a key challenge for progress on SMC

- ✓ Bringing SMC into the national development plan is essential for mobilizing adequate resources to move forward with SMC implementation
- ✓ There are too many chemical reports on the shelf that remain unfunded and, as such, their prioritization in such cases is very important
- ✓ In the absence of mainstreaming, the mobilization of resources is seriously constrained at the national and international levels
- ✓ Even when there are good environmental sector plans in place, the sound management of chemicals does not yet receive appropriate allocation by financial planners in the absence of efforts to systematically mainstream SMC priorities into development planning and economic policy
- ✓ Mainstreaming enables chemicals management to attract more resources from the centre of government and through international assistance because national planning documents are used to focus these partnerships
- ✓ Placing chemical management as a priority into the development plan allows us to begin a process to put in place infrastructure for SMC which is longer term in nature and requires more resources over time.

ANNEX 4: EXAMPLES OF POSSIBLE LANGUAGE FOR THE ENVIRONMENTAL GOVERNANCE CHAPTER OF THE NATIONAL DEVELOPMENT PLAN



OPS section	Prioritized Topic for Mainstreaming	Sub-Topics	Examples of Possible Text for National Development Plans and Policies
National chemicals management policy	When chemical management policies and instruments to minimize risks to human health and the environment require strengthening	National chemicals management policy	<p>Preamble:</p> <p>The global increase of chemicals' production, trade and usage over the last decades has been associated with significant benefits of chemicals use, but also serious negative effects on human health and environment when chemicals are not managed properly throughout their life-cycle. No country can escape these management challenges.</p> <p>The objective of the sound management of chemicals is to apply managerial best practices to chemicals throughout their life cycle to prevent, and, where this is not possible, to reduce or minimize the potential for exposure of people and the environment to toxic and hazardous chemicals (i.e. through polluting emissions, use, disposal, etc.). This requires strengthened governance, and improved techniques and technologies in the production, use, storage, and disposal or recovery of chemicals.</p> <p>Planned Action:</p> <p>While this objective cannot be totally achieved in the short-term, during the timeframe of this (name of national development plan) government ministries with significant responsibilities for chemicals management will work with concerned citizens and partners to develop a National Chemicals Management Policy with clear plans for how our country will move in this direction within our capabilities, assisted where possible by development partners.</p>
Legal and institutional infrastructure	When chemical management policies and instruments to minimize risks to human health and the environment require strengthening	Framework chemicals law	<p>Preamble:</p> <p>Modern framework laws for chemicals management include authorities that allow the government to manage chemicals at any step in their life-cycle (i.e. from production to reclamation or disposal) should action be called for to advance national interests in economic development and human health and environment protection. This does not mean that all possible regulatory action under a framework law need be taken immediately (i.e. which would be impossible in any case), or at any time if the issues are not significant for the country, but it does enable the government to take efficient action in the event that the need arises.</p> <p>Planned Action:</p> <p>During the timeframe of this (name of national development plan), the government will instruct ministries with significant responsibilities for chemicals management, led by the (name of ministry or ministries), to work with concerned citizens and partners to develop a new framework chemicals management law. This undertaking will emphasize good practices in the development of framework legislation, as well as appropriate regulations including developing efficient tools for the government to improve controls over entry of chemicals to the domestic market.</p>



ANNEX 4: EXAMPLES OF POSSIBLE LANGUAGE FOR THE ENVIRONMENTAL GOVERNANCE CHAPTER OF THE NATIONAL DEVELOPMENT PLAN

OPS section	Prioritized Topic for Mainstreaming	Sub-Topics	Examples of Possible Text for National Development Plans and Policies
Improved Information for risk reduction programs	When the status of information as pertinent to chemicals risk management requires strengthening	Chemical inventories	<p>Preamble:</p> <p>A chemical inventory is a listing of industrial chemicals manufactured in, or imported by, a country. An inventory is a database created from information submitted to government authorities by manufacturers, processors, users, and/or importers. The content of an inventory can range from basic (e.g. just the names of chemicals in commerce and general amounts), to quite complex (e.g. amount produced and imported by specific location and being used for specific purposes).</p> <p>An inventory nearly always has a legal instrument as its basis, such as an act, regulation, directive, or decree. The legal instrument defines the content of the information that must be reported to the inventory, to whom, in what form, and when.</p> <p>The initial inventory provides a definition of the chemicals that exist in commerce in the jurisdiction. Chemicals not on the initial inventory can then be identified as new, if subsequently introduced. Most inventories are continuously updated, as new chemicals are introduced.</p> <p>Devoid of a chemical inventory, even if at a basic level, it is more difficult for governments to prioritize programs that will have the greatest benefits relative to costs to improve the sound management of chemicals within its jurisdiction.</p> <p>Planned Action:</p> <p>While this objective cannot be totally achieved in the short-term, during the timeframe of this (name of national development plan) government ministries with significant responsibilities for chemicals management will work with concerned citizens and partners to develop and maintain national chemical inventory that is practical to the current resources and capability of the country. The National Chemicals Inventory will then be used to help prioritize further actions for the sound management of chemicals that will be taken by the government, assisted where possible by development partners.</p>
Improved information for risk reduction programs	When the status of information as pertinent to chemicals risk management requires strengthening	Hazardous wastes inventory	<p>Preamble:</p> <p>As chemicals have become more prevalent in our society, hazardous wastes have also increased in complexity, diversity and quantity. It is well established that mismanagement of hazardous wastes can pose significant risks for human health, the environment, ecosystem services, and economic wellbeing.</p> <p>Countries that have come to manage hazardous wastes effectively typically:</p> <ol style="list-style-type: none"> 1. Start with clear definitions for hazardous wastes, which are needed to distinguish hazardous wastes from other types of wastes. Hazardous wastes require different management practices as compared to other kinds of wastes precisely because of their hazard characteristics. Hazard definitions are usually set out in an act, regulation, directive, or decree. 2. Classify generators and handlers of hazardous wastes so that they understand sources and flows of hazardous wastes in the country; and, 3. Maintain reliable estimates of hazardous wastes types, sources, quantities and disposition (i.e. stored, recycled, disposed or destroyed) of hazardous wastes.

ANNEX 4. PROPOSED TERMS OF REFERENCE FOR COUNTRY CASES STUDIES ON ANTI-CORRUPTION IN THE EDUCATION SECTOR



OPS section	Prioritized Topic for Mainstreaming	Sub-Topics	Examples of Possible Text for National Development Plans and Policies
			<p>This is essential information for establishing and implementing sound rules and infrastructure for hazardous wastes management with a country.</p> <p>Planned Action:</p> <p>During the timeframe of this (name of national development plan), the government will designate ministries with responsibilities for the environment and industry to work with concerned citizens and partners to improve the country's capacities for the sound management of hazardous wastes starting with formal adoption of hazardous wastes definitions, identifying generators and handlers of hazardous wastes within the country, and establishing reliable estimates of hazardous wastes types, sources, quantities and disposition within the country. With the use of this information, the government will consider the steps and timelines required to improve hazardous wastes management within the country, including regulations for storage, transportation, recycling and disposal/destruction. The effort will also identify mechanisms for this information to be updated regularly through reporting rules and periodic independent verification.</p>
Improved capacity to test for chemicals in environmental media and traded products	When the status of information as pertinent to chemicals risk management requires strengthening	Analytical laboratories and facilities	<p>Preamble:</p> <p>Identification, verifications of chemicals in commerce, their purity and correctness of labeling as well as monitoring and surveillance to detect pollution of the environment, exposure in human populations, including through food, and wildlife requires laboratory sampling and analysis capacity. Lack of laboratory capacity for testing chemicals in agricultural and other export products can also pose a significant economic risk for the country.</p> <p>Laboratories analyzing samples and others interpreting their data also require guidelines to understand the relative importance of the results. This requires clear specification of standards regarding whether the environment or people are being contaminated, and whether levels of contamination pose a risk or are indicative of adverse health effects.</p> <p>Many countries have only one or two laboratories that have received accreditation via a national accreditation body for such analysis. Typically these laboratories report that while they had staff with sufficient expertise, their ability to guarantee QA/QC or to supply service on a regular basis was hampered by equipment breakage and lack of budget to replace such equipment, and for other critical needs, etc.</p> <p>Our country currently has ___ laboratories with chemical testing capabilities to one degree or another. There is a need to strengthen these capacities within the country.</p>



ANNEX 4: EXAMPLES OF POSSIBLE LANGUAGE FOR THE ENVIRONMENTAL GOVERNANCE CHAPTER OF THE NATIONAL DEVELOPMENT PLAN

OPS section	Prioritized Topic for Mainstreaming	Sub-Topics	Examples of Possible Text for National Development Plans and Policies
			<p>Planned Actions:</p> <p>During the timeframe of this (name of national development plan), the government will instruct ministries responsible for the environment, health and agriculture to work together to undertake practical actions to strengthen the analytical laboratory capacity of the country, ensuring adequate capacity to identify chemicals in trade and detect pollution of the environment, exposure in human populations, including through food, and wildlife. This undertaking will adopt accepted international standards in the conduct of analytical laboratories for such purposes.</p>
Improved classification and labeling of chemicals in trade, sale, use and disposal	When the status of information as pertinent to chemicals risk management requires strengthening	Globally harmonized system of classification and labeling	<p>Preamble:</p> <p>The Globally Harmonized System for Classification and Labeling of Chemicals (GHS) provides for a common and coherent basis to define and classify chemical hazards and communicate this information in a standardized manner on product labels and safety data sheets. An important objective of the GHS is to ensure that employers, employees and the public are provided with adequate, practical, reliable and comprehensive information on the hazards of chemicals, so that they can take effective preventive and protective measures for their health and safety.</p> <p>Moreover, in context of the steadily increasing use of chemicals in all countries, this type of information facilitates the orderly control of trade, movement, use and end-of-life management of chemicals.</p> <p>Planned Action:</p> <p>During the timeframe of this (name of national development plan), the government will designate a lead ministry to work with concerned citizens and partners (i.e. significant importers, exporters, producers and users of chemicals) to review existing legislation and regulations to make required amendments to support implementation of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). Development of training and awareness-raising materials for workers and the public, in partnership with the private sector, labour unions and consumer's organizations, will also be advanced according to our capabilities, assisted where possible by development partners.</p>

ANNEX 5: EXAMPLES OF POSSIBLE LANGUAGE FOR SECTOR CHAPTERS IN THE NATIONAL DEVELOPMENT PLAN



Sector	Topic	Examples of Possible Text for National Development Plans and Policies
Health	Drinking water quality	<p>Preamble:</p> <p>Prevention of chemical contamination (e.g., from industrial, mining and agricultural chemicals) of critical drinking water sources is vitally important to protect human health. This requires a comprehensive understanding of key fresh water sources, the multiple uses of these water sources, the effects of these uses on water quality, and controls over certain uses to maintain water quality. Without this effort, the risks to human health can be substantial, with escalating costs in health care, child mortality, lost worker productivity, and water purification or replacement costs. In some cases, water systems might not be recoverable at all in a meaningful timeframe resulting in persistent damage to regional economies.</p> <p>Planned Action:</p> <p>During the timeframe of this (name of national development plan), the government will instruct the ministry responsible for public health to work with the ministry responsible for the environment and other ministries and partners to review drinking water quality standards, map major fresh water drinking sources (surface and groundwater), assess the major uses of and releases to those water sources, and test current water quality status of those sources. The fresh drinking water inventory will be maintained and updated on a regular basis. The inventory will be used by the government to assess the need for new or strengthened policy instruments for maintaining drinking water quality to national standards for consideration of the government.</p>
Agriculture	Good Agricultural Practices	<p>Preamble:</p> <p>The aims of the Good Agriculture Practice (GAP) are to decrease the negative influence of farming on the environment and to prevent the impoverishment and irrational use of natural resources (i.e. soil, water, plants, animals, and landscape) caused by unnecessary or inappropriate farming practices, including with respect to the use of chemicals. For instance, GAP helps reduce improper use of pesticides that results in acute and chronic poisonings of farm workers, which imposes extensive health and lost productivity related costs on our society. GAP is also recommended so that agricultural products would not meet barriers in international markets.</p> <p>Planned Action:</p> <p>During the timeframe of this (name of national development plan), the government will instruct the ministries responsible for agriculture, health and the environment to work with farmers and concerned citizens to develop a plan for the phased implementation of GAP in the country. The government will consider the phased plan in light of the ultimate objective to adopt best practices in the farming of quality agriculture products for our economy and society, including reducing uses of chemicals that do not follow best practices or are otherwise unnecessary to the production of sustainable yields of quality food products for domestic consumption and export markets.</p>



ANNEX 5: EXAMPLES OF POSSIBLE LANGUAGE FOR SECTOR CHAPTERS IN THE NATIONAL DEVELOPMENT PLAN

Sector	Topic	Examples of Possible Text for National Development Plans and Policies
Agriculture	Food safety	<p>Preamble:</p> <p>Chemicals can contribute significantly to food production and quality when properly managed. However, along with the use of chemicals comes the need to safeguard plant and animal food safety in the interests of public health and well being of the people, environment and economy, including exports of food products to markets with high food quality standards. Testing protocols and laboratory capacity to analyze food, including animal feed, is important in detecting potential exposures from food due to mistakes, accidents, negligence or criminal acts.</p> <p>Planned Action:</p> <p>During the timeframe of this (name of national development plan), the government will launch a national food quality assurance initiative starting with an assessment of current food quality standards to ensure compliance with recognized international standards, strengthening food testing protocols, and ensuring adequate laboratory or other testing capacities for exported and domestically consumed foods. Where weaknesses in the food quality assurance system exist, the government will adopt a phased improvement plan for National Food Quality Assurance.</p>
Industry	Industrial accidents	<p>Preamble:</p> <p>Chemical-related accidents resulting in death and injuries have occurred worldwide. As developing countries, particularly industrializing countries, continue to undergo large-scale urbanization centred on manufacturing and other industrial processes, the role of sound chemicals management initiatives in maintaining a safe and healthy environment will be increasingly important. Many accidents, both large and small, are preventable. For accidents that do occur, much can be done to reduce the seriousness of the consequences. In particular, potential victims of large-scale accidents can be informed of the best way to act if an accident should occur so as to minimize the risks to people and to property.</p> <p>Planned Action:</p> <p>During the timeframe of this (name of national development plan), the government will instruct the ministries responsible for industry, mining, transportation and the environment to work with industry and concerned citizens to develop an industrial accidents emergency response plan and associated guidelines for industry to enhance the capacities of the country for swift and effective response to contain or minimize the effects of significant industrial accidents, and to restore normality as soon as possible. The plan will be as simple as possible and easy to use. The plan will need to be valid 24 hours a day, every day, and flexible enough to be applicable to any emergency that may arise. It will be structured to allow for the response to be stepped up in the event of escalating circumstances. Above all, it will need to be known and understood by everybody involved. Once developed, the government will adopt protocols to regularly test and amend the plan in the light of experience and changing circumstances.</p>

ANNEX 5: EXAMPLES OF POSSIBLE LANGUAGE FOR SECTOR CHAPTERS IN THE NATIONAL DEVELOPMENT PLAN



Sector	Topic	Examples of Possible Text for National Development Plans and Policies
Industry	Mining	<p>Preamble:</p> <p>Mining is a very important industry for many countries around the world. Developing countries in particular depend on mining as a major engine of economic growth. However, mining is also a heavy user of chemicals, including for sulphuric acid, lime, caustic soda, nitric acid, and mercury compounds. In many countries, liquid effluents from mining are discharged into the environment with no or little pretreatment. Fresh drinking water contamination, contamination of fish with heavy metals, and land contamination can be the significant costs to society that result. In addition, atmospheric pollution from the mining sector with a variety of gases such as SO₃, CO, CO₂, aromatic hydrocarbon, hydrogen sulphide and other compounds subsequently returns to the earth and surface water through precipitation and other mechanisms. Thus while mining is a very important source of economic growth, if poorly managed it comes with significant costs to human health, the environment and economic activities that must also be managed carefully.</p> <p>Planned Action:</p> <p>During the timeframe of this (name of national development plan), the government will instruct the ministries responsible for mining, environment and health to work with the mining industry and concerned citizens to develop a phased plan to improve the environmental performance including chemicals use and management of the sector. The ultimate objective being to move the sector to internationally accepted best practices as quickly as possible, the speed of which will take into account current infrastructure and the socio-economic context of our country. The phased plan will recommend to the government the policy instruments and other investments that will be required to support this undertaking.</p>
Industry	Textiles manufacturing	<p>Preamble:</p> <p>Textile manufacturing produces water, air, and solid waste streams. Of these, chemical pollution and extensive use of water are the primary environmental problems. Due to the intensive use of chemicals in textile manufacturing, wastewater contains residues from all stages of production, including bleaching, dyeing, finishing, application of sizing and all stages of washing. Reduction of chemical usage, substitution of less harmful chemicals, and water conservation must be environmental and economic goals of the industry, especially as water uses compete with potable water needs of our citizens.</p> <p>There has been considerable research in the development of environmentally sound technologies in the textile industry in recent years. Some technologies have been proven in pilot studies to not only reduce the release of pollutants, but also provide economic benefits with little or no capital outlay.</p> <p>Planned Actions:</p> <p>During the timeframe of this (name of national development plan), the government will instruct the ministries responsible for industry and the environment to work with textile manufacturers and concerned citizens to investigate recent developments in improved textile manufacturing intended to reduce the release of pollutants into the environment, and to provide economic benefits to manufacturers. This initiative will result in a plan for modernization of the sector, particularly related to chemicals use and management, to be considered by the government. The plan will be phased-in taking the socio-economic conditions of the sector and the overall economy into account.</p>



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