ENGAGING IN LEGAL REFORM PROCESS FOR THE SOUND MANAGEMENT OF CHEMICALS

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Introduction

Thousands of chemicals are used in our daily life and in all sectors of our society. Chemicals are everywhere, in the clothes we wear and food we eat, in our building materials and in our fields, in our cosmetics and in the plastic chair we sit on. They are significant contributors to our well-being and economies, but they also pose significant risks to our health, agriculture, and the environment we rely on for our lives and development. As such, they need to be managed adequately to ensure that we can reapthe benefits of their uses without endangering our lives or the sustainable development of our economies.

Chemicals have a complex life cycle, from raw material extraction and synthesis or production; to design, manufacture, marketing and distribution; through sale, use, re-use; to storage, recycling and ultimate disposal. Sound management must be implemented across the whole life cycle of chemicals, to avoid serious impacts on human health, the environment, and human and economic development.

The Sound Management of Chemicals (SMC) aims to achieve the prevention, reduction or minimization (when prevention is not possible) of harm to humans, flora and fauna, caused by chemicals throughout their life cycles.

There is documented evidence of the benefits of adopting a precautionary approach to chemicals management for sustainable human and economic development. A knowledge-based, preventive approach to chemicals risks management prevents significant impacts on human health, ecosystems and human rights, and reduces associated costs for individuals, firms and society as a whole. The inclusions of chemicals related objectives in the Sustainable Development Goals (SDGs) adopted in 2015, is a strong indication of the linkage between sustainable development and SMC[1].

The mainstreaming approach supported by the present project (i.e.: the integration and institutionalization of SMC), is underpinned by the need to integrate chemical management into development agendas, and mobilize sustainable financing for the sound management of chemicals.

Implementing this mainstreaming approach to SMC generally requires the adaptation of existing legal frameworks. This booklet looks at (1) the critical importance of an adequate legal framework for soundly managing chemicals, (2) the process of legal reform to improve the adequacy of the existing legal framework, and obstacles to be expected, and at (3) the role public interest Non-Governmental Organisations (NGOs) can play in this process.

1. The importance of an adequate legal, regulatory and institutional framework in the sound management of chemicals

The Strategic Approach to International Chemical Management (SAICM) is a global multi-stakeholder policy framework dedicated to achieve so called "2020 goal", i.e.: that, by 2020, chemicals will be produced and used in ways that minimize significant adverse impacts on the environment and human health.

SAICM emphasizes the need for enhanced coherence, consistency and cooperation to address the gaps, overlaps and duplication in national chemicals management activities. It recognises that the availability of predictable financial resources is critical for improving chemicals management regimes in developing countries and countries with economies in transition. In this respect, it is imperative that options for national-level funding are fully explored[2], recognizing the limited public resources available for SMC in the global south.

An appropriate legal framework is essential to: define clear roles for all actors in the chemical supply chain, clarify the institutional arrangements and multisectoral coordination, and establish the basis for sustainable national financing of SMC, including adequate economic instruments such as administrative cost recovery measures.

Defining clear roles for all actors of the chemical supply chain.

The sound management of chemicals is a crosscutting issue involving a large range of sectors and stakeholders because of the widespread use of chemicals throughout society. Chemicals manufacturers, suppliers, distributors, waste collectors, retailers, consumer goods producers, recyclers and consumers all have a role to play in SMC. Consequently, it is fundamental to define understandable rules and roles for all actors in this process. It is the role of a comprehensive and adequate legal framework to define these rules.

The clearer and more comprehensive the legal framework, the easier it is for all stakeholders to implement it, and for authorities, custom agents and courts to enforce.

An adequate legal and institutional framework leads to a better understanding of roles, rights and obligations for all stakeholders, and boosts the coordination and participation of both public and private stakeholders in the sound management of chemicals. Additionally, a well-structured institutional framework makes it easier for countries to better anticipate upcoming and emerging issues. Indeed, a clear legal framework and well funded chemical management infrastructure prepares the system for resilience, to better react to the specific challenges faced in each sector, and to adapt to the constantly evolving national and international circumstances accordingly.

Organizing the multi-sectoral coordination

Similarly, SMC is relevant to numerous branches of government both at national and local level: from industrial development to agriculture, and from customs and law enforcement authorities, to public health, development and the environment.

Most countries have so far struggled to establish a comprehensive and coherent framework for the SMC. In general, chemicals risk management is partly covered (if at all), under several pieces of legislation (such as environment, waste, work environment, consumer safety, rescue services, transport, agriculture, trade, industry etc.) and splits implementation

and enforcement across different ministries. An appropriate legal and institutional framework is key to clarify each institution's role, limit duplication of work, and eventually to ensure proper implementation and enforcement of the rules at minimum cost.

In the vast majority of cases, the adoption, implementation and enforcement of SMC will require its integration as a major objective of the national development agenda. In this process, strengthened inter-sectoral collaboration amongst the broad spectrum of national institutions that regulate chemicals is required for coherent risk-reduction strategies to emerge.

Establishing adequate cost recovery measures for sustainable financing of chemical management

In order to be adequately implemented, SMC requires appropriate dedicated resources. Although the overall cost of the reform is to be offset by its socio-economic and developmental benefits, adequate financing mechanisms must be operationalized to finance the transition, administrative and operational costs (such as providing and maintaining chemical registration/authorization/licensing systems). Such costs of managing chemicals are primarily born by public authorities. Cost-recovery measures enable a better cost-burden sharing between the public authorities and industry for chemicals management services, and shift hidden public costs to the responsible actors.

When public authorities provide any specific services, (in this case, the management of chemicals through their registration, or facilities inspection for example) it is a fair and widely accepted principle that cost recovery for such service should be proportionate to its effective cost. The exact cost of said service should be evaluated in detail to ensure sustainable financing of these services, and integrate staff and overhead costs for admin istration of the service, such as the use of office space and higher management, IT costs etc. Where those costs are not adequately assessed and covered by adequate financing, SMC cannot be adequately implemented.

The particular nature and structure of these cost recovery mechanisms will, to a large extent, depend on the national conditions, including the type of institutional structure put in place. Similarly, the collection of revenues, as well as the form of allocation of these revenues will largely depend on the national budget cycles and rules.

The establishment of such cost recovery mechanism requires the adoption of legislative measures and must be an integral part of legal reform for the sound management of chemicals.

A diversity of models to be adapted to the specificities of the national context.

Depending on the country's legal tradition and system, specific legislation is comprised of various documents (laws, acts, decrees, regulations, notifications, ordinances, guidelines, rules of procedure, etc). While each of these has its specificities, they can generally be grouped in two main categories: statutes enacted by the national legislating body (laws), and regulations (all subordinated enactments by departments or ministries, usually from the Executive branch of government).

The legal framework, which comprises of laws, regulations and compulsory decisions by authorities, sets the rules that are applicable to a specific situation. Countries have an obligation to translate the provisions of relevant conventions to which they are parties into their national framework. In the case of chemical management, the Basel, Rotterdam, Minamata and Stockholm Conventions[3] are the main multilateral environmental instruments. However, this baseline is not sufficient to fully manage all chemicals soundly throughout their life cycle, and should therefore be expanded at the national level. The

work of SAICM, the United Nation Environmental Program and the United Nations Development Program provide useful tools in this context. (See annexes)

A logical first step to facilitate chemicals control throughout supply-chains is the development of coherent legal and institutional infrastructures governing the placement of chemicals on the market. Placing a chemical on the market means making it available to a third party and for use in the supply chain. Such legal and institutional infrastructure will serve other areas of legislation where chemicals are of concern (such as cosmetics, or food contact materials for example), but is not designed to replace them. In that respect, the use of classification and labelling instruments is often recognized as being an efficient and cost-effective lifecycle chemicals management tools, as it ensures the generation and dissemination of hazard information throughout the supply chain and can assist in building awareness and capacity for chemicals management.

2. Legal reform process and obstacles

In the vast majority of cases, adapting the legal framework for SMC will not start from a blank sheet. The reform will develop within the exiting legal framework (constitution, rules of procedures, frameworks laws etc.), and will require budget decisions (to implement the reorganization of service or allocate funds to the creation of a new agency). In the majority of cases, a number of rules will already be in place to deal with the management of chemicals, whether it is for some chemicals only (such as pesticides, chemicals in toys, or food additives, for example) or specific parts of the chemicals life cycle (such as production or disposal).

Once a problem has been identified, the first step in a legal reform process is generally a political decision to adopt specific rules for the sound management of chemicals and adapt the legal framework to this effect. Once this political decision has been taken, the process will go through several steps (such as definition of the scope of the legislation, specific instruments to address various issues, negotiation of specific provisions, drafting, hearings, adoption, entry into force and implementation). Overcoming the obstacles rising at every stage of the process requires adapting strategies and arguments to the specific challenges. Different types of campaigning and arguments need to be implemented to influence different steps and decisions. While the objectives of the early phase of the reform (getting a political decision to initiate legal reform or adopt sound chemical legislation) may require putting pressure on the government as a whole and specifically convincing different branches of the government, influencing the legislation drafting phase requires developing targeted and sometimes technical arguments to be presented to the legislators. Conversely, the final adoption of the reform typically requires strategies to convince groups opposed to the adoption of sound chemical management legislation altogether as well as groups being disappointed with the scope of the reform.

The reasons and arguments to resist or oppose legal reform for the sound management of chemicals will vary from one legislative step to the next, and from one group of stakeholders to another and can often be traced back to the following root causes to be addressed:

Lack of information relating to the health and/or environmental impact of chemical mismanagement:

There is a recognized low level of awareness of health and environmental impacts of chemicals in all sectors of society, from the public to the decision makers. The implementation of SMC requires an awareness and understanding of these impacts. Addressing this low level of awareness may require both public campaigning and targeted awareness raising activities for specific sectors (workers, farmers, environmental and trade authorities etc.). Raising the general level of awareness and understanding of adverse effects of chemicals will lead to increased public pressure to develop, adopt, and implement an adequate legal framework, as well as increase the use of better practices and risk management measures (limiting exposure at home or in the workplace, for example).

General opposition to any sort of environmental/health legislation, fear of negatively impacting the development path of the country or innovation capacity:

Decision makers and industry stakeholders may have misguided beliefs about the negative impact of sound chemical management on a country's development, in particular in the context of fierce regional competition. This is often the case in developing countries and countries with economies in transition relying heavily on commodities and agriculture. As a result, industry stakeholders will often argue vehemently against the adoption of a comprehensive legal framework for SMC. Addressing these particular arguments requires to both highlighting the financial and developmental cost of inaction as well as the opportunities (in terms of job, growth, alternative investments etc..) of a comprehensive and well-defined set of rules for the sound management of chemicals.

Countering these types of arguments requires a good understanding of chemical flows in and out of the country. However, the use of economic arguments demonstrating the value of SMC for the economy and development of the country is the main key to convincing economic decision makers (usually more powerful than environmental and health constituencies). As an additional strategy, it may be useful to identify different industrial sectors with different interests. Chemical legal reform usually draws a lot of attention and opposition from chemical manufacturers and importers, but can be strongly supported by the retailing and distribution industry (more exposed to potential reputation loss), or specific sectors (such as tourism or agriculture). Identifying sectors whose job and growth will be positively impacted by such a reform is key to secure the adoption of progressive legislation.

Reluctance to upset the existing regulatory balance; fear of losing influence:

Stakeholders groups, in particular in government departments and agencies, could be aware of the need to create or improve a legislative framework, but fear a loss of power by their own department or the consequences of possible "turf wars", particularly in the case of institutional re-organisations. Departments already in charge of certain aspects of chemical management may also be worried about the reform process leading to increased demands on already strained capacity with only limited or no new resources attached. In certain cases, resistance to legal reform comes from a genuine concern that the new regulatory framework might perform even worse than the pre-existing system. Working to develop a comprehensive and functional chemical management framework, including adequate cost recovery mechanism to ensure its sustainable funding, is the key to address these concerns.

Addressing these concerns requires NGOs to work constructively with each governmental department concerned, through the building of relationships and networks with the various authorities impacted by the reform. It is also critical to pay particular attention to the appropriate financing of the reform, including through appropriate cost recovery mechanisms, and plan an adequate synchronization with the national budget cycles and possible external support (such as technical and financial resources from the Global Environmental Fund for example), to cover sound management of chemicals' operating expense.

3. The Role of NGOs

Public interest Non-Governmental Organizations (NGOs), including environmental organisations, farmer groups, women rights groups, workers' associations, and academics among others, play a key role in supporting the implementation of SMC at the national and local level. NGOs also have a key role to play in initiating the legal reform process and seeing it through the various steps of its elaboration.

In most countries, public interest NGOs are the main force providing information about the risks of chemicals to the wider population, raising awareness and changing practices. In the context of legal reform for SMC, these awareness-raising activities should also be strategically implemented and directed, to ensure they contribute to the building of social pressure for the adoption of SMC legislation.

But NGOs also have a crucial role to play in similarly educating decision makers about the impact of chemicals, and working constructively with regulators to develop a fully funded functional legal framework for SMC, adapted to the national conditions, and able to effectively deliver the benefits of SMCs for the whole society. This requires NGOs to develop targeted lobbying and awareness raising activities; to have a detailed knowledge of legislative procedures, including budgetary aspects to anticipate the needs and questions of decision makers and opponents; to build effective partnerships with all sectors of society; and to develop coordinated strategies with other actors to support their efforts.

Examples of Strategies and tools:

- Targeted awareness raising

Action in favour of SMC, whether at an individual or collective level, necessarily comes from the awareness of the impacts of chemicals. Further to adjusting domestic practices to reduce risks associated with chemical use, raising awareness usually triggers societal pressure at several levels. It may trigger consumer reactions and exert pressure on market forces by modifying consumption patterns. But well-designed awareness raising activities may also be translated into popular pressure on decision makers. This kind of pressure is usually necessary to initiate an effective legal reform, as well as to sustain the efforts of the preparation and adoption thereof.

Decisions are made by people. It is therefore crucial to identify all relevant actors in the decision making process (key individuals in the various ministries, technical and legislative commissions, etc.), and their roles in the decision making process. Once they are identified, it is critical to provide each individual o r group, with the information most relevant to their situation, at the right time, and present

it in the appropriate form for each. Awareness raising activities must be adjusted to one's objectives and be enabling to facilitate the translation into policy and legal action.

It is also important to identify all groups of stakeholders susceptible to trigger effective pressure on identified decision makers and develop adapted awareness raising activities. Vulnerable groups such as women, youth, indigenous communities, manufacturing workers, or farmers are exposed to chemicals in different ways and thus need specific information provided in the appropriate form.

Finally, the type of information that is relevant may vary throughout the process of legal reform. While initiating the legal reform process will require general information about the impact of chemicals on society, later stages, such as drafting or adoption of regulation, require more technical and targeted and specific information, such as a gap analysis of the existing legal framework, information about a specific class of chemicals to be covered by the reform, or examples of good legal practices to address a particular issue.

- Production of relevant data (cost of inaction, job opportunities, health studies, etc)

In creating the necessary box set of arguments to engage the various stakeholders and decision makers, there may be a lack of data needed to convince key groups or decision makers. Information relating to the actual health and economic costs of badly managed chemicals, or statistics on job opportunities triggered by better management, impacts on tourism, or long term agricultural productivity for example, may be necessary but inexistent or inaccessible.

Some existing data can be extrapolated, and certain economic models exist to produce this data. The United Nations Environment Program (UNEP) developed a landmark report in 2013 to assess the cost of unsound chemical management. The report, titled *"Cost of Inaction on the Sound Management of Chemicals"* is based on desk studies (using existing data) and reviews of nearly 300 documents. The authors of the study utilized primary research data representing 28 countries (six OECD members), four UN regions, and 65% of the global population (4.5 billion inhabitants). The report lays out very valuable conclusions and establishes methodologies to produce further data relevant to influencing decision making for the SMC.

When relevant data cannot be found, or where translating the existing raw data into appropriate argumentation requires additional conceptual work, it may be opportune to work with national or regional academics in relevant fields, such as economics and statistics, to develop and produce such information. Regional cooperation and the production of regional data and analysis can also be useful in making the most of patchy information and resources, and in maximizing the impact of research at a regional level.

- Building relationships with decision makers, and engaging all stakeholders.

Decision makers are constantly the object of attention and are often flooded with information and requests. Information provided by trusted and/or long time partners always carry more weight. In order to influence decisions, it is therefore important for NGOs to establish long-term relationships with decision makers, to become trust worthy partners.

In this context, providing reliable and timely information supported by strong evidence is a prerequisite but is often not enough. A constructive attitude, demonstrating understanding of a particular decision maker or institution's situations and challenges, helps establish trust, and increases the impact of further awareness raising or lobbying activities. Making oneself useful to a decision maker in his/her everyday work is often the best way to influence his/her decision in critical times.

It is further critical to reach out to and engage all sectors of society: from natural allies such as consumer organizations or impacted communities, to groups with possible conflicting interests (such as e.g. farmers and trade unions), to strong opponents (such as chemical or pesticide industry for example). Although it may sound obvious, the most important people to convince are people with whom one may disagree. In this respect, engaging industry stakeholders and sectors of government opposing the reform is essential.

In this respect, targeted awareness raising and adapting the form and content of information circulated can be instrumental in building coalitions beyond the groups naturally supporting legal reform for SMC.

- Building coalitions and implementing coordinated strategies

Initiating a legal reform process for SMC and seeing it through, requires a combination of skills and expertise that NGOs usually do not have in-house. It is therefore critical to build coalitions of complementary partners to implement all of the awareness raising and lobbying activities necessary to achieve legal reform for SMC. For example, NGOs with legal expertise can contribute to identifying the major gaps in the country's legislation and regulation for SMC, as well as dysfunctions in the institutional framework, including considerations on technical and financial resources. This is useful in building a targeted and constructive dialogue with decision makers. But this work should also be built upon by public campaigning organization to develop strategic activities to reinforce the pressure on decision makers on key points. Similarly, organisations with grassroots networks working with representatives of key sectors, be they workers or farmers' organisations, school teachers, women groups or indigenous community representatives, have a particular role to play in identifying specific issues to be addressed by legal reform. Successful engagement of these groups will often require coordination with partners well connected to decision makers, to ensure that these particular issues are addressed by way of specific legal provisions and adequate policies.

Finally, the sustained efforts required to see a legal reform process through require an appropriate burden sharing between the various components of civil society. Well-coordinated coalitions and strategies limit the duplication of work, supporting a rational use of resources, and ensuring that each organisation uses its skills and expertise where it can have the strongest impact.

[1] See for example Goal 2.1 ; 3.9 ; 6.3 ; 11.6 ; 12.4 and 12.5 ; and 14.1

[2] SAICM/ICCM.2/12, para. 29

[3] The Basel Convention deals with transboundary movements of waste; the Stockholm Convention addresses a specific type of chemicals, persistent organic pollutants (POPs); the Rotterdam Convention deals with the trade of toxic substances, ensuring that the importer receives adequate information; while the Minamata Convention aims at reducing the use and exposure to mercury.

ANNEXES

INTERNATIONAL GUIDANCE DOCUMENTS AND TOOLS USEFUL IN THE CONTEXT OF NATIONAL LEGAL REFORM FOR SMC

Annex 1

Summary of the UNEP guidance for the development of legal land institutional infrastructures for sustainable management of Chemicals and measures for cost recovery of national administration (LIRA guidance)

The LIRA-Guidance is an Initiative of the UNEP Sustainable Management of Chemicals (SMC) Mainstreaming Program that aims to provide practical, step-by-step support to policymakers for strengthening national legislation and institutional set-ups for achieving sound management of chemicals, including measures for financing necessary national administration activities in this regard.

The LIRA-Guidance proposes a flexible framework to guide the national authorities plan, and implement the project activities that can be tailored to national circumstances.

The framework is designed to serve two related purposes:

1) To facilitate the development, approval and implementation of appropriate measures to strengthen legal and institutional infrastructures governing the placement of chemicals on the market; and

2) To strengthen inter-sectoral organization and collaboration mechanisms for the sound management of chemicals to ensure medium- to long-term follow-up to the project activities.

This long-term perspective is a fundamental component of the SMC, and is therefore important to keep in mind throughout the legal reform process and related activities

The main objective of national LIRA implementation projects is the preparation of a road map for the development and financing of an action plan for strengthening legal and institutional infrastructures governing the placement of chemicals on the market, as part of a lifecycle chemicals management policy. As a policy-driven process, the review should be based on sound planning. Three elements are key for successfully strengthening the legal and institutional infrastructures governing the placement of chemicals on the market. The process should be:

Participatory:

Participation of key stakeholders throughout the process is critical.

Evidence-based:

When developing an action plan for advancing the national chemicals management agenda, it is of utmost importance that country practitioners base their work on a sound analysis of the current country situation.

Targeted:

In order to ensure support for the proposed developments, the process should be transparent and in accordance with national procedures. In addition, the results need to be conveyed in formats and styles relevant to SMC decision makers. This notably involves the development of economic arguments, including the use of economic tools such as Cost Benefit Analysis (CBA).

Reviewing legal and institutional infrastructures governing the placement of chemicals on the market:

A necessary element for ensuring the implementation and long-term sustainability of chosen policy options for SMC is the availability of financial and human resources. This requires enabling the national chemicals management administration to have access to the national budget allocation process.

The development and mainstreaming of an integrated, cross-sectoral chemicals management policy, the demonstration of the benefits of investing in preventive measures, and the design of cost recovery measures with appropriate revenue collection and allocation procedures, all facilitate the mobilization of finance for the SMC.

These arguments ultimately need to be fed into the national budget process in the right form and in a timely manner, in order to convince the budget allocation decision-makers to effectively allocate the required amount of finance for the proposed developments.

It is therefore critical to integrate a clear understanding of the budget planning and allocation processes in the designing of the road map to implement the chosen policy options.

Because of the importance of the international dimension of the placement of chemicals on the market, special attention should be paid to the links between international trade requirements and the international/ regional dimension of chemicals management. Furthermore, consideration of the chemicals-related Multilateral Environmental Agreements (MEAs) requirements is advised in this process. It is therefore critical to include trade and custom stakeholders, as well as MEAs focal points or designated national Authorities in the inter-sectoral discussions[1].

Opportunities for regional/sub-regional harmonization and cooperation should be part of the process of reviewing national legal and institutional infrastructures governing the placement of chemicals on the market.

The organization of legal and institutional infrastructures governing the placement of chemicals on the market:

Table 1 at the end of this document, summarizes the key elements of legal and institutional Infrastructure governing the placement of chemicals on the market in four typical country situations.

The LIRA Guidance describes the advantages and disadvantages of a framework law, as well as pros and cons for concentrated and coordinated administrative structures (e.g.: improving coherence and concentration of legislation governing chemicals,;facilitating implementation and enforcement through the concentration of powers and responsibilities in one ministry may create more internal resistance to the establishment of the framework, and possible additional costs of revising a large number of existing regulations). An overall recommendation is to take good consideration of the country context. In any case, coherence must be actively sought as a condition to facilitate high-level buy-in, and mobilization of required resources for implementation and enforcement.

The availability of information is critical to a successful process. Further to using validated information from other countries or international bodies, setting up a cross-sectoral information exchange mechanism can provide the foundation for an integrated information management system necessary for an informed decision-making processes.

For more information about the main types of information needed for SCM, and ways to organize their collection, see section III.C.3 of the LIRA Guidance.

[1] The international dimension of the placement of chemicals on the market is described in section III.D of the LIRA Guidance.

Main considerations for legal and institutional infrastructures governing the placement of chemicals on the market:

The guidance describes the key considerations on the scope of legislation governing the placement of chemicals on the market[2]. Among those, the Guidance establishes that the scope of legislation should:

- Define the coverage in terms of substances and specify which authority will be responsible for which chemicals, in case of split responsibilities;
- Address chemical hazards and risks to human health, the environment and property;
- Indicate the activities covered; and
- Clarify the links with other legislation.

This section of the guidance also addresses the question of legal principles to be implemented through the chemical legislation, as well as the importance of clear, accurate, and up to date definitions of key terms in the legislation.

The importance of clearly establishing the respective responsibilities of the private and public sectors is also specified and described in the Guidance[3]. This is addressed for each of the four main objectives of managing the placement of chemicals on the market: generate/obtain knowledge chemicals properties, hazards and risks; disseminate information on hazards and safe handling procedures; make informed choices for chemicals, to avoid hazards; and organize the safe use of chemicals.

Table 2 describes the possible activities of each of the main phases of managing the placement of chemicals in the market.

In general, private companies should have the responsibility of performing the main tasks required by chemical risk management, and public authorities have the responsibility to develop an oversight role to ensure that these tasks are performed correctly.

See section IV.B of the Lira guidance for more details on the allocation of responsibilities between the public and private sector.

An important step in allocating responsibilities between the private sector and various public bodies, as well as between public bodies themselves, is the designation of a primary authority and provide it with adequate powers to carry out its mandate such as:

- Issuing secondary regulation (such as rules and guidelines)
- Collecting and maintaining information about chemicals, including the power to require information from the regulated entities;
- Restricting and controlling chemical production, import, use, and other activities;
- Conducting inspections;
- Calling on other public authorities (such as local authorities) for assistance in the implementation and enforcement of the law; and
- Charging fees for the services provided .

In this respect, a new approach promoted by the World Health Organisation (WHO) and UNEP seeks the establishment of a strategic alliance between the ministry of health and ministry of the environment.

Further to the establishment of a primary authority, inter-sectoral and multi-stakeholders coordination mechanisms must also be established.

Section IV.D of the LIRA Guidance describes the various policy instruments governing the placement of chemicals on the market. Such instruments include, for example, inventories; classification and labeling; bans and restrictions; registration/authorization schemes; licensing; and assistance, incentives and disincentives. Appropriate instruments must be chosen and adapted to the national context.

[2] Section IV.A of the LIRA Guidance.
[3] Section IV.B of the LIRA Guidance.

It is important to note that record-keeping and reporting can be useful additional tools to facilitate compliance monitoring and regular data collection for further development of the chemical management legislation .

Several enforcement tools are available for governments to ensure compliance with legislation. These tools are complementary and are generally used together.

Inspections are a crucial component of any legislation. Inspectors should be given clear and large powers in the carrying out their duties (e.g.: the ability to enter and inspect premises or storage facilities; search vehicles, persons, and containers; take samples; seize equipment; ask for information and evidence; and issue orders and/or apply sanctions in case of non-compliance) and their responsibilities and obligations should be equally defined. As inspection can require specialized sets of skills, the law can include provisions for the responsible authority to use employees of various authorities (e.g., customs agents, agriculture inspectors, and local authorities). Finally, good coordination among the various authorities responsible for inspections is of utmost importance.

Box 11 of the Lira Guidance offers a useful summary of the legal basis for inspections systems and should be consulted.

The definition of offences and sanctions is also key for ensuring compliance with legislation. They should be adapted to the national context and regulatory framework .

The importance and possible measures for ensuring confidentiality and appeals of decisions adopted in the context of chemical management are also presented in the guidance .

Tools for compliance promotion:

Further to considering enforcement activities from a sanction point of view, the Lira Guidance stresses the importance of tools for promoting compliance . Such tools include education and training for inspectors and companies, transparent measures in establishing the rules, and general awareness-raising. In this context clear communication by regulators with regulated entities is very important. These tools can be a very cost-effective way to reinforce compliance, but should only be considered as compliment to effective enforcement tools, rather than as a substitute.

The cost of legal and institutional infrastructures for SMC is usually seen as a major obstacle preventing countries with very limited budgets from developing them. In this context (and as described above), these costs should be shared adequately between public bodies and regulated entities, while the legal and institutional framework should provide an adequate balance for all entities between the costs and the expected benefits. In this regard, assessing the cost of inaction (or cost of the status quo) correctly is critical (see the attached summary of the cost of inaction report). Similarly, demonstrating the added benefits of such SMC infrastructures for other ministries (e.g. health and economic development ministries) and all of society, is equally important. Finally, because external funding is limited, the guidance makes it clear that if funding for chemical management activities is to be sustainable, it is imperative that options for national-level funding are fully explored.

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[4] Whether the primary authority retains the fees collected, or whether these are included in the national budget needs to be considered in accordance with national fiscal/budget legislation. Several systems for revenue collection and allocation can be considered.

[5] Section IV.F of the LIRA Guidance.

[6] Section IV.G of the LIRA guidance.

[7] Section IV.H & I of the LIRA Guidance.

[8] Section V of the LIRA Guidance.

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Sustainable financing through cost recovery charge systems:

In the context of SMC, cost recovery measures essentially shift the hidden public costs of managing chemicals from government to private sources. Cost recovery mechanisms do not necessarily need to cover the full costs of such system, but should enable a more appropriate sharing of costs between public and private sectors.

In establishing this plan, pedagogy is important, and benefits for the private sector of an efficient system for SMC should be underlined. These benefits include boosting exports through meeting international product standards, harmonized standards and costs for compliance, increased well-being and productivity of the workforce, and improved national reputation.[9]

Cost recovery aims at closing the loop between the delivery of a publicly run service enabling better regulation of chemicals placed on the market and the beneficiaries of such services. Typical services that can be subject to cost recovery include: administration of registration, authorization and licensing systems; training activities; and inspections activities and verification activities. Not all services should have fees attached to them, and, in some cases, a one-time fee charge system can be more efficient for both the administrator and the firms.

The possibility to establish such cost recovery mechanisms should be integrated into the national legal framework for chemicals, considering all necessary elements (such as actual fee amounts for various services, provisions in case of "orphan chemical substance", waivers, and the use of revenue generated), [10] as well as who is subject to the cost recovery mechanisms[11] and fee structures (e.g. flat rate, or differentiated, or hybrid fees)[12].

Further details on the cost recovery mechanisms (such as level of cost recovery charges, implementation elements, monitoring and enforcing of compliance with cost recovery charges, and allocation of revenues) are available in section VII.F/G/H and I of the LIRA Guidance.

Recommendations

The following principles should be followed when establishing sustainable financing through cost recovery mechanisms for SMC:

Legal and institutional infrastructure:

1. Legislation should be adapted to the national legal framework and be in accordance with the international commitments of the country.
2. Improved inter-sectoral communication exchange is critical for efficient use of existing information.
3. Legislation governing the placement of chemical on the market should be comprehensive, coherent and transparent.

[9] See section VII.A of the LIRA guidance for more details.
[10] See Section VII.C of the LIRA Guidance for details.
[11] See section VII.D of the LIRA guidance
[12] See section VII.E of the LIRA guidance

4. There must be a very clear delineation of obligations and responsibilities of key stakeholders affected by chemical management.
5. Best use of resources and strong coordination are key for efficient organization of national administration.
6. Selection and design of policy instruments and measures can be tailored to national circumstances and implementation and enforcement capacities.
7. Comprehensive and credible compliance systems are the basis for effective implementation and enforcement.
8. Regional cooperation can provide an effective and cost-efficient mean for strengthening chemical management.

Sustainable financing

1. Policy conditions do not need to be perfect, but policy goals need to be coherent with the economic, environmental and societal goals, and the design of the cost recovery mechanism must be consistent with the strengths and limitations of the institutional framework in which they operate.

2. Demonstrating net benefits of strengthening the legal and institutional framework (including through a clear demonstration of the costs of inaction) to all government ministries, industries and society is key to the success of the process.

3. Minimizing costs of legal and institutional infrastructure upfront is critical.

4. Building credibility with the private sector by establishing a truly leveled playing field is key to the success of the process.

5. Make it clear what is being paid for. By closely linking cost recovery with spending – or service delivery– resistance within industry or society to cost recovery system may be overcome.

6. Indentifying 'windows of opportunity' in broader policy-making or legislative changes, will increase the chances of successfully funding programs for managing the placement of chemicals on the market.

7. Identifying and engaging with a broad range of stakeholders is one way of ensuring that important design issues are covered and political acceptability for the measures are achieved.

8. Do phased implementation.to progresss from a localized (either in geographic or sectoral terms), to broader implementation can offer a 'grace period' to policymakers and invested stakeholders, who do not have to take an unacceptable degree of political risk.

Table 1

Table 1: Key Elements of Legal and Institutional Infrastructures Governing the Placement of Chemicals on the Market in Four Typical Country Situations

		Import, Illegal traffic	Import, some manufacture; Illegal traffic	Import, manufacture; Illegal traffic	Import, manufacture
Country Situation		Small amounts, pesticides; disinfection chemicals	Pesticides; fertilizers; disinfection chemicals; fuels	Pesticides; fertilizers; disinfection chemicals; metals; inorganics; basic bulk chemicals; specialty chemicals; production chemicals; PBTs; CMRs; historical chemicals	Pesticides; fertilizers; disinfection chemicals; metals, inorganics, basic bulk chemicals; specialty chemicals; production chemicals; PBTs; CMRs
Country Situation	**Organizational structure**	Clear mandates at the three levels of national administration	Clear mandates at the three levels of national administration	Clear mandates at the three levels of national administration	Clear mandates at the three levels of national administration
		• Inter-Agency Coordination Mechanism (ICM) • Pesticide board	• Inter-Agency Coordination Mechanism • Pesticide board • Other technical committee(s)	• Inter-Agency Coordination Mechanism • Pesticide board • Other technical committee(s)	• Inter-Agency Coordination Mechanism • Pesticide board • Other technical committee(s)
		• Clear allocation of public and private sector responsibilities • Companies at least responsible for generation and dissemination of information on chemicals properties, hazards, risks and safe handling of chemicals	• Clear allocation of public and private sector responsibilities • Companies at least responsible for generation and dissemination of information on chemicals properties, hazards, risks and safe handling of chemicals	• Clear allocation of public and private sector responsibilities • Companies at least responsible for generation and dissemination of information on chemicals properties, hazards, risks and safe handling of chemicals	• Clear allocation of public and private sector responsibilities • Companies at least responsible for generation and dissemination of information on chemicals properties, hazards, risks and safe handling of chemicals
	Organizational structure	• Use of existing information (inter-sectoral, national/international) • Information collection based on instruments; Classification and labelling, registration/ authorization, licensing, verification and monitoring	• Use of existing information (inter-sectoral, national/international) • nformation collection based on instruments; Classification and labelling, registration/ authorization, licensing, verification and monitoring	• Integrated surveillance system for categories of very-high concern chemicals • Partnerships with Universities, research institutes	• Integrated surveillance system for categories of very-high concern chemicals
		• Register of highest concern chemicals (pesticides, biocides) • Inventory of primary suppliers of substances of particular interest for the country (Info: supplier's name, chemicals supplied)	• Register of highest concern chemicals (pesticides, biocides) • Inventory of data on import and manufacture of pure substances (technical quality) of particular interest for a country; possibly incl. volume data/classification	• Register of highest concern chemicals (pesticides, biocides) • Inventory of data on import and manufacture of pure substances (technical quality) of particular interest for a country; possibly incl. volume data/classification	• Register of highest concern chemicals (pesticides, biocides) • Inventory of hazardous components in classified mixtures; in certain groups, group by group, possibly percentages of components, etc.
		----	----	Limited notification scheme for the "new" chemicals not produced and registered elsewhere	Notification scheme for "new" chemicals

	Protective Measures	WHO Classification Labelling	WHO Classification or GHS	GHS	GHS
		• Bans and restrictions; very-high concern chemicals (including MEAs-chemicals)	• Bans and restrictions; very-high concern chemicals (including MEAs-chemicals)	• Bans and restrictions; very-high concern chemicals (including MEAs-chemicals)	• Bans and restrictions; very-high concern chemicals (including MEAs-chemicals)
		• Registration/ authorization for very-high concern chemicals	• Registration/ authorization for high concern chemicals	• Registration/ authorization for high concern chemicals	• Registration/ authorization for high concern chemicals
		Licensing of primary suppliers/ of high volume/ very-high concern chemicals	Licensing of primary suppliers/ of high volume/ high concern chemicals	Licensing of primary suppliers/ of high volume/ high concern chemicals	Licensing of primary suppliers/ of high volume/ high concern chemicals
		• Import/export licenses for high volume/ very-high concern chemicals • Control of illegal traffic	• Import/export licenses for high volume/ high concern chemicals • Control of illegal traffic	• Import/export licenses for high volume/ high concern chemicals • Control of illegal traffic	• Import/export licenses for high volume/ high concern chemicals • Control of illegal traffic
	Compliance scheme	Inspections prioritized on very-high concern chemicals	Inspections prioritized on very-high concern chemicals	Inspections prioritized on very-high concern chemicals	Inspections prioritized on very-high concern chemicals
		• Reference laboratory • Qualitative testing for monitoring and verification purpose	• Reference laboratory • Qualitative testing for monitoring and verification purpose	• Reference laboratory • Qualitative testing for monitoring and verification purpose	• Comprehensive laboratory network
		Reporting upon request	Reporting upon request	Regular reporting upon request	Regular reporting upon request

Table 2

Possible activities of each of the main phases of managing the placement of chemicals in the market

Main Phases	Examples of activities
1. Identification and assessment of hazardous properties and risks of chemicals	• Collection of information on chemicals produced/used in the country • Establishment of requirement for testing and classification • Development of criteria and protocols for testing and classification • Organization and development of capacity for testing, assessment and classification • Pre-marketing testing • Classification of toxicity
2. Dissemination of hazard, risk and safety information	• Development of inventories • Establishment of requirements for labelling • Organization and development of capacity for labelling, and SDSs • Labelling, conveying of Safety Data Sheets • Training and outreach activities for suppliers
3. Making informed choice of chemicals to be placed on the market	• Organization and development of capacity for safe supply • Decision on chemicals to market for low-concern substances • Enactment of bans and restrictions • Substances authorization/registration for chemicals of high concern • Licensing primary suppliers (for chemicals of high concern)
4. Organization of safe use	• Establishment of requirements/criteria for safe use (especially for chemicals of high concern) • Decision on chemicals to use for low-concern substances • Development of measures and procedures for safe use • Organization and development of capacity for safe use
5. Compliance monitoring	• License/authorization inspections • Testing verification • Labeling verification • Testing of residues in products • Food monitoring • Monitoring of human health and environment

Annex 2

Summary of the UNEP report on the Cost of Inaction on the Sound Management of Chemicals

SAICM, adopted in 2006, recognized that the extent to which developing countries can make progress towards the World Summit on Sustainable Development (WSSD) 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," depends on a number of actions to increase sound management of chemicals.

Noting the importance of recognizing the high cost of inaction in relation to Sustainable management of Chemicals for the establishment of legislation, institutional and administrative structures, as well as sustainable funding for the sound management of chemicals, UNEP released a report on the *Cost of Inaction on the Sound Management of Chemicals.* A summary of this report is provided below for use in the context of the project.

Background

The UN Environment Program's (UNEP's) *Cost of Inaction on the Sound Management of Chemicals (Cost of Inaction)* report concludes that the integration of sound chemicals management into national development policies and plans offers substantial economic benefits. The authors conducted an extensive literary review of economic information on the health, environmental, and development planning effects of harmful chemicals. Reviewing nearly 300 documents, the study utilized primary research data representing 28 countries (six OECD members), four UN regions, and 65 % of the global population (4.5 billion inhabitants).

Particular attention is required in defining inaction in developing country contexts, where awareness of risks from chemicals is very low, the magnitude of the problem is unknown, and policies to address sound chemicals management are limited or non-existent. Inaction is defined as the lack of progress in developing new policies beyond those which currently exist, or the failure to enforce existing national or regional policies.

Chemicals reviewed within the scope of the study include: commodity and industrial chemicals used, for example, in the production of personal care products, plastics and rubbers, textiles, adhesives, electronics, detergents, and other chemicals and products; minerals and metals, such as mercury, lead and cadmium; agricultural chemicals, namely pesticides and synthetic fertilizers; household chemicals; and pharmaceuticals. However, the existing literature on the effects of harmful chemicals only covers a fraction of the chemicals that fall within the study scope. Thus, estimates for the global burden of chemicals are undoubtedly underestimated.

Available data shows that: (1) the mismanagement of chemicals imposes substantial costs on governments, individuals, firms and society as a whole; (2) health and environmental costs will escalate without preventative action; (3) sound chemicals management offers substantial economic benefits in terms of health, environmental and development-related costs; and (4) the integration of sound chemicals management into national development policies presents national governments an opportunity to realize these economic benefits. The following discussion summarizes these findings of UNEP's *Cost of Inaction* report in greater detail.

Chemicals mismanagement imposes substantial costs

In the *Cost of Inaction,* most of the effects reported were based on actual incurred costs, such as medical expenses, lost work days, lost market output, and environmental cleanup costs. The identified studies mostly estimate the health-related costs of air pollutants, lead, mercury and pesticides. While the findings vary and often aggregate different chemicals, they all point to the huge health, environmental and development-related costs associated with harmful chemicals. Moreover, due to limited information on a limited sub-set of harmful chemicals, this is an underestimation of the costs of harmful chemicals on human health, the environment, and development planning. As the research is refined and data collection is improved, the costs grow.

In terms of quantified health-related effects:

- 8.3% (4.9 million) of the global total of deaths were attributable to environmental exposure to the selected chemicals;

- 5.9% of disability adjusted life years (DALYs), i.e. 86 million DALYs, are attributable to environmental exposure to the selected chemicals;

- 54% of global burden of disease (counted as DALYs) of harmful chemicals is borne by children under fifteen (15) years of age; and

- Selected chemicals and pesticides, occupational carcinogens and particulates, and lead account for 1.6% of total deaths and 1.4% of the total burden of disease worldwide. [1]

Regarding monetized health-related effects:

- USD 76.6 billion was the estimated cost of lead poisoning, prenatal methylmercury exposure, childhood cancer, asthma and neurobehavioral disorders in the United States alone;
- USD 78.4 million in lost farm labor output by 2025 in Uganda is projected due to pesticides;
- USD 2.1 million in lost labor income due to chemicals used in cotton farming in Zambia; and
- EUR 91 billion in cost savings were estimated for respiratory and dermal illnesses over 30 years with the implementation of a REACH (Registration, Evaluation, Authorization and restriction of chemicals), the stronger European regulation for industrial chemicals.

In terms of environmental effects, harmful chemicals can impair nature's ability to provide food and water, as well as other ecosystem services, such as air and water purification. Although difficulties exist in terms of disaggregating environmental effects into individual chemical components, certain pollutant in the study (SOx, NOx, particulates, volatile organic compounds (VOCs) and mercury emissions were estimated to have costed USD 546 billion or 0.91% of the 2008 global GDP in environmental impacts. VOCs and mercury alone accounted for USD 236 and USD 22 billion, respectively. Other estimates include a cost of USD 8.5 million annually in pesticide resistance and destruction of natural enemies due to ineffective pest management in Mali.

[1] SFor comparison, HIV/AIDS results in 2.04 millions death, tuberculosis in 1.5 million deaths, traffic accidents in 1.27 millions deaths, and malaria in 0.9 million deaths.

The costs of chemical pollution are highlighted by the costs of operations to clean (remediate) improperly disposed chemicals in an attempt to mitigate adverse effects on people or the environment. For example, the African Stockpiles Program calculates that to clear up the 50,000 tonnes of obsolete pesticides in Africa would cost around USD 150-175 million. In the United States, over USD 1 billion is spent per year to clean up hazardous waste contaminated sites. The sound management of chemicals can decrease or even eliminate these costs to business and society as chemical pollution and the need for environmental remediation will be avoided or minimized.

Chemicals mismanagement can result in high health and environmental costs that decrease efforts to achieve national development goals, such as providing safe access to clean water, achieving food security and reducing poverty. Moreover, the lack of sound chemicals management may deepen poverty, as harmful chemicals damage the health of the poor and the natural resources upon which people depend for their economic livelihoods. Chemical pollution accounts for a significant share of lost Gross Domestic Product (GDP). In Egypt, annual damage costs from outdoor air pollution amount to approximately 1.8% of GDP. In Pakistan, the annual cost of lead exposure is 0.7% of GDP, with IQ losses representing the 78% of the total cost.

From a development perspective, the economic costs in 37-sub-Saharan African countries revealed that the estimated costs of injury, defined as lost work days, outpatient medical treatment, and inpatient hospitalization, from pesticide poisoning in this region alone amounted to USD 4.4 billion in 2005. The conservatively projected cost of inaction related to current pesticide use alone is greater than the total Official Development Assistant to general healthcare.

In terms of food security, in China, acid rain accounts for 80% of losses to crops each year (USD 3.9 billion), and acute water pollution incidents cost the Chinese economy USD 485 million per year. Similarly, in Japan cadmium and mercury pollution impose substantial costs in terms of agricultural productivity and the fishery stocks. Likewise, chemical pollution is directly linked to the availability of safe and adequate drinking water around the world.

Costs projected to rise in the coming years due to chemicals mismanagement

Over the coming decades, the costs borne by governments, individuals, firms and society at large due to chemicals mismanagement is expected to rise substantially. A recent UN report project a 24-46% growth in chemical production from 2012-2020, with the highest levels (40-46%) in Africa, the Middle East and Asia-Pacific (UNEP, Global Chemicals Outlook, 2012). A conservative analysis suggests that accumulated health costs from unsound chemicals management in sub-Saharan Africa will increase to 97 billion USD by 2020, from 52.9 billion USD in 2013.

Economic benefits of sound chemicals management

The return on investment in improved chemicals management infrastructure could be very large, from a relative small investment. For example, in Uganda alone, the national actions for sound chemicals management are estimated to cost only USD 17.2 million from 2010 to 2025, compared with the burden of health care costs due to pesticides at an estimated USD 230 million in 2005. In Europe, the total costs of new stronger regulations for sound chemicals management for the chemical industry and downstream users was estimated to be EUR 2.8-5.2 billion over 15 years, a small fraction of the 90 billions in cost savings from the diminution in respiratory and dermal illnesses (alone). The benefit to cost ratio for the phase-out of leaded fuel is at least 10 to 1.

Sound chemicals management not only reduces health related costs, but can also increase economic output. For example, good agricultural practices and integrated pest management can increase crop yields through improved soil quality and reduced land and water requirements, as seen in Uganda, Bangladesh and Indonesia. The total estimated GDP gain from implementing national integrated pest management from 2001-20 is projected to be 3.65% of Indonesia's GDP in 2000. Most of the cost of implementing integrated pest management in Indonesia could be covered by a 5% tax on pesticides.

The economic benefits of integrating sound chemicals management into development agendas

There is now broad international consensus that incorporating sound chemicals management into development planning (i.e. mainstreaming) is extremely important for strengthening sound chemicals management regimes at all levels of governance. A key driver for mainstreaming is data and information on the costs of inaction, and the benefits of action.

Guidance developed by UNEP and UNDP on mainstreaming should be incorporated into typical economic sector chapters of national development plans. In the past, the lack of such guidance on the phrasing and placement of language for sound chemicals management has hindered the efforts of environment officials during the development planning process. Efforts should focus on economic sectors, specifically agriculture, mining, leather and textiles, and waste management, that are critical to the security of most developing countries that are experiencing increasing volumes of chemical production, use and disposal, and the related increase in the turnover of chemical intensive products in their national economies.

Using existing data on costs and filling data gaps

A significant portion of the health effects data uncovered in the COI report represents health costs of one category of chemical use (pesticides) from a limited number of countries in sub-Saharan Africa. Chapter 5 of the *Costs of Inaction* report describes methodologies for extrapolating available data on costs to the broader geographic region, and projecting costs into the future. Although controversial, these methods enable more accurate cost-benefit analyses and can enable countries to make their own calculations.

As additional data is generated, the accuracy of these assessments will improve, and likely illustrate additional hidden costs of chemicals mismanagement. There are key gaps in knowledge including in relation to the health, environmental and development costs of highly hazardous/high volume commodity chemicals, household chemicals, pharmaceutical, minerals and metals.

In Chapter 6, the *Cost of Inaction* report proposes the following approaches to fill the priority gaps in knowledge,: (1) inter-agency cooperation to fill data gaps regarding the costs of ecosystem services lost; (2) developing methodological guidance for countries with nascent capacity for economic analysis; (3) collecting and making available unpublished and raw data; and (4) filling in missing evidence from various sectors.

Annex 3

1. Preparing a National Profile to Assess Infrastructure and Capacity Needs for Chemicals Management, UNITAR

Available at: https://www.unitar.org/cwm/saicm/national-profile

This Guidance Document has been developed to assist countries in preparing National Profiles to assess the national infrastructure for the management of chemicals.

Part A of the Guidance Document provides an introduction to the international and national policy frameworks for the sound management of chemicals, including a discussion on the need to ensure close coordination among concerned ministries towards achieving the sound management of chemicals.

Part B of the Guidance Document introduces possible objectives and benefits of preparing a National Profile and provides suggestions for organizing the preparation of a National Profile. A key element of this preparation is the involvement of a broad range of concerned parties, both within and outside of government, to ensure that the National Profile can become an official national reference document, which is endorsed by all concerned parties.

Part C of the Guidance Document provides a guide for the structure and content of a National Profile. A series of tables, descriptive sections, and questions are provided to assist in documenting and analyzing the existing infrastructure, including its strengths and weaknesses. [i]

[i] United Nations Institute for Training and Research (UNITAR), 2012, 'Preparing a National Profile to Assess the National Infrastructure for Management of Chemicals. A Guidance Document', p. 3.

2. Guide for Integrating the Sound Management of Chemicals into Development Planning, UNDP

Available in three languages at: http://www.undp.org/content/undp/en/home/librarypage/environment-energy/chemicals_management/UNDP-UNEP_Partnership_for_Integration_of_SMC_into_Development/

This step-by-step guide aims at incorporating and updating Sound Management of Chemicals (SMC) into national development policies and plans. This method is part of the so called mainstreaming approach, which indicates the incorporation of the SMC priorities not only into a country development's plans and processes, but also into local level implementation and programs, and sector strategies.

The mainstreaming approach (Chapter 3), includes a project mobilization phase and the five following steps:

1. Baseline analysis: writing a National Chemicals Management Situation Report, aimed at understanding the degree of integration of SMC into national development planning;
2. Diagnostics and Needs Assessment: using a multi-stakeholder approach to identify high risks of chemicals exposure;
3. Identification of National SMC Priorities: Producing a concept paper that considers the costs of inaction and benefits and options for actions;
4. (a): determination of an Economic Valuation, including economic costs and benefits for policies, and (b): development of Targeted Policy Instruments, through legislative and institutional reforms;
5. Mainstreaming SMC Priorities: including them into the national development plan.

It includes a table with a timeline and resources, as well as recommendations for mainstreaming projects (Chapter 4). Relevant sections of the guide include Annex 1, illus-

trating prominent Web links applicable to SMC; Annex 2: linkages between MDGs (reduce poverty and ensuring environmental sustainability) and SMC; and Annex 4 and 5: examples of possible legal wording for the environmental governance and for the sector chapters of the national development plan.

3. The International Code of Conduct on Pesticide Management, FAO, WHO

Available in all UN languages at: http://www.fao.org/agriculture/crops/thematic-sitemap/theme/pests/code/en/

This document represents a voluntary framework for government regulators, pesticide industry and traders, civil society, and other stakeholders. It provides a guide on best practices in pesticides management, with a life-cycle approach. It is designed to be used in the context of national legislation, and it provides support especially for the countries that experienced difficulties or are starting to develop their management capacity on pesticides.

The Code consists of 12 articles. It starts clarifying its objectives (1), terms and definitions (2), and consequently it describes the practices to follow in pesticide management (3). The code emphasizes the need for testing of pesticides. in order to fully evaluate their properties and hazards (4), and to reduce health and environmental risks (5). Article 6 advices governments and industries on how to improve the regulatory and technical requirements, the legislation on availability and use of pesticides (7), as well as the distribution and trade (8). The following articles focus on the importance and the promotion of information exchange (9); labeling, packaging, storage, disposal (10) and advertising of pesticides (11). In the end, there is a description of the possibilities of monitoring and observing the code (12), and an annex with the relevant international instruments.

4. Guidance on Emerging Chemicals Management Issues in Developing Countries and Countries with Economies in Transition, GEF

Available at: hhttp://www.stapgef.org/emerging-chemicals-management-issues-in-developing-countries-and-countries-with-economies-in-transition/

The guidance identifies, evaluates and prioritizes Emerging Chemical Management Issues (ECMIs) in relation to the likely chemical management needs of Developing Countries and Countries with Economies in Transition (CEIT). ECMIs in the study are defined as *'any potential or recognized human health and/or environmental effects concern associated with chemical(s) whose management is not or only partially addressed by existing Multilateral Environmental Agreements (MEA)s'.*

Twenty-two ECMIs are identified and described: compound/class based (Poly-cyclic Aromatic Hydrocarbons (PAHs), arsenic, bisphenol A, alkylphenols, phthalates, organotins, and heavy metals), product based (nanoparticles and nanomaterials, lead in paints, inorganic fertilizers, cadmium in fertilizers, pharmaceuticals and personal care (PPCPS), illicit drugs, and food additives), effect-based ECMIs (endocrine disruption, mixture effects), and process-based ECMIs (e-waste, marine debris, ammunition, and the legacies of war and conflicts, mine waste and mine drainage, sewage, and open burning).

The concern criteria that were used to identify ECMI were: concern to developing countries and CEITs, geographical scale of impact, trans-boundary issues, impacts on ecosystems and on human health, climate change impacts, economic and social issues, and intervention priorities.

The report is divided into 6 chapters: Chapter 2 and 3, respectively, examines ECMIs and the policy and financial mechanisms todeal with them, while Chapter 4 identifies the criteria used for their categorization and prioritization; Chapter 5 assesses each identified ECMI in more detail, and Chapter 6 presents the results of a survey carried out to understand ECMI priorities for Developing Countries and CEIT.

5. Globally Harmonized System of classification and Labelling of Chemicals (GHS), UNECE

Available at: http://www.unece.org/trans/danger/publi/ghs/ghs_welcome_e.html

GHS represents an international system that aims at harmonizing and applying standard criteria for the classification of chemicals, in line with their physical, health, and environmental hazards. Accordingly, it develops a consistent communication method with symbols, signal words, labeling, precautionary statements, pictograms and data sheets, in order to protect human health and the environment. It aims to serve as a basis for a global harmonization of laws and regulations, with the declared objectives of further facilitating trade.