

NATIONAL SAICM CAPACITY ASSESSMENT

October 2009

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ABBREVIATIONS

| | |
|--------|---|
| BSDP | Barbados Sustainable Development Policy |
| CGPC | Coordinating Group of Pesticide Control Boards |
| EPD | Environmental Protection Department |
| FAO | Food and Agricultural Organization of the United Nations |
| GHS | Globally Harmonised System of Classification and Labelling of Chemicals |
| MEA | Multilateral Environmental Agreements |
| MSDS | Material Safety Data Sheets |
| NGOs | Non-Governmental Organisations |
| PSMS | Pesticide Stock Management System |
| SAICM | Strategic Approach for International Chemicals Management |
| UNITAR | United Nations Institute for Training and Research |
| UWI | University of the West Indies |



1. Executive Summary

1.1. Rationale

An important objective of the Strategic Approach to International Chemicals Management (SAICM) at the national level is to build upon existing chemicals management initiatives in various sectors and strengthen coordination and coherence among various government and stakeholder initiatives. A second important objective is to link these activities to national development planning (e.g. National Sustainable Development Strategies, UN Development Assistance Frameworks, Poverty Reduction Strategies, etc). The capacity assessment is intended to document and evaluate existing national capacities regarding chemicals management.

1.2. Overview of Findings

Numerous articles of legislation exist which, directly or indirectly, can contribute to chemicals management in Barbados; the principal articles of legislation being the Marine Pollution Control Act, 1998-40, the Health Services Act, 1969 and the Pesticides Control Act with their attendant regulations. Despite the existence of these pieces of legislation, it is the view of several stakeholders that Barbados has a poor chemicals management system, which requires urgent attention.

The existing legislation is deemed inadequate to manage chemicals in Barbados effectively. Having adequate legislation can contribute to effective chemicals management especially in areas such as proper disposal of chemical waste, research and laboratory testing, and chemical emergency planning. In addition to adequate legislation, there must also be the enforcement of such legislation in order to deal with the issues pertaining to chemicals management. Other the key issues, which have been given high priority with regard to chemicals management include:

- waste management;
- promoting safer alternatives;
- information exchange among stakeholders;

- emergency planning and response;
- enhancing research and laboratory capacities (to test for chemical residues on food and facilitate identification of chemical stockpiles); and
- education and awareness (not only for those in the workplace but also for the general public).


With respect to chemical waste, there appears to be a formal process for appropriate disposal but this information is not effectively communicated to stakeholders. Some industries have years of chemical waste in storage because they are unable to obtain information from relevant authorities on the proper disposal of such chemicals.

There is also a need for greater stakeholder participation where companies can come together and share information, whether to promote safer alternatives or find a solution for effective chemical waste disposal.

1.3. Recommendations and Partnerships

The following recommendations and a suggested partnership were noted:

- It is recommended that a partnership in the form of a chemicals management society/committee be set up to handle areas of concern for stakeholders. This chemicals management committee would comprise persons within industries, non-governmental organizations and academia as well as government agencies and would provide a means for information exchange across organisations as well as encourage stakeholder participation in the effective management of chemicals across the island.
- Legislation regarding chemicals management in Barbados needs to be updated and enforced. This is the crucial aspect of effective chemicals management. Where there is no legislation or enforcement then persons would do as they please, which can have negative implication on human health and the environment.

- Where appropriate, ideas can be imported from other countries, which have been effective in their chemicals management.
 - The Environmental Protection Department needs to play a more pivotal role in the management of chemicals in Barbados by providing services, information and putting themselves at the forefront so that persons (within industries) would have an idea of what guidance is available to them.
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2. Introduction

This national capacity assessment for sound chemicals management provides a valuable tool for prioritising issues relating to chemicals management at the national level. Information used to compile the capacity assessment was collected using worksheets outlined in the UNITAR guidance document “Developing a Capacity Assessment for the Sound Management of Chemicals and National SAICM Implementation”. The information was collected in two trenches: first, at a workshop that was held on February 5, 2009 at the Lloyd Erskine Sandiford Centre and subsequently, stakeholders who were not present at workshop were interviewed by a consultant. Once input was received from as many stakeholders possible, a draft report of the capacity assessment was prepared.

The assessment was sectioned into two main components: a governance assessment and the identification of urgent and important chemicals management issues. Five areas are considered relevant for conducting a governance assessment. These areas are integrating chemicals management into national development priorities; having a sound institutional and programmatic national framework; legislation and enforcement; participation of the private sector; and civil society in chemicals management and international cooperation related to chemicals management.

Similarly, the areas of chemicals information generation; risk management; information exchange, education and training; and chemical emergency prevention and control are deemed relevant to the identification of urgent and important chemicals management issues.

Each of the five areas related to the governance assessment were divided in sub-areas. For each sub-area, stakeholders were asked to rate the level of existing capacity and the urgency and importance of taking action in that sub-area as High, Medium or Low. The significance of these ratings is outlined below:

| Rating | Level of Existing Capacity | Urgency and Importance of Taking Action |
|---------------|--|---|
| High | Existing capacity is adequate | Urgent action is required immediately |
| Medium | Some capacity exists but is not being effectively utilized | Action is required but in the medium term (3 – 5 years) |
| Low | Limited to no capacity exists | Action is required but in the long term (6-10 years) |

In addition to rating the level of existing capacity and the importance of taking action in the various sub-areas, stakeholders were also invited to identify strengths and deficiencies/gaps in each sub-area as well as possible action that could be taken to narrow the existing gaps.

With respect to the identification of the urgent and important chemicals management issues, the five areas were divided into sub-areas and stakeholders were asked to prioritise these sub-areas as they relate to chemicals management as High, Medium and Low. Furthermore, stakeholders were invited to prioritize the inclusion of the sub-area in national development goals, policies and strategies.

Sections 3 and 4 summarise the governance framework and the assessment of chemicals management issues and priorities respectively, whereas section 5 outlines any opportunities for partnership. Completed work sheets for the national governance framework and the important and urgent chemicals management issues are found in Annex 2 and 3 respectively. Annex 1 lists the various lead agencies and stakeholders involved in a number of areas related to chemicals management and Annex 4 summarises the capacities and gaps for the important and urgent chemicals management issues identified in Worksheet 3 (Annex 3).

The target audience for the document includes government ministries and agencies, stakeholder groups such as industry, labour organizations, environmental and health non-governmental organization (NGOs), research institutions and academia, and any other organization that has an interest and stake in chemicals management.

3. National Governance Framework

Overall, there seem to be deficiencies in all five categories of the governance assessment, especially those areas pertaining to the existence of a sound institutional and programmatic national framework as well as legislation and enforcement.

3.1. Integrating Chemicals Management into National Development Priorities

With regard to having mechanisms in place for integrating chemicals management into national priorities, stakeholders believe that existing capacities regarding such mechanisms are low. Consequently, the urgency and importance of taking action in these areas is regarded as high.

Outlined below are the primary strengths and gaps related to integrating chemicals management into national development priorities along with possible actions to fill the existing gaps.

3.1.1. Mechanisms for Integrating Chemicals Management into Development Priorities

Strengths

- As outlined in the Barbados Sustainable Development Policy, 2004 (BSDP) the Government of Barbados has outlined strategies to ensure the optimisation of the quality of life for every person by ensuring that economic growth and development does not occur to the detriment of our ecological capital. This commitment by Government forms a basis for the integration of chemicals management into national development policies.
- A project is currently being implemented under the framework of the Strategic Approach to International Chemicals Management (SAICM) that would contribute to the strengthening of such mechanisms.

Gaps

- Rapid staff turnover can cause delays in the integration process since new staff must first become familiar with the existing chemicals management

situation before they can operate at maximum efficiency.

- There needs to be a holistic approach to integrating chemicals management issues.
- The existing framework is not functioning effectively.

Proposed Actions

- Institute succession planning for persons in key positions pertaining to chemicals management.
- Incorporate issues relating to chemicals management into the national strategic and development plans.
- Designate a lead agency that will be responsible championing chemicals management.
- Sensitise the public to the Sustainable Development Policy and its implications for stakeholder participation and environmental protection.

3.2. Sound Institutional and Programmatic National Framework

Existing capacities for establishing inter-institutional coordinating mechanisms and information exchange mechanisms are perceived to be low. On the other hand, the national capacity for: setting national priorities; programme and project planning; monitoring and evaluation; establishing financing mechanisms; and promoting participation of regional authorities are regarded as medium. A rating of medium is indicative that stakeholders believe that capacity does exist but it needs to be strengthened or better utilized.

Stakeholders believed that the urgency and importance of taking action is high for the categories: setting national priorities; programme and project planning; and establishing financing mechanisms. In contrast, the urgency and importance of taking action in the areas of monitoring and evaluation and promoting participation of regional authorities is considered to be medium; signifying that although action is required it is not required immediately.

A summary of the primary strengths and gaps for the various areas related to the existence of a sound institutional national framework in Barbados are listed below.

3.2.1. Establishing an Inter-Institutional Coordinating Mechanism

Strengths

- A number of inter-institutional coordinating mechanisms exist, which address national development considerations and sustainability with input from stakeholders in the public and private sectors.
- Existing coordinating mechanisms have representation from government, private sector, academia and non-governmental organizations.

Gaps

- Some of the coordinating mechanisms do not function due to various challenges such issues with administration.
- There needs to be greater exchange of information amongst coordinating mechanisms to ensure holistic chemicals management in Barbados.
- Many stakeholders are unaware of the details of existing policies encouraging participation in inter-institutional coordinating mechanisms.
- It is not mandatory for coordinating mechanisms to have representation from agencies outside of government.

Proposed Actions

- Establish one agency/entity comprising representation from government, private sector, civil society and academia to oversee initiatives pertaining to chemicals management.
- Mandate that all inter-institutional committees/mechanisms have representation from the civil society.

3.2.2. Information Exchange Mechanisms

Strengths

- A wealth of information exists with respect to some chemicals such as pesticides.
- There is the option of gathering information via the internet for some chemicals.
- Information is readily shared among golf courses across the island.
- There are a number of regional and international institutions on the island through which access to international literature and other informational resources can be accessed.

Gaps

- There are no designated locations where information pertaining to chemicals management can be accessed from international chemical databases.
- There is no central database of chemicals in use in Barbados and individual agencies have their information stored in different formats, which hinders information exchange.
- The lack of clarity about which local agency has specific responsibility for particular areas of chemicals management can result in information being misdirected to the incorrect agency, which can impede the flow of information from international organisations to national agencies.
- There is a lack of communication between agencies dealing with chemicals management.

Proposed Actions

- Develop a database of local information related to chemicals management that is accessible to all stakeholders.
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- Designate a location where access to international chemical databases can be readily obtained.
- Develop or where necessary reiterate educational and awareness raising programmes particularly to inform the public about the role and functions of key agencies dealing with chemicals management.

3.2.3. Setting National Priorities

Gaps

- There is the lack of private sector/stakeholder involvement in the chemicals management process.
- National priorities might change as governments change, preventing continuity.
- There is insufficient research on local environmental issues to adequately inform the setting of national priorities.

Proposed Actions

- Encourage further research into the extent to which the local environment is being impacted by chemicals so that this information can be used to inform policy decisions and the setting of priorities.

3.2.4. Programme and Project Planning

Strengths

- Any new development or project may be required to conduct an environmental impact assessment, which is reviewed by a multi-stakeholder panel. Such an assessment would facilitate the incorporation of environmental considerations/sustainability into project development and implementation.
 - Skilled human resources are available in this area.
-

Gaps

- Although there are skilled resources available, a disconnect exists between the planning phase and the implementation phase as a result many beneficial projects go into hiatus, are not implemented effectively or planned environmental consideration are not realized in the final product.
- There are insufficient resources to follow-up to ensure that projects are implemented as planned.

Proposed Actions

- Strengthen legislation to facilitate enforcement of development by agencies other than the Town and Country Planning Development Office during the implementation phase.

3.2.5. Monitoring and Evaluation

Strengths

- The Pesticide Stock Management System (PSMS) is available via the internet and all countries can use it to manage their stock. PSMS is an application that has been developed by the FAO to assist countries to record and monitor their inventories and usage of pesticides. The application aims to help reduce the creation of obsolete pesticides and enable countries to develop strategies for responding more effectively to pest outbreaks.
- Some monitoring is done by government agencies such as the Ministry of Agriculture, Ministry of Labour and the Environmental Protection Department.

Gaps

- Agencies responsible for monitoring need strengthening in order to achieve an effective surveillance programme.
- Apart from pesticides, there is not enough monitoring and evaluation done at the national level for other chemicals. In the public sector the limited capacity to conduct monitoring and evaluation is due mainly to inadequate human resources whereas in the private sector there is a lack of impetus for companies/persons to conduct and/or complete such activities.

Proposed Actions

- Expand the existing monitoring programmes conducted by the Pesticide Control Board and the Occupational and Health and Safety Department.
- Encourage use of the PSMS until a formal legislated programme has been implemented.

3.2.6. Establishing Effective Financing Mechanisms*Strengths*

- Some mechanisms are in place to provide funding for environmental matters. For example, the Environmental Levy Act, 1996, seeks to promote efficient solid waste management and implement the Polluter-Pays Principle by defraying costs of waste collection and disposal of imported goods. The Act also imposes an environmental levy on a wide range of goods including a 1% levy on all goods imported in containers of plastic, glass, metal, or paperboard, in addition to empty containers imported made of plastic, glass, metal, or paperboard.¹
- Financing can be obtained through the various multilateral environmental agreements to which Barbados is a Party.

Gaps

- In the absence of local testing facilities, quantification of the levels of chemicals is difficult, which could hinder any claims for compensation.
- There is a lack of awareness of the procedure to be used for accessing global and regional funds.
- It would appear that the Environmental Levy is not being used for its intended purpose of defraying costs associated with waste collection and disposal of imported goods.

Proposed Actions

- The monies generated from the Environmental Levy should be used for its intended purpose.

- Identify projects to strengthen chemicals management and seek funding under the various MEAs.
- Explore the possibility of annually allocating a fund or item to the budget of a relevant a ministry or department to support projects and initiatives related to chemicals management.

3.2.7. Promoting Participation of Regional Authorities

Strengths

- There has been a concerted effort put forward by the Coordinating Group of the Pesticide Control Board (CGPC) to engender collaboration between Caribbean countries. The CGPC comprises Pesticides Control Boards of Antigua and Barbuda, Barbados, Belize, British Virgin Islands, Dominica, Grenada, Guyana, Jamaica, Montserrat, St. Kitts & Nevis, St. Lucia, St. Vincent & the Grenadines, Suriname and Trinidad and Tobago. The CGPC meetings provide useful means for sharing information, experiences and needs and serves to identify areas for collaboration.

Gaps

- There is no widespread knowledge of regional authorities, their roles or functions.
- Regional activities are not being implemented at the national level. For example, Barbados has not yet ratified the Protocol Concerning Pollution from Land-Based Sources and Activities (LBS Protocol), which seeks to holistically address land-based sources that affect the Caribbean Sea.

Proposed Actions

- Agree on joint regional representation at international fora wherever possible to ensure that optimal use is made of limited regional skills and expertise.²
- Coordinate regional enforcement procedures and mechanisms for compliance with international environmental laws and regulations, especially those pertaining to the protection and sustainable management of the Caribbean Sea and its resources.²
- Develop procedures and codes of practice to facilitate the establishment of

joint regional positions regarding new international environmental agreements (or amendments of existing agreements), with the view of ensuring that the Small Island Developing States (SIDS) specific concerns are considered at negotiating fora.²

- Raise public awareness to the roles and functions of the regional authorities.

3.3. Legislation and Enforcement

Adequate legislation and enforcement are crucial for the effective management of chemicals in any country and Barbados is no exception. Generally, levels of existing capacities relating to legislation, regulation and policy are high, whereas the capacities for enforcement are regarded as low. However, the capacity for pesticides legislation and policies and policies for pollution prevention and cleaner production are regarded as low. Due to the low level of existing capacity in these areas, the urgency and importance of taking action is regarded as high.

A summary of the strengths and gaps for the various areas related to legislation and enforcement in Barbados are listed below.

3.3.1. Legislation, Regulation, Policies, and Enforcement Capacities

Strengths

- Numerous articles of legislation are available to deal with various aspects of chemicals management.

Gaps

- Current legislation does not address all aspects required for the lifecycle management of chemicals and there is a lack of enforcement of existing legislation.
- There is some overlap of responsibility with regard to the administration of environmental legislation by various agencies.
- Development of new legislation is piecemeal.
- Existing penalties are not stringent enough.

- A protracted process exists for the development of new legislation or the amendment of existing legislation.

Proposed Actions

- The office of the Solicitor General needs to be strengthened in an effort to accelerate the development or amendment of legislation.
- Enact the Environmental Management Act and develop comprehensive regulations to accompany the Act.

3.3.2. Pesticide Legislation and Policies


Strengths

- There is functioning Pesticide Control Board, which oversees the policy development and legislation pertaining to pesticides.

Gaps

- There are insufficient human resources to adequately police legislation and policies.
- There is no monitoring of end users to verify that chemicals are used, handled and disposed of appropriately.
- Existing legislation is accompanied by a list of pesticides whose use is either banned or restricted but this list is not updated regularly. In consequence, the use of potentially harmful chemicals might still be ongoing.
- Limited public education is conducted.

Proposed Actions

- The Pesticide Control Board needs to be strengthened
 - Develop a certification programme for consumers to purchase or use certain chemicals.
- 

- Further public education needs to be undertaken in an effort to increase compliance with prevailing legislation and policies.
- Improve monitoring and enforcement capabilities.

3.3.3. Policies for Pollution Prevention and Cleaner Production


Strengths

- A policy (the Barbados Sustainable Development Policy) exists, which encourages the use of pollution prevention and cleaner production. The overarching goal of this policy is to ensure the optimisation of the quality of life for every person by ensuring that economic growth and development does not occur to the detriment of our ecological capital.³

Gaps

- There is a lack of incentives for using alternative techniques.

Proposed Actions

- Develop incentives for people to improve techniques and use environmentally friendly chemicals.
 - Promote the benefits of environmentally friendly systems highlighting, among other things, the cost savings.
- 

3.4. Participation of the Private Sector and Civil Society in Chemicals Management

Participation of the private sector and civil society is a crucial component of chemicals management. Generally, stakeholders believed that the level of existing capacity regarding stakeholder participation was low. Consequently, urgency and importance of taking action with respect to stakeholder participation was flagged as high.

However, the levels of capacities of voluntary initiatives in the private sector and capacities in the civil society are believed to be medium. That is, some capacity does exist but there is room for improvement.

A summary of the strengths and gaps for the various areas related to the participation of the private sector and civil society in chemicals management are listed below.

3.4.1. Stakeholder Participation

Strengths

- Opportunities for participation are available. Furthermore, persons with concerns generally know whom they can contact within the relevant government agencies to voice their concerns/give their input.
- As outlined in the BSDP, Government is committed to encouraging stakeholder participation from outside of Government towards matters of sustainable development including chemicals management.⁴

Gaps

- Not enough effort is being put forth to engage stakeholder participation and when the effort is made the response by stakeholders is lackadaisical.
- Stakeholders are not coming together to look at the issue of chemicals management.

Proposed Actions

- Establish a chemicals management committee with representation from the government, civil society and academia to address chemicals management issues.

3.4.2. Voluntary Initiatives in the Private Sector*Strengths*

- There have been a number of private sector driven projects. For example, a number of entities are looking to import environmental friendly products and biological control products have begun to surface.

Gaps

- There are no incentives to encourage such initiatives by the private sector.

Proposed Actions

- Develop incentives such as reduced insurance premiums to encourage initiatives.
- Promote activities by environmental stewards within the wider community as a promotional tool.
- Explore the possibility of providing concessions for such voluntary initiatives.

3.4.3. Capacities of Civil Society*Strengths*

- Some technical capacity does exist with the NGOs.

Gaps

- There are not many NGOs involved in activities related to chemicals management.
-

Proposed Actions

- Devise ways to strengthen NGOs, perhaps through facilitation of training opportunities.

3.5. International Cooperation Related to Chemicals Management

Stakeholders believe that some capacity exists regarding international cooperation in implementing chemicals management related to Multilateral Environmental Agreements (MEAs) and studying and resolving chemicals management issues that have a transboundary dimension. However, the urgency and importance of taking action in these areas were rated as high signifying that these areas are priority areas, which require immediate attention.

Some of key strengths, gaps and proposed actions to enhance these areas are outlined below.

3.5.1. International Cooperation in Implementing Chemicals Management related MEAs

Strengths

- Barbados is signatory to a number of MEAs and is therefore eligible for technical and financial assistance under these agreements.

Gaps

- There is limited capacity, particularly legislative capacity, to implement the various MEAs. Oftentimes Barbados signs on to a MEA without the capacity to fulfil its obligations under the agreement. Consequently, the full benefit(s) of involvement in the MEA is not realized.

Proposed Actions

- The process for drafting legislation needs to be improved.
- Limit the number of agreements and concentrate on those that can be enforced and which have the greatest benefit to Barbados.

3.5.2. Studying and Resolving Chemicals Management Issues that have Transboundary Dimension

Strengths

- Capacity is available that could aid in this area.
- Barbados is Party to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal. This Convention aims to protect human health and the environment against the adverse effects resulting from the generation, management, transboundary movements and disposal of hazardous and other wastes.

Gaps

- There is no formal procedure for disposing of obsolete or hazardous chemicals.
- The approach in this area tends to be reactive rather than proactive.
- Although Barbados is signatory to the Basel Convention, the procedures for the transboundary movement of hazardous and other wastes are not always followed due to limited awareness.
- Legislation is required to allow Barbados to comply with the obligations of the Basel Convention.

Proposed Actions

- Develop partnerships with the University of the West Indies to conduct research into various chemicals management issues including those that have a transboundary dimension.
 - Raise public awareness of the requirements under the Basel Convention in an effort to improve compliance with those procedures.
 - Develop relevant legislation.
-

4. Important and Urgent Chemicals Management Issues and Priorities

Five areas have been targeted with respect to the assessment of important and urgent chemicals management issues namely, information generation; risk management for chemical safety; information exchange; education and training; and chemical emergency prevention and control. Following is a summary of the findings of the assessment.

4.1. Information Generation

In regards to information generation, performing a chemical risk assessment (including hazard risk identification and exposure assessment), and enhancing research and laboratory capacities were rated as high priority for effective chemicals management. However, chemical risk assessment was rated high as a potential priority for development planning whereas research and laboratory capacities are rated as medium priority for development planning.

4.1.1. Chemical Risk Assessment (including Hazard Identification and Exposure Assessment)

This is a necessary step in reducing the risks to persons who are exposed to chemicals in the workplace and at home. In the workplace, the use of Material Safety Data Sheets (MSDS) provides information on the handling of hazardous chemicals; this coupled with existing legislation such as the Factories Act, 1984 combine to minimize the risk to human health. However, more needs to be done as MSDS are not always available and legislation is not easily enforced. Outside of the workplace, householders and farmers need to be more aware of the impact that chemicals, with which they come into contact, can have on their health and the environment. There are still some persons who do not take the necessary precautions when dealing with hazardous substances.

The ability to conduct effective chemical risk assessments can also form the basis for identifying and utilizing less hazardous materials and processes.

Possible actions that could be taken in this area are as follows:

- Consider implementation of the Globally Harmonized System of Classification and Labelling (GHS), which would aid with hazard identification and communication; thereby, safeguarding human health and the environment.
- The EPD (under the Ministry of Environment) should play a pivotal role in the development of a mechanism to keep track of the types of chemicals coming into the country as well as the impacts of these chemicals on human health and the environment. Without this data, it is difficult to assess the risks to the general population and the environment.
- Since a chemical risk assessment is of high potential priority for development planning, such assessment should be incorporated in environmental impact assessments and development strategies.

4.1.2. Research and Laboratory Capacities

Overall, the availability of adequate research and laboratory capacities is regarded as high priority for effective chemicals management as they are necessary for monitoring and testing of substances, thereby allowing and assessment of the level of exposure. Sound research can be used to inform policy decisions and adequate laboratory facilities are critical for analysis of the chemical residue on vegetables, fruit and in the groundwater and aiding the identification of chemical stockpiles for appropriate treatment and disposal.

However, lab resources are viewed by stakeholders in industry as a low priority since maintaining a lab could be costly. Research on the other hand is rated by all stakeholders as being important but lack of human resources poses a significant challenge.

Possible actions that could be taken in this area are as follows:

- Assess the existing research and laboratory capacities to identify areas for strengthening and develop strategies to strengthen these areas.
- Use government facilities to conduct more local research regarding chemicals. The EPD, Ministry of Agriculture, UWI and industries are required to play a role in this regard.

4.2. Risk Management for Chemical Safety

All of the areas below, which are related to risk management for chemical safety, are viewed as high priority for chemicals management. These areas are: adequate legislation; promoting safer alternatives; addressing highly toxic substances and chemicals of global/regional/national concern; safe handling, use, storage, and transportation of pesticides; safe use, storage, and transportation of industrial chemicals; chemical safety in the workplace; cleaner product production; and waste management.

Due to the high priority rating of the aforementioned areas for chemicals management, they are all, with the exception of cleaner production and highly toxic chemicals and chemicals of global/regional/national concern, rated as high priority for incorporation in the development strategies. Cleaner production is rated low by Government, low-medium for NGOs and medium by industry and the private sector; while the category of highly toxic chemicals and chemicals of global/regional/national concern is rated high by Government and medium-high by industry and the private sector.

4.2.1. Adequate Legislation

Adequate legislation is an important chemicals management issue arising out of the assessment. The presence of adequate legislation governs an integral component of effective chemicals management, that is, enforcement. The legislative framework and drivers are also important in getting the private sector operating at a certain level. The interviewees believe that countries in the Caribbean are behind in legislation regarding chemicals management and therefore urgent attention is required.

Legislation is required to control storage, handling, transportation and disposal of chemicals. Such legislation should carry stringent penalties to deter violation. The development of legislation is only the first step; sufficient human and technical resources need to be made available to enforce the legislation effectively.

Possible actions that could be taken in this area are as follows:

- The office of the Solicitor General needs to be strengthened in an effort to accelerate the development or amendment of legislation.
- Revise / amend current legislation to incorporate liability and compensation.

- Proclaim the Safety and Health at Work Act, which would address a number of health and safety issues pertaining to chemicals management.
- Enact the Environmental Management Act, which would be an omnibus legislation encompassing all areas of chemicals management.
- Establish mechanisms to enforce legislation effectively.

Since this area is regarded as a high potential priority for development planning, in the future, MEAs should not be signed unless the corresponding legislation has been passed to implement the MEA effectively.

4.2.2. Promote Safer Alternatives

The promotion of safer alternatives has also received a high priority rating as negligence in this area can have negative implications for sectors such as tourism, which is a key economic sector. Safer alternatives would reduce impacts on health and the environment and would be consistent with the Barbados Sustainable Development Policy, which aims to preserve the environment, among other goals.

Promoting safer alternatives is critical in chemical risk reduction and feeds into being compliant with international protocols.

Possible actions that could be taken in this area are as follows:

- Conduct research to identify alternatives for several chemicals that are being used.
- In the EIA process that might be required for new developments, proponents should be required to consider alternative materials, technology, devices and procedures in addition to traditional methods.

4.2.3. Highly Toxic Chemicals and Chemicals of Global/Regional and National Concern

There are several issues to be faced regarding highly toxic substances such as the importation of banned chemicals and disposal. Barbados is a small island and at present, there is a problem with chemical waste disposal. Inappropriate disposal of such chemicals can pose a threat to the island's ground water and to the marine

environment.

There is the concern that chemicals are found on the island, which have been banned in the United Kingdom as well as the United States. This situation needs to be investigated and corrective action taken.

Possible actions that could be taken in this area include:

- Promote the development and use of reduced-risk pesticides and non-chemicals alternatives as well as substitution of highly toxic pesticides with less toxic alternatives.
- Develop and implement systems to track the importation, use and disposal of chemicals.
- Strengthen controls that govern the importation, use and disposal of chemicals.

4.2.4. Safe Handling, Use, Storage and Transportation of Pesticides

Oftentimes, pesticides are used improperly as persons are not aware of their toxicity. The safe handling, use, storage and transportation of pesticides would reduce the risk of contamination of the ground and coastal water and reduce the risk to human health and safety.

Possible actions that could be taken in this area are as follows:

- Persons should be trained in proper usage and application of pesticides as well as the use of personal protective equipment.
 - Encourage use of the International Code of Conduct for the Distribution and Use of Pesticides that has been developed by the Food and Agricultural Organisation of the United Nations (FAO). The objectives of the Code are to establish voluntary standards of conduct for all public and private entities engaged in or associated with the distribution and use of pesticides, particularly where there is inadequate or no national legislation to regulate
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pesticides. The Code, among other things, promotes practices that reduce risks when handling pesticides. It seeks to minimize adverse effects on humans and the environment and prevent accidental poisoning resulting from improper handling; and ensures that pesticides are used effectively and efficiently for the improvement of agricultural production and of human, animal and plant health.

- Undertake an awareness raising campaign.
- Strengthen the Pesticides Control Board by, among other things, increasing the number resources available to enforce the Act and its attendant regulations.
- Improve controls over pesticide storage and transport.

4.2.5. Safe Handling, Use, Storage and Transportation of Industrial Chemicals

Similar to pesticides, industrial chemicals are sometimes used improperly as persons are not aware of their toxicity. The safe handling, use, storage and transportation of industrial chemicals would reduce the risk of contamination of the ground and coastal water and reduce the risk to human health and safety.

Possible actions that could be taken in this area are as follows:

- Persons should be trained in proper usage and application of industrial chemicals along with the use of personal protective equipment.
- Protocols should be put in place for the handling, storage, transport and usage of chemicals.
- Develop inventories of chemical storage sites. This information is also necessary for emergency response.

4.2.6. Chemical Safety in the Work Place

Workers need to be educated about the dangers of the chemicals with which they are in contact and how to deal with them. In addition to educating the workers, focus needs to be placed on communication of information on the hazard posed by chemicals. Thus, there is a need for better labelling of chemicals. Improved

chemical safety in the workplace may contribute to a more productive working environment; reduce absenteeism and loss of person-hours.

Possible actions that could be taken in this area are as follows:

- Proclaim the Safety and Health at Work Act, 2005.
- Consider implementing the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

4.2.7. Cleaner Production

Although Barbados does not produce many chemicals, care is still required to ensure that those chemicals that the island does produce are produced in a manner that does not adversely impact on human health or the environment.

Possible actions that could be taken in this area are as follows:

- Government could offer incentives or concessions to encourage cleaner production.
- Government could implement cleaner production methods within its own departments.

4.2.8. Waste Management

The challenge of disposing of chemical waste is highlighted by the number of stockpiles of obsolete chemicals in existence. Such a situation might encourage entities to dispose of their waste inappropriately, possibly endangering the human health, marine environment and the groundwater.

Possible actions that could be taken in this area are as follows:

- Develop standards to ensure maintenance of appropriate air quality levels, which protect human health and meet at least minimum international standards.
- Develop a comprehensive policy to guide the management of hazardous materials including chemicals for agriculture and/or manufacturing, as well

as wastes.

- Where appropriate, import ideas from countries that have successfully implemented waste management strategies.

4.3. Information Exchange, Education and Training

The exchange of information pertaining to chemicals management was regarded as high priority for all stakeholders with the exception of industry. Stakeholders in the industry are concerned that information exchange could reduce their competitive advantage. Consequently, information exchange is regarded as medium priority for stakeholders in industry. However, all stakeholders believe that information exchange has high priority for incorporation into development strategies and goals.

The need for education and training were both given a high priority rating for chemicals management and development planning.

4.3.1. Information Exchange

There is a general lack of communication amongst government departments and between governmental and non-governmental agencies. Moreover, some of the information that is generated is not readily accessible.

Possible actions that could be taken in this area include:

- Set up a chemicals management committee where information regarding chemicals can be readily shared and accessed. Such a committee would also facilitate sharing of ideas especially as it relates to the important chemicals management issues such as waste disposal.
- Encourage companies to work together to reduce and reuse chemical waste.

4.3.2. Education / Awareness Raising

There is a paucity of specific policy initiatives to address the need for public awareness and understanding. Although individual organizations may have internal policies concerning occupational health and safety and the dissemination of information to workers, this does not diminish the need for a national policy to promote and encourage awareness of the need for sound management of chemicals.

Moreover, education and raising awareness can be dealt with on the job but the public (e.g. householders) also needs greater awareness of chemicals and pesticides.

Possible actions that could be taken in this area:

- Develop awareness raising and educational programmes to provide information on sustainable development and specific environmental issues that are of particular concern to Barbados.⁵
- Conduct an assessment to determine the most effective method of raising public awareness.
- Implement GHS so that workers and users of chemicals can be made aware of hazards posed by the use of such chemicals.
- Encourage the involvement of individuals and interest groups in activities, which focus on environmental conservation and sustainable development.²
- Promote information and education in the areas of environmental health and safety programmes in accordance with acceptable environmental standards.²

4.3.3. Training

Relevant and continual training are essential if a sustainable chemicals management programme is to be achieved. In the updated National Profile of Chemicals Management, 2009, areas where expertise was notably lacking were enforcement, risk reduction, risk assessment and policy analysis; consequently, training in these areas is required.

Possible actions that could be taken in this area are as follows:

- Enter into discussions with the various tertiary institutions on the island to develop and provide relevant training programmes.

4.4. Chemical Emergency Prevention and Control

This section looks at chemical emergency planning and response as well as chemical emergency follow-up. Chemical emergency planning was given a high priority rating for chemicals management by all stakeholders. This area also has a high

potential priority for development planning.

Chemical emergency response is regarded as a high priority for chemicals management by government but is regarded as medium priority by the private sector. Chemical emergency response is classified as medium priority with respect to development planning.

Chemical emergency follow-up is regarded as a high priority for chemicals management by stakeholders with the exception of industry, who regarded this area as medium priority. With respect to development planning, chemical emergency follow-up is regarded as a high priority for government, NGOs and the private sector but low for industry.

4.4.1. Chemical Emergency Planning

It is essential to have a chemical emergency plan. The risk of an accident is ever present where chemicals are stored or used. Some stakeholders state that there are no national plans in place. On the contrary, two chemical emergency plans exist namely, the Hazardous Material Response Plan and the National Oil Spill Contingency Plan. This appears to be a case where companies are unaware of the existing plans.

Possible actions that could take in this area include:

- Reviewing and revising existing plans as necessary to ensure that they are still relevant. Involve stakeholders and prepare targeted education programmes.
- Publicize plans so that all participants and the public are aware of the plans.
- Require (possibly by legislation) that industries develop and maintain emergency plans or follow existing national plans.
- Develop a national database of chemicals storage locations, which would aid emergency services if responding to an emergency (fire/spill) at one of those locations.

4.4.2. Chemical Emergency Response

Chemical emergency response is of high priority. It is necessary to be aware of the

measures to be taken in case of an accident involving chemicals including poisoning. There is a need for more simulations to ensure that the existing emergency plans are effective and that all participants are aware of their role and responsibility.

Possible actions that could take in this area are as follows:

- Conducting frequent simulation exercises.
- Assessing the existing medical infrastructure to determine whether there is adequate capacity to deal with chemical emergencies including poisoning.
- Require that industries maintain a database of all chemicals and relevant information for safety and emergency response. Information in such databases should be harmonised across all industries and readily available to emergency personnel in the event of an emergency.

4.4.3. Chemical Emergency Follow-up

There is no national mechanism in place to investigate chemical incidents and their outcomes. Procedures for investigating chemical incidents vary depending on the agency that is investigating the incident. Consequently, there is no standardized format for collecting information about an incident, which can make information exchange a challenge.

Possible actions that could be taken in this area are as follow:

- Develop, test and introduce a national procedure for following up on chemical emergencies.
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5. Partnership Projects

It has been proposed that a chemical management committee should be set up, which would comprise personnel from various Government departments, industries, and NGOs. This committee would be responsible for:

- Sharing information regarding chemicals and pesticides between industries as well as users of chemicals;
- Obtaining information regarding chemicals from various local stakeholders and external sources in order to maintain an up-to-date database of information relevant to the management of chemicals (In this way information would always be available and any information provided by Government can be passed onto this committee for easy access by others);
- Exploring solutions to chemical management issues including chemical waste management;
- Encouraging NGO participation in promoting cleaner production;
- Keep workers in the chemical industry well informed of any new updates; and
- Facilitate education and training opportunities for persons/organizations that use, store, manufacture or transport chemicals including pesticides.

In 2007, a committee was set up by a decision by the Cabinet that would oversee the implementation of MEAs. If the mandate of such a committee was expanded, it could address the aforementioned tasks. Alternatively, the National Advisory Committee on Occupational Safety and Health (NACOSH) could also be considered for such a role. NACOSH advises the Minister responsible for labour on issues of safety and health as they affect the workplace.

6. References

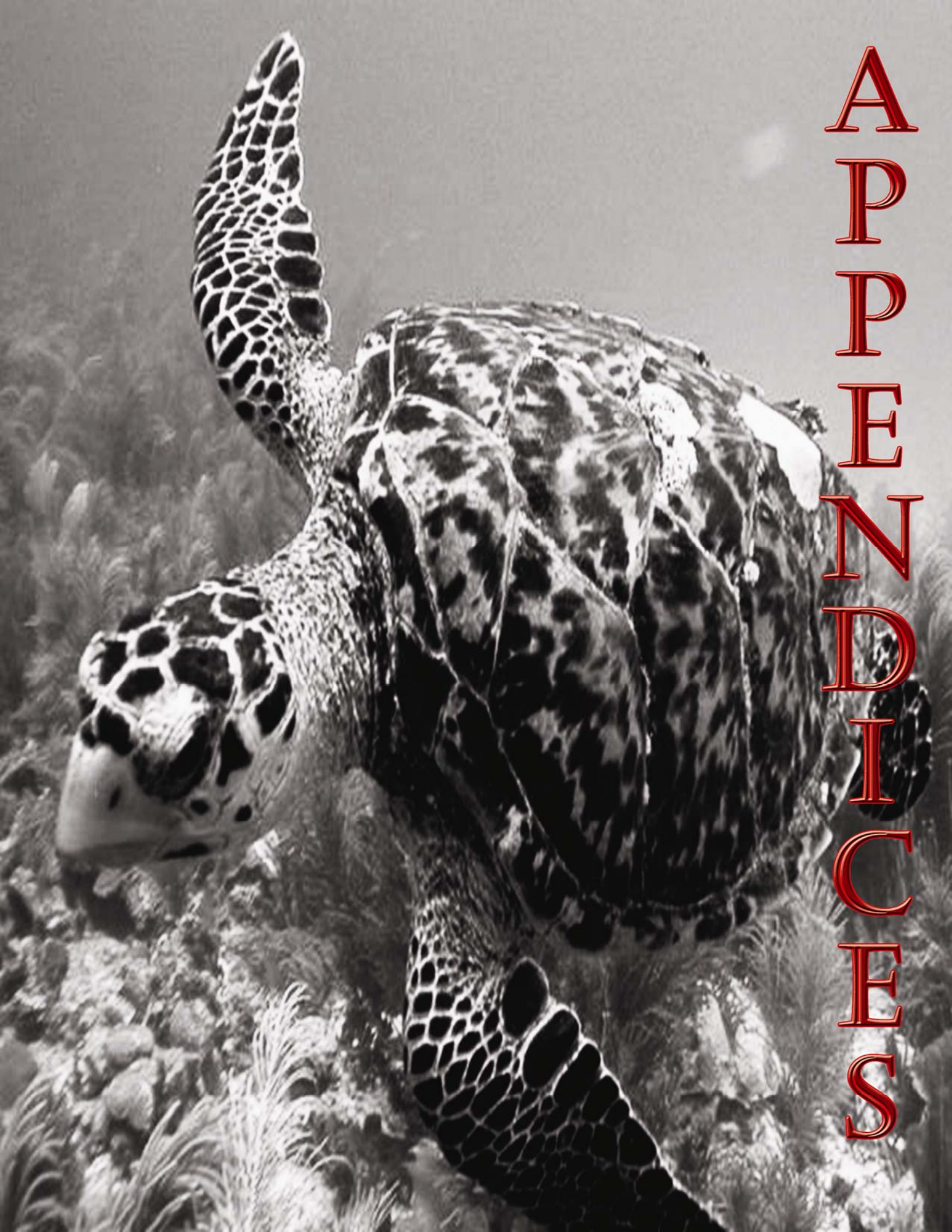
¹Economic Instruments in Barbados. Available: <http://www.unep.org/dec/onlinemanual/Enforcement/InstitutionalFrameworks/EconomicInstruments/Resource/tabid/1013/Default.aspx>. Last accessed 28 September 2009.

²Taken from the Barbados Sustainable Development Policy, 2004 Part II Page 40 -41

³Taken from the Barbados Sustainable Development, 2004, Part I, Section 4 Page 9

⁴Taken from the Barbados Sustainable Development Policy, Section 5.5, pg 19-21

⁵Taken from the Barbados Sustainable Development Policy, 2004 Part II Section 14 Page 39



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WORKSHEET 1:

Lead Agencies and Stakeholders for
Possible Work Areas and Associated Activities

Worksheet 1 : Lead Agencies and Stakeholders for Possible Work Areas and Associated Activities

| Possible Work Area | Activity | Lead Agency/Stakeholder | Other Participating Agencies/Stakeholders |
|--|--------------------------|--|---|
| 1. Assessment of national chemicals management to identify gaps and prioritize actions | 1, 165, 207 | <ul style="list-style-type: none"> ▪ Ministry of the Environment | |
| 2. Human health protection | 2–6 | <ul style="list-style-type: none"> ▪ Ministry of Health, Ministry of Labour | <ul style="list-style-type: none"> ▪ UWI (research for better alternatives) ▪ Industry ▪ Ministry of the Environment ▪ Ministry of Agriculture ▪ Labour Unions |
| 3. Children and chemical safety | 7–10, 150–153, 245-246 | <ul style="list-style-type: none"> ▪ Ministry of Health | <ul style="list-style-type: none"> ▪ Industry |
| 4. Occupational health and safety | 11–21, 138–149, 255 | <ul style="list-style-type: none"> ▪ Ministry of Labour | <ul style="list-style-type: none"> ▪ Environmental Protection Department ▪ Labour Unions |
| 5. Implementation of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) | 22, 99–101, 168, 248–250 | <ul style="list-style-type: none"> ▪ Ministry of the Environment | <ul style="list-style-type: none"> ▪ Ministry of Agriculture ▪ Industry |
| 6. Highly toxic pesticides risk – management and reduction | 23–30, 114–117 | <ul style="list-style-type: none"> ▪ Ministry of Agriculture | <ul style="list-style-type: none"> ▪ Ministry of the Environment, |
| 7. Pesticide programmes | 31 | <ul style="list-style-type: none"> ▪ Ministry of Agriculture | <ul style="list-style-type: none"> ▪ Ministry of the Environment |
| 8. Reduced health and environmental risks of pesticides | 32–42 | <ul style="list-style-type: none"> ▪ Ministry of Agriculture ▪ Pesticide Control Board | <ul style="list-style-type: none"> ▪ NGOs, ▪ Ministry of Environment |

Worksheet 1 : Lead Agencies and Stakeholders for Possible Work Areas and Associated Activities

| Possible Work Area | Activity | Lead Agency/Stakeholder | Other Participating Agencies/Stakeholders |
|--|----------------------------------|--|---|
| 9. Cleaner production | 43–46, 118, 238–242 | <ul style="list-style-type: none"> ▪ Ministry of Environment ▪ Industry | |
| 10. Remediation of contaminated sites | 47–48, 243 | <ul style="list-style-type: none"> ▪ Party responsible for contaminating site | <ul style="list-style-type: none"> ▪ Ministry of the Environment |
| 11. Lead in gasoline | 49, 156, 244 | <ul style="list-style-type: none"> ▪ Ministry of Energy | <ul style="list-style-type: none"> ▪ Ministry of the Environment |
| 12. Sound agricultural practices | 50–53, 158–160 | <ul style="list-style-type: none"> ▪ Ministry of Agriculture | <ul style="list-style-type: none"> ▪ FAO ▪ BAS ▪ BADMC |
| 13. Persistent, bioaccumulative and toxic substances (PBTs); very persistent and very bioaccumulative substances; chemicals that are carcinogens or mutagens or that adversely affect, inter alia, the reproductive, endocrine, immune or nervous systems; persistent organic pollutants (POPs) | 54–56 | <ul style="list-style-type: none"> ▪ Ministry of the Environment ▪ Ministry of Agriculture | <ul style="list-style-type: none"> ▪ NGOs ▪ UWI |
| 14. Mercury and other chemicals of global concern; chemicals produced or used in high volumes; chemicals subject to wide dispersive uses; and other chemicals of concern at the national level | 57–60, 157 | <ul style="list-style-type: none"> ▪ Ministry of the Environment | <ul style="list-style-type: none"> ▪ NGOs ▪ Industry |
| 15. Risk assessment, management and communication | 61–67, 127–137, 247 | <ul style="list-style-type: none"> ▪ Ministry of Environment, ▪ NGOs ▪ Industry | |
| 16. Waste management (and minimization) | 68–73, 161–162, 258–262, 272–273 | <ul style="list-style-type: none"> ▪ Ministry of Environment ▪ Industry ▪ NGOs | |
| 17. Formulation of prevention and response measures to mitigate environmental and health impacts of emergencies involving chemicals | 74–79, 237 | Ministry of Environment | Industry |

Worksheet 1 : Lead Agencies and Stakeholders for Possible Work Areas and Associated Activities

| Possible Work Area | Activity | Lead Agency/Stakeholder | Other Participating Agencies/Stakeholders |
|---|------------------|---|---|
| 18. Research, monitoring and data | 80–87 | <ul style="list-style-type: none"> ▪ Ministry of Environment, ▪ Ministry of Agriculture ▪ UWI (research) | <ul style="list-style-type: none"> ▪ Industry |
| 19. Hazard data generation and availability | 88–97 | <ul style="list-style-type: none"> ▪ Ministry of the Environment ▪ Ministry. of Agriculture ▪ Industries | <ul style="list-style-type: none"> ▪ FAO |
| 20. Promotion of industry participation and responsibility | 98, 189–192 | <ul style="list-style-type: none"> ▪ Ministry. of Environment ▪ Min. of Agriculture ▪ Industries | <ul style="list-style-type: none"> ▪ FAO |
| 21. Information management and dissemination | 102–113, 256 | <ul style="list-style-type: none"> ▪ Government Information Service Department | <ul style="list-style-type: none"> ▪ Ministry of the Environment, ▪ Ministry of Agriculture, ▪ Ministry of Health, ▪ NGOs |
| 22. Life cycle | 119–123 | <ul style="list-style-type: none"> ▪ Ministry of Environment, ▪ Industries | |
| 23. Pollutant release and transfer register (PRTRs) – creation of national and international registers | 124–126, 177–180 | <ul style="list-style-type: none"> ▪ Ministry of Environment | <ul style="list-style-type: none"> ▪ Regional Organizations |
| 24. Education and training (public awareness) | 154–155 | <ul style="list-style-type: none"> ▪ Labour Unions | <ul style="list-style-type: none"> ▪ NGOs, ▪ Government Information Service Department ▪ Tertiary educational institutions |
| 25. Stakeholder participation | 163–164 | <ul style="list-style-type: none"> ▪ Ministry of the Environment | <ul style="list-style-type: none"> ▪ Industry |

Worksheet 1 : Lead Agencies and Stakeholders for Possible Work Areas and Associated Activities

| Possible Work Area | Activity | Lead Agency/Stakeholder | Other Participating Agencies/Stakeholders |
|--|------------------|--|--|
| 26. Implementation of integrated National programmes for the sound management of chemicals at the national level in a flexible manner | 166–167 | <ul style="list-style-type: none"> ▪ Ministry of Environment ▪ Industries | <ul style="list-style-type: none"> ▪ Workers |
| 27. International agreements | 169–176 | <ul style="list-style-type: none"> ▪ Ministry of the Environment | <ul style="list-style-type: none"> ▪ Secretariats of MEAs |
| 28. Social and economic considerations | 181–188, 257 | <ul style="list-style-type: none"> ▪ Ministry of Environment ▪ Ministry of Agriculture, ▪ Labour Unions | |
| 29. Legal, policy and institutional aspects | 193–198 | <ul style="list-style-type: none"> ▪ Ministry of the Environment | <ul style="list-style-type: none"> ▪ Convention Secretariats ▪ Industries, ▪ Office of the Attorney General |
| 30. Liability and compensation | 199 | <ul style="list-style-type: none"> ▪ Labour Unions | |
| 31. Stock-taking on progress | 200–201 | <ul style="list-style-type: none"> ▪ Ministry of the Environment, ▪ Regional Organizations | |
| 32. Protected areas | 202–203, 253–254 | <ul style="list-style-type: none"> ▪ Ministry of Environment ▪ Ministry of Agriculture | <ul style="list-style-type: none"> ▪ Regional Organizations |
| 33. Prevention of illegal traffic in toxic and dangerous goods | 204, 263–271 | <ul style="list-style-type: none"> ▪ Ministry of Environment ▪ Customs and Excise Department | <ul style="list-style-type: none"> ▪ Basel, Rotterdam and other convention secretariats ▪ Regional Organizations |
| 34. Trade and environment | 205, 251–252 | <ul style="list-style-type: none"> ▪ Ministry of Environment ▪ Ministry of Trade | |

Worksheet 1 : Lead Agencies and Stakeholders for Possible Work Areas and Associated Activities

| Possible Work Area | Activity | Lead Agency/Stakeholder | Other Participating Agencies/Stakeholders |
|---|----------|--|--|
| 35. Civil society and public interest non-governmental organization (NGO) participation | 206 | <ul style="list-style-type: none"> ▪ NGOs, ▪ Labour Unions | <ul style="list-style-type: none"> ▪ Ministry of the Environment |
| 36. Capacity-building to support national actions | 208–236 | | <ul style="list-style-type: none"> ▪ Chemical Convention Secretariats ▪ IOMC |



WORKSHEET 2:

Governance Framework Assessment

| A.1 Integrating Chemicals Management into National Development Priorities | | | | |
|---|--|--|---|---|
| Categories (and related SAICM Work Areas) | Level of existing capacities: High/ Medium/ Low | Summary of Strengths and Gaps | Possible a Action | Urgency & importance of taking action: High / Medium / Low |
| <p>1.1 Mechanisms for Integrating Chemicals Management into Development Priorities</p> <p>1 (assessment of national chemicals management to identify gaps and prioritize actions), 2 (human health protection), 3 (children and chemical safety), 28 (social and economic considerations), 20 (promotion of industry participation and responsibility), 34 (trade and environment), 35 (civil society and public-interest NGO participation)</p> | Low | <p><u><i>Strengths</i></u></p> <ul style="list-style-type: none"> ▪ Government's commitment to integrate chemicals management in development priorities is outlined in the Barbados Sustainable Development Policy. ▪ Actual ongoing process to do something <p><u><i>Gaps</i></u></p> <ul style="list-style-type: none"> ▪ There is no continuity due to turnover rate of personnel. ▪ Framework exists, but not functioning efficiently ▪ Lack of integrated approach ▪ Lack of legislation ▪ Lack of enforcement of existing legislation | <ul style="list-style-type: none"> ▪ Need for more knowledge of the correct chemical to use and the correct way to use such. There needs to be a more regulatory process as to what chemicals are imported. ▪ The EPD needs to clarify their role and the significance of it. ▪ Legislation is necessary. Without legislation, we can do nothing. Existing legislation speaks mainly of agricultural chemicals. ▪ Designate a lead agency ▪ Mandate a participatory role for the industry ▪ Develop a guidance document. ▪ Need to develop a system of enforcement and legislation. ▪ Include issues in national strategic plan – need to find out who is responsible for including items and piggyback on that agency (BWA, EPD). Tie chemical management to achieving objectives in draft document. | High |

| A.2 A Sound Institutional and Programmatic National Framework | | | | |
|---|--|--|--|--|
| Categories (and related SAICM Work Areas) | Level of existing capacities: High / Medium / Low | Summary of Strengths and Gaps | Possible Action | Urgency & Importance of taking action: High / Medium / Low |
| <p>2.1 Establishing an Inter-institutional Coordination Mechanism</p> <p>20 (promotion of industry participation and responsibility), 21 (information management and dissemination), 22 (life cycle), 25 (stakeholder participation), 26 (implementation of integrated programmes for the sound management of chemicals), 27 (international agreements), 28 (social and economic considerations), 29 (legal, policy and institutional aspects)</p> | Low | <p><u>Strengths</u></p> <ul style="list-style-type: none"> ▪ A number of such mechanisms exist. ▪ There was once a group dealing with hazardous chemicals. <p><u>Gaps</u></p> <ul style="list-style-type: none"> ▪ There is not a well-coordinated effort with respect to use of chemicals. ▪ Existing policy for establishing such mechanisms are not well known. | <ul style="list-style-type: none"> ▪ This would be more effective and simple if there is one institution looking after chemicals – having one reference body. ▪ Import ideas. ▪ Have a board with representatives from government and private sector that would mention and look at alternative processes for chemicals and the waste aspect. ▪ Have a committee for consultation. | <p>High</p> <p>We need to manage how we dispose our chemicals. Aquifers are close.</p> |

Worksheet 2: Governance Framework Assessment

| A.2 A Sound Institutional and Programmatic National Framework | | | | |
|--|---|--|---|---|
| Categories (and related SAICM Work Areas) | Level of existing capacities: High / Medium / Low | Summary of Strengths and Gaps | Possible Action | Urgency & importance of taking action: High / Medium / Low |
| <p>2.2 Information Exchange Mechanisms</p> <p>15 (risk assessment, management and communication), 18 (research, monitoring and data), 21 (information management and dissemination), 23 (PRTR), 24 (education and training), 25 (stakeholder participation), 26 (implementation of integrated programmes), 27 (international agreements), 31 (stock-taking on progress), 35 (NGO participation)</p> | Low | <p><u>Strengths</u></p> <ul style="list-style-type: none"> ▪ The supplier provides information to the buyer. ▪ Information is also gathered from the internet. ▪ Information is exchanged among golf courses. <p><u>Gaps</u></p> <ul style="list-style-type: none"> ▪ There is no functioning national database; therefore, information is not really shared. ▪ There is nothing structured. ▪ Need funding. (18 & 21) ▪ Lack of an integrated approach exists. ▪ Lack of proactive approach ▪ Lack of skill resources ▪ Need communication between agencies that deal with chemical management. | <ul style="list-style-type: none"> ▪ A national database for information sharing is important. ▪ Government should set up a mechanism where information would be available. ▪ There should be a chemical society formulated in Barbados, which would come together and share information. There should be a chemical management committee in Barbados. ▪ Training and education ▪ Facilitate online access to database for chemicals and management. ▪ Develop a database of information related to chemicals management, which is accessible by relevant stakeholders. | High |

| A.2 A Sound Institutional and Programmatic National Framework | | | | |
|--|--|---|--|---|
| Categories (and related SAICM Work Areas) | Level of existing capacities: High / Medium / Low | Summary of Strengths and Gaps | Possible action | Urgency & importance of taking action: High / Medium / Low |
| 2.3 Setting National Priorities 1 (assessment of national chemicals management to identify gaps and prioritize actions), 26 (implementation of integrated national programmes), 31 (stock-taking on progress), | Medium | <u>Gaps</u> <ul style="list-style-type: none"> ▪ Require greater participation from relevant agencies/ poor stakeholder involvement ▪ Private sector support is lacking. ▪ Insufficient local research is available to inform the policy making process and thus setting of national priorities. | <ul style="list-style-type: none"> ▪ Enforcement to implement/execute existing policies ▪ Need coordinating mechanism to set priorities. ▪ Encourage greater research into local environmental issues | High |
| 2.4 Programme and Project Planning 1 (assessment of national chemicals management to identify gaps and prioritize actions), 26 (implementation of integrated national programmes), 31 (stock-taking on progress) | Medium | <u>Strengths</u> <ul style="list-style-type: none"> ▪ Skilled human resources are available <u>Gaps</u> <ul style="list-style-type: none"> ▪ The chemical management system is poor. ▪ Environment not mainstreamed into planning process. ▪ Problem of disconnect between planning and implementation. | <ul style="list-style-type: none"> ▪ Legislative framework must be put in place for action to be taken ▪ The lead here is EPD. This needs to be present always. ▪ Implement existing action plans | High |

| A.2 A Sound Institutional and Programmatic National Framework | | | | |
|--|--|--|--|---|
| Categories (and related SAICM Work Areas) | Level of existing capacities: High / Medium / Low | Summary of Strengths and Gaps | Possible action | Urgency & importance of taking action: High / Medium / Low |
| 2.5 Monitoring and Evaluation 26 (implementation of integrated national programmes), 31 (stock-taking on progress) | Medium | <p><u>Strengths</u></p> <ul style="list-style-type: none"> ▪ PSM (Pesticide stock management system) is available for countries to manage their stock. This can be achieved via website. ▪ Some monitoring and evaluation is done by the Ministry of Agriculture and the Environmental Protection Department <p><u>Gaps</u></p> <ul style="list-style-type: none"> ▪ Does not occur at the national level ▪ There are insufficient human resources for effective monitoring and evaluation. ▪ There are no incentives for people to undertake such tasks. ▪ Only veterinary laboratory checks milk for residue level. There is no system to randomly check residue levels. | <ul style="list-style-type: none"> ▪ Implement national programmes already in place. ▪ Expand existing programmes. | Medium |

| A.2 A Sound Institutional and Programmatic National Framework | | | | |
|--|--|--|--|---|
| Categories (and related SAICM Work Areas) | Level of existing capacities: High / Medium / Low | Summary of Strengths and Gaps | Possible Action | Urgency & importance of taking action: High / Medium / Low |
| <p>2.6 Establishing Effective Financing Mechanisms</p> <p>20 (Promotion of industry participation and responsibility), 26 (implementation of integrated national programmes), 27 (international agreements), 28 (social and economic considerations), 30 (liability and compensation)</p> | Medium | <p><u>Strengths</u></p> <ul style="list-style-type: none"> ▪ At least one mechanisms i.e. the Environment Levy is existing ▪ Since Barbados is a Party to a number of MEAs, the island is eligible for some funding under these agreements. <p><u>Gaps</u></p> <ul style="list-style-type: none"> ▪ If testing at residue level cannot be conducted then how can you look at compensation? ▪ The Rotterdam convention has not been ratified by Barbados. ▪ There is a lack of awareness of the procedures to access global and regional funds. ▪ Existing mechanism is not be used for its stated purpose. | <ul style="list-style-type: none"> ▪ We should find a mechanism to punish those destroying the environment and reward those who are trying to protect it. That is, encourage the polluter pays principle. ▪ We need to look at this carefully of whether it would be run through the Ministry or via a budget head. (Preferably through a budget head.) ▪ Environmental Levy needs to be used for its stated purpose. | High |

Worksheet 2: Governance Framework Assessment

| A.2 A Sound Institutional and Programmatic National Framework | | | | |
|--|--|---|--|---|
| Categories (and related SAICM Work Areas) | Level of existing capacities: High / Medium / Low | Summary of Strengths and Gaps | Possible action | Urgency & importance of taking action: High / Medium / Low |
| <p>2.7 Promoting Participation of Regional Authorities</p> <p>20 (Promotion of industry participation and responsibility), 25 (stakeholder participation), 26 (implementation of integrated national programmes), 35 (NGO participation)</p> | Medium | <p><u>Strengths</u></p> <ul style="list-style-type: none"> ▪ There is a concerted effort of the CGPC (Coordinating Group on Pesticide control boards). ▪ There is some mechanism in place. There is a regional authority for Pesticide Control Board. It has been acknowledged by COTED. ▪ The existence of CARICOM provides a platform that could be built on. <p><u>Gaps</u></p> <ul style="list-style-type: none"> ▪ There is no wide spread knowledge of role and function the regional authorities. ▪ Regional activities are not trickling down to the national level ▪ Lack of synergy | <ul style="list-style-type: none"> ▪ There needs to be a greater awareness of these meetings. There are no E-groups for persons to communicate. This needs to be done in Barbados but it is costly and would be hindered by a lack of manpower. ▪ Promote the Caribbean Single Market and Economy (CSME) ▪ Put it on the agenda of the social partnership or union. | Medium |

Worksheet 2: Governance Framework Assessment

| A.3 Legislation and Enforcement | | | | |
|---|---|--|---|--|
| Categories (and related SAICM Work Areas) | Level of exist- ing capacities: High / Medium / Low | Summary of Strengths and Gaps | Possible action | Urgency & importance of taking action: High / Medium / Low |
| <p>3.1 Legislation, Regulations, Policies, and Enforcement Capacities – General</p> <p>1 (assessment of national chemicals management to identify gaps and prioritize actions), 26 (implementation of integrated national programmes), 27 (international agreements), 29 (legal, policy and institutional aspects)</p> | <p>Low</p> <p>Creation of legislation is High</p> <p>Enforcement is Low</p> | <p><u>Strengths</u></p> <ul style="list-style-type: none"> ▪ legislation is available to deal with chemicals and related issues ▪ UWI was doing some work. ▪ With respect to the golf industry, Barbados looks at the US EPA. <p><u>Gaps</u></p> <ul style="list-style-type: none"> ▪ The problem is enforcement. ▪ There is an absence of legislation to government some aspect of chemicals management such as disposal. ▪ Manpower issues – limited technical and human resources. ▪ Disregard for legislation. ▪ Legislation may need to be reviewed. ▪ Lack of buy-in from legal field (judiciary, police) | <ul style="list-style-type: none"> ▪ Updated legislation needs to be passed. (if the legislation is available.) ▪ Enforcement ▪ Educate the enforcement officers: police and judicial ▪ Reviewing and updating legislation. ▪ Obtain buy-in from judiciary. ▪ Inspectorate must be improved. ▪ Strengthen legal area. ▪ Accelerate the process towards proclamation of the Safety and Health at Work Act. | <p>High</p> |

Worksheet 2: Governance Framework Assessment

| A.3 Legislation and Enforcement | | | | |
|---|--|--|---|---|
| Categories (and related SAICM Work Areas) | Level of existing capacities: High / Medium / Low | Summary of Strengths and Gaps | Possible action | Urgency & importance of taking action: High / Medium / Low |
| 3.2 Pesticides Legislation and Policies 6 (highly toxic pesticides risk management and reduction), 7 (pesticides programmes), 8 (reduced health and environmental risks of pesticides), 12 (sound agricultural practices), 13 (POPs), 28 (social-eco considerations), 34 (trade and environment.) | Low | <u>Strengths</u> <ul style="list-style-type: none"> ▪ There is functioning pesticide control board. <u>Gaps</u> <ul style="list-style-type: none"> ▪ Insufficient human resources are available. ▪ Inability to trace the use of pesticides ▪ There is no monitoring of users. | <ul style="list-style-type: none"> ▪ Reviewing and updating legislation. ▪ Pesticide control board needs to be strengthened ▪ Increase documentation for traceability of pesticides. ▪ Certification programme for users to purchase or use certain chemicals. | High |
| 3.3 Policies for Pollution Prevention and Cleaner Production 9 (cleaner production), 13 (POPs), 14 (Mercury and other chemicals of global concern), 16 (waste management), 20 (promotion of industry participation and responsibility), 22 (life cycle), 28 (socio-economic considerations), 34 (trade and environment) | Low | <u>Gaps</u> <ul style="list-style-type: none"> ▪ There is a lack of incentives for using other techniques. | <ul style="list-style-type: none"> ▪ Enforcement ▪ Educate the enforcement officers: police and judicial ▪ Develop incentives for people to improve techniques and use environmentally friendly chemicals ▪ Improve monitoring to identify problems. ▪ Promote benefits of environmentally friendly systems as an incentive. Highlight cost savings. | High |

Worksheet 2: Governance Framework Assessment

| A.4 Participation of the Private Sector and Civil Society in Chemicals Management | | | | |
|---|--|--|--|---|
| Categories (and related SAICM Work Areas) | Level of existing capacities: High / Medium / Low | Summary of Strengths and Gaps | Possible action | Urgency & importance of taking action: High / Medium / Low |
| <p>4.1 Stakeholder Participation 20 (promotion of industry participation and responsibility), 25 (stakeholder participation), 35 (NGO participation)</p> | Low | <p><u>Strengths</u></p> <ul style="list-style-type: none"> ▪ Opportunities for participation are available. (Persons with concerns generally know how to make contact with the relevant government agencies) <p><u>Gaps</u></p> <ul style="list-style-type: none"> ▪ There are efforts put forth but not enough. ▪ Within Barbados there does not seem to be the coming together of stakeholders to look at the issue of chemicals management. ▪ The governmental agencies are not bringing together the stakeholders. ▪ When information is needed from stakeholders, they go overseas to see how things are done there. ▪ There is not enough stakeholder involvement ▪ There is no way of making participation mandatory. ▪ There is limited participation from the private sector. | <ul style="list-style-type: none"> ▪ Increase public awareness initiatives. ▪ There should be a chemicals management committee. ▪ Periodic meetings could be used to engage greater active participation. | High |

Worksheet 2: Governance Framework Assessment

| A.4 Participation of the Private Sector and Civil Society in Chemicals Management | | | | |
|---|--|---|---|---|
| Categories (and related SAICM Work Areas) | Level of existing capacities: High / Medium / Low | Summary of Strengths and Gaps | Possible action | Urgency & importance of taking action: High / Medium / Low |
| 4.2 Voluntary Initiatives in the Private Sector 20 (promotion of industry participation and responsibility) | Medium | <p><u>Strengths</u></p> <ul style="list-style-type: none"> ▪ In the agricultural sector, biological controls products have began to surface. ▪ There have been a number of company driven initiatives. ▪ There are now some persons looking to bring in more environmentally friendly products. <p><u>Gaps</u></p> <ul style="list-style-type: none"> ▪ There are not many voluntary initiatives in the private sector. ▪ There are no incentives to encourage such initiatives. | <ul style="list-style-type: none"> ▪ There needs to be a cooperative for environmentally friendly products since these are expensive. ▪ There needs to be incentives to encourage initiatives e.g. through insurance. ▪ Promote activities by environmental stewards within wider community as a motivational tool. ▪ Encourage ISO participation as a monitoring tool. | Medium |
| 4.3 Capacities of Civil Society 25 (stakeholder participation), 35 (NGO participation), 36 (capacity building to support national actions) | Medium | <p><u>Gaps</u></p> <ul style="list-style-type: none"> ▪ There are not many NGOs involved in chemicals management activities. ▪ Lack of Civil Society cohesiveness. ▪ Need different ways of communicating with civil society (first must have a will to engage). ▪ Financial support is often not allocated to this. | <ul style="list-style-type: none"> ▪ Strengthen Civil Society. ▪ Give incentives for participation. ▪ Consider could be given to including churches to promote stewardship of the earth. ▪ Provide training opportunities for NGOs. | Medium |

| A.5 International Cooperation Related to Chemicals Management | | | | |
|--|--|---|--|---|
| Categories (and related SAICM Work Areas) | Level of existing capacities: High / Medium / Low | Summary of Strengths and Gaps | Possible action | Urgency & importance of taking action: High / Medium / Low |
| <p>5.1 International Cooperation in Implementing Chemicals Management Related MEAs</p> <p>5 (GHS), 13 (POPs), 14 (mercury and other chemicals of global concern), 27 (international agreements), 36 (capacity building to support national actions)</p> | Medium | <p><u>Strengths</u></p> <ul style="list-style-type: none"> ▪ There is some capacity (UWI). ▪ Signatory to many MEAs <p><u>Gaps</u></p> <ul style="list-style-type: none"> ▪ The fault lies with government of Barbados here where they have being moving slowly in not ratifying the Stockholm convention. The blame would not stay on the international media. There is a general lack of understanding. Your obligations must be understood before signing agreements ▪ There is limited capacity to implement MEAs effectively. ▪ May not be a national priority. ▪ Sign on to MEAs without capacity to do what is required to maintain it. Lose possible funding as a result. | <ul style="list-style-type: none"> ▪ Need to be accountable for what is signed ▪ Lobby hard for the required resources ▪ Need to improve process of drafting legislation. ▪ Limit number of agreements and concentrate on those that you can enforce. ▪ Utilize other avenues to get legislation drafted (e.g. UWI or private). | High |

| A.5 International Cooperation Related to Chemicals Management | | | | |
|---|--|--|---|---|
| Categories (and related SAICM Work Areas) | Level of existing capacities: High / Medium / Low | Summary of Strengths and Gaps | Possible action | Urgency & importance of taking action: High / Medium / Low |
| 5.2 Studying and Resolving Chemicals Management Issues that have Transboundary Dimension 36 (capacity building to support national actions) | Medium | <p><u>Strengths</u></p> <ul style="list-style-type: none"> ▪ Capacity e.g. at the UWI that resources ▪ In terms of transportation, there are international agreements for transportation of chemicals. ▪ The agricultural department does this and to some extent the medical. <p><u>Gaps</u></p> <ul style="list-style-type: none"> ▪ What is the process for banning some chemicals in the UK that are used here in Barbados is unclear. ▪ There is a lack of technical capacity ▪ No proactive approach | <ul style="list-style-type: none"> ▪ EPD should have to responsibility for the function. ▪ There is a need for some communication amongst the different agencies. Again, the chemical management committee would be able to look at these things. ▪ Identify and harmonize management issues | High |



WORKSHEET 3:
IDENTIFICATION OF URGENT AND
IMPORTANT CHEMICAL MANAGEMENT ISSUES

Worksheet 3 - Identification of Urgent and Important Chemical Management Issues

| B.1 Information Generation | | | | | | | | | |
|---|--------------------------|---|-------------------------------------|--|--------------------------------|---|---|--|--|
| Stakeholder Input | Government | | Stakeholder Group __ Industry __ | | Stakeholder Group __ NGO __ | | Stakeholder Group __ Private Sector __ | | Priority Rating for Chemicals Management |
| Categories (and related SAICM Work Areas) | Priority High/Medium/Low | Reason for Judgment | Priority High/Medium/Low | Reason for Judgment | Priority High/Medium/Low | Reason for Judgment | Priority High/Medium/Low | Reason for Judgment | Potential Priority for Development Planning |
| <p>1.1 Chemical Risk Assessment (incl. Hazard Identification and Exposure Assessment) 5 (GHS), 18 (research monitoring and data), 19 (hazard data generation and availability), 2 (human health protection), 3 (children and chemical safety), 15 (risk assessment), 18 (research monitoring and data), 23 (PRTR)</p> | High | <p>This is one of the main components that are need for effective chemicals management.</p> <p>Persons do not pay due care and attention to chemicals.</p> <p>Needed for planning purposes.</p> <p>H&S at Work Act will address many of the issues.</p> | High | <p>Chemicals are dangerous and there are a number of farmers and workers interacting with chemicals on daily basis. Effective management of these chemicals will eliminate risk associated.</p> <p>A risk assessment would enable persons who are exposed to such chemicals to better to protect themselves.</p> | High | <p>Required especially for contaminants to determine the risks posed to human health.</p> <p>Chemical risk assessment would aid in the tracing the uses and causes of certain health effects.</p> <p>We can survive with a lot less chemical use in Barbados, if we use high labour as opposed to high chemicals.</p> | High | <p>Depending on the nature and focus of the business</p> <p>Risk assessments not included in many EIAs</p> | <p>High priority by consensus</p> <p>.....</p> <p>High</p> |

Worksheet 3 - Identification of Urgent and Important Chemical Management Issues

| B.1 Information Generation | | | | | | | | | |
|--|--------------------------|---|-----------------------------------|---|------------------------------|---------------------|---|---------------------|---|
| Stakeholder Input | Government | | Stakeholder Group — Industry — | | Stakeholder Group — NGO — | | Stakeholder Group — Private Sector — | | Priority Rating for Chemicals Management |
| Categories (and related SAICM Work Areas) | Priority High/Medium/Low | Reason for Judgment | Priority High/Medium/Low | Reason for Judgment | Priority High/Medium/Low | Reason for Judgment | Priority High/Medium/Low | Reason for Judgment | Potential Priority for Development Planning |
| 1.1 Chemical Risk Assessment (incl. Hazard Identification and Exposure Assessment) 5 (GHS), 18 (research monitoring and data), 19 (hazard data generation and availability), 2 (human health protection), 3 (children and chemical safety), 15 (risk assessment), 18 (research monitoring and data), 23 (PRTR) | | Risk assessments not generally practised. Need to have a risk assessment methodology in workplace. Need to minimize risks to human life | | Assessing chemicals before use can reduce plant failure. There should be a good indication of what is coming into the country. Necessary in case of accidents and other emergencies. Can form a basis for replacing certain chemicals. | | | | | |

Worksheet 3 - Identification of Urgent and Important Chemical Management Issues

| B.1 Information Generation | | | | | | | | | |
|--|-------------------------------------|---|-------------------------------------|--|-------------------------------------|--|--|--|---|
| Stakeholder Input | Government | | Stakeholder Group __ Industry __ | | Stakeholder Group __ NGO __ | | Stakeholder Group __ Private Sector__ | | Priority Rating for Chemicals Management |
| Categories (and related SAICM Work Areas) | Priority High/ Medium/ Low | Reason for Judgment | Priority High/ Medium/ Low | Reason for Judgment | Priority High/ Medium/ Low | Reason for Judgment | Priority High/ Medium/ Low | Reason for Judgment | Potential Priority for Development Planning |
| <p>1.2 Research and Laboratory Capacities</p> <p>18 (research monitoring and data), 19 (hazard data generation and availability)</p> | High | <p>These need to be upgraded. Research is not as high as it should be and there is not enough human resources.</p> <p>At present, there is difficulty in accessing some agricultural chemicals.</p> <p>Important for effective monitoring and evaluation.</p> <p>Need reliable research and data to develop effective policies.</p> <p>Need accredited labs with capacity to handle the research requirement. This would also contribute to enforcement</p> | <p>High-research</p> <p>Low-lab</p> | <p>Especially as it relates to testing residues on vegetables and fruits.</p> <p>Important in modern chemical industries.</p> <p>Existing laboratory facilities are small by can perform extensive research.</p> <p>There are extensive lab resources in the region.</p> <p>It is no necessary to have actual lab capacities as long as there are persons in place that can make sense of chemical information is important.</p> | High | <p>We need to strengthen existing laboratories but sustaining them may be difficult.</p> <p>Need to be able to assess pesticides on imported foods etc.</p> <p>Needs to be able to of protect the populations from contaminated foods.</p> | medium | <p>Depends on the nature of the business.</p> <p>Companies do it when they have to, not because they see the full benefit(s) of research</p> | <p>High priority by consensus.</p> <p>.....</p> <p>Medium</p> |

Worksheet 3 - Identification of Urgent and Important Chemical Management Issues

| B.2 Risk Management for Chemical Safety | | | | | | | | | |
|---|------------------------------|--|---------------------------------------|---|----------------------------------|---|---|--------------------------------|---|
| Stakeholder Input | Government | | Stakeholder Group ___ Industry ___ | | Stakeholder Group ___ NGO ___ | | Stakeholder Group ___ Private Sector ___ | | Priority Rating for Chemicals Management |
| Categories (and related SAICM Work Areas) | Priority High / Medium / Low | Reason for Judgment | Priority High / Medium / Low | Reason for Judgment | Priority High / Medium / Low | Reason for Judgment | Priority High / Medium / Low | Reason for Judgment | Potential Priority for Development Planning |
| 2.1 Adequate Legislation 29 (legal, policy and institutional aspects), 22 (life cycle), 30 (liability and compensation) | High | This would guide what we do with the chemicals. What would be brought in and who would use them. Actual legislation needs to be revised /amended to incorporate liability and compensation and enforcement is needed. | High | Need for legislation to control movement of chemicals. Can contribute to risk reduction. Legislation is of utmost importance. There are several initiatives, which require compliance with all legislation in your territory. Legislative framework and drivers are important in getting private sector operating at a certain level. If no importance is seen then they would not do certain things. Does not make sense having a declaration and there is no legislation. Legislation not strict in Barbados. | High | This is necessary to enforce sustainable practices. | Medium | Needs little effort to achieve | High ----- High |

Worksheet 3 - Identification of Urgent and Important Chemical Management Issues

| B.2 Risk Management for Chemical Safety | | | | | | | | | |
|--|------------------------------|--|---------------------------------------|---|----------------------------------|---|--|--|---|
| Stakeholder Input | Government | | Stakeholder Group ___ Industry ___ | | Stakeholder Group ___ NGO ___ | | Stakeholder Group ___ Private Sector___ | | Priority Rating for Chemicals Management |
| Categories (and related SAICM Work Areas) | Priority High / Medium / Low | Reason for Judgment | Priority High / Medium / Low | Reason for Judgment | Priority High / Medium / Low | Reason for Judgment | Priority High / Medium / Low | Reason for Judgment | Potential Priority for Development Planning |
| <p>2.2 Promote Safer Alternatives 6 (highly toxic pesticides risk management and reduction), 7 (pesticides programmes), 8 (reduced health and environmental risks of pesticides), 12 (sound agricultural practices), 13 (PBTs, POPs), 14 (mercury, and other chemicals of global concern, etc.), 28 (social-eco considerations), 34 (trade and environment.)</p> | High | <p>Would have positive implications for tourism.</p> <p>Would be consistent with sustainable development policy</p> <p>Critical to risk reduction and feeds into being compliant with international protocols.</p> <p>Personal safety – minimizes risks to person using/handling of chemicals.</p> | High | <p>If you can use alternatives then you are on your way to eliminating any risks associated with chemicals.</p> <p>Focus needs to be placed on organic farming.</p> <p>Safer alternatives should be used.</p> <p>Surveillance is important so that persons would not just bring in cheaper products they too must be “safer”.</p> | High | Essential to reducing the use of chemicals particularly hazardous chemicals | medium | <p>Can improve the safety in a work environment but can have a financial impact on the business.</p> <p>Required to provide safe work places and meet their responsibility to employees.</p> | <p>High</p> <p>-----</p> <p>High</p> |

Worksheet 3 - Identification of Urgent and Important Chemical Management Issues

| B.2 Risk Management for Chemical Safety | | | | | | | | | |
|---|------------------------------|---|-----------------------------------|--|------------------------------|---------------------|--|---|---|
| Stakeholder Input | Government | | Stakeholder Group — Industry — | | Stakeholder Group — NGO — | | Stakeholder Group — Private Sector— | | Priority Rating for Chemicals Management |
| Categories (and related SAICM Work Areas) | Priority High / Medium / Low | Reason for Judgment | Priority High / Medium / Low | Reason for Judgment | Priority High / Medium / Low | Reason for Judgment | Priority High / Medium / Low | Reason for Judgment | Potential Priority for Development Planning |
| <p>2.3 Highly toxic chemicals and chemical of global/regional/national concern 6 (highly toxic pesticides risk management and reduction), 11 (lead in gasoline), 13 (PBTs, POPs), 14 (mercury, and other chemicals of global concern, etc.), 27 (international agreements)</p> | High | <p>Can adverse impact on the ground water if not management properly.</p> <p>Signatory to convention which government needs to honour.</p> <p>Workers should not need to come into contact with them in their everyday life</p> | High | <p>There is concern that some products are banned for use internationally but are still being imported into the country.</p> <p>There are still mercury thermometers around.</p> <p>Such substance must be identifiable so that they and used, handled and disposed appropriately.</p> | High | | Medium | <p>Such chemicals have associated disposal problem which Barbados might be unable to address</p> <p>Cost implications associated with disposal and use</p> <p>Not accessible if Government does not accept them for importation.</p> <p>Need to look for alternative chemicals.</p> | <p>High priority by consensus -----</p> <p>High by Government</p> <p>Medium-high by Industry and private sector</p> |

Worksheet 3 - Identification of Urgent and Important Chemical Management Issues

| B.2 Risk Management for Chemical Safety | | | | | | | | | |
|--|------------------------------|---|-------------------------------------|---|--------------------------------|--|--|---|---|
| Stakeholder Input | Government | | Stakeholder Group __ Industry __ | | Stakeholder Group __ NGO __ | | Stakeholder Group __ Private Sector__ | | Priority Rating for Chemicals Management |
| Categories (and related SAICM Work Areas) | Priority High / Medium / Low | Reason for Judgment | Priority High / Medium / Low | Reason for Judgment | Priority High / Medium / Low | Reason for Judgment | Priority High / Medium / Low | Reason for Judgment | Potential Priority for Development Planning |
| <p>2.4 Safe Handling, Use, Storage, and Transportation of Pesticides 6 (highly toxic pesticides risk management and reduction), 7 (pesticides programmes), 8 (reduced health and environmental risks of pesticides), 12 (sound agricultural practices), 22 (life cycle), 26 (integrated national programmes), 27 (international agreements), 28 (socio-eco considerations)</p> | High | Circumvents contamination of ground water & coastal water. No protocols in place in handling and use of them. Current practices for using and handling chemicals are poor. Personal safety – minimizes risks to person using/handling of chemicals | High | In most instances, persons using are not aware of the toxicity and lethal effect of chemicals if not handled correctly. Many persons are not storing pesticides properly. Some person are not using necessary protective equipment etc. | High | If we must use harmful chemicals then the safe handling of them cannot be jeopardized. | High | Safe practices in the work places, avoids lost of productivity. Dealing with people's lives. | High priority by consensus ----- High |

Worksheet 3 - Identification of Urgent and Important Chemical Management Issues

| B.2 Risk Management for Chemical Safety | | | | | | | | | |
|--|-----------------------------|--|-------------------------------------|---|--------------------------------|---------------------|--|--|--|
| Stakeholder Input | Government | | Stakeholder Group __ Industry __ | | Stakeholder Group __ NGO __ | | Stakeholder Group __ Private Sector__ | | Priority Rating for Chemicals Management |
| Categories (and related SAICM Work Areas) | Priority High / Medium/ Low | Reason for Judgment | Priority High / Medium / Low | Reason for Judgment | Priority High / Medium / Low | Reason for Judgment | Priority High / Medium/ Low | Reason for Judgment | Potential Priority for Development Planning |
| <p>2.5 Safe Use, Storage, and Transportation of Industrial Chemicals 4 (occupational health and safety), 5 (GHS), 9 (cleaner production), 13 (POPs), 14 (mercury and other chemicals of global concerns), 15 (risk assessment, management, communication), 16 (waste management), 20 (promotion of industry participation and responsibility), 22 (life cycle), 23 (PRTR), 24 (education and Training), 26 (integrated national programmes), 27 (international agreements)</p> | High | <p>Circumvents contamination of ground water & coastal water.</p> <p>No protocols in place for the handling and use of them.</p> <p>Current practices for using and handling chemicals are poor.</p> <p>Personal safety – miminizes risks to person using/ handling.</p> | High | <p>Householder and the general public need to be educated since they use things like ammonia, aerosols etc.</p> | High | | High | <p>Safe practices in the work places, avoid lost of productivity</p> | <p>High priority by consensus</p> <p>-----</p> <p>High</p> |

Worksheet 3 - Identification of Urgent and Important Chemical Management Issues

| B.2 Risk Management for Chemical Safety | | | | | | | | | |
|--|---|---|-------------------------------------|---|--------------------------------|------------------------------|--|---|---|
| Stakeholder Input | Government | | Stakeholder Group __ Industry __ | | Stakeholder Group __ NGO __ | | Stakeholder Group __ Private Sector__ | | Priority Rating for Chemicals Management |
| | Categories (and related SAICM Work Areas) | Priority High / Medium / Low | Reason for Judgment | Priority High / Medium / Low | Reason for Judgment | Priority High / Medium / Low | Reason for Judgment | Priority High / Medium / Low | Reason for Judgment |
| <p>2.6 Chemical Safety in the Workplace 2 (human health protection), 4 (occupational health and safety), 5 (GHS), 14 (mercury, and other chemicals of global concerns), 15 (risk assessment, management, communication), 20 (promotion of industry participation and responsibility), 21 (information management and dissemination), 24 (education and training)</p> | High | Current legislation is limited. Currently reactive but proactive in factory setting. Can impact on government resources when claims are made due to unhealthy working conditions. Can negatively impact workers' health and safety | High | It is important to equip persons with knowledge of the chemicals there are using. Employees should know what they are working with and the dangers involved. | High | Important to one's health | High | Under obligation to provide healthy workplace | High priority by consensus ----- High |

Worksheet 3 - Identification of Urgent and Important Chemical Management Issues

| B.2 Risk Management for Chemical Safety | | | | | | | | | |
|---|-------------------------------------|---|--------------------------------------|--|-------------------------------------|------------------------|---|---|---|
| Stakeholder Input | Government | | Stakeholder Group __ Industry __ | | Stakeholder Group __ NGO __ | | Stakeholder Group __ Private Sector __ | | Priority Rating for Chemicals Man- agement |
| Categories (and related SAICM Work Areas) | Priority High/ Medium/ Low | Reason for Judgment | Priority High / Medium/ Low | Reason for Judgment | Priority High/ Medium/ Low | Reason for Judgment | Priority High / Medium/ Low | Reason for Judgment | Potential Priority for Development Planning |
| 2.7 Cleaner Production 2 (human health protection), 3 (children and chemical safety), 9 (cleaner production), 13 (POPs), 14 (Mercury and other chemicals of global concern), 16 (waste management), 20 (promotion of in- dustry participation and responsibility), 22 (life cycle), 28 (socio-economic considerations), 34 (trade and environment) | High | Need to focus on reducing air and ground emission Would have benefit to key economic sector Reduce risk to persons | High | Would contribute to the protection of workers and the surroundings. | High | | Medium | Aid with compliance with international standards Need to comply in order to export NGOs can improve situation and benefit financially. | High priority by consensus ----- Low by Government low-medium by NGO Medium by industry and private sector |

Worksheet 3 - Identification of Urgent and Important Chemical Management Issues

| B.2 Risk Management for Chemical Safety | | | | | | | | | |
|---|-----------------------------|--|-------------------------------------|--|--------------------------------|---|--|---|--|
| Stakeholder Input | Government | | Stakeholder Group __ Industry __ | | Stakeholder Group __ NGO __ | | Stakeholder Group __ Private Sector__ | | Priority Rating for Chemicals Management |
| Categories (and related SAICM Work Areas) | Priority High / Medium/ Low | Reason for Judgment | Priority High / Medium/ Low | Reason for Judgment | Priority High / Medium/ Low | Reason for Judgment | Priority High / Medium/ Low | Reason for Judgment | Potential Priority for Development Planning |
| <p>2.8 Waste Management 6 (highly toxic pesticides risk management and reduction), 7 (pesticides programmes), 8 (reduced health and environmental risks of pesticides), 9 (cleaner production), 13 (POPs), 14 (mercury, and other chemicals of global concern), 16 (waste management), 22 (life cycle), 23 (PRTR), 24 (education and training), 26 (implementation of integrated national programmes), 27 (international agreement), 28 (socio-economic considerations), 33 (prevention of illegal traffic in toxic and dangerous goods)</p> | High | <p>Chemical management and waste storage is a big problem in Barbados, which needs to be looked at. There needs to be adequate legislation for this.</p> <p>Health issues.</p> <p>Government responsibility.</p> <p>Too many obsolete chemicals exist and stored improperly.</p> <p>There is a lack of specific disposal location for specialised waste.</p> <p>No step for companies to take with respect to disposing the PRT chemical (EPD has been contacted but no help as yet).</p> <p>Lack of enforcement</p> <p>Barbadians seems to have a lack of pride for these environment</p> | High | <p>If waste is not handled correctly then you can have contamination of water sources.</p> <p>Unfortunately, due to limited resources materials are sent to the dump.</p> <p>Our environment and health is important. We can't have persons dumping and polluting the environment.</p> <p>Need to know what chemicals are significant then you would be ale to determine how to dispose of them.</p> <p>There is not a lot of support for the disposal of waste</p> <p>There is a problem when it comes to waste management.</p> | High | Absence of effective waste management would result in of groundwater and the marine environment | High | <p>Lack of enforcement</p> <p>Too many obsolete chemicals exist and stored improperly</p> | <p>High priority by consensus</p> <p>-----</p> <p>High</p> |

Worksheet 3 - Identification of Urgent and Important Chemical Management Issues

| B.3 Information Exchange, Education and Training | | | | | | | | | |
|---|------------------------------|--|-----------------------------------|---|------------------------------|---|---|---|--|
| Stakeholder Input | Government | | Stakeholder Group — Industry — | | Stakeholder Group — NGO — | | Stakeholder Group — Private Sector — | | Priority Rating for Chemicals Management |
| Categories (and related SAICM Work Areas) | Priority High / Medium / Low | Reason for Judgment | Priority High / Medium / Low | Reason for Judgment | Priority High / Medium / Low | Reason for Judgment | Priority High / Medium / Low | Reason for Judgment | Potential Priority for Development Planning |
| <p>3.1 Information Exchange 15 (risk assessment, management and communication), 18 (research, monitoring and data), 19 (hazard data generation and availability), 20 (promotion of industry participation and responsibility), 21 (information management and dissemination), 23 (PRTR), 24 (education and Training), 25 (stakeholder participation), 26 (integrated national programmes), 27 (international agreements), 31 (stock – taking on progress), 33 (prevention of illegal traffic), 35 (NGO participation)</p> | High | <p>There is a lack of communication between departments.</p> <p>Responsibility for chemicals management is fragmented over a number of agencies.</p> <p>Need for a clearing house pertaining to chemicals management</p> <p>Lack of resources is a factor.</p> | Medium | <p>Information is not readily accessible. If there is a medical problem then doctors would call for advice.</p> <p>From the country's perspective, there should be a database of chemicals and procedures to deal with them.</p> <p>You are aware of other countries' methods of dealing with the before mentioned aspects. Therefore, you would be able to work in tandem.</p> <p>At the industrial level there is competition therefore information sharing may be tricky.</p> <p>Need to work together to get rid of chemical waste.</p> <p>The internet is excellent for gathering info on chemicals.</p> | High | <p>A programme is needed to deal with industrial waste inviting persons from various industries for training. Looking at persons in similar industries whether local or international how they deal with certain issues</p> <p>If persons are selling products all of the information and documentation on the product should be accessible. There should be no ambiguity in the importation and handling of chemicals.</p> | High | <p>Encourages education on procedures.</p> <p>There is limited communication between companies.</p> <p>Need to encourage reduction and reuse of waste, as one man's waste is another's fuel.</p> <p>Government dissemination of information to companies is the main type of communication.</p> | <p>High by Government, NGO and Private Sector</p> <p>Medium by Industry</p> <p>-----</p> <p>High</p> |

Worksheet 3 - Identification of Urgent and Important Chemical Management Issues

| B.3 Information Exchange, Education and Training | | | | | | | | | |
|--|------------------------------|---|-------------------------------------|---|--------------------------------|---|---|--|---|
| Stakeholder Input | Government | | Stakeholder Group __ Industry __ | | Stakeholder Group __ NGO __ | | Stakeholder Group __ Private Sector __ | | Priority Rating for Chemicals Management |
| Categories (and related SAICM Work Areas) | Priority High / Medium / Low | Reason for Judgment | Priority High / Medium / Low | Reason for Judgment | Priority High / Medium / Low | Reason for Judgment | Priority High / Medium / Low | Reason for Judgment | Potential Priority for Development Planning |
| 3.2 Education/Awareness Raising 15 (risk assessment, management and communication), 21 (information management and dissemination), 23 (PRTR), 24 (education and training), 25 (stakeholder participation), 35 (civil society and NGO participation) | High | The public is not aware of role and functions of key agencies who are involved in chemicals management. | High | <p>Anything involved in ensuring safety with the use of chemicals is of a high priority.</p> <p>This will be covered by the Safety and Health at Work Act. when it is proclaimed.</p> <p>There needs to be greater consciousness in making the working population know what they are working with.</p> <p>Staff needs to be aware of dangers of chemicals.</p> <p>Any training is good.</p> | High | <p>Education is the most critical aspect. Where persons are not aware of the correct manner to deal with specific things they would act out of "ignorance". Education is the fundamental building block. Where awareness is high then persons would know how to treat the product.</p> <p>The person using the chemical must be educated to a certain extent, they should be more aware of the product. Education should be more visual (e.g. television ads.)</p> <p>Awareness should also be within the home with respect to harmful chemicals.</p> | High | <p>Need to encourage education on procedures.</p> <p>Low communication between companies.</p> <p>Need to encourage reduction and reuse of waste as one man's waste is another's fuel.</p> <p>Government dissemination of information to companies is the main type of communication.</p> | <p>High by consensus</p> <p>-----</p> <p>High</p> |

Worksheet 3 - Identification of Urgent and Important Chemical Management Issues

| B.3 Information Exchange, Education and Training | | | | | | | | | |
|---|-----------------------------|---|-----------------------------------|--|------------------------------|---------------------|--|---|---|
| Stakeholder Input | Government | | Stakeholder Group — Industry — | | Stakeholder Group — NGO — | | Stakeholder Group — Private Sector— | | Priority Rating for Chemicals Management |
| Categories (and related SAICM Work Areas) | Priority High / Medium/ Low | Reason for Judgment | Priority High / Medium/ Low | Reason for Judgment | Priority High / Medium/ Low | Reason for Judgment | Priority High / Medium/ Low | Reason for Judgment | Potential Priority for Development Planning |
| 3.3 Training 4 (occupation health and safety), 6 (highly toxic pesticides risk management and reduction), 8 (reduced health and environmental risks of pesticides), 15 (risk assessment, management and communication), 21 (information management and dissemination), 24 (education and training) | High | Workers need to be trained in the use of chemicals that they are using. | High | Having a list of chemicals and procedures on how to deal with such emergencies should be put in place. | High | | High | Workers need to be trained in the use of chemicals that they are using. | High High |

Worksheet 3 - Identification of Urgent and Important Chemical Management Issues

| B.4 Chemical Emergency Prevention and Control | | | | | | | | | |
|--|-----------------------------|---|-----------------------------------|--|------------------------------|---|--|---|---|
| Stakeholder Input | Government | | Stakeholder Group — Industry — | | Stakeholder Group — NGO — | | Stakeholder Group — Private Sector— | | Priority Rating for Chemicals Management |
| Categories (and related SAICM Work Areas) | Priority High / Medium/ Low | Reason for Judgment | Priority High / Medium/ Low | Reason for Judgment | Priority High / Medium/ Low | Reason for Judgment | Priority High / Medium/ Low | Reason for Judgment | Potential Priority for Development Planning |
| 4.1 Chemical Emergency Planning 15 (risk assessment, management and communication), 17 (formulation of prevention and response to mitigate environmental and health impacts of emergencies involving chemicals), 20 (promotion of industry participation and responsibility), 25 (stakeholder participation), 35 (civil society and NGO participation) | High | Should be linked to chemical storage management. Existing process is very reactive rather than proactive Insufficient planning takes place. | High | Need to have a plan in place to deal with situations that might arise. Thus being proactive. We need to protect ourselves. Where there is a spillage the government requires that the company goes out and cleans it up. Needed for complaint with international standards such as the ISO. There is always the potential for mishap, particularly if there are no plans in place to reduce hazards. This is important and somewhat in place in handling an emergency. | High | Not sure whether an action-plan exists. There should be a complete lay out of the facility showing where harmful chemicals are kept as well as the movement of chemicals within the company. Temperature, storage etc. | High | No plan is in place. Needs to be proactive | High by consensus. ----- High |

Worksheet 3 - Identification of Urgent and Important Chemical Management Issues

| B.4 Chemical Emergency Prevention and Control | | | | | | | | | |
|---|-----------------------------|--|--|--|------------------------------|---------------------|---|---|---|
| Stakeholder Input | Government | | Stakeholder Group — Industry — | | Stakeholder Group — NGO — | | Stakeholder Group — Private Sector — | | Priority Rating for Chemicals Management |
| Categories (and related SAICM Work Areas) | Priority High / Medium/ Low | Reason for Judgment | Priority High / Medium/ Low | Reason for Judgment | Priority High / Medium/ Low | Reason for Judgment | Priority High / Medium/ Low | Reason for Judgment | Potential Priority for Development Planning |
| 4.2 Chemical Emergency Response (incl. Treatment of Poisoned Persons) 2 (human health protection), 3 (children and chemical safety), 4 (occupational health and safety), 5 (GHS) | High | The fire service should have a chemical poisoned unit. If this is not there it needs to be established and maintained Not enough simulations exercises are conducted. | High Medium, high for those who make or store chemicals | Medical facilities need to be sufficiently equipped to offer appropriate treatment to victims of chemicals emergency including poisoning. Use of MSDS is not prevalent. The use of MSDS should be encouraged as response procedure are covered under the MSDS sheets. | High | | Medium | Not enough simulations exercises are conducted. | High by government High – medium by NGO and industry. ----- Medium |

Worksheet 3 - Identification of Urgent and Important Chemical Management Issues

| B.4 Chemical Emergency Prevention and Control | | | | | | | | | |
|--|------------------------------|---|--|---|----------------------------------|---------------------|---|------------------------|---|
| Stakeholder Input | Government | | Stakeholder Group ___ Industry ___ | | Stakeholder Group ___ NGO ___ | | Stakeholder Group ___ Private Sector ___ | | Priority Rating for Chemicals Management |
| Categories (and related SAICM Work Areas) | Priority High / Medium / Low | Reason for Judgment | Priority High / Medium / Low | Reason for Judgment | Priority High / Medium / Low | Reason for Judgment | Priority High / Medium / Low | Reason for Judgment | Potential Priority for Development Planning |
| <p>4.3 Chemical Emergency Follow-up (incl. Remediation of Contaminated Sites and Rehabilitation/ Surveillance of Poisoned Persons)</p> <p>10 (remediation of contaminated sites), 30 (liability and compensation), 31 (stock taking on progress)</p> | High | No formal procedure exists for following – up on action required after a chemical emergency | <p>High for workers</p> <p>Low for customers</p> | <p>Need for regular health checks</p> <p>Remediate site should be tested to ensure that there is not further impact of the environment</p> <p>Only avenues for compensation are through the law courts or from insurance if available</p> | High | No plan exists | High | Public health concerns | <p>High by government, NGO and private sector</p> <p>High – Low by industry</p> <p>-----</p> <p>High by government, NGO and private sector</p> <p>Low by industry</p> |



WORKSHEET 4:

Capacity Assessment of Important and
Urgent Chemicals Management Issues

| B1: Information Generation | | | | |
|------------------------------------|---|---|---|---|
| Chemicals Management Issue Area | Capacity Gaps | Possible Action | Concerned Actors | Urgency & importance of taking action: High / Medium / Low |
| Chemical risk assessment | <ul style="list-style-type: none"> ▪ Need for improve monitoring of the types of chemicals that are being imported into the country. ▪ Need to improve identification and communication the hazards posed by chemicals. ▪ Risk assessment not included in many EIAs. | <ul style="list-style-type: none"> ▪ Consider implementation of the Globally Harmonised System of Classification and Labelling of Chemicals. ▪ Include risk assessments in EIA process. | <ul style="list-style-type: none"> ▪ Ministry of the Environment ▪ Town and Country Planning Development Office | High |
| Research and Laboratory Capacities | <ul style="list-style-type: none"> ▪ Limited quantity of reliable research and data to develop policy. ▪ Existing capacities in need of strengthening . | <ul style="list-style-type: none"> ▪ Assess the existing research and laboratory capacities to identify areas strengthening and develop strategies to strategy these area. ▪ Use governmental facilities to conduct more research pertaining to chemicals . | <ul style="list-style-type: none"> ▪ Ministry of the Environment ▪ Ministry of Agriculture | High |

Worksheet 4 – Capacity Assessment of Important and Urgent Chemicals Management Issues

| B2: Risk Management for Chemical Safety | | | | |
|---|---|--|--|---|
| Chemicals Management Issue Area | Capacity Gaps | Possible Action | Concerned Actors | Urgency & importance of taking action: High / Medium / Low |
| Adequate Legislation | <ul style="list-style-type: none"> ▪ Current legislation needs to be reviewed and if necessary amend the existing legislation or develop new ones. ▪ Limited enforcement of existing legislation. ▪ Legislation not available to address for areas for the life-cycle management of chemicals. | <ul style="list-style-type: none"> ▪ Revise / amend current legislation to incorporate liability and compensation. ▪ Enforcement is needed. ▪ Enact Safety and Health at Work Act and the Environmental Management Act. | <ul style="list-style-type: none"> ▪ Ministry of the Environment ▪ Min. of Agriculture ▪ Office of the Attorney General | High |
| Promoting safer alternatives | <ul style="list-style-type: none"> ▪ Can have negative implications tourism (a key economic sector) if it is not encouraged | <ul style="list-style-type: none"> ▪ Identify alternative to traditional chemical and process ▪ Incorporate in the EIA process | <ul style="list-style-type: none"> ▪ Industry ▪ Ministry of the Environment ▪ Ministry of Agriculture | High |
| Highly Toxic Chemicals and Chemicals of Global/ Regional and National Concern | <ul style="list-style-type: none"> ▪ No appropriate disposal facilities for such chemicals ▪ Limited control over the importation and use of such chemicals | <ul style="list-style-type: none"> ▪ Promote safer alternatives | <ul style="list-style-type: none"> ▪ Ministry of Environment | High |
| Safe Handling, Use, Storage and Transportation of Pesticides | <ul style="list-style-type: none"> ▪ Low of awareness of acceptable practices | <ul style="list-style-type: none"> ▪ Conduct training ▪ Increase public awareness ▪ Encourage use of Code of Conduct ▪ Strengthen the Pesticides Control Board | <ul style="list-style-type: none"> ▪ Ministry of Agriculture | High |

Worksheet 4 – Capacity Assessment of Important and Urgent Chemicals Management Issues

| B2: Risk Management for Chemical Safety | | | | |
|--|--|--|---|---|
| Chemicals Management Issue Area | Capacity Gaps | Possible Action | Concerned Actors | Urgency & importance of taking action: High / Medium / Low |
| Safe Handling, Use, Storage and Transportation of Industrial Chemicals | <ul style="list-style-type: none"> ▪ Low of awareness of acceptable practices | <ul style="list-style-type: none"> ▪ Conduct training ▪ Increase public awareness ▪ Develop guidance for the storage, handling and transport of chemicals | <ul style="list-style-type: none"> ▪ Ministry of Agriculture | <ul style="list-style-type: none"> ▪ High |
| Chemical Safety in the Work Place | <ul style="list-style-type: none"> ▪ Limited legislation ▪ Inadequate labelling | <ul style="list-style-type: none"> ▪ Enact the Safety and Health at Work Act ▪ Consider GIS labelling | <ul style="list-style-type: none"> ▪ Ministry of Labour ▪ Labour Unions | <ul style="list-style-type: none"> ▪ High |
| Cleaner Production | <ul style="list-style-type: none"> ▪ Not viewed as a priority | <ul style="list-style-type: none"> ▪ Offer incentives or concessions to encourage cleaner production. | <ul style="list-style-type: none"> ▪ Ministry of Finance | <ul style="list-style-type: none"> ▪ Low by Government ▪ Low-Medium by NGOs ▪ Medium by Industry |
| Waste Management | <ul style="list-style-type: none"> ▪ Inadequate legislation ▪ Limited disposal options | <ul style="list-style-type: none"> ▪ Develop standards ▪ Develop management policy for hazardous materials ▪ Import ideas | <ul style="list-style-type: none"> ▪ Ministry of Environment ▪ Industry | <ul style="list-style-type: none"> ▪ High |

Worksheet 4 – Capacity Assessment of Important and Urgent Chemicals Management Issues

| B3: Information Exchange, Education and Training | | | | |
|---|--|---|--|---|
| Chemicals Management Issue Area | Capacity Gaps | Possible Action | Concerned Actors | Urgency & importance of taking action: High / Medium / Low |
| Information Exchange | <ul style="list-style-type: none"> ▪ Limited communication between departments / companies ▪ Lack of resources ▪ Information is not readily accessible. | <ul style="list-style-type: none"> ▪ Encourage reduction and re-use of waste through sharing of information. ▪ Set up a chemicals management committee | <ul style="list-style-type: none"> ▪ Min. of Environment ▪ Industry | <ul style="list-style-type: none"> ▪ High |
| Education / Awareness raising | <ul style="list-style-type: none"> ▪ Lack of awareness of the role and functions of key agencies that deal with chemicals management | <ul style="list-style-type: none"> ▪ Identify most effective methods of rising public awareness ▪ Develop and deliver relevant public awareness programmes ▪ Encourage stakeholder participation | <ul style="list-style-type: none"> ▪ Industry ▪ Government agencies ▪ Media ▪ NGOs | <ul style="list-style-type: none"> ▪ High |
| Training | <ul style="list-style-type: none"> ▪ An insufficient number of workers are appropriately trained. | <ul style="list-style-type: none"> ▪ Facilitate training opportunities | <ul style="list-style-type: none"> ▪ Industry | <ul style="list-style-type: none"> ▪ High |

Worksheet 4 – Capacity Assessment of Important and Urgent Chemicals Management Issues

| B4: Chemical Emergency Prevention and Control | | | | |
|--|--|---|--|---|
| Chemicals Management Issue Area | Capacity Gaps | Possible Action | Concerned Actors | Urgency & importance of taking action: High / Medium / Low |
| Chemical Emergency Planning | <ul style="list-style-type: none"> ▪ Existing plans need to be reviewed to ensure that they are still effective ▪ Existing plan need to be tested ▪ All stakeholders not familiar with existing plans | <ul style="list-style-type: none"> ▪ Publicize existing plans ▪ Review and if necessary review existing plan | <ul style="list-style-type: none"> ▪ Ministry of the Environment | <ul style="list-style-type: none"> ▪ High |
| Chemical Emergency Response | <ul style="list-style-type: none"> ▪ Existing plans not tested frequently ▪ The ability of the medical facilities to deal with chemical emergencies including poisoning is unclear | <ul style="list-style-type: none"> ▪ Conduct an assessment of medical facilities ▪ Conduct simulation exercises | <ul style="list-style-type: none"> ▪ Ministry of the Environment ▪ Barbados Fire Service | <ul style="list-style-type: none"> ▪ High |
| Chemical Emergency Follow-up | <ul style="list-style-type: none"> ▪ No national mechanism in place to investigate accidents and their outcomes | <ul style="list-style-type: none"> ▪ Develop, test and introduce a national procedure for following up on chemical emergencies | <ul style="list-style-type: none"> ▪ Ministry of the Environment | <ul style="list-style-type: none"> ▪ High |