

This document is an update to St. Vincent and the Grenadines National Chemical Management Profile for the Management of Chemicals and Waste, “A St. Vincent and the Grenadines SAICM Initiative Mainstreaming into Development Plans of the Sound Management of Chemicals Priorities for Key Development Sectors in Belize and Associated Sound Management of Chemicals Governance Project”.

An Activity under the Programme “Sound Management of Industrial Chemicals under the Rotterdam Convention” to be executed in the Caribbean region.

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Executive Summary

A National Chemical Profile provides a recognized country information reference base that can be utilized to assess the country's current situation in terms of effectively managing chemicals. This document represents an update of the National Chemical Profile for St. Vincent and the Grenadines (SVG) identifying gaps in terms of the capacity to manage chemicals and assesses the mechanisms available to address the problems. The updated chemical profile was prepared in response to a pilot project funded by the United Nations Environment Programme (UNEP)/Secretariat of the Rotterdam Convention as part of an overarching goal to facilitate the strengthening of the capacities of developing countries to assess and manage risks, prepare and communicate import responses and take decisions on final regulatory actions for hazardous industrial chemicals that are listed under the Rotterdam Convention in accordance with the prior informed consent procedure.

The existing chemical profile for SVG was analyzed and information gaps were identified. Formal letters of request were sent to a variety of stakeholders from the public and private sector to collect the information needed. This data was then used to build on the previous work that had been done, vetting of a substantial amount of the information contained. The results of the initial introductory workshop on industrial chemicals under the Rotterdam Convention were used to compile the list of stakeholders and harness the input of the major stakeholders for the development of the report. This study was compiled based on the data availability in country and the willingness of Government as well as private companies to commit to submit the data as requested.

Chapter 1 of the report provides general information on Saint Vincent and the Grenadines with special emphasis on the major economic sectors to provide the backdrop for better understanding of the issues related to the integrated management of chemicals discussed in the following sections of the report. The economy of SVG is dependent largely on the Agriculture Sector and the Services Sector. Within recent time however, a contraction of the former has resulted in a GDP contribution of less than 6%.

Chapter 2 provided a summary of the legal and institutional capacity for chemicals management in Saint Vincent and the Grenadines and focuses on the legal instruments and non-regulatory mechanisms for managing chemicals; information on the Ministries, Agencies and other Institutions managing chemicals; describing and reviewing the various organizations and non-governmental bodies and entities which support national efforts to manage chemicals; and reviewing the inter-ministerial commissions and coordinating mechanisms for chemicals management.

This section of the report indicates that the legislation related to the integrated management of chemical is fragmented among various institutions often with very little coordination occurring among them. There is no specific piece of legislation that governs the management of chemicals

in St. Vincent and the Grenadines. The main pieces of legislation having direct influence on the importation, production, transportation, use and distribution of chemicals include the Pesticides and Toxic Chemicals Control Act, Plant Protection Act (2005), Environmental Services Act (1991), Environmental Health Services Act (2001), Central Water and Sewerage Authority Act No. 6 of 1978, Oil in Navigable Waters Act Cap 366, The Fisheries Act No. 8 of (1996), Pharmacy Act and the Waste Management Act (2000)

Among the various existing legislation, the Pesticides and Toxic Chemicals Act and the Pharmacy Act are the most important statutes related to the importation, production, use and disposal of chemicals. Both pieces of legislation have promulgated several important regulations to facilitate their implementation. The section also points out that aside from these, there are several pieces of legislation that have requirements that are incidental and have important bearing on the integrated management of chemical which requires that their responsible institutions also be actively involved in any coordinated national effort.

The key approaches for controlling or managing chemicals in SVG is primarily done through these major legal instruments supported by sections contained in several other instruments. This system involves the requirement of a number of permits or licenses permitting some aspect of the life cycle of chemicals life cycle of chemicals, including importation, processing, storage, transport, distribution , use, and disposal. Non-compliance may result in the cancelation of permits or licenses, the imposition of fines, seizure of property and imprisonment.

The overarching legislation establishes a fairly comprehensive general legal framework for the control of chemicals making several of the basic principles of sound chemicals management legally binding. The existing legislative framework however, needs to be integrated across all sectors and should allow for harmonization of penalties and consistency with national, regional and international efforts. Clarification is required in areas where there are overlapping responsibilities or juxtaposed requirements. The existence of a comprehensive and well-coordinated legal framework can help to avoid piecemeal, overlapping, or conflicting regulations.

Additionally, the report points out, that presently there is no institution that fully addresses the management of chemicals throughout their entire life cycle. That is, their importation, processing, storage, transport, use, disposal and recycling. The responsibility for regulating is for one or several life cycle stages but not all. The Ministry of Health Wellness and the Environment was identified as the main Ministry with overarching responsibilities for the management of waste and more specifically, chemical waste. The Pesticides and Toxic Chemicals Control Act, while may be sufficient for Pesticides and toxic chemicals, excludes the other chemicals that may not be characterized as such.

St. Vincent and the Grenadines does not produce chemicals and as such the required chemicals are imported to be used in the manufacturing industry. The country does have some non-Governmental, non-profit organisations which are committed to the preservation of the environment and directly involved in chemicals management. The roles of the Labour Unions are however focused mainly on the health and safety of workers. Due to its small size, SVG does not have many educational programmes at the tertiary level which accommodate for studies which are related to the field of chemicals management. There are a limited number of private laboratories and even lesser number of research institutes which have the capabilities to assess, monitor and manage chemicals.

This section also points out that presently there is no overarching chemicals' management coordinating mechanism although there exist several important interagency/inter-sectoral institutions with very specialized focus pertaining to either a specific group of chemical or a specific issue associated with management of chemicals. Coordination in chemicals management occurs through the existence of the Environmental Management Department and the Pharmaceutical Services Department as the overarching inter-ministerial commissions. The effectiveness of these institutions in coordinating chemical management is limited to their area of responsibilities, often with limited focus and other

Information on the chemical production, import, export, storage, transport and use in St. Vincent and the Grenadines, is provided in Chapter 3 of the report and establishes the linkages with the general information provided in Chapter 1, showing that the production and export of chemicals are primarily linked to the agriculture sector. The chapter also provided a summary of the chemical waste situation in the country. In the country there is very limited data existing on the quantities of waste generated. The national landfills receive some waste chemicals and the types and quantities received in 2013 and 2014 are provided. These statistics show that significant quantities of chemical waste go unaccounted and this is attributed to the poor waste chemical management system in the country.

Chapter 4 dealt with data access and use and provides an overview of the availability of data for chemicals management and the related infrastructure in St. Vincent and the Grenadines. It also provides a brief analysis of how information is used for national and local chemical risk reduction. Information is available for agricultural chemicals but there is a definite lack of data on consumer chemicals and chemical waste. However, data access based on the available data is extremely difficult. The data is scattered and not kept in a central location with ease of accessibility. Data is being received and collected but it is not being compiled and analysed and in some instances gaps exist in the data collection. There is a need to coordinate and systemize this available information and data in such a way that it is user

friendly, accessible and compatible with all or most systems available with the government public service.

Chapter 5 deals with the technical infrastructure and provides an overview of the facilities available in the country to support programmes and policies for the integrated management of chemicals is examined. This report provides a rapid assessment of existing capabilities in country including some of the major ones that are present in the private sector. This chapter indicates that in St. Vincent and the Grenadines, there are limited financial resources and technical equipment available to carry out tailored laboratory analysis in the country. The Government of SVG recognises the importance of Information and Communication Technology (ICT) and the basis it provides for the development of every modern and progressive society and allows for incorporation into the global information economy. The non-ICT sectors which utilize ICT include the judicial system, financial sector, agriculture sector, health sector and the educational sector. Some of the major objectives outlined by the national ICT Strategy and Action Plan of SVG was also outlined.

Chapter 6 addresses the situation of chemical emergency preparedness, response and follow up. SVG has a Draft National Oil Spill Contingency Plan (1989) and a National Health Disaster Plan (2011). These Plans are as a result of the mandates laid out by the National Emergency and Disaster Management Act No. 15 of 2006 for the preparedness and responses to hazards. The National Health Disaster Plan caters for a variety of hazards including those of a chemical nature.

The National Emergency Management Organization (NEMO) is the designated authority responsible for the coordination of national activities related to such activities. It should be noted that other Ministerial organisations are putting mechanisms in place to deal with disaster preparedness in the country.

Chapter 7 deals with the awareness/understanding of workers and the public and attempts to give an overview of the mechanisms available to provide information to workers and to the public concerning the potential risks associated with chemical production, import, export, handling, use and disposal. This chapter also summarizes programmes, and related activities designed to sensitize the populace as it relates to chemical management.

The chapter points out that there are initiatives in SVG by private and Governmental organisations which provide information to workers and to the public concerning the potential risks associated with chemicals. It indicates that SVG has implemented programmes with regards to occupational health and safety and the dissemination of information to their workers. Additionally, the country has also ratified a number of ILO conventions related to Occupational Health and Safety. According to the workshop report on the Sound Management of Chemicals (SAICM), there is still a need for public awareness and education and training. NEMO also shares some of the

responsibility to sensitise the public to disasters that may strike and how best to prepare for them. Many developing countries and those in economic transition benefit from multilateral and bilateral assistance activities related to the management of chemicals. These include development assistance and technical cooperation with the UN agencies such as FAO, ILO, UNEP, UNIDO, UNITAR, WHO, and UNDP, as well as capacity building projects with GEF and bilateral donors. In many cases more than one funding agency may be involved.

It is difficult to precisely identify human resources that are available to the Government of SVG directed towards chemical management. The difficulty lies in that chemicals management related issues may be dealt as one of the many responsibilities assigned to an individual or a set of individuals within an institution beside many other responsibilities. Chemicals management related responsibilities are dispersed among several ministries and their corresponding institutions. Aside from staff of there are a few individuals that are specifically dedicated to chemicals management related issues in the public service.

A National Assessment which identifies the specific needs of each Ministry/Agency is required. SVG has limited tertiary level offerings that educate on various aspects of chemical management and as such outsourcing of expertise is common practice. Training through professional development activities such as workshops and conferences also occurs. As such, although there is some chemicals management expertise present within these institutions, there is still a need for their capacities to be built and strengthened. This strengthening would include increasing overall staff complements by hiring persons with chemicals management expertise, as well as upgrading the skills of existing staff.

The assessment highlights deficiencies in discussing the availability of chemicals management in SVG.

The first of these is the limited expertise specifically focused on the sound management of chemicals. Although a number of Ministries, Departments and other bodies have professional staff with some level of qualification in the area of chemicals management, they are posted in positions where very little opportunities exist for them to apply the knowledge and training they have obtained.

Additionally, the information available indicates that there is some capacity contained within the institutions to fulfil some of the responsibilities related to chemicals management. From a national perspective however, there is need for institutional strengthening of existing facilities primarily the Environmental Management Department and the Labour Department among others and provide for the establishment of a national coordinating mechanism that will allow for greater communication and more effective and

efficient pooling of existing resources (equipment and personnel) for integrated chemicals management purposes.

While opportunities exist for the more efficient use of the available resources through a coordinating mechanism, there is an overwhelming need for more comprehensive training and additional personnel to enable the primary institutions to better carry out their relevant duties related to the integrated management of chemicals. Training requirements, including the training of analytical chemists, laboratory technicians and enforcement officers, need to be identified and prioritized. Regardless of the strategy used, input from all stakeholders will be needed to ensure that the strategy is sustainable and a more detailed skill assessment for chemicals management will be needed to determine what skill sets are absent or deficient and to devise strategies to obtain the necessary skills.

Chapter 8 provides information on co-operation and involvement with international organizations, bodies and agreements and identifies those stakeholders in St. Vincent and the Grenadines, both within and outside of Government, who have linkages with international organizations or who participate in international agreements concerned with the management of chemicals. Such linkages would offer possibilities for stakeholders to access technical assistance, information and potential funding that would be of benefit to SVGchemical management plans and activities. This section indicates that a number of organizations and agencies in SVG has established working relations and linkages to regional and international bodies which are concerned with various aspects of the sound management of chemicals. There has been varied level of participation in these international organizations, bodies and agreements with certain focal points being more active than others.

Two of the major challenges always encountered by small developing countries or countries with economies in transition are that often there is a single individual who may be the focal point for several international and regional organizations; and there is a very small pool of resource personnel and this restricts the required level of attention and follow up.

Chapter 9 provides information on the available data for chemicals management in some of the Ministries/Departments/Agencies in the country. Additionally, the deficiencies which exist in the Institutional and Administrative framework of chemical management in SVG were also mentioned.

In this Chapter data specific to the following aspects were either not forthcoming or outdated:

- Available resources in the Government Ministries and Institutions
- Resources needed by the Government Institutions of SVG to fulfil responsibilities related to Chemical Management
- Resources Available in Nongovernmental Organisations were unavailable.

The Customs Department can provide technical support in the storage of dangerous goods. The Bureau of Standards and the Central Water and Sewerage Authority with their laboratory personnel can assist in carrying out exposure assessment and monitoring. The support of the Fire Department can be sought, as one of their roles is that of a first responder. The sound management of chemicals also requires the right professional disciplines such as chemistry, toxicology, environmental sciences, environmental engineering, occupational hygiene, and chemical engineering. Training and skill development is essential, both technically and scientifically. Exchanges can be sort with other countries of the regions to assist in such development. However, the recruitment of capable staff in the following specific areas are required:

- Regulation and policy development
- Coordination/project management
- Management of information on chemicals and chemical waste
- Designing and implementing procedures and tools for managing chemicals
- Chemical waste, in particular, storage, transportation and disposal of hazardous chemicals

Chapter 10 gives a summary of the current situation of chemicals management within the country as well as summarizes the properties, and recommendations for action, considered most important. The report shows that St. Vincent and the Grenadines does have a basic foundation for the management of chemicals in the country which needs to be broadened (to include the management of other chemicals; namely the non-agrichemicals) and strengthened to ensure their entire life cycles are considered. This report revealed the primary areas which need to be focused in order to achieve a state in which chemicals are managed comprehensively. These include legislative reform, setting up of a National Committee for chemicals management, chemical inventory and database development, increased infrastructural capacity and increased public awareness, training, and research and development.

The success of managing chemicals in SVG requires cooperation at many different levels ranging from the communities to the decision makers to the politicians.

The issue of inadequate financial and technical support creates a barrier for progress. However, with the continued intervention of international support, SVG's progress towards the sound management of chemicals will continue to grow.

Glossary of Terms

Pesticides	Any substance which by itself, or in combination with other substances, is proposed, represented, or used for destroying or controlling pests but does not include any antiseptic, disinfectant, drug or preservative.
Fertilizers	Any product containing three basic plant nutrients (nitrogen, phosphorus, and potassium) and micronutrients, is proposed or used for making soil more fertile
Production chemicals	Chemicals used in the petroleum industry to enhance oil recovery, maximize production, processing and transporting of petroleum and petroleum products. These include corrosion inhibitors, scale inhibitors, asphaltene inhibitors, biocides, demulsifiers, scavengers, surfactants, and others.
Hazard	Any source of potential damage, harm or adverse health effects on something or someone under certain conditions at work.
Hazardous materials	Waste that is dangerous or potentially harmful to our health or the environment. Hazardous wastes can be liquids, solids, gases, or sludges. They can be discarded commercial products, like cleaning fluids or pesticides, or the by-products of manufacturing processes.
Party	A State or regional economic integration organization that has consented to be bound by a Convention and for which the Convention is in force
General waste	Commercial, domestic or yard waste generated from normal, day-to-day operations. It poses little or no threat to its handlers or the environment.
Liquid waste	Any waste in the liquid state of matter. It includes industrial waste such as by-products from food-processing and production plants, municipal waste, chemical by-products, agricultural waste and wastewater.
Special waste	Termed due to the handling and disposal processes that it requires. This waste type may be injurious to the population and environment, and can range from tyres and condemned foods, to asbestos and industrial

Chemicals

waste from processing plants. Special Waste is generated mainly by industries.

used in a broad sense to include pesticides, fertilizers and other agricultural chemicals, chemicals used in industrial processes, petroleum products, chemicals marketed for consumer usage, pharmaceuticals, cosmetics, food additives, chemicals of natural organic and biological origin as well as unintended chemicals such as produced in combustion processes, appearing in food residue, biota and consumer goods.

Industrial chemicals

produce a broad range of

formulations that are used by industry or

the public. These includebut not limited to organic and inorganic chemicals.

Chemicals that are used by industry to articles, products and

List of Acronyms

BCRC-Caribbean	Basel Convention Regional Centre for Training and Technology transfer for the Caribbean Region
BGA	Banana Growers Association
CARDI	Caribbean Agricultural Research and Development Institute
CARPHA	Caribbean Public Health Agency
CHIP	Chemical Hazard Information Programme
CWASA	Central Water and Sewerage Authority
CBOs	Community Based Organizations
CCA	Clean Caribbean and Americas
CDERA Agency	Caribbean Disaster Emergency Response
CDM	Comprehensive Disaster Management
CEHI	Caribbean Environmental Health Institute
CERMES	Centre for Resources Management and Environmental Studies
CFCs	Chlorofluorocarbons
CROSQ Standards and Quality	CARICOM Regional Organisation for
CSD	Commission on Sustainable Development
CSDU Development Unit	Conservation and Sustainable
ECLAC and the	Economic Commissions for Latin America Caribbean
ECOSOC	Economic and Social Council
ECTAD	Eastern Caribbean Trading Agriculture and Development Organisation
EMD	Environmental Management Department
FAO United Nations	Food and Agricultural Organisation of the
FPU	Family Planning Unit
GDP	Gross Domestic Product
GEF	Global Environment Facility
GFDRR	Global Facility for Disaster Reduction and Recovery
GHS	Globally Harmonized System of Classification and Labeling of Chemicals
GINC	Global Information Network on Chemicals
GLP	Good Laboratory Practice
IAG	International Analytical Group
IARC Cancer	International Agency for Research in

ICS	Incident Command System
ICT Technology	Information and Communication
IMO	International Maritime Organisation
INTERDEP/ENV	Interdepartmental Project on Environment and the World of Work
IPCS	International Programme on Chemical Safety
IFCS	International Forum on Chemical Safety
ILO	International Labour Organisation
ISIC Classification	International Standard Industrial
MAFF Fisheries	Ministry of Agriculture, Forestry and
MDGS	Millennium Development Goals
MEAs	Multilateral Environmental Agreements
MEAU	Multilateral Environmental Agreement Unit
MSDS	Material Safety Data Sheets
NCP	National Chemical Profile
NEMO	National Emergency Management Organisation
NGOs	Non-Governmental Organizations
NHSSP	National Health Sector Strategic Plan
NIS	National Insurance Scheme
NRSP	Natural Resources Systems Programme
ICCM	International Conference on Chemicals Management
ICTs Technologies	Information and Communication
IFCS	International Forum on Chemical Safety
IICA on Agriculture	Inter-American Institute for Cooperation
IOMC Sound	Inter-Organization Programme for the Management of Chemicals
MOHWE Environment	Ministry of Health Wellness and the
MOU	Memorandum of Understanding
OAS	Organisation of American States
OECD	Organisation for Economic Co-operation and Development
OECS	Organisation of Eastern Caribbean States
PAHO	Pan-American Health Organisation
PCBs	Polychlorinated Biphenyls

PTCCB Board	Pesticides and Toxic Chemicals Control
POPs	Persistent Organic Pollutants
PIC	Prior Informed Consent
QSP	Quick Start Programme
REACH	Registration, Evaluation, Authorization and Restriction of chemicals
SAICM	Strategic Approach to International Chemical Management
SAQS	Strengthening Agricultural Quarantine Services in the Caribbean
SIDS	Small Island Developing States
SVEF	St. Vincent Employers' Federation
SVG	St. Vincent and the Grenadines
SVGIC	St. Vincent and the Grenadines Chamber of Industry and Commerce
SVGCSI	St. Vincent and the Grenadines Coalition of Services Industries
SVGPSU	Saint Vincent and the Grenadines Public Service Union
SWMU	Solid Waste Management Unit
UNCBD	United Nations Convention on Biological
Diversity	
UNCCD	United Nations Convention to Combat
Desertification	
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environmental Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNIDO	United Nations Industrial Development Organisation
UNITAR	United Nations Institute for Training and
Research	
VCU	Vector Control Unit
VINLEC	St. Vincent Electricity Services Limited
WIBDECO	Windward Islands Banana Development and Exporting Company
WSSD	World Summit on Sustainable
Development	

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Introduction

1. Context and General Vision

The chemical industry is one of the largest and most important industries worldwide as chemicals are required for use in all aspects of life. Chemicals include both artificial and natural substances and for the purpose of this document, they are defined according to the United Nations Institute for Training and Research (UNITAR) definitions. Chemical is used in a broad sense to include pesticides, fertilizers and other agricultural chemicals, chemicals used in industrial processes, petroleum products, chemicals marketed for consumer usage, pharmaceuticals, cosmetics, food additives, chemicals of natural organic and biological origin as well as unintended chemicals such as those produced in combustion processes, appearing in food residue, biota and consumer goods (UNITAR, 2012). For the purpose of this report, chemicals refer to the range of chemicals classified as agrochemicals (including pesticides and fertilisers) and consumer chemicals (including perfumes, essential oils, soaps and lubricants). SVG does not have an energy sector in terms of production of crude oil, natural gas or petrochemicals, hence the industrial chemicals used would be limited to the agriculture and manufacturing sectors.

Chemicals are a significant contributor to our economies. Sound chemical management across the lifecycle of a chemical, from extraction or production to disposal is therefore essential to avoid risks to human health and the environment. An important phase in strengthening of national systems for handling chemicals is the preparation of a national chemical profile. The national chemical profile involves an assessment of the national infrastructure and capacity related to the legal, institutional, administrative and technical aspects of chemical management, the nature and extent of chemical availability and use in the country, analysis of the country's gaps and needs for chemical management, and prioritizing and outlining associated proposals for action.

The National Chemical Profile provides a nationally recognized information base for chemicals that can be used to measure progress made in the fulfilment of meeting specific national and international targets. The International Policy Framework for the sound management of chemicals is administered via Agenda 21, International Forum on Chemical Safety (IFCS), the Strategic Approach to International Chemical Management (SAICM, Dubai 2006), as well as the World Summit on Sustainable Development (WSSD, Johannesburg 2002) goal of sound management of chemicals by 2020 and United Nations 2015 Millennium Development Goals (MDGs) as they relate to achieving environmental sustainability (UNITAR, 2012).

2. Background on the Framework for International Policy

Agenda 21 and Chemical Safety

International initiatives addressing chemicals came to the forefront as a result of the "Rio Conference", formally known as the United Nations Conference on Environment and Development (UNCED) 1992. The Agenda 21, a product from the Conference is a non-binding, voluntarily implemented action plan of the United Nations with regard to sustainable development. Chapter 19 of Agenda 21 entitled "Environmentally Sound Management of Toxic Chemicals" provides an international strategy for achieving the sound management of chemicals through their life cycle, a goal to which all countries present at the UNCED agreed.

Intergovernmental Forum on Chemicals Safety (IFCS)

The IFCS was established in 1994 as a means for countries to regularly discuss their activities and priorities for the sound management of chemicals, including progress made in implementing Chapter 19 of Agenda 21. The IFCS is a flexible, open and transparent brainstorming and bridge-building forum comprising of governments, international, regional and national organizations, industry groups, public interest associations, labour organizations, scientific associations and representatives of civil society. Meetings are held approximately every three years to build partnerships, provide advice and guidance, make recommendations and monitor progress on the safe use of chemicals.

World Summit on Sustainable Development (WSSD)

The 2002 WSSD held in Johannesburg, South Africa reaffirmed sustainable development as a central component of the international agenda. A wide range of targets and concrete commitments for action to implement sustainable development objectives were agreed upon by governments. A Plan of Implementation was adopted to embrace a number of new commitments related to chemicals and waste management. These included:

- to renew commitment (as stated in Agenda 21) to the sound management of chemicals throughout their life cycle and to protect human health and the environment from significant adverse effects;
- to renew commitment, as stated in Agenda 21, to sound management of chemicals throughout their life cycle and of hazardous wastes for sustainable development as well as for the protection of human health and the environment, inter alia, aiming to achieve, by 2020, that chemicals are used and produced in ways that lead to the minimisation of significant adverse effects on human health and the environment;

- to promote the ratification and implementation of relevant international instruments on chemicals and hazardous waste;
- to further develop a strategic approach to international chemicals management based on the Bahia Declaration and Priorities for Action beyond 2000 of the IFCS;
- to encourage partnerships to promote activities aimed at enhancing environmentally sound management of chemicals and hazardous wastes;
- to achieve sound management of chemicals, with particular focus on hazardous chemicals and wastes.

Strategic Approach to International Chemicals Management (SAICM)

The SAICM is a policy framework adapted by the International Conference on Chemicals Management (ICCM) in 2006 to promote chemical safety around the world. It comprises the Dubai Declaration – expressing high-level political commitment to SAICM and an Overarching Policy Strategy which sets out its scope, needs, objectives, financial considerations, underlying principles and approaches, and implementation and review arrangements. SAICM was developed by a multi-stakeholder and multi-sectoral Preparatory Committee and supports the achievement of the goal agreed at the WSSD in Johannesburg 2002, ensuring that by the year 2020 chemicals are produced and used in ways that minimize significant adverse impacts on the environment and human health.

United Nations Millennium Development Goals (MDGs)

The United Nations MDGs relates to achieving environmental sustainability. This would involve a reduction in exposure to toxic chemicals and the improvement in frameworks for chemicals management. The preparation of a National Profile could serve as a useful tool in this context by providing a comprehensive picture of the national infrastructure and capacity in which chemicals-related international agreements would be implemented.

Policy Instruments

Additionally, several international policy instruments have been adopted to address specific areas of chemical management. These include:

- UNEP London Guidelines for the Exchange of Information on Chemicals in International Trade (as amended in 1989);
- FAO International Code of Conduct on the Distribution and Use of Pesticides (as revised in 2002);

- ILO Convention (No. 170) Concerning Safety in the Use of Chemicals at Work (1990);
- ILO Convention (No. 174) Concerning the Prevention of Major Industrial Accidents (1993);
- Vienna Convention and the Montreal Protocol on Substances that Deplete the Ozone Layer. (signed 1985 and entered into force on 22 September 1988);
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (signed 1989 and entered into force on 5 May 1992);
- Paris Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and Their Destruction – Chemical Weapons Convention (signed 1993 and entered into force on 29 April 1997);
- Rotterdam Convention on the Prior Informed Consent (PIC) Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (signed 1998 and entered into force on 24 February 2004);
- Stockholm Convention on Persistent Organic Pollutants (POPs) (signed 2001 and entered into force on 17 May 2004);
- Globally Harmonized System of Classification and Labeling of Chemicals (GHS) (adopted in December 2002 and endorsed by ECOSOC in July 2003), which is a voluntary agreement rather than a multilateral convention.
- ECOSOC in July 2003), which is a voluntary agreement rather than a multilateral convention.

3. National Policy Framework

Agenda 21, formulated under the 1992 Rio Earth Summit sponsored by the United Nations Conference on Environment and Development (UNCED), requested inter alia that the International Labour Organisation (ILO) and a number of its members' countries make a direct contribution in its implementation of the Interdepartmental Project on Environment and the World of Work (INTERDEP/ENV).

There is no comprehensive national policy on chemical management in St. Vincent and the Grenadines (SVG) apart from the recently drafted Chemical Management Policy (2013). This policy identifies an appropriate national goal for chemicals management, and defines objectives and policies in respect of the sectors for which regulatory control is considered to be required. Additionally, there are four levels of regulatory management which are focused upon: import/export/re-export, handling and transport, operation and treatment and disposal.

The Country has a number of obligations under both international and regional agreements concerning chemical management, but to date has not been able to articulate a national policy that would address these various obligations. This has resulted in a number of issues including:

- inaccessibility of resources that may be available (financial and technical) under some of these international agreements;
- fragmented and un-coordinated approach to chemical management;

- the policy directorate showing limited will and commitment for chemicals management;
- lack of a clear policy for treatment of human health from exposure to chemicals and related substances.

This document entitled "National Chemical Profile for Chemicals Management 2015" represents an update to the draft National Chemical Management Profile of St. Vincent and the Grenadines. This was triggered by the updated guidance document issued by UNITAR for preparing a NCP to assess infrastructure and capacity needs for chemicals management.

4. Aim, Objectives and Benefits of the National Chemical Profile

The overall aim of the NCP for SVG is to strengthen the national chemicals management system whilst facilitating important national economic and trade intentions. The aim can be achieved by focusing on the following objectives:

- to encourage collaboration between government and stakeholders towards understanding and identifying priority needs for SAICM implementation to set the stage for preparation of a SAICM Implementation Plan;
- to provide practical information on ongoing programmes and activities in the country which are concerned with the management of chemicals throughout their life cycle;
- to establish a system to facilitate the exchange of information and dialogue among government ministries and authorities at national, regional, and local levels, concerned with the sound management of chemicals.

The benefits created by the NCP are as follows:

- a greater understanding of the potential risks associated with the production, use and disposal of chemicals at a national level and improved knowledge of reducing these risks to promote improved human health and environmental protection;
- increased awareness of chemical risks as well as an understanding of the potential benefits of chemicals management via the introduction of safe systems of work to ensure safe industrialization and sustainable development and growth;
- establishment of a national dialogue on chemicals safety/management involving all concerned parties and sectors of society to encourage and facilitate trade in chemicals, and agricultural, domestic, and industrial products which rely on chemicals;
- to ensure that chemicals produced, imported, and exported are supporting economic goals and are not creating economic burdens through health, environmental, and safety problems.

5. Preparation of National Chemical Profile

The National Chemical Profile for SVG was updated in a collaborative and comprehensive manner, ensuring data accuracy where data were readily available, and transparency. The existing draft National Chemical Management Profile (2013) as reviewed and the document was updated based on the guidance document entitled "*Preparing a National Profile to Assess Infrastructure and Capacity Needs for Chemical Management*" (UNITAR, 2012). Information gaps and obsolete data were identified.

An introductory sub-Regional stakeholder workshop on Industrial Chemicals under the Rotterdam Convention was held on 8th-10th October 2014 in Trinidad, coordinated by the Basel Convention Regional Centre for Training and Technology transfer for the Caribbean Region (BCRC-Caribbean). This workshop raised awareness among decision makers in the relevant Ministries and Agencies and encouraged the collection of new data required for the update of the National Chemical Profile. Data were collected by formally requesting information from the necessary stakeholders involved with chemicals, from production to disposal, on conducting a detailed gap analysis of the existing National Chemical Profile. Response forms mainly in the form of tables (Annex I) were given to the stakeholders to fill in and the information collected was used to compile a report outlining the current status on chemicals management for SVG. This information was used to update the National Chemical Profile for SVG entitled "*National Chemical Profile for Chemicals Management, St. Vincent and the Grenadines 2015.*" An overview of the participation and contribution from ministries, private sector organisations and other stakeholders for the completion of this project can be viewed in Annex II. In February 2015, these stakeholders were subsequently interviewed during a visit to the country in order to acquire the necessary data for this report. The participating Ministries were the Plant Protection and Quarantine Unit of the Ministry of Agriculture, Industry, Forestry, Fisheries and Rural Transformation, the Environmental Management Department of the Ministry of Health, Wellness and the Environment and the Statistical Office of the Ministry of Finance and Economic Planning. Other participants were members from the Customs and Excise Department, Port Authority, Solid Waste Management Unit, Pharmaceutical Services and St. Vincent Electrical Services (VINLEC).

Upon completion of the National Chemical Profile update, a national follow up seminar will be to organize a National Committee that will address the Rotterdam Convention obligations on industrial chemicals and refine the national framework for the management of industrial chemicals developed at the introductory sub-regional workshop.

Chapter 1: National Information Overview

This chapter provides general background information on St. Vincent and the Grenadines highlighting the main economic sectors of the country, in particular the industrial and agricultural industries.

1.1 Geographic Context

1.1.1 Location

St. Vincent and the Grenadines is an archipelagic State in the Eastern Caribbean, at the southern end of the Windward Islands (Figure 1-1). The country is comprised of a main island, St. Vincent, and a chain of 32 islands and cays, the Grenadines, of which only seven are inhabited – Bequia, Mustique, Canouan, Mayreau, Union Island, Palm Island and Petit St. Vincent. The total area of the country is 150 square miles (389 km²) with the main island comprising 133 square miles (344 km²). The country lies approximately 61° west and 13° north, and approximately 415 miles (667 km) north of Venezuela and 109 miles (175 km) east of Barbados (National Economic and Social Development Plan, 2013-2025).



(Source: www.worldatlas.com)

Figure 1-1: Location of St. Vincent and the Grenadines

1.1.1 Climate

St. Vincent and the Grenadines has a tropical marine climate consisting of two major seasons; a wet (rainy) season and dry season which occur during the periods June to December and January to May respectively. Temperatures experienced range between 18°C and 33°C with an annual average temperature of 27°C. The islands receive an annual average rainfall which varies from 200cm (80 inches) along the coast to 380cm (150 inches) in the interior. The Grenadines however receive significantly less rainfall, averaging 46cm (18 inches) annually (St. Vincent and the Grenadines Online, 2015).

1.1.2 Terrain and Elevation Extremes

St. Vincent and the Grenadines is a mountainous landmass formed from volcanic deposit during the Miocene period as a result of two major volcanic eruptions. St. Vincent is defined by a rugged mountainous terrain with valleys which drains to the coastal areas, forests and numerous rivers (MHE, 2000). The highest point on the island is located on the peak of La Soufriere, an active volcano measuring 1234m. Other notable height extremes include Morne Garu mountain range (with Richmond peak at 1,077 m and Mount Brisbane at 932 m) which lies to the south of La Soufriere, Grand Bonhomme (970 m), Petit Bonhomme (756 m) and Mount St Andrew (736 m) which lie further south. In contrast, the Grenadines have a much gentler relief, with the mountain peaks on these islands rising to 150–300m surrounded by fringing reefs (The Fourth National Biodiversity Report of St. Vincent and the Grenadines to the UNCBD, 2010)

1.1.3 Natural Hazards

The La Soufriere volcano is located on the main land of St. Vincent. This volcano is deemed active and has five recorded major eruptions during the last 300 years; 1718, 1812, 1902, 1971 and 1979 (Initial National Communication on Climate Change, 2000). St. Vincent and the Grenadines (SVG) is located to the south of the Atlantic Hurricane Belt and as such are occasionally impacted by tropical storms, hurricanes and heavy rainfall (Global Facility for Disaster Reduction and Recovery, 2010). As a result of this, the country is also affected by landslide and flooding events.

The negative health threats associated with climate change and variability is of growing concern to small-island developing states such as St. Vincent and the Grenadines. The 2010 Climate Risk Index based on 2008 figures ranked St. Vincent and the Grenadines 72nd with 0.17% Gross Domestic Product losses. The impact of Global warming on rising sea levels increase the risk of storm surges and the strength of hurricanes experienced (Global Facility for Disaster Reduction and Recovery, 2010). In 2004, Hurricane Ivan caused damage to SVG in the form of downed trees, collapsed houses and damage to structures in close proximity to the sea. Banana crops were also negatively impacted by high winds and minor injuries to humans were also reported (Rojas, 2004). In 2009 and 2013, St. Vincent experienced major floods that

resulted in several deaths and adversely affected human settlements, living conditions and the national economy.

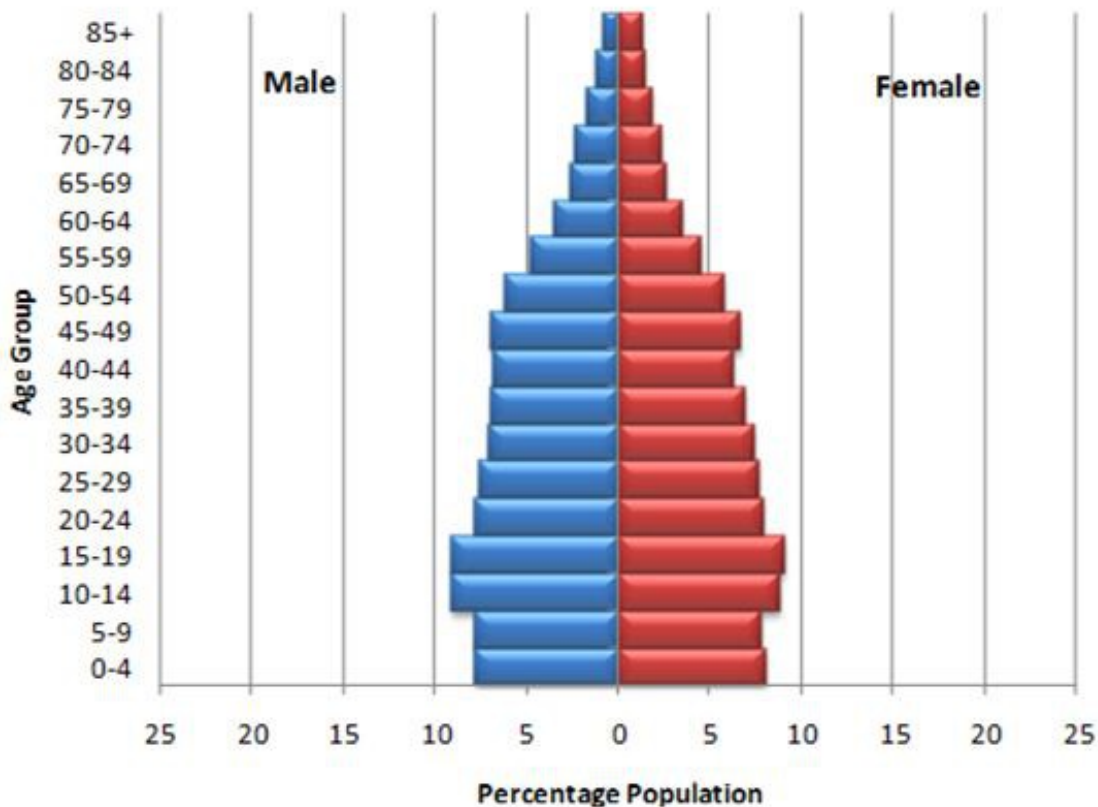
1.2 Demographic Context

1.2.1 Total Population

The 2012 National Census of St. Vincent and the Grenadines recorded an end of year total population of approximately 110,035 persons. In 2014, the country registered a total fertility rate of 1.84 children per woman (below the replacement rate of 2 children per woman)(CIA, 2014). The Grenadines account for approximately 8% of the total population while another 25% reside in Kingstown, the country's Capital city. The labour force population within SVG was recorded as 54, 770 persons (World Bank, 2013).

1.2.2 Age Structure and Median Age

The 2012 population pyramid for St. Vincent and the Grenadines is illustrated in Figure 1-2(Statistical Office, 2012). This pyramid is representative of a relatively stable or neutral population with an equitable gender distribution (56, 442 males / 53, 593 females) (Statistical Office, 2012). The total age dependency ratio (children up to 14 years old and adults older than 65 years) is 48.9% which illustrates that approximately half of the population is dependent on the working class population within St. Vincent and the Grenadines. The median age of the population of SVG is 31.3 years (Central Intelligence Agency, 2014); meaning half of the population is younger than 31.3 years whilst the other half is older.



(Source: Statistical Office of St. Vincent and the Grenadines 2012)

Figure 1-2: Population pyramid for St. Vincent and the Grenadines

1.2.3 Life Expectancy and Birth Rate

The average life expectancy at birth for citizens in St. Vincent and the Grenadines is 74.86 years (Central Intelligence Agency, 2014). SVG has a low crude birth rate of approximately 13.85 births per 1000 people (Central Intelligence Agency, 2014 estimate), accounting for the slow population growth of the islands.

1.2.4 Population Migration

The net migration rate for SVG is approximately -9.6 migrants/1,000 population. This rate is based on the difference between the number of persons entering and leaving a country during the year per 1,000 persons and does not distinguish between economic migrants, refugees, and other types of migrants nor does it distinguish between lawful migrants and undocumented migrants.

The rural population of SVG (percentage of the total population living in rural areas) is 50.7%, whilst the urban population (percentage of the total population living in urban areas) makes up 49.3%. The rate of urbanization (projected average rate of change of the size of the urban population over the given period of time) is predicted at 0.78% per annum (Central Intelligence Agency, 2010-2015).

1.2.5 Language(s)

English is the official language spoken in St. Vincent and the Grenadines. However, an English-based Vincentian dialect is also widely spoken (Discover SVG, 2009). This dialect has French, West African, Spanish and English influences (WorldmarkEncyclopedia of Cultures and Daily Life, 2007).

1.2.6 School Life Expectancy and Literacy Rate

The adult literacy rate (percentage of people ages 15-24 who can, with understanding, read and write a short, simple statement on their everyday life) in SVG is 96% for both males and females. The school life expectancy (primary to tertiary) of a child in SVG is approximately 13 years for boys and 13 years for girls (Central Intelligence Agency, 2004). School life expectancy is the total number of years of schooling (primary to tertiary) that a child can expect to receive, assuming that the probability of his or her being enrolled in school at any particular future age is equal to the current enrolment ratio at that age.

1.2.7 Employment/Unemployment Rate

The rate of unemployment in St. Vincent and the Grenadines is 18.8% (Statistical Office of SVG, 2007/2008). This rate calculates the percentage of the labour force that is without jobs. In 2013, the female population accounted for 41.17% of the labour force (World Bank, 2013). In 2008, a poverty assessment of SVG conducted by Kairi Consultants Limited in association with the national assessment team of SVG reported the sluggishness in economic activity especially in manufacturing, tourism and the distributive trades, coupled with the ongoing difficulties in bananas' agriculture, contributed to some stagnation in the levels of employment. Additionally, some members of the labour force have opted out of the formal labour market in favour of the underground economy (Kairi Consultants Limited, 2008).

1.3 Political Structure of St. Vincent and the Grenadines

1.3.1 Form and Description of Government

St. Vincent and the Grenadines attained political independence from Great Britain on 27th October, 1979 and inherited a Westminster Parliamentary system of government. Queen Elizabeth II is the Head of State and is represented by a Governor General, an office with mostly ceremonial functions. The Prime Minister and the Cabinet has executive control of the government. The Parliament consists of a 15-member elected House of Assembly and six appointed senators. The Governor General appoints senators, four on the advice of the Prime Minister and two on the advice of the Leader of the Opposition. Officially, the parliamentary term of office is 5 years, although the Prime Minister may call elections at any time (Ministry of Finance and Economic Planning, 2013).

1.3.2 Administrative Divisions

St. Vincent and the Grenadines is divided into six (6) Parishes, consisting of 11 towns/villages. The Parishes include: St. Patrick, St. George, St. David, St. Andrew and Charlotte in St. Vincent, and the Grenadines in the Grenadines. The capital city, Kingstown is located in the St. George Parish. Figure 1-3 illustrates the administrative divisions in SVG.



(Source: www.mapsofworld.com)

Figure 1-3 Administrative Regions of St. Vincent and the Grenadines

1.3.3 Division of Responsibilities among National, Regional and Local Government for Health and Environmental Control and Land Use for Economic Development

Health Sector

The Ministry of Health, Wellness and the Environment (MOHWE) is the national authority responsible for the overseeing of the health system in St. Vincent and the Grenadines. This Governmental body has the mandate to create policies and implement national health strategies by conducting programs and providing health services. Primary and secondary health care services, maternal health services and children's and family planning services are also provided. It is essentially the only provider of preventive health services through an extensive network of health facilities (health centres and health posts) providing primary, secondary, and specialized in-patient and out-patient services.

Environmental Sector

The Ministry of Health Wellness and the Environment (MOHWE)

The MOHWE of St. Vincent and the Grenadines is responsible for addressing the environmental challenges faced within the country. Some of these challenges include land degradation, poor agricultural techniques, global weather patterns and excessive use of agrochemicals (Ministry of Health Wellness and the Environment, 2013).

The Environmental Management Department (EMD)

The Environmental Management Department falls under the ambit of the MOHWE and monitors, regulates, improves and maintains the environmental health of all Vincentians by promoting sound environmental health practices, reducing the incidence of vector borne diseases and through the sustainable use and management (protection, conservation, enhancement and restoration) of the natural resources of SVG, thus contributing to sustainable development. The EMD comprises the Family Planning Unit (FPU), the Environmental Engineering Unit (EEU), the Vector Control Unit (VCU) and the Conservation and Sustainable Development Unit (CSDU) (Government of St. Vincent and the Grenadines, 2015).

The objectives of the EMD are:

- To be a multidisciplinary unit that can effectively monitor all environmental activities nationally.
- To provide support to all other Ministries and agencies in the execution of environmental activities/projects.
- To provide technical support to sustainable development initiatives nationally.
- To coordinate local, regional and international activities relating to environmental conventions, agreements and or protocols.
- To monitor, regulate, improve, maintain and safeguard environmental health of the State.

- To provide for expenses associated with the removal of garbage and upkeep of public latrines/toilets and baths.
- To provide for Staffing and Operational expenses in relation to the schemes for Vector Control in the State.

Land Use for Economic Development

The Physical Planning Unit of the Ministry of Housing, Informal Human Settlements, Land & Surveys and Physical Planning is responsible for the implementation of the Town and Country Planning Act and its various regulations. The Act seeks to ensure orderly and progressive physical development in St. Vincent and the Grenadines, in two main ways:

- Development control i.e. the granting of planning permission for development
- Development planning i.e. the preparation of Land Use Plans.

In addition to its regulatory role, the Physical Planning Unit is also cognizant of its role in facilitating national development. The Unit recently assumed responsibility for the development of a National Geographic Information System. This includes the mapping of all spatial data including buildings and roads and other related data such as census data, in order to better understand their relationship. This information platform is expected to provide integrated spatial data which would guide policy and decision making with respect to land use and development activities.

1.3.4 Ethnic Groups

St. Vincent and the Grenadines is a multicultural society comprising of a variety of ethnicities. The majority of the population is African because they are the descendants of African Slaves who were brought to the island to work on the plantations. White descendants of European colonists, Caribs, Indians and citizens of mixed races are also present. Figure 1-4 illustrates the diversity of ethnic groups within the country.

(Source: Central Intelligence Agency, 2014)

Figure 1-4: Percentage Distribution of ethnicities in St. Vincent and the Grenadines

1.4 Industrial, Agricultural and other key Economic Sectors

The National Report for St. Vincent and the Grenadines 2013 states that the agriculture sector which has been the major support for the St. Vincent and the Grenadines economy has experienced a significant decline within the last decade. Despite this, the agriculture sector remains vital in ensuring food security and maintaining international trade. The manufacturing sector of SVG has been constrained by size, finance and management. The Government's response included the reviews of plans in order to attract investment and diversify the sector. St. Vincent and the Grenadines has seen an increase in the dependency on the tourism sector for revenue. The construction of an international airport coupled with the expansion of the

nation's major hotels have contributed to the growth of this sector within recent years.

St. Vincent and the Grenadines does not manufacture any chemicals, and as such, its economy is heavily dependent on the importation of such substances. St. Vincent and the Grenadines is therefore indirectly affected by changes in the international petroleum market and fluctuations in prices of oil. The Government has initiated measures to explore alternative or non-oil energy sources. Currently 20% of the electricity generated originates from hydropower. This however varies significantly during the dry season when the availability of water is limited. Renewable energy sources such as geothermal energy are also being explored.

The economy of SVG is inherent of its characteristic as a Small Island Developing State (SIDS). As a member of the SIDS, the country struggles to attract foreign investment. Additionally, factors including the small size of the domestic markets, limited natural and human resources and restrictive international markets have contributed to the country's slow economic development. Nonetheless, SVG experienced a growth in its economy at a rate of 0.8% per annum over the past three years.

Tables 1-1 and 1-2 provide a summary of the relative importance of the main economic sectors in St. Vincent and the Grenadines.

Table 1-1: Overview of National Economic Sectors

National Economic Sectors	Economic Sub-sectors	Contribution to GDP* (%) 2012
Agriculture, Hunting, Livestock and Forestry	Crops (Banana, Other crops) Livestock Forestry	6.71
Fishing	-	0.43
Mining and Quarrying	-	0.15
Manufacturing	-	4.97
Electricity and Water	Electricity Gas Water	4.11
Construction	-	8.34
Wholesale & Retail Trade	-	14.16
Hotels and Restaurants	Hotels Restaurants	2.65
Transport, Storage and Communication	Transport and Storage Road Sea Air	13.66

National Economic Sectors	Economic Sub-sectors	Contribution to GDP* (%) 2012
	Supporting and auxiliary transport activities Communication	
Financial Intermediation	Banks and other financial institutions Insurance and pension funding Activities auxiliary to financial intermediation	6.24
Real Estate, Renting and Business Activities	Owner occupied dwellings Real estate activities Renting of machinery and equipment Computer and related activities Business services	14.96
Public Administration, Defence and Compulsory Social Security		11.82
Education	-	5.99
Health and Social Work	-	3.26
Other Community, Social and Personal Activities	-	2.26
Private Household with Employed persons		0.29
Total		100

(Sources: Statistical Office of SVG 2012) *Gross Domestic Product (GDP)

Table 1-2: Structure of the Major Economic Sectors by size (According to number of employees)

Economic Sectors	Facilities (> 250 employees)
Manufacturing	2, 183
Agriculture and related activities	5, 000
Construction	6, 600
Tourism	3, 000

Financial	1, 239
Retail and Wholesale	6, 500
Government	13, 228
Other Services	11, 250
Personal Services	2,640

(Sources: 2010 Labour Market Report, MSME (2009) and Enterprise survey (Adjusted workforce not in NIS))

1.5 Releases of Concern by Economic Sectors

Tables 1-3 and 1-4 give an overview of the releases of concern in St. Vincent and the Grenadines related to the Ministries / Agencies within the Government, levels of concern and data availability.

Table 1-3: Releases by Source and Intervening Ministry / Agency

Nature of Problem	City/Region	Brief Description of Problem	Chemical(s) /Pollutant(s) suspects	Intervening Agency/ Monitoring
Sewage/Waste water discharge from commercial and industrial enterprises	This problem was identified to be taking place in both the urban and rural areas	Discharges from homes Waste water discharge from restaurants and bars without interceptors Water discharge with colourants from manufacturers find its way to the marine environment	Nitrates and phosphates Oils, fats and grease Organics	Environmental Health Unit/Engineering Section
Transportation Motor-vehicle exhaust emissions	This problem predominates in cities. Extremely high motor vehicle density	Motor vehicles are allowed to drive with exhaust emitting gaseous fumes as a result of inadequate engine servicing	Dust, particulates, emission containing PAH (poly aromatic hydrocarbons,)	Police/ Ministry of Transportation/ Environmental Health Unit
Indiscriminate motor vehicle washing in the rivers	Indiscriminate car washing is mostly urban	Washing of motor vehicles in rivers and streams releases chemicals and other materials in the water ways	Release of engine oils containing varying levels of poly aromatic hydrocarbons, lead and other materials	Police/ Environmental Health Unit
Indiscriminate disposal of litter and	Mainly urban	Common practice of littering	Many contain some heavy metals;	CWASA/SWMU

Nature of Problem	City/Region	Brief Description of Problem	Chemical(s) /Pollutant(s) suspects	Intervening Agency/ Monitoring
solid waste		house waste; taking the waste from home and deliberate dumping in gullies	<i>Volatile organics, Phalates, etc</i>	
Derelict vehicles	Mainly urban	Abandoned vehicles in indiscriminate locations.	Heavy metal, plastics, engine oils, lubricants.	CWASA/SWM U
Inadequate management of pesticides/ chemicals	Mainly urban	Inadequate storage at port, use and miss-use on the farm, industries, inexperience handling, inadequate transportation and indiscriminate disposal – result in spillages, injuries to humans, accidents, and exposure	Pesticides of all types	Pesticide Control Authority/ Environmental Health Unit
Spent and out of date chemicals	Nationwide	Out of use chemicals/out dated chemicals including pharmaceuticals stored in schools, at homes, and industrial sites	Chemicals of all types	CWASA/SWM U Environmental Health Unit

(Source: Government of SVG, 2013.)

Table 1-4 gives an overview of the releases of concern within St. Vincent and the Grenadines and their severities and the statistical data available for each.

Table 1-4: Releases by Type, Level of Concern and Available Statistical Data

Nature of Problem	Scale of Problem	Level of Concern	Ability to Control Problem	Availability of Statistical Data
Air Pollution	Regional/local	High	Medium	No data available
Pollution of Inland Waterways	National	Medium	Low	Insufficient
Marine Pollution	Regional	High	Low	Insufficient
Ground-water Pollution	National	Low	No data available	No data available
Soil Contamination	National	High	Medium	No data available
Chemical Residues in Food	No data available	Low	Low	No data available
Drinking Water Contamination	National	Medium	Medium	Insufficient
Hazardous Waste Treatment/Disposal	No data available	No data available	No data available	No data available
Occupational Health: Agriculture	National	Medium	Medium	Insufficient
Occupational Health: Industrial	National	Medium	Medium	Insufficient
Public Health	National	Medium	Medium	Insufficient
Chemical Accidents: Industrial	National	Low-medium	Low to medium	Insufficient
Chemical Accidents: Transport	National	Low to medium	Low to medium	Insufficient
Unknown Chemical Imports	National	Low	Low	Insufficient
Storage/Disposal of Obsolete Chemicals				
Chemical Poisoning		Low	Low	Insufficient

Nature of Problem	Scale of Problem	Level of Concern	Ability to Control Problem	Availability of Statistical Data
Persistent Organic Pollutants	National	Low to medium	Low to medium	Insufficient
Others				

(Source: Government of SVG, 2013.)

1.6 Assessment

The report titled Private Sector Assessment of St. Vincent and the Grenadines (2013) has cited tourism as the main driver in the Services Sector. The World Travel and Tourism Council estimates the direct contribution of travel and tourism to the local economy in 2012 at 6% of GDP and 5.5% of employment (2,500 jobs). Additionally, the agricultural sector was recognised as being a key source of revenue to the country. However, it has contracted significantly in recent years and now accounts for less than 7% of economic activity. The manufacturing sector of SVG accounts for approximately 5% of the country's GDP (2012). This sector primarily consists of the production of milled rice, flour and animal feeds. The report also identified agro-processing and pharmaceutical and medical manufacturing as potentially viable focus areas for sustainable development. Figure 1-5 summarises the distribution of GDP for the Economic Sectors in St. Vincent and the Grenadines.

Figure 1-5: GDP Distribution for the Economic Sectors in St. Vincent and the Grenadines (2012)

SVG does not produce chemicals but chemicals are imported and used widely in the aforementioned processes. The issue of chemical management therefore remains a relevant issue to the country.

In St. Vincent and the Grenadines, the main sources of concern as they relate to pollution originate from the use of motor vehicles and agro-chemical use. In the case of agriculture, the land is cleared, tilled and agrochemicals applied. During periods of heavy rains, the topsoil and the chemicals both enter the stream flow reducing water quality (Integrating Management of Watersheds and Coastal areas in SIDS of the Caribbean: The Vincentian Perspective, 2001). Urban areas within the country are major pollution contributors. This is because extensive activities in these areas include littering, the release of exhaust emissions into the air and the discharge of sewage, waste water or run off from motor vehicles into the water. The inadequate management of pesticides and chemicals which release pollutants such as nitrates, phosphates, dust, particulates, heavy metals and various hydrocarbons is also of concern in the country. In SVG, various aspects of chemicals management are distributed among more than

one Ministry or Agency. Human intrusion into water catchment areas poses special problems for managers of water resources.

Chapter 2: Legal and Institutional Capacity for Chemicals Management

This chapter provides a comprehensive overview of existing legal instruments and non-regulatory mechanisms and defines the roles and responsibilities of Ministries, Agencies and other Government Institutions involved in sound management of chemicals throughout their life cycle. Mechanisms which facilitate coordination and cooperation among ministries, agencies, and other relevant governmental and nongovernmental bodies are discussed and activities of industries, public interest groups, professional bodies and the research sector in support of national efforts to manage chemicals are described.

2.1 Overview of Legal Instruments which addresses the Management of Chemicals

2.1.1 Existing National Legislation

No specific piece of legislation governs the management of chemicals in St. Vincent and the Grenadines.

Table 2-1 gives an overview of the existing legislation used to manage chemicals in St. Vincent and the Grenadines. Details of each piece of legislation can be found in Annex III.

Table 2-1: Overview of all existing Legislation addressing the Management of Chemicals

Legal Instrument	Responsible Ministries or Bodies	Category of Chemical	Chemical life cycle stage covered	Objective of Legal Instrument	Relevant Articles/Provisions
Pesticides Control Act No. 23 of 1973 (revised 1990)	Pesticide Control Board	Pesticides	Import Sale Storage Use	To provide for the control of the importation, sale, storage and use of pesticides.	http://faolex.fao.org/docs/pdf/stv17854.pdf
Public Health Act No. 9 of 1977	Public Health Department	General	Handling	Promotion and protection of human and environmental health.	
Plant Protection Act (2005)	National Plant Protection Agency	Agricultural Chemicals	Use	To regulate activities relating to the protection of plants.	
Occupational Safety and Health (Draft) Act of 2001	National Occupational Safety & Health Committee	All	Handling , storage, use, disposal and transport	Sets new standards for occupational safety and health. It addresses handling,	

Legal Instrument	Responsible Ministries or Bodies	Category of Chemical	Chemical life cycle stage covered	Objective of Legal Instrument	Relevant Articles/Provisions
			tation of dangerous substances.	storage, use, disposal and transportation of dangerous substances.	
Convention on Oil Pollution Damage Act No. 6 of 2002	Marine Administrator	Oil	Storage	Makes provision with respect to civil liability for oil pollution by merchant ships and for connected purposes.	
Litter Act No. 15 of 1991	Ministry of Health, Wellness and the Environment	Protects against the indiscriminate disposal of chemical waste.	Disposal	Prohibits the littering of public places or private property and states that all buses, taxis, ships or boats must have sufficient receptacles.	http://faolex.fao.org/docs/pdf/stv48946.pdf
Forestry Act of 1945 (revised 192)	Forestry Department	General	Disposal	Protects water catchment areas.	
Standards Act No. 28 of 2001	SVG Bureau of Standards	All	All	Labeling of all chemicals and POPs, and promotes public and industrial welfare and health and safety	
National Emergency and Disaster Management	National Emergency Management Organisation	All	Storage, Handling	Speaks to locations of chemicals and POPs containing	http://faolex.fao.org/docs/pdf/stv137162.pdf

Legal Instrument	Responsible Ministries or Bodies	Category of Chemical	Chemical life cycle stage covered	Objective of Legal Instrument	Relevant Articles/Provisions
Act 2006				equipment and managing the potential disasters associated with POPs	
Customs (and Control) Management Act	Customs and Excise Department	All	Imports Exports	Administration and border control responsibilities relating to chemicals management in international trade	http://www.customs.gov.vc/downloads/act-control-and-management.pdf
Environmental Health Services Act No. 14 of 2001	Environmental Health Division	Control of emissions and effluent discharge into water bodies	Disposal	To conserve and maintain the environment to protect human health. Controls emissions and effluent discharges into water bodies	http://www.ilo.org/dyn/natlex/docs/ELECTRONIC/87936/100404/F336916398/VCT87936.pdf
Central Water and Sewerage Authority Act No. 6 of 1978	The Central Water and Sewerage Authority	Pollutants of water sheds and resources, Solid Waste	Storage, Disposal	To regulate the conservation, control, apportionment and use of water resources.	http://faolex.fao.org/docs/pdf/stv48938.pdf
Oil in Navigable Waters Act Cap 366	Coast Guard	Oil	Storage, Transport	To regulate the shipment of oil to and from vessels and to and from land.	
Oil Pollution (Liability and Compensation) Act 1977	Coast Guard	Oil	Storage, Transport	To regulate incidence of oil pollution damage by	

Legal Instrument	Responsible Ministries or Bodies	Category of Chemical	Chemical life cycle stage covered	Objective of Legal Instrument	Relevant Articles/Provisions
				Merchant ships and compensation.	
The Fisheries Act No. 8 of (1986)	The Ministry of Agriculture Industry Forestry Fisheries and Rural Transformation	Explosive, poison or other noxious substance to facilitate the catching of fish	Use	To monitor activities and prohibit the use of explosive, poison or other noxious substances relating to fishing	http://faolex.fao.org/docs/pdf/stv2112.pdf
Petroleum Act No. 3 of 1998			Imports	Controls the importation of petroleum products	
Pharmacy Act (2002)	Pharmacy Council	Medical Drugs	All	To decide on matters relating to the registration of pharmaceutical drugs	
Waste Management Act No. 31 (2000)	The Central Water and Sewerage Authority	Solid Waste	Disposal	To manage solid waste in conformity with best environmental practices	http://www.vertic.org/media/National%20Legislation/Saint_Vincent/VC_Waste_Management_Act.pdf

2.1.2 National Policies and Action Plan for Chemicals Management Chemicals Management Policy 2013 (Draft)

The draft Chemicals Management Policy for St. Vincent and the Grenadines aims to prevent or minimize the health risks associated with the importation/exportation, handling, collection, transportation, treatment and/or storage of toxic chemicals and hazardous wastes to the public and environment. This would be achieved by having control over the volume and diversity of

toxic substances and hazardous wastes that are either imported into, exported from, or transhipped through SVG, establishing an appropriate domestic hazardous substances handling and a transportation regime, and having appropriate regulatory mechanisms for hazardous substances storage, manufacturing, distribution and waste disposal.

St. Vincent and the Grenadines is a party to several key conventions affecting chemicals management. The draft Chemicals Management Policy allows the Government of SVG to enact legislation so as to implement these Conventions. These Conventions include the Stockholm Convention, the Rotterdam Convention, the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, the Vienna Convention for the protection of the ozone layer and the Montreal Protocol as well as the Chemicals Weapons Convention.

National Strategic Plan for Health 2015-2019 (Draft)

The National Health Sector Strategic Plan, 2015-2019 (NHSSP) is an offspring of the National Economic and Social Development Plan of the Government of SVG and is the successor document to the National Health Sector Plan 2007-2012. The plan aims to improve the quality of life of all Vincentians thereby leading to a more secure future. The NHSSP provides a blueprint for advancing the national vision for health, establishes medium-term priorities, defines the manner in which the resources of all partners will be synergized and balances national needs with limitations. It also embraces the policy framework for sustainable health development contained in key regional and international commitments ratified by the Government of St. Vincent and the Grenadines.

The goals of the NHSSP are intended to address the new, emerging and re-emerging challenges to health and social development by promoting self-care interventions and healthy life-style practices. These include empowering individuals, families and communities through awareness to manage and maintain their health, strengthening health systems by implementing policies and regulations for proper management of health care system and building strategic partnerships for health related issues and activities between Government and private sector. With regards to the sound management of chemicals, the NHSSP proposes to strengthen environmental management systems in SVG by having at least five different pieces of legislation related to the protection and preservation of the environment enacted and allow for the introduction of routine field testing of water, wastewater and air pollution.

2.1.3 International Conventions and Obligations

Table 2-2: International Conventions and Ratification Status for Saint Vincent and the Grenadines

Convention	Chemical(s) of concern	Objectives	Obligations under the Convention	Date acceded/ Ratified
Rotterdam	Industrial chemicals, pesticides and severely hazardous pesticide formulations	to promote shared responsibility and cooperative efforts among Parties in the international trade of certain hazardous chemicals in order to protect human health and the environment from potential harm; to contribute to the environmentally sound use of those hazardous chemicals by facilitating information exchange about their characteristics, by providing for a national decision-making process on their import and export and by disseminating these decisions to Parties.	To facilitate information exchange as a first line of defence against hazardous chemicals; To enable countries to monitor and control the trade in the chemicals mentioned in the Convention via PIC; To give importing countries the power to make informed decisions as to which of these chemicals they want to receive and those they wish to exclude due to limitations in domestic capacity to safely manage them; To ensure proper labelling and provision of information on potential health and environmental effects related to the specific chemicals being traded.	29/10/2010
Basel	Hazardous waste (chemical waste)	to protect human health and the environment from the harmful effects of hazardous waste	to develop a National Policy to address the issues of hazardous waste and other wastes and their disposal, including national objectives to minimize the generation of hazardous waste;	02/03/1997

Convention	Chemical(s) of concern	Objectives	Obligations under the Convention	Date acceded/ Ratified
			<p>To formulate legislation to address the formal definition of relevant terms including “hazardous waste”, “transboundary movement”, and “proper disposal;”</p> <p>to formulate guidelines to deal with the storage, transportation and disposal of hazardous and other wastes;</p>	
Stockholm	Persistent Organic Pollutants (POPs)	to protect human health and the environment from persistent organic pollutants	<p>To prohibit and/or eliminate the production and use, as well as the import and export, of the intentionally produced POPs that are listed in Annex A to the Convention;</p> <p>To restrict the production and use, as well as the import and export, of the intentionally produced POPs that are listed in Annex B to the Convention ;</p> <p>To reduce or eliminate releases from unintentionally produced POPs that are listed in Annex C to the Convention</p> <p>To ensure that stockpiles and wastes consisting of, containing</p>	15/09/2005

Convention	Chemical(s) of concern	Objectives	Obligations under the Convention	Date acceded/ Ratified
			<p>or contaminated with POPs are managed safely and in an environmentally sound manner</p> <p>To develop implementation plans, information exchange, public information, awareness and education , research and as well as technical assistance and financial resources and mechanisms</p>	
MARPOL	All chemicals transported by sea	To prevention of pollution of the marine environment by ships from operational or accidental causes	To addresses pollution from ships by oil, noxious liquid substances carried in bulk, harmful substances carried by sea in packaged form, sewage, garbage and the prevention of air pollution from ships.	26/02/2009
Minamata	Mercury		Place a ban on new mercury mines, phase-out of existing mines, control measures on air emissions, and the international regulation of the informal sector for artisanal and small-scale gold mining.	Not to date

2.2 Non-regulatory Mechanisms for Managing Chemicals Responsible Care programmes

Some companies within the private sector have responsible care programmes to ensure protection to human health and the environment through educational awareness and advertisements. These voluntary and rigorous programmes of collective action by member companies include the following:

- Adherence to the principles and objectives of Responsible Care;
- Safety, health and environmental performance, measured by a consistent set of indicators;
- Systems for mutual aid and sharing best practice throughout;
- Channels of communication to the public;
- Responsible Care management System Guidance and a mandatory self-assessment process.

Though corporate initiatives are not specific to the management of chemicals, members of nearby communities are sensitised and educated on environmental issues and proper environmental practices. Sagicor Life Inc. for example, supports the annual SVG Coastguard Service Youth Development Summer Programme. This programme exposes participants to disciplines which include fisheries conservation.

The Buccament Bay Resort in SVG is committed to corporate social responsibility through the protection of the local environment and ensuring responsible use of resources. All resorts are subject to an Environmental Impact Analysis study and will be built in strict accordance with local and international government building standards regulations (Buccament Bay Resort, 2014).

The St. Vincent Electricity Services Limited (VINLEC) in fulfilment of its mission recognizes the importance of the environment and accepts environmental protection as a social responsibility. They believe that the incorporation of environmental protection, conservation and enhancement in the conduct of business is beneficial to the ecological and economic welfare of the country (VINLEC, 2015).

2.3 Ministries, Agencies and Governmental Institutions

There is no single Ministry, Agency or Governmental Institution which is responsible for all aspects of chemicals management in SVG. The Ministry of Health, Wellness and the Environment is the primary Ministry which has a focus on chemical management in the country. Other Ministries involved with chemicals and waste management in SVG include:

- The Ministry of Agriculture, Industry, Forestry, Fisheries and Rural Transformation
- The Ministry of Transport, Works and Housing
- The Ministry of Finance and Planning

The Ministry of Health, Wellness and the Environment (MOHWE)

The Ministry of Health, Wellness and the Environment (MOHWE) has the overall responsibility for coordination of environmental management activities in SVG. In pursuit of its mission, the ministry among its many functions, facilitates intra and intersectoral coordination in the

provision of health care and in the protection and preservation of the environment and institutes the necessary regulatory mechanisms to ensure the availability of quality health care and the maintenance of the integrity of the environment.

The MOHWE is generally concerned with the direct and indirect effects of releasing chemicals into the environment as well as being concerned with the acute and chronic health impacts of chemicals to the general public. The Environmental Management Department (EMD) as well as the Pharmaceutical Services Department falls under the ambit of the Ministry with a direct mandate to deal with chemical management issues.

The Ministry's duties for the management of chemicals are in the hands of the Chief Medical Officer (CMO). The Pharmacy Inspector is given the task of "Control and inspection of medicines/drugs and psychotropic substances at all phases of production and consumption, as well as setting the principles of opening and operating of production and distribution places for pharmaceuticals and medicinal substances and preparations as well as inspecting these places.

The Units within the EMD with some mandate in the management of chemical or dealing with chemical management issues are the Environmental Engineering Unit (EEU), the Vector Control Unit (VCU) and the Conservation and Sustainable Development Unit (CSDU). The EEU's mandate is to focus on, but not limited to, monitoring of environmental parameters such as air quality, recreational and potable water quality, occupational health and safety issues, noise, pollution from liquid and solid waste, and effluent discharge from industries. The CSDU includes the management of chemicals through the implementation of the various multilateral environmental conventions that St. Vincent and the Grenadines has signed. These include the United Nations Framework Convention on Climate Change (UNFCCC), the United Nations Convention on Biological Diversity (UNCBD), the Montreal Protocol, the United Nations Convention to Combat Desertification (UNCCD) and the Cartagena Protocol on Biosafety. The VCU stores, handles and uses pesticides of public health importance as well as provides services to households on sanitation, waste water and domestic solid waste management.

The Central Water and Sewerage Authority (CWSA), a statutory body under the Ministry of Health, Wellness and the Environment, is empowered by Act No. 17 of 1991 to "investigate the water resources of St Vincent and the Grenadines and advise the Minister relating to the improvement, preservation, conservation, utilization and apportionment of those resources". This Authority has a laboratory at the CWSA and carries out weekly sampling at the larger water treatment plants and bi-weekly sampling of water from the sources, smaller treatment facilities and areas along the distribution network. Tests are conducted to investigate chemical and microbial parameters such as residual chlorine and faecal and total coliforms (MOHWE/PAHO, 2013).

The Pharmaceutical Services, also a unit within the MOHWE, embodies all activities relating to procurement, storage, and distribution of pharmaceuticals, supplies and administration of Pharmaceutical Care to clients. The Department is charged with the responsibility to manage, dispense and distribute all drugs and medical supplies for use within the public health sector and to be responsible for the promotion of the safe use of medications, pharmaceutical devices and services towards the desired therapeutic end. There also exists a Pharmacy Council which is empowered to collect and utilize fees to perform regulatory functions, hence exercising some level of autonomy in execution of its regulatory functions.

The Ministry of Agriculture, Industry, Forestry, Fisheries and Rural Transformation

The Ministry of Agriculture, Forestry, Fisheries and Rural Transformation is concerned with the use of agricultural chemicals for the benefit of securing food supplies. This Ministry comprises the Departments of Agriculture, Fisheries, Forestry, Rural Transformation and Industry.

The Agriculture Department oversees Agriculture activities in SVG. This department comprises units and sub-units. The units which may have some aspect of chemical management are:

- **Agricultural Planning Unit.**
This unit provides services which involve aspects of chemical management such as the collection of import and export data of agricultural products.
- **Communication & Information Unit**
This unit disseminates information to units, divisions and departments of the Ministry, assists with farming technology and informs the general public on important activities. This will include information sharing of best practices for the growing of crops and as such information about some of the chemicals which will be involved in order to facilitate process successfully.
- **Research & Development Division**
The primary objective of this unit is the rehabilitation and preservation of the soil and water resources of the state, through the application of suitable conservation techniques. The Plant Protection/Quarantine Unit falls under this Division. This unit is mandated with the responsibility of educating farmers on pesticide management and implementing Integrated Pest Management programmes appropriate to farming systems.
- **Soufriere Monitoring Unit**
Though this unit does not directly focus on the management of chemicals in SVG, it is responsible for the continuous monitoring of volcanic activity on the island and thus provides accurate, early warnings to the population for disaster preparedness and prevention. Monitoring activities may involve the use of chemicals when tests are being conducted. Additionally, disaster preparedness may also ensure that farmers are informed on how to handle or store their chemicals before a disaster strikes.

The Fisheries Department has the following units:

- **Biology and Research**
- **Extension**
- **Public Education**
- **Data Quality Control/Product Development**
- **Conservation**

These units contribute toward the overall chemical management in SVG. Pollution management and the direct and indirect pollution of water courses may be some of the issues featured in the fulfilment of some of the mandates of the units.

The Forestry Department has among its mandates, the education of the general public on the preservation of the natural forests and conservation techniques which can be performed. They aim to create conscious-minded citizens who will actively participate in such activities. The use of chemicals, their negative impacts and the proper care techniques which should be employed for forest preservation may also be incorporated into the focus areas.

The Rural Transformation Department coordinates interventions in rural areas that are undertaken by all state institutions, NGO's, service organisations and other national agencies. Rural communities are vulnerable to a lack of infrastructural development, unsafe environmental practices such as poor sanitation and persons with very limited financial resources to ensure an improved quality of life. The department therefore plays an indirect role in chemical management since the improvement of rural communities will improve environmental practices of residents and reduce the prevalence of chemical pollution.

The Industry Department is the principal institution responsible for shaping the government's policy in respect of the country's institutional development and for stimulating the development of the industrial sector by promoting greater economic diversification, export competitiveness and improved productivity. This unit processes applications for industry incentives under the Fiscal Incentives Act, Chapter 366 of the Laws of St. Vincent and the Grenadines.

The Banana Growers' Association of St. Vincent and the Grenadines was a company initiated in the 1950's and consolidated into Parliament through Act 44 of 1954. The Association was a Statutory Body which functioned as a Quasi-Government Organisation. The main objectives of the Association included the control of banana cultivation, marketing and exportation as well as the provision of services not limited to the collection, treatment and marketing of the bananas. In order to achieve these objectives, there was an effort to continuously improve the quality of marketable fruits to make it as competitive as possible. Some of the specialities of the Association also included the handling of the other inputs to banana cultivation such as herbicides, pesticides, fertilizers and nematicides (Rittgers and La Gra, 1991).

In early 2009, with the passage of the Banana Industry Act in the House of Parliament, the Association was dissolved and several of the functions performed by the Association were transferred to the Ministry of Agriculture, Forestry and Fisheries (Inter-American Institute for Cooperation on Agriculture, 2010).

The Ministry of Transport, Works, Urban Development and Local Government

The Ministry of Transport, Works, Urban Development and Local Government also has as part of its mandate to support other Ministries and government agencies in the execution and implementation of projects. St. Vincent and the Grenadines relies on the importation of goods including, but not limited to chemicals, fertilisers, minerals and fuels from regional and international sources. The availability of transport infrastructure facilitates the importation and include airports and various types of vessels such as bulk carriers, cargo vessels, chemical tankers, containers, liquefied gas containers, passenger and passenger/cargo ships, petroleum tankers, refrigerated cargo, roll on/roll off vessels and specialised tankers. The Ministry of

Transport, Works, Urban Development and Local Government is responsible for overseeing all transport infrastructures in the country (Commonwealth Network, 2015).

The Local Government Division is responsible for the promotion of local governance within the Communities and the provision of basic services such as minor road, drains and footpaths development and maintenance; the management of cemeteries and community markets; and sanitation services.

The Ministry of Finance and Economic Planning

The Ministry of Finance and Economic Planning also coordinates environmental planning and management in its role as the overarching body responsible for all developmental initiatives in the country. The Central Planning Division of the Ministry coordinates development projects and approves all external donor coordination and funding. Additionally, this division has a Statistical Unit which has among its mandates to collect, compile and analyse statistical information relative to the agricultural, commercial, industrial, financial, social and general activities and condition of the inhabitants of St. Vincent and the Grenadine as well as the publication and dissemination of reports.

The Ministry of Housing, Informal Human Settlements, Lands and Surveys and Physical Planning

The Physical Planning Unit within the Ministry is responsible for the preparation of physical development plans, administration of development control and for facilitating the built/infrastructural development to enhance economic and social development. In order to fulfil this role, the Unit's objectives include the preparation of national, regional and local physical development plans to promote sustainable environmental, social and economic development and provide technical assistance and advice on matters related to planning, environmental management, and project planning. In this respect, the Physical Planning Unit does provide some measure of chemical management in the efforts to maintain environmental integrity.

2.4 Interministerial Commissions and Coordinating Mechanisms

In St. Vincent and the Grenadines, there are existing commissions/agencies which contribute to the regulation of chemical management. These include the National Economic and Social Development Council, the National Environmental Advisory Board, the National Emergency Council and the Pesticides Control Board.

Another coordinating role is played by the National Economic and Social Development Council, a government advisory body composed of government and community representatives that disseminates information and reacts to government policies and programs.

Pesticide Control Board

The Pesticides Control Board (PCB) of St Vincent and the Grenadines, a regulatory authority, was established under the Pesticides Control Act (1973). Though not fully functional, the Board has as its mandate, to advise the Governor in making regulations under this Pesticides Control Act (Sect. 4), the legal instrument used to regulate the importation, sale, storage and use of pesticides in St. Vincent and the Grenadines. The Board comprises the Chief Agricultural Officer, Chief Medical Officer, one other technical officer, and three other persons appointed by the

Governor. The Chief Agricultural Officer is the chairperson of the Board. The Secretary of the Board is the Chief Plant Protection Officer. The Board mandates the appointment of Pesticides Inspectors. Positive steps were taken in the development of a harmonized procedure for the registration of agricultural pesticides in the Caribbean, when the Strengthening Agricultural Quarantine Services in the Caribbean (SAQS) Project, in collaboration with the Ministry of Agriculture and the Coordinating Group of Pesticides Control Boards in the Caribbean (CGPC), hosted a one-day workshop in SVG, March 22, 2004 (IICA, 2004).

National Environmental Advisory Board (NEAB)

In Saint Vincent and the Grenadines (SVG), the National Environmental Advisory Board (NEAB) was appointed by Cabinet to assist in the coordination of multi-sector environmental activities and is comprised of representatives from 11 government departments/units and agencies. The NEAB has the overall responsibility of determining the appropriateness of the St Vincent and the Grenadines National Environmental Management Strategy and Action Plan (NEMS) and may be able to oversee its implementation (Homer and Shim, 2004).

National Economic and Social Development Council

The National Economic and Social Development Council (NESDC) of St. Vincent and the Grenadines, comprises representatives from major interest groups, political parties and civil society organizations. The role of this Council is to critically analyse the economy and recommend solutions to emerging or existing problems. The NESDC has become the focal point for the development of a poverty reduction strategy and has put a task force in place to draft the Interim Poverty Reduction Strategy Paper (The National Economic and Social Development Council, 2003). The NESDC also contributed towards the National Economic and Social Development Plan 2013 – 2025. The reduction of poverty may serve to improve sanitary conditions and reduce pollution of rivers and other water courses by chemicals such as those used in agriculture and other activities.

National Emergency Council

The National Emergency Council is chaired by the Prime Minister and is composed of Ministers, permanent secretaries, district representatives and key ex-officio members from government agencies, corporations, businesses and non-governmental organizations. The council functions to coordinate the development of national disaster policy and serves as the inter-agency focus during disaster events. The National Emergency Executive Committee monitors progress on national disaster policy implementation and provides the technical implementation supervision on behalf of the national council. Though their mandates are not specific to the management of chemicals, disaster preparedness will ensure that chemicals are handled and stored appropriately in the event a disaster strikes (Global Facility for Disaster Reduction and Recovery, 2010).

The Chemical Management Authority (proposed)

The Chemicals Management Policy once finalized, will result in the establishment of a Chemicals Management Authority. This Authority will be an Inter-ministerial Commission and will comprise:

- two representatives from the Ministry of Agriculture;
- representative from the Ministry responsible for Trade;
- two representatives from the Ministry responsible for Health;
- a representative of the Bureau of Standards;
- a representative of the Customs Department; and
- a representative of the Attorney General's Department.

The Chemicals Management Authority would be responsible for:

- providing licenses for the importation, handling, transportation and ultimate transportation for treatment and disposal of chemicals;
- designing a training programme/session for business and carrier companies on the safe handling and transportation of toxic chemicals and hazardous wastes; and
- monitoring and regulating the operation of the private facilities affiliated with the use of chemicals.

2.5 Description of Non-governmental Organisations/Programmes

Industrial organisation and entities

The SVG Chamber of Industry and Commerce (SVGCIC) is a non-profit, non-governmental, membership based organisation. Established in 1926, the SVGCIC is the oldest and largest private sector organisation, representing the interest of approximately 120 businesses across SVG. Their key purpose is to enable private sector growth and development, facilitate trade and encourage investment. The SVGCIC offers business and consultation services, facilitation of trade among businesses locally and regionally, as well as provide support to businesses that seek their assistance.

The Pan-American Health Organisation seeks to improve health and living standards of the people of the Americas. The Caribbean Program Coordination Centre (CPCC) is located in Barbados and serves a number of countries including SVG. PAHO's mandate includes chemical safety as it may relate to food safety, medicines for example

Labour Unions and Workers' Association

The active labour unions and workers' association in SVG are the Commercial Technical and Allied Workers' Union, the Public Service Union, the National Workers Movement, the Windward Islands Farmers' Association and the Employers' Federation (St. Vincent and the Grenadines Public Service Union, 2003). These Unions operate under the best practices approach of industrial relations which centres on the creation of better industrial practices for a stable working environment thereby enhancing the growth of industry and ensuring greater economic returns. Health and Safety Committees are also established in order to promote or improve health and safety at the workplace, inclusive of the safe use of chemicals.

Universities

There are limited tertiary education institutions in SVG empowering citizens in fields related to chemical management. However, the following institutions provide or intend to provide in the near future the following training:

St. Vincent and the Grenadines Community College

This institution offers an Associate Degree in Agriculture Science, designed to produce graduates with the necessary knowledge, skills and ability to undertake job responsibilities as

senior technicians, middle management personnel, agricultural teachers, commercial farmers, farm managers and also provides a base for advanced agricultural studies at the Bachelor Degree level (St. Vincent and the Grenadines Community College online , 2015)

All Saints University

All Saints University operates a collegiate system comprising of three colleges; College of Medicine, College of Arts and Science and College of Engineering. Plans are in place to commence Bachelor degree programs in Life Sciences, Biochemistry, Bioinformatics, Chemistry, Microbiology, Laboratory Medicine) and in Technology (Mechanical Engineering, Computer Engineering etc.) in the next few semesters (All Saints University online, 2015).

Research institutes

The Caribbean Agricultural Research and Development Institute (CARDI) has been steadfast in providing contributions to the growth and development of the agricultural sector of Member countries of the Caribbean community. CARDI serves as the agricultural research and development unit and it is the only regional agricultural institution. CARDI has a critical role to play in the implementation and co-ordination of key technology and information systems.

The Fisheries Division of the Ministry of Agriculture, Industry, Forestry, Fisheries and Rural Transformation has a Biology and Research Unit, which also functions as the Division's Research and Resource Management Unit. A number of programmes are being coordinated by the unit, which include:

- assessment of all species of commercial importance;
- research on cetaceans and on the Warsaw grouper;
- establishment and refinement of the licensing and registration system;
- liaising with competent regional and international fisheries management organizations;
- drafting and revising fisheries management plans; and
- maintenance, storage and use of relevant research equipment.

Libraries

In St. Vincent and the Grenadines, library facilities are available at CARDI, St. Vincent Electricity Services Limited (VINLEC) and the Forestry Department of the Ministry of Agriculture, Industry, Forestry, Fisheries and Rural Transformation. These facilities provide research information related to the operations occurring at the individual institutes.

Governmental Organisations, Agencies and Statutory Authorities

St. Vincent and the Grenadines's state-owned utility VINLEC is the sole provider of electricity to the main island of St. Vincent, and the Grenadines' islands of Bequia, Union Island, Canouan, and Mayreau.

The company has and continues to execute renewable projects with the aim of reducing its dependency on fossil fuel based energy for electricity generation. In 2009 and 2012, a solar plant was installed and upgraded respectively, allowing the plant to supply a gross power of 55 kW. In 2013, plans to install another solar PV were decided. This new plant was expected to provide electricity to 533 homes and increase the gross provision of power to the country to 533kW and a reduction in the nation's total fuel bill of \$700,000. VINLEC also works with the government on geothermal energy investigations. Public Awareness on the importance of energy conservation has also been one of the initiatives set out by VINLEC in order to encourage customers to participate in the green approach to energy (Allen, 2014).

Public Interest Groups and other Nongovernmental Organisations

The St. Vincent and the Grenadines Coalition of Service Industries (SVGCSI) was registered and incorporated as a non-profit organization. It is the service sector umbrella body, which was created to represent the interests of the domestic services sector through technical support, advocacy and market intelligence. SVGCSI assists the local services sector to become more competitive as well as to be export ready to take full advantage of international trade agreements. Some of the objectives of the organisation include:

- Equip members with expertise to exploit new and existing trade opportunities.
- Promote the implementation of standards, in order to improve competitiveness in the service sector.
- Facilitate the formation of professional associations.
- Sensitize Service Providers about trade agreements and the opportunities;
- Facilitate the development of professional licensing standards and regulations in key services sectors.
- Serve as a focal point for lobbying Government and to address services trade issues.

The Eastern Caribbean Trading Agriculture and Development Organisation (ECTAD), launched in 1995, is an NGO focused on linking agriculture to health, tourism, agro-processing, domestic and overseas markets and the environment. Emphasis is placed on core activities operation at the village level with focus on training in strategic areas to build capacity. The objectives of the organisation include:

- Improve Agronomic practices,
- Development of contractual arrangement with the final buyer
- Specialization in crops that we have a comparative advantage in, and
- Consolidation of product collection

The St. Vincent and the Grenadines National Trust was established by an Ordinance of the Legislative Council in 1969. The SVG National Trust has evolved into an NGO with a Board of Trustees elected by its members. The Board is responsible for the formulation of policy directives which are implemented through the National Trust Secretariat. The missions of the Trust are to forge a strong national appreciation for the preservation and understanding of the cultural traditions and heritage of SVG and to preserve and enhance SVG's biological diversity through the promotion of sound environmental practices and conservation.

Other active NGOs in SVG include:

- North Windward Environmental Committee
- JEMS Environmental Management Services
- The St Vincent National Trust
- Projects Promotions Ltd
- The North Leeward Tourism Association Maintain and develop tourism sites
- The Buccament Development Organisation Community Group
- Union Island Museum and Ecological Society (Advocacy and Management for Fragile Ecological areas in the Southern Grenadine Island of Union)

- JEMS Progressive Organisation
- Friends of The Environment (Advocacy and Management for Fragile Ecological area of the Tobago Cays)
- Grenadines Environmentally Sustainable Development Programme Group Coastal Zone Management

The activities of NGOs in SVG are restricted due to lack of availability of resources and poor coordination among NGOs, the Government and the society.

2.6 Summary of Agencies with responsibility for Key Administrative Procedures for Chemical Control

Pesticide Control Board (PCB)

The Pesticides Control Board is the authority which is authorized to regulate the importation, sale, storage and use of pesticides in St. Vincent and the Grenadines. The PCB is mandated under the Pesticides and Toxic Chemical Control Act.

Statistical Office

The Statistical Office is charged with the responsibility of taking censuses in the Republic of SVG to collect, compile, analyze and publish statistical information relating to all social and economic activities of the people of SVG. The Statistical Office collects data on all chemicals produced, imported and exported throughout SVG.

St. Vincent and the Grenadines Bureau of Standards

The SVG Bureau of Standards is a corporate body established by the Standards Act under the aegis of Ministry of Telecommunications, Science and Technology and Industry. It has a statutory responsibility for the quality of goods and services, which are subject to trade in SVG. A National Standards Council (NSC) appointed by Cabinet administers the general affairs of the Bureau and is the main policy organ and regulator of the SVGBS (SVGBS, 2015). The primary role of the Bureau of Standards is to develop, promote and enforce standards in order to improve the quality and performance of goods produced or used in the country, to ensure industrial efficiency and development, to promote public and industrial welfare, health and safety, and protect the environment. The content of these standards includes advertising, electrical engineering, environment, quality, packaging, labelling, textiles, footwear, garments, tourism, civil engineering, construction, occupational health and safety and vehicles.

Ministry of Trade, Industry, Investment and Communications (Harmonised System (HS) Code)

The Harmonised System was developed by the World Customs Organization and it is a system that classifies all traded products. The importance of this system is that it is used by customs organizations worldwide to control which products enter and exit a country. These codes are also used to administer tariffs. The Customs Division and the Ministry of Trade, Industry, Investment and Communications use the HS code for import and export of chemicals as well as chemical waste.

2.7 Assessment

Table 2-3 illustrates the management of chemicals in SVG for various chemicals across the different stages of their life cycles. The table shows that excluding pesticides, chemicals are not managed fully in the country and may be as a result of the country's reliance on the agriculture sector for revenue. The management of fertilizers in the country is however limited to its importation.. SVG imports all the petroleum products required for use within the country and as such pieces of legislation for their management exists throughout the lifecycle with

exception of their distribution and disposal. Consumer chemicals and chemical waste are the least managed in the country with pieces of legislation only existing for their importation and disposal respectively.

Table 2-3: Overview of Legal Instruments to Manage Chemicals

Category of Chemical	I m p o r t a t i o n	P r o d u c t i o n	S t o r a g e	T r a n s p o r t	D i s t r i b u t i o n	U s e/ H a n d l i n g	D i s p o s a l / R e c y c l e
Pesticides (Agricultural, Public health, Consumer Use)	x		x	x	x	x	X
Fertilizers	x		x				
Industrial Chemicals							
Petroleum Products	x		x	x		x	
Consumer Chemicals	x						
Chemical Waste							X

(Source: Government of SVG, 2013)

While St Vincent and the Grenadines has existing pieces of legislation for the management of chemicals, the legislations are insufficient because whether collectively or individually, they are not comprehensive because they do not regulate the entire life cycles of all chemicals. The regulations are segregated according to different Ministries for different sectoral chemical use. In SVG, the Pesticides and Toxic Chemicals Control Act and regulations is the only piece of legislation that covers the entire chemical life cycle. However, this piece of legislation only relates to the management of agrichemicals and toxic chemicals and excludes others such as consumer and industrial chemicals and chemical wastes.

The Draft Chemical Management Policy (2013) is one of SVG's responses to this inefficiency by establishing a national goal for the management of chemicals. This Policy defines objectives and policies with respect to the sectors for which regulatory control is considered and required. It also includes a partial analysis of the range of national legislation which is either available or currently being prepared that has some relevance to the overall management of hazardous substances. The Policy incorporates all aspects of the management of chemicals from the cradle to grave; importation, handling and transport, operation and include the treatment, disposal or exportation of the waste. As part of its mandate, the handling and transport of the toxic chemicals and hazardous wastes are the responsibility of the individual businesses and carrier companies (private sector). The public sector would be responsible for providing a regulatory framework for the management of chemical and hazardous waste.

The proposed Chemical Management Authority has as a mandate to design training programmes/ sessions for businesses and carrier companies on the safe handling and transportation of toxic chemicals and hazardous wastes, after which carrier companies would be certified. It would be the responsibility of the individual businesses or where applicable public entities and carrier companies to seek out training and certification. Training sessions should deal with good business practices and should be done at the certification stage and should be managed or approved by the Chemicals Management Authority. It will also be the responsibility of the Chemicals Management Authority to manage the manifest system, and to monitor the proper handling and transportation of the toxic chemicals and hazardous wastes.

Currently the responsibility of ensuring that chemicals do not present adverse effects to human health and the environment rests with various Ministries and government agencies through laws, regulations and guidelines. Presently the activities of these bodies are inadequately coordinated, resulting in gaps and overlaps in the areas of importation, registration, use/handling and disposal, compliance monitoring and enforcement, workers health and safety to mention a few.

In addition to these are the overlapping of organizational responsibilities at national, regional and local levels, overly centralized functions and overly dispersed functions, and issues related to establishment of priorities and the phasing of programmes.

The two main Ministries that show some capacity in the institutional arrangement for the management of chemicals are the Ministry of Health, Wellness and Environment and the Ministry of Agriculture, Industry, Forestry, Fisheries and Rural Transformation. Other Ministries/Agencies which are also involved in chemical management in SVG include the Department of Labour under the Ministry of National Reconciliation, the Public Service, Labour, Information and Ecclesiastical Affairs who is responsible for the occupational safety and health of workers.

Chapter 3: Chemical Production, Import, Export, Storage, Transportation, Use and Disposal

This chapter provides an overview of the life cycle of chemicals in SVG from production and/or import to disposal and handling of chemical waste.

3.1 Background

The environmentally sound management of chemicals is inevitably one of the major tenets of sustainable development especially in small island developing states like SVG. St. Vincent and the Grenadines has a responsibility to develop national programmes for the environmentally sound management of chemicals and to effectively implement the Strategic Approach to International Chemical Management (SAICM) across all sectors at the national level. SAICM is a plan for ensuring, by 2020, that all chemicals are used and produced in ways that lead to the minimization of significant adverse effects on human health and the environment (Utilisateur, 2015). St. Vincent and the Grenadines also recognizes that ensuring environmental sustainability, eco-health and eco-security is also a prerequisite for poverty alleviation. Thus, seeing the importance of mainstreaming of chemical management and addressing poverty in all sectors policies should be a priority for St. Vincent.

3.2 Chemical Production, Import and Export

There is no evidence of chemical production or chemical manufacturing in SVG; hence there is no export trade of chemicals from SVG. Chemicals are imported into the country and shipped to the Grenadines (domestic export) as required. Chemical imports include pesticides (especially for the banana industry), industrial chemicals on a small scale and consumer chemicals.

The focus for chemicals management in SVG is therefore placed on importation, utilization and disposal when analyzing the life cycle of these chemicals within the country. According to the 2013 report on the 'National Chemical Management Profile on the Assessment of Chemical Production, Imports, Exports and Uses in St. Vincent and the Grenadines', a national survey identified the following sectors as the major contributors to the importation, utilization and disposal of chemicals in SVG:

- Agriculture
- Construction
- Manufacturing
- Mining and Quarrying
- Transportation/Utilities
- Education
- Health
- Domestic use

Additionally, the report mentioned that the majority of chemicals imported are sourced by private companies. The chemicals are either sold or used internally for their own operations. Chemicals are also imported by ministerial organizations especially the Ministries responsible for Education, Health and Agriculture. These chemicals are used to facilitate experiments in schools, and environmental based programs in order to combat vector-borne diseases. Chemicals are also imported to be used as detergents, drugs, paints, synthetic resins, fuel, cosmetics, perfumes adhesives, arts and craft products, automotive products batteries, cleaners, metal coatings, fiberglass and resin plastics, fillers, inks, oils pigments, acids, alkalis, and reagents.

In St. Vincent and the Grenadines, chemicals are used as precursor substances, in agriculture as pesticides, as plant growth hormones, in husbandry both as animal health and plant products, in transportation, in construction, in homes, in the production of energy, the purification of water and as medication for both humans and plants. As stated in the National Chemical Management Profile for SVG, the manufacturing industries import chemicals, mainly from the United States and China to manufacture products for the local and regional markets, a few of them export significant quantities of their products. Table 3-1 summaries the major chemical imports and exports for St. Vincent and the Grenadines. A full list of imports and exports for SVG during the period 2012 – 2013 can be seen in Annex IV.

Table 3-1: Chemical Production, Import and Export for St. Vincent and the Grenadines 2012

Chemical Type	Quantity produced or manufactured	Value imports for 2012		Value exports for 2012	
	Metric tons	Metric Tons	US '000\$	Metric Tons	US '000\$
Pesticides, (agricultural/public health and consumer use)	0	2509	2256	0	1
Fertilizers	0	N/A	1584	N/A	2
Petroleum Products	0	N/A	114,989	N/A	480
*Industrial (use in manufacturing/processing facilities)	0	560	2, 108	1	5
Pharmaceutical products	0	N/A	4328	N/A	4

Consumer chemicals	0	N/A	6655	N/A	5
Other chemicals/ unknown or mixed used	0	110	280	0	0

(Source: Trademap, 2012)

N/A- Information Unavailable;

***Industrial (use in manufacturing/processing facilities): Uniformed import and export data in weights and monetary worth was unavailable.**

Table 3-2 summarises the types of chemicals comprising each category of chemicals imported into Saint Vincent and the Grenadines (2012).

Table 3-2: Chemicals comprising each category in SVG using Trademap (2012)

Product Label	Category
Soaps, lubricants, waxes, candles, modelling pastes, Essential oils, perfumes, cosmetics, toileteries	Consumer Chemicals
Organic chemicals, inorganic chemicals, precious metal compound, isotopes, chemical industry products and residuals nes, antiknock preparations, oxidation & gum inhibitors, viscosity improver, activated carbon; activated natural mineral products; animal black, finishing agents, dye carriers or fixing for text., paper, leather ind., industrial anti-freezing preparations and prepared de-icing fluids, composite diagnostic or laboratory reagents, nes residual lyes from the manufacture of wood pulp, tall oil	Industrial Chemicals
Refractory cements, mortars, concretes and similar compositions, nes	Other Chemicals
Fertilizers	Fertilizers
Pharmaceutical Products	Pharmaceuticals
Mineral fuels, oils, distillation products, etc	Petrochemicals

In 2012, the chemicals imported into SVG consisted of pesticides, fertilizers, petroleum products, industrial chemicals, pharmaceutical products, consumer chemicals and other chemicals. The total value of these imports was worth US\$ 132, 200, 000 (Trademap, 2012) of which the majority consisted of petroleum products. This is because SVG does not manufacture petrochemicals and has to rely on their importation to be used within the country. The country's economic sector however, is dependent on the agriculture and manufacturing sectors. This is evident by the importation of agrochemicals (namely pesticides and fertilisers) and which are used in manufacturing processes such as food processing, furniture and clothing). Conversely, the value of chemicals exported from SVG in 2012 was worth \$497 000, the majority consisting of non-crude petroleum oils.

Source: Adapted from data retrieved from Trademap 2012

Figure 3-1: The cost of chemicals imported into SVG (2012)

3.3

Chemical Use by Categories

Chemicals are used on a daily basis for multiple purposes in SVG. An inventory conducted under the SAICM initiative 'National Chemical Management Profile of Saint Vincent and the Grenadines' in 2013 was based on the International Standard Industrial Classification (ISIC) of economic activities codes which identified the major activities using chemicals in everyday processes in SVG. The chemical inventory provided an accurate, updated information on the chemicals being used by entities in SVG as well as categorised the chemicals into their specific hazard classes to identify uses of particular materials and to communicate hazard information including special controls or and procedures (United Nations Environment Programme, n.d.). Table 3-3 describes the quantity of chemicals being used in the country by types and category using the International Standard Industrial Classification Rev. 4 classification whilst Table 3-4 provides a breakdown of the different types of chemicals used in SVG according to economic activities.

Table 3-3: Chemical Products Use by Type and Industry during 2011

Type of Chemical Product	ISIC Rev. 4 Classification	Form	Quantity/Units	Totals/Units
Pesticides (Agricultural)	A & G G A & G	Liquid Semi solid Solids	59.11 & 3370.48 L 1.54Kg 41.12 & 9004.42 Kg	3430.00 L 1.54Kg 9045.54 Kg
Pesticides (Public Health)	C S & G G S & G	Gas Liquid Semi solid Solid	2.846 L 9.64 & 14084.2 L 1.08 Kg 63.2 & 19.42 Kg	2.85L 14093.84L 1.08Kg 82.62Kg
Fertilizer	G	Solid	1240.69Kg	1240.69Kg
Petroleum Products (Auto industry)	C & G C, H & G H & G C & G	Gas Liquid Semi solid Solid	125.1 & 484 L 397.4, 1276.8 & 173755.38 20.4 & 1.16 Kg 227.5 & 14.02	609.1L 175429.66 L 21.56 Kg 241.77 Kg
Petroleum Products (Transportation/Utilities)	G D C, H & G, D D	Gas Liquid Semi solid	19800000 L 2304786.37, 33.79, 7.55, 6183139.70 L 48.93 Kg	19800000 L 8487967.4 L 1 L

Type of Chemical Product	ISIC Rev. 4 Classification	Form	Quantity/Units	Totals/Units
		Solid	984 Kg	48.93 948 Kg
Industrial Chemicals (Manufacturing)	C C & S D & C	Gas Liquid Solid	4.54 L 8459.84 and 4.99L 0.03 & 320055.04 Kg	4.54 L 8464.83 320055.07 Kg
Industrial Chemicals (Construction)	C	Solid	42.5 Kg	42.5 Kg
Industrial Chemicals (Service Industry)	S & G C & S S C, S & G	Gas Liquid Semi solid Solid	396.72 & 352.24 L 3.78 & 777.66 L 47.31 Kg 34.32, 9.11 & 220 Kg	748.96 L 781.44 L 47.31 Kg 263.43 Kg
Consumer Chemicals (Homes/Business)	C, S & G A, P, D, Q, C, S, H, & G S & G P, D, C, S, H & G	Gas Liquid Semi solid Solid	2.4, 0.5 & 9 L 0.24, 5.44, 3.38, 3.79, 395.93, 78.72, 83.73 & 6820.26 L 114.62 & 0.37 Kg 6, 45.09, 4.55, 150.94, 1.6 & 46.19 Kg	11.9 L 7391.48 L 114.99 Kg 254.37 Kg
Consumer Chemicals (Schools)	P P A & P	Gas Liquid Solid	195.45 L 8 L 1 & 10.96 Kg	195.45 L 8 L 11.96
Consumer Chemicals (Laboratories)	Q A, P & Q Q A & Q	Gas Liquid Semi solid Solid	4.81 Kg 1.5, 95.45 & 79.59 L L 0.1 Kg 25. 21 & 46.71 Kg	4.81 Kg 176.54 L 0.1 Kg 71.92 Kg
Other Chemicals	D & S C, S & G A	Gas Liquid Solid	3 & 173.8 L 1863.35, 2500805.75 & 65.29 L 0.03	176.8 L 2502734.3 9 L 0.03 Kg

(Source: Government of SVG, 2013)

Table 3-4: Chemical Use by Economic Activity in SVG during 2011

Economic Activity	Chemical Type	Place of Use	Physical State	Quantity
Education	Consumer Chemicals	Schools	Gas	195.45kg
	Consumer Chemicals	Home/Businesses	Liquid	5.44L
	Consumer Chemicals	Schools	Liquid	8.0L
	Consumer Chemicals	Home/Businesses	Solid	6 kg
	Consumer Chemicals	Schools	Solid	10.962 kg
Electricity/Gas/Steam/Air conditioning	Other Chemicals	-----	Gas	3 kg
	Consumer Chemicals	Home/Businesses	Liquid	3.375L
	Petroleum products	Transportation/Utilities	Liquid	2304786.373L
	Consumer Chemicals	Home/Businesses	Solid	45.09 kg
	Industrial chemicals	Manufacturing	Solid	0.025 kg
	Petroleum products	Transportation/Utilities	Solid	984 kg
	Petroleum products	Transportation/Utilities	Semi-solid	48.925 kg
Human Health and Social Work	Consumer Chemicals	Laboratories	Gas	0.27 kg
	Consumer Chemicals	Home/Businesses	Liquid	3.79L
	Consumer Chemicals	Laboratories	Liquid	19.456L
	Consumer Chemicals	Laboratories	Solid	0.125 kg
Manufacturing	Consumer Chemicals	Home/Businesses	Gas	2.4 kg
	Pesticides	Public Health	Gas	2.846 kg
	Consumer Chemicals	Home/Businesses	Liquid	370.222L
	Industrial chemicals	Manufacturing	Liquid	2532.64L
	Industrial	Service	Liquid	3.78L

Economic Activity	Chemical Type	Place of Use	Physical State	Quantity
	chemicals	Industries		
	Other chemicals	-----	Liquid	1863.65L
	Petroleum products	Auto industry	Liquid	36.4L
	Petroleum products	Transportation/Utilities	Liquid	33.79L
	Consumer Chemicals	Home/Businesses	Solid	4.55 kg
	Industrial chemicals	Construction	Solid	42.5 kg
	Industrial chemicals	Manufacturing	Solid	320050 kg
	Industrial chemicals	Service Industries	Solid	34.32 kg
Other Service Industries	Industrial chemicals	Service Industries	Gas	396.72 kg
	Other chemicals	-----	Gas	173.8 kg
	Consumer Chemicals	Home/Businesses	Liquid	64.795L
	Industrial chemicals	Manufacturing	Liquid	4.99L
	Industrial chemicals	Service Industries	Liquid	295.261L
	Other chemicals	-----	Liquid	2500805.75L
	Pesticide	Public Health	Liquid	4.54L
	Consumer Chemicals	Home/Businesses	Solid	150.94 kg
	Industrial chemicals	Service Industries	Solid	9.11 kg
	Pesticide	Public Health	Solid	43.2 kg
	Consumer Chemicals	Home/Businesses	Semi-solid	8.9536 kg
	Industrial chemicals	Service Industries	Semi-solid	89.37 kg
	Pesticide	Public Health	Semi-solid	0

Economic Activity	Chemical Type	Place of Use	Physical State	Quantity
Transportation and Storage	Consumer Chemicals	Home/Businesses	Liquid	83.732L
	Other chemicals	-----	Liquid	0
	Petroleum products	Auto industries	Liquid	0
	Petroleum products	Transportation/Utilities	Liquid	7.55L
	Consumer Chemicals	Home/Businesses	Solid	1.6 kg
	Other chemicals	-----	Semi-solid	0
	Petroleum products	Auto industries	Semi-solid	0
Wholesale & retail; repair of motor vehicles and motor cycles	Industrial chemicals	Service Industries	Gas	352.24 kg
	Petroleum products	Auto industries	Gas	484 kg
	Petroleum products	Transportation/Utilities	Gas	19801000 kg
	Consumer Chemicals	Home/Businesses	Liquid	500.46L
	Industrial chemicals	Construction	Liquid	0
	Industrial chemicals	Service Industries	Liquid	40.95L
	Other chemicals	-----	Liquid	65.289L
	Pesticide	Agricultural	Liquid	336.414L
	Pesticide	Public Health	Liquid	14084.2L
	Petroleum products	Auto industries	Liquid	158818.551L
	Petroleum products	Transportation/Utilities	Liquid	6183139.696L
	Consumer Chemicals	Home/Businesses	Solid	0.792 kg
	Fertilizer	-----	Solid	1240.688 kg
	Industrial chemicals	Construction	Solid	0

Economic Activity	Chemical Type	Place of Use	Physical State	Quantity
	Industrial chemicals	Service Industries	Solid	231.02 kg
	Pesticide	Agricultural	Solid	8525.474 kg
	Pesticide	Public Health	Solid	8.82 kg
	Petroleum products	Auto industries	Solid	3 kg
	Consumer Chemicals	Home/Businesses	Semi-solid	0.368 kg
	Pesticide	Public Health	Semi-solid	1.08 kg

(Source: Government of SVG, 2013))

The demand for energy and the usage of chemicals (petrochemicals, industrial chemicals and crude) in SVG is limited due to the small land and population sizes, and absence of large industrial activities. The country is dependent on the importation of petroleum products; gasoline (for transport) and diesel (transport and electricity generation), kerosene (cooking) and butane/LPG (cooking, water heating and industry) (St. Vincent and the Grenadines, 2010). St. Vincent Electricity Services Limited (VINLEC) is the dominant power generation industry in St. Vincent and the Grenadines.

There are however privately owned electricity systems that may supply diesel powered electricity to some parts of the islands within the Grenadines. Table 3-5 summarizes the consumption of various fuels throughout the island (St. Vincent and the Grenadines, 2010).

Table 3-5: Fuel Consumption in St. Vincent and the Grenadines (2009)

Fuel	Tonnes of Oil Equivalent	%
Diesel (VINLEC)	25549	27.50
Aviation Spirit	5	0.01
Kerosene	598	0.64
Hydro	1953	2.10
Propane	0.78	0.00
Butane	3074	3.31
Diesel (transport et al)	38430	41.36
Gasoline (transport et al)	23299	25.08
TOTAL	92908.78	100.00

(Source: SVG Energy and Action Plan, 2010)

3.4 Storage of Chemicals and Related Issues

The agricultural sector plays an important role within the economy in SVG and the importance of proper storage and warehousing facilities for chemicals are important. The Agricultural Input Warehouse supplies fertilizers in bulk at a reduced cost to farmers. The fertilizers are imported from the United States and sold locally. There is also no overstocking of chemicals as the company operates based on the supply and demand of the existing market. All chemicals (namely pesticides and fertilisers) are stored at the warehouse, an enclosed ventilated room, outfitted with an extractor in order to eliminate any noxious smells. The chemicals though stored within the same room, are segregated in various sections. Due to the lack of a management framework specific to these chemicals, they are often disposed along with domestic waste or into public drainage systems (L Francois 2014, pers comm.).

3.5 Transport of Chemicals and Related Issues

The smaller islands of the Grenadines do not have the capability to handle chemical wastes. As a result, chemical wastes are transported to the mainland, St. Vincent. These wastes are stored in containers and packed into a truck lined with absorbents in order to prevent leakage. The truck is then transported via a cargo vessel to the mainland, where it is dismantled and transports the waste to the Diamond landfill. Agrochemicals (namely pesticides and fertilisers) being transported to the Agriculture Input warehouse is shipped to St. Vincent in containers via a cargo vessel. The containers contain chemicals which are sealed in boxes and shrink wrapped. At the port, trucks collect the containers where they are transported to the warehouse.

The roads in SVG are not in the best conditions as a result of heavy rainfall and the lack of consistent upgrades. Despite this, the transport of chemicals across the country is not severely hampered. Transportation issues may however arise when during exceptional rainfall, landslides may occur, making roads impassable.

3.6 Chemicals and Waste management

St. Vincent and the Grenadines faces challenges with respect to the quantification of the chemical waste generated and as such very little data exists on waste management. Assumptions were necessary in order to determine the types of chemical wastes expected. These include wastes produced from the industrial and agricultural sectors. In SVG, there are recurring reported incidents of illegal dumping of industrial waste particularly waste oils in the rivers and streams (see Table 3-6).. Table 3-7 shows the quantities of some waste chemicals which were imported into the country in 2011, the majority (17.72 metric tonnes) of which were identified as waste oils. The importation of these wastes may be explained by Section 33(I) of the Waste Management Act 2000 of SVG which makes provisions for specific wastes to be imported into the country. These include some of the wastes governed by the Marine Pollution Management Act, 2000, and generated on

board any aircraft, and material other than hazardous wastes imported under conditions prescribed by regulations for any manufacturing process. At VINLEC, there are currently no waste to energy initiatives. Waste chemicals namely used oils, cleaning agents and cooling agents, are temporarily stored in a holding tank in an open area at each of the two diesel generation stations on the mainland; Cane Hall and Lowmans Bay. Once per month the waste chemicals are collected and disposed by a private company. Waste chemicals collected from the facilities on the other islands are placed in drums and ferried via a cargo vessel to the mainland where they are transported to either of the facilities aforementioned. There the waste chemicals are added to the stock already in the holding tank. Over the last decade, solid waste management in St. Vincent and the Grenadines has been expanded island-wide. Still, concerns persist over indiscriminate dumping in drains, gullies and rivers. The presence of micro-plastics including marine debris and the continuing large-scale burning of vehicle tyres poses increased environmental challenges. Although no data are available, technical experts consider that the rodent population (rats and mice) has grown well beyond acceptable limits.

Table 3-6: Types of Chemical Waste Generated and Probable Sources

Source of Hazardous Waste	Type of Hazardous containing chemicals Waste	Applied Practiced Method of Disposal
Motor vehicle repair and service	Spent lubricating and transmission oils, solvents, including leaded gasoline kerosene, diesel	Burial with domestic waste, disposal into public drains
Printing and allied facilities	Spent dyes, organic solvents	To landfill
Paint application	Organic solvents, pigments containing heavy metals including lead, mercury cadmium	Burial with domestic waste, disposal into public drains
Laboratories/colleges and schools	Solvents, reagents(organic and inorganic), acids	Drain
Pesticide storage and application	Pesticides and contaminated containers	Disposal along with domestic waste- or into public drainage systems.
Wood Furniture Manufacturing	Solvents/ dye paints , glues	Drain

(Source: Government of SVG, 2013)

Table 3-7: Import of Waste Chemicals into SVG (2011)

Chemical type	Quantity imported in 2011 (metric tons)	Value imports for 2011 (US\$)
Chemicals containing polychlorinated biphenyls (PCBs) and polychlorinated terphenyls	8.8	10, 085
Other waste oils	17.72	53, 360
Waste organic solvents	0.074	187
Total	26.59	63, 631

(Source: Department of Statistics, 2011)

St. Vincent and the Grenadines also suffers from riverine and coastal pollution as a direct result of land-based sources including agrochemical leaching, direct agrochemical influx, industrial and commercial discharge,

liquid wastes and run-off from construction sites (Global Environment Facility, 2014) which contribute to the chemical waste stream in the country. At the national landfill of SVG, records show approximately 2000 liters, 33,000 liters and 14,800 cubic meters of laboratory chemicals, used engine oil and compost production respectively were disposed in during the period 2011 to 2012. At the landfill, the chemicals are intombed and buried. This limited data imply that volumes of those and other chemical wastes remain unaccounted in the country, and it is not known if environmentally sound methods were utilised in their disposal.

3.6.1 Obsolete Chemical Stockpiles, Chemical Waste Sites and Contaminated Sites

As a result of the Food and Agriculture Organisation (FAO) Prevention and Disposal of Obsolete Pesticides Programme, the quantity of obsolete pesticides in St Vincent and the Grenadines in 2000 was recorded as 1,330 Kgs (Food and Agriculture Organisation, 2002). A survey of obsolete and unwanted or banned pesticides was also conducted in 2013 by the Ministry of Agriculture, Industry, Fisheries and Rural Transformation, which identified the existence of 3.2 tons of obsolete and unused chemicals on the Island. The major problem which these obsolete and unused chemicals present is the eventual release of POPs and chemicals into the ground and atmosphere, owing to inadequate and unsuitable storage conditions. In addition, the nature of containers used to store these chemicals do not ensure their integrity and containment (Government of SVG, 2015). There are no standardized or approved methods for the disposal of obsolete chemicals in SVG. It was reported that the storage of pesticides and other chemicals are generally the responsibility of the private entities that either import or use them (Government of St. Vincent and the Grenadines, 2013).

3.6.2 Technical Facilities for Recovery and Recycling of Chemicals

In St. Vincent and the Grenadines, there are limited organisations involved in the recycling or recovery of chemical wastes in the country. One such organisation is the All Island Recycling Facility. This facility recycles aluminium and beverage cans, plastics and non-ferrous products including copper, aluminium, stainless steel, radiators and batteries.

Aluminium cans and plastic bottles are shredded by granulators and exported to Florida and to countries in the Far East. Plastic items are also recycled. To facilitate the collection process, advertisements are broadcasted in order to encourage persons to bring tins and plastic items to the recycling station. Non-ferrous items are brought to the factory.

In rural areas, women collect and sell bottles to the facility; the amount of money earned is dependent on the grade of plastic collected and whether the bottles are clean or dirty (clean bottles are worth more than dirty ones). At the facility, bottles are weighed and sorted according to size and colour. Bottles are crushed once weekly.

The capacity to treat chemical waste is listed in Table 3-8 below.

Table 3-8: Facilities for Recovery and Recycling of Chemicals and related waste

Location of Facility	Description of Facility/Operation or Process	Recovery Operation	Does the facility treat imported wastes? (yes/no)
Diamond Landfill	Burial in concrete pits	Chemical Waste	No
Canouan, Union Island, Bequia Landfills	Burial in landfill and covered	Household, Commercial, Vegetative Waste	No
All Island Recycling	Recycling of bottles, cans and non-ferrous products	Plastic recycling Exportation	No

(Source: Country Analytical Report Saint Vincent and the Grenadines: Solid Waste Regional/Evaluation, 2002)

3.6.3 Capacity for Disposal of Chemicals

St. Vincent and the Grenadines is limited in its ability to treat with chemical waste which may arrive at the nations' landfills. In the smaller islands of the Grenadines, chemical waste is transported to the mainland, St. Vincent where the waste is buried at the Diamond landfill. The burial process involves the digging of a hole which is casted in concrete. The chemicals are then placed within the structure and buried. Hazardous and unknown waste also follow the same burial process. In Bequia, commercial and household waste such as boxes, paper and general stationery are compacted and buried at the landfill. In Canouan, waste from the hotel and (kitchen waste and sporting equipment) and construction industries are handled along with the regular household waste. PET bottles, cans recycling and the extraction of copper are also performed privately on a small scale. At Union Island, the majority of waste handled consists of household and commercial waste.

3.7 Unintentionally Generated Chemicals

In St. Vincent and the Grenadines, chemicals are released into atmosphere as a result of several anthropogenic activities which may occur within the country. These activities include burning for agriculture, energy and solid waste management purposes. Burning facilitates the clearing of land in agriculture, production of charcoal and solid waste management activities. Other sources include automobiles, commercial and household heating and cooking, uncontrolled combustion, production and use of chemical and consumer goods. Table 3-9. summarizes some of the main sources of unintentionally generated

chemicals in the country. The exact levels generated are currently unknown because they are not monitored on a regular basis.

Table 3-9: Sources of unintentional emissions in SVG

Chemical Type	Source
Dioxins and Furans	Clearing of land for agriculture, charcoal production, solid waste management activities, automobile emissions, production and use of consumer and chemical goods
PCBs	Adhesives, carbonless copy paper, wax extenders, dyes, compressor oil, asphalt roofing material, plasticizers, space heaters, lubricants, inks, pesticides and rubberizes

(Sources: The Ministry of Agriculture, Rural Transformation, Forestry, Fisheries & Industry and The Ministry of Health, Wellness and the Environment, 2015.)

3.8 Assessment

Chemical Management is important in St. Vincent and the Grenadines to ensure environmental sustainability, eco-health and eco-security, a prerequisite for poverty alleviation. The country does not manufacture chemicals but imports, uses and disposes of them.

These include pesticides (especially for the Banana Industry), industrial chemicals (which include dyes, catalysts, anti knock preparations) and consumer chemicals (which include soaps, lubricants, essential oils, perfumes and cosmetics). If chemicals are not managed adequately, the threats to human health and the environment can include contamination of local consumers through residue in foods and water, direct pesticide exposure of agricultural, factory and transport workers, exposure to pesticides as a result of accidents in storage and transportation, accidental ingestion resulting in poisoning, occupational and residential hazards in furniture and automobile workshops, occupational exposures in various manufacturing facilities and transport accidents, fires and disasters.

VINLEC is the dominant power generation industry in SVG and uses diesel as its primary fuel source in the generation of electricity. Waste management, inclusive of the proper disposal of chemicals (e.g. used oils) poses a challenge for SVG as these chemicals are often disposed along with domestic waste to landfills or into public drainage systems. There are also insufficient records on quantities of chemical waste generated and disposed in SVG.

The responsibility of ensuring that chemicals do not present adverse effects to human health and the environment rests with various Ministries and government agencies through laws, regulations and guidelines. Presently the activities of these bodies are inadequately coordinated, resulting in gaps and overlaps in the areas of importation, registration, use/handling and disposal,

compliance monitoring and enforcement and workers health and safety. In addition to these are the overlapping of organizational responsibilities at national, regional and local levels, overly centralized functions and overly dispersed functions, and issues related to establishment of priorities and the phasing of programmes.

The production, use, storage and disposal of chemicals used within these sectors as well as the lack of appropriate legislation to regulate the life cycle of these chemicals are contributing to negative impacts to the environment and human health. St. Vincent and the Grenadines is now faced with the challenge of finding lasting and sustainable solutions to the complex problems surrounding the efficient and responsible use, storage and disposal or re-conversion of chemicals and their waste products.

Deep concern over global traffic of hazardous chemicals has spurred international acceptance of the Rotterdam Convention as it provides an early warning on dangerous chemicals and addresses the export and import of hazardous chemicals and, by implication their use and regulation. The Convention deals with chemicals that are banned and severely restricted in some countries (particularly in industrialized regions) but that are still exported to other countries (particularly in developing regions). St. Vincent and the Grenadines has ratified the Rotterdam Convention and updating the country's national chemical profile creates an authoritative document which serves as a basis to strengthen the national system for the management of chemicals throughout their life cycle, meeting the necessary obligations under the Convention.

Chapter 4: Data Viability for Chemicals Management

This chapter provides an overview of the information management capacity of SVG related to the sound management of chemicals, particularly the availability of data and its use for chemical risk reduction.

4.1 Overall Availability of Data for National Chemicals Management

Access to information such as production, import or export statistics, hazardous waste data, inventory of chemical records, location of records, are vital to policy formulation and decision-making for the sound management of chemicals. As demonstrated by this study, minimum data on chemicals are currently available, and the accessibility of the chemical data is very restricted. Data is found scattered in the various agencies with limited access (other agencies do not even know which agency has the correct data or where certain data can be retrieved). There is no data available on industrial accidents and occupational health and safety related incidents or accidents although the National Insurance Scheme (NIS) requires the incidents and accidents be reported. Data on poisons for SVG do not exist.

Table 4-1 provides an overview of the availability of data for decision making and other activities that may be required as part of chemicals management programme.

Table 4-1: Sufficiency in Quality and Quantity of Available Information

Data needed for/to	Pesticides	Fertilizers & other Agrochemicals	Industrial Chemicals	Consumer Chemicals	Chemical Wastes	Pharmaceuticals
Inventory control/import statistics	Y	Y	N	N	N	Y
Export control statistics	NA	NA	NA	NA	NA	NA
Risk assessment	NA	NA	NA	NA	NA	NA
Classification and labelling	Y	Y	Y	Y		Y
Registration	Y	Y	NA	NA	NA	Y
Licensing	Y	Y	NA	NA	NA	Y
Permitting	Y	Y	NA	NA	Y	NA
Risk reduction decisions	NA	NA	NA	NA	NA	NA
Accident preparedness/control	Y	N	N	N	N	NA
Poisoning control	NA	NA	NA	NA	NA	NA
Emission inventories	NA	NA	NA	NA	NA	NA
Inspections and audits	NA	NA	NA	NA	NA	NA

Workers information	Y	Y	NA	NA	NA	Y
Public information	Y	Y	NA	NA	NA	Y

(Source: Government of SVG, 2013,)

Y – Data exists
Available

N – No Data exists

NA – Not

4.2 Sources of National Data, Access and Format

Table 4-2 indicates the nature of national data related to chemicals management which is available and provides practical information on how to gain access to the data.

Table 4-2: Sources of National Data and their Access and Format

Location (s)	Type of data	Data source	Format
Ministry of Agriculture – mostly the Plant Protection Unit	Provides information on agricultural and household pesticides	Food and Agricultural Organization (FAO) of the UN	Online
Ministry of Health- Chief Medical Officer/ Environmental Management Unit	Hazard assessment; carcinogenicity	International Agency for Research in Cancer (IARC)	Restricted Access
Labour Department	Safe use of chemicals at work; preventions of industrial accidents	International Labour Organization (ILO)	Restricted Access
Customs Department	Transport of dangerous goods; marine pollution	International Maritime organization (IMO)	Restricted Access
Ministry of Health- Environmental Management Unit; Chief Medical Officer; Labour department	Risk assessment ; guidance for setting exposure limits; guide of safe use	International Programme on Chemical Safety (IPCS/UNEP/ILO/WHO)	Restricted Access
Ministry of Health (Environmental Management Department (EMD); Office of the Chief Medical Officer; Labour Department; Ministry of Trade and Industry	Chemicals assessment and management of environmental and health effects; cleaner production; awareness raising about accidents	United Nations Environmental Programme(UNEP)	online
Ministry of Health (Office of the Chief	Chemicals- pharmaceuticals	World Health Organization (WHO)	Restricted Access

Location (s)	Type of data	Data source	Format
Medical Officer, Pharmaceutical Department	and health effects		
Labour Department	Safe use of chemicals at work; preventions of industrial accidents		Restricted Access

(Source: Government of SVG, 2013.)

4.3 Procedures for Collecting and Disseminating National/Local Data

Companies using chemicals must obtain approval of their environmental and health practices from the SVG National Standards Institution and the Ministry of Health's Environmental Division. Agriculture is a major economic sector in SVG hence, the use of agrochemicals such as pesticides are prevalent.

Under the Draft Pesticides and Toxic Chemicals Control Act:

- all pesticides and toxic chemicals manufactured or imported will be registered;
- all permitted activities in pesticides and toxic chemicals will be under licence or permit;
- pest control operators are regulated by a licensing scheme (Pest Control Operator Licence).
- the sale, including storage and distribution for purposes of sale, of pesticides and toxic chemicals are also regulated by a licensing scheme (Dealer's Licence);
- the storage and distribution for use of pesticides and toxic chemicals in activities other than sale, such as research, education, and agriculture are regulated by a licensing scheme (General Licence);
- licences are used to control the import and export of pesticides and toxic chemicals (Import and Export Licences);
- licences are also used to impose standards in premises in which pesticides and toxic chemicals are manufactured (Premises Licences); and

The Monitoring of Chemicals will be performed through the self-monitoring measures (record keeping and reporting) and on-site inspections.

The Provision of public officers as inspectors (Pesticides and Toxic Chemical Inspectors) are given appropriate powers to monitor compliance with, and investigate breaches of provisions of the Act and regulations protecting human and animal health and safety, plant life and the environment.

St. Vincent and the Grenadines has a draft Chemical Management Policy Framework (2013) which will include the management of hazardous chemicals. The four levels of chemical management which will be focused on are the importation/exportation, handling/transport, operation and the treatment/disposal of chemicals entering, leaving and within the country. Policy considerations for each level are also included along with the agencies responsible for their execution.

4.4 Availability of International Literature and Database

There is limited data derived from research conducted in St. Vincent and the Grenadines and as such, like most of the other countries in the Caribbean sub-region, SVG relies on international literature and guidance for its source of authoritative information for the sound management of chemicals. Table 4-3 and 4-4 provide a detailed list on international literature and databases accessible within SVG, including location, in order to facilitate access to them.

Table 4-3: Availability of International Literature

Literature	Location (s)	Who has access	How to gain access
SAICM Information Clearinghouse	http://www.saicm.org/index.php?menuid=36&pageid=251	Public	Free access via the internet
Environmental Health Criteria Documents (WHO/IPCS)	http://www.who.int/ipcs/publications/ehc/en/index.html	Public	Free access via the internet
Concise International Chemical Assessment (WHO/IPCS)	http://www.who.int/ipcs/publications/cicad/en/index.html	Public	Free access via the internet
International Chemical Safety Cards (WHO/ILO)	http://www.inchem.org/pages/icsc.html	Public	Free access via the internet
Decision Guidance Documents for Prior Informed Consent Chemicals (FAO/UNEP)	http://www.pic.int/TheConvention/Chemicals/AnnexII/Chemicals/tabid/1132/language/en-US/Default.aspx	Public	Free access via the internet
FAO/WHO Pesticides Safety Data Sheets	http://www.who.int/ipcs/publications/pds/en/index.html	Public	Free access via

	ml		the internet
Documents from the FAO/WHO Joint Meeting on Pesticide Residues	http://www.who.int/ipcs/publications/jmpr/en/	Public	Free access via the internet
Documents from the FAO/WHO Joint Expert Committee on Food Additives	http://www.who.int/ipcs/publications/jecfa/en/index.html	Public	Free access via the internet
GHS	http://www.unece.org/trans/danger/publi/ghs/ghs_welcome_e.html	Public	Free access via the internet
Material Safety Data Sheets (MSDS)	http://www.msds.com	Public	Free access via the internet
OECD Guidelines for the Testing of Chemicals	http://www.oecd.org/document/40/0,3343,en_2649_34377_37051368_1_1_1_1,00.html	Public	Free access via the internet
Good Laboratory Practice (GLP) Principles (OECD)	http://www.oecd.org/document/63/0,3343,en_2649_34381_2346175_1_1_1_1,00.html	Public	Free access via the internet
Good Manufacturing Practice Principles (WHO)	http://www.who.int/medicines/areas/quality_safety/quality_assurance/production/en/index.html	Public	Free access via the internet

(Source: Government of SVG, 2013)

Table 4-4: Availability of International Databases

Literature	Location (s)	Who has access	How to gain access
ILO CIS	http://www.ilocis.org/	Public	Access via internet
WHO/IPCS INCHEM	http://www.inchem.org/	Public	Access via internet
WHO/IPCS INTOX	http://www.intox.org/	Public	Access via

		(subscription)	internet
WHO/IPCS Human Health Risk Assessment Toolkit: Chemical Hazards	http://www.who.int/ipcs/methods/harmonization/areas/ra_toolkit/en/index.html	Public	Access via internet
IRPTC	http://www.chem.unep.ch/irptc/irptc/databank.html	Public	Access via internet
Chemicals Abstract Services Database	http://www.cas.org/	Public (subscription)	Access via internet
Global Information Network on Chemicals (GINC)	http://www.oshweb.com/owd/owd01.nsf/s/181-01	Public	Access via internet
STN Database	http://www.cas.org/products/stnfamily/index.html	Public	Access via internet
Trade map - Trade statistics for international business development (chemical import/export data)	http://www.trademap.org/	Public (subscription)	Access via internet

(Source: Government of SVG, 2013)

4.5 National Information Exchange Systems and IT Capacity

The Freedom of Information Act was passed in December 2003. This Act gives rights of access to official documents of the government and public authorities to members of the public and provide for connected matters. Its main objective is the provision of rights to the general public to obtain access information from public authorities relating to their operations, and ensure that rules and practices affecting them are readily available (Ballantyne, 2003). The citizens of SVG would therefore be entitled to access information concerning local industries or companies in order to ensure their operations involving the use of chemicals are performed in such a way so as to not endanger their lives or the environment in which they live.

The Information Technology Services Division (ITSD) is the main ICT policy, advisory and technical maintenance services provider to the Government of St. Vincent and the Grenadines. Several major functional Units are integrated under the ITSD banner which can also facilitate the dissemination of information as it relates to aspect of chemical management such as awareness and education (Ministry for Telecommunications, Science, Technology and Innovation, 2010). These include:

- the Web and Internet Content Unit which designs, maintains and promotes the Government's and national web presence. The Unit maintains the Government Web site consistent with the Freedom of Information and Privacy Acts. The Intranet is geared to providing public servants with a range of electronic services which improve efficiency
- the E-Mail, Internet and Intranet Network Services Unit provides public servants with professional email, Internet and Intranet services and a means for information to be disseminated throughout the Public Service and through which clients can communicate with officials
- the development and upgrading of new software application and content creation where required by departments or where deemed necessary; and providing advice to ministries on the appropriateness of ICT and the business sector.

4.6 Assessment

The data availability for chemicals in consumer goods as well as waste chemicals is extremely limited in St Vincent and the Grenadines. The distribution of the existing data locally is a difficult process and the capacity of the country to access and collect this data is very limited. In many cases the quality of the data is questionable due to variations in methodologies for collection. Data are also held independently by different ministries, agencies and the private sector and the majority of information is only shared upon a formal request.

Table 4-1 summarises the availability of information for pesticides, fertilizers, consumer and industrial chemicals, chemical wastes and pharmaceuticals in SVG. The unwillingness of companies to divulge the necessary data relevant to their individual handling with chemicals along with the outdated existing ICT infrastructure act as hindrances to the management of chemicals.

The accessibility to international data is readily available via the internet, and ministries/agencies as well as companies within the private sector may have the required expertise in house to interpret and apply the information. Currently there are no national databases on chemicals in SVG. Access to international databases such as TOXNET and the eChemPortal established under the European Chemicals Agency give information on chemical properties, toxicity and access to safety data sheets. Strengthening mechanisms to gather information needs to be enforced but require a lot of ground work in gathering the necessary information. It may be of greater benefit to create a data pool for chemicals at a regional level to alleviate repetition and conserve the limited resource base in the region. This will involve the implementation of regional policies to accommodate this system. Emphasis should also be made to include within the formal education system as means to disseminate chemical management information as there is a

notable lack of knowledge as to the risks involved in the daily use of chemicals products.

Chapter 5: Infrastructural Capability for Managing Chemicals

This Chapter provides an overview of the technical infrastructure including analytical capacity related to the sound management of chemicals.

5.1 Overview of Laboratory Capacity

St. Vincent and the Grenadines has very few laboratories within the country with limited capabilities to support/facilitate the overall management of chemicals. As a result, the country has to rely on the laboratory services of regional institutions, namely the Caribbean Regional Drug Testing Laboratory and the Caribbean Public Health Agency, in order to conduct tests they may require. Table 5-1 summarizes the laboratory capacity related to regulatory chemical analysis and Table 5-2 focuses on the monitoring capability and ability to support health and environmental surveillance.

Table 5-1: Overview of the Laboratory Infrastructure for Regulatory Chemical Analysis

Name	Location	Equipment/Analytical Capabilities	Accreditation	Certified GLP
St. Vincent Bureau of Standards	Kingstown	Testing of chemicals (agrochemicals)	No	No
Fisheries Division Laboratory	Kingstown	Basic microbiological analyses, sensory assessment,	No	No
Forensic Drug Laboratory	Kingstown	Drug testing	No	No
Ministry of Health Wellness and the Environment	Kingstown	Medical testing	No	No

Table 5-2: Overview of the Laboratory Infrastructure for Monitoring and Analysis

Name	Location	Equipment/Analytical Capabilities	Accreditation	Certified GLP	Purpose
CRTDL (Caribbean Regional Drug Testing Laboratory)	Jamaica	<p>(a) Perform microbiological and pharmacological tests on samples of drugs submitted by any participating Government and report the results thereof to that Government.</p> <p>(b) Perform biological availability tests on selected types of drugs.</p> <p>(c) Investigate the stability of drugs under the conditions of storage prevailing in the Region.</p> <p>(d) Establish liaison with all appropriate agencies interested in drug testing and provide information and advisory services to support the activities of the drug control officials in the Region.</p>	<p>ISO</p> <p>ASTM International</p> <p>Codex Alimentarius</p> <p>CROSQ – CARICOM Regional Organisation for Standards and Quality</p>	NO	<p>Public laboratory providing services both of a clinical and public health nature. Contribute to the effective functioning of national health surveillance and care systems</p>
CARPHA (Caribbean Public Health Agency)	Port of Spain	Testing relating to Medical Bacteriology, Virology, Parasitology and Entomology	ISO 17025		Contributes to improving the health status of Caribbean people by working with and

Name	Location	Equipment/Analytical Capabilities	Accreditation	Certified GLP	Purpose
					advancing the capability of CARPHA Member States in laboratory technology and related public health disciplines
Milton Cato Pathology Laboratory	Kingstown	Testing relating to Microbiology, Haematology, Clinical Chemistry, Immuno-haematology, Serology and Cytology and Histology	NO	NO	Deliver services in a mostly consistent manner in the disciplines of Microbiology , Haematology , Clinical Chemistry, Immuno-haematology , Serology, Cytology and Histology.
Central Water and Sewage Authority (CWSA)	Kingstown	Water Quality Analyses	NO	NO	Water quality Testing
Bottlers (St. Vincent) Limited	Campden Park		NO	NO	

5.2 Information Systems and Computer Capabilities

The Government of St. Vincent and the Grenadines is currently pursuing investment in the Information and Communication Technology (ICT) sector. The importance of ICT has been recognized by the Government as it provides for the development of every modern and progressive society and allows for incorporation into the global information economy. Most

Government offices in SVG have access to computers and to the internet however; internet access may be limited due to faulty services.

ICT is also used by those employed in the non-ICT sectors within the country. These sectors include (Ministry for Telecommunications, Science, Technology and Innovation, 2010):

- the Judicial system which utilises ICT to facilitate the administration of the Courts such as reporting, sentencing, docket scheduling and warrants;
- the Financial Sector which utilises ICT to manage tax collection, and supports the Customs Division;
- the Agriculture Sector which utilises ICT to develop a national agriculture production and marketing information system to provide market information and intelligence to the sector;
- the Health Sector which can be assisted by ICT in the management of inventory and the provision of statistical information. ICT is also being introduced into various medical institutions at a larger scale including the provision of patient administration and medical records;
- the Educational Sector. Although there is currently no curriculum which incorporates IT at primary and secondary school level, and limited at the tertiary level, the process of connecting schools has accelerated within the last 3 years.

The development of the non-ICT sectors within the countries assist in the regulation, monitoring and operations of chemical management in the country.

The objectives of The National ICT Strategy and Action Plan of St. Vincent and the Grenadines (2010 – 2015) which may be relevant to the sound management of chemicals in the country include the enhancement of legislation and regulatory framework to embrace ICT nationwide, the integration of Government with all appropriate information and services online and knowledge effectively managed by 2015; and the effective but safe management of computer and waste.

5.3 Assessment

There are few laboratories, none accredited, with some capability with respect to monitoring of chemicals. However the lack of training and laboratory instrumentation makes it difficult to carry out minimal testing and analysis for chemical management. The Caribbean Regional Drug Testing Laboratory in Jamaica is frequently used to carry out any required works need to be done by the Ministries locally. The SVG Bureaus of Standards possesses the most equipped local laboratory within the country. In the laboratory assessment of the SVG Bureau of Standards it was reported that the existing laboratories lacked some of the necessary equipment and staff personnel required for the overall operation (The Caribbean Environmental Health Institute, n.d.). Despite this, the overall performance of the chemical and microbial laboratories was deemed sufficient in the various tests and monitoring activities conducted.

The SVG Bureau of Standards is recognized as the body responsible for the creation of an environment of standards, quality assurance and metrology in SVG. CARICOM Regional Organisation for Standards and Quality (CROSQ) is the regional centre for promoting efficiency and competitive production in goods and services, through the process of standardization and the verification of quality. In 2010, the Bureau of Standards collaborated

with the CROSQ to host a two day workshop entitled “Laboratory Quality Management Systems (ISO/IEC17025)”. The purpose of this workshop was to raise the standards of the various laboratories across SVG in both the private sector as well as in Government Institutions in order for them to be properly accredited. The laboratories participating in the workshop were the SVG Bureau of Standards, the Forensic Drug Laboratory, Central Water and Sewage Authority (CWSA), Bottlers Limited (JU-C), the Fisheries Division, Ministry of Health and the Environment, the Plant Protection Unit, and the Ministry of Telecommunications, Science, Technology and Industry (CARICOM Regional Organisation for Standards and Quality, 2010). This workshop initiated the need for the development of a centralized and accredited laboratory in SVG.

Chapter 6: Emergency Preparedness, Response and Follow-up

This chapter provides an overview of the capacity for preparedness, response to and follow-up of emergencies involving chemicals.

6.1 Chemical Emergency Planning

The St. Vincent and the Grenadines National Oil Spill Contingency Plan was drafted by the Marine Pollution and Oil Spills Management Committee in 1989. This plan envisaged the coordinated response of the committee which comprised members from the National Emergency Management Organisation (Lead Agency), the Ministry of National Security (the Ministry of Lead Agency);) and the SVG Coast Guard (Spill Notification Point; Response Agency and the National Operational Contact (under MARPOL)). In 1997, this Plan was redrafted as the National Pollution Contingency Plan to meet international Oil Pollution Preparedness, Response and Co-operation standards and updated further in 2009. This Plan is a subsidiary part of the existing national framework for preparedness and response to hazards as mandated by the National Emergency and Disaster Management Act No. 15 of 2006 (RAC-REMPEITC, 2009).

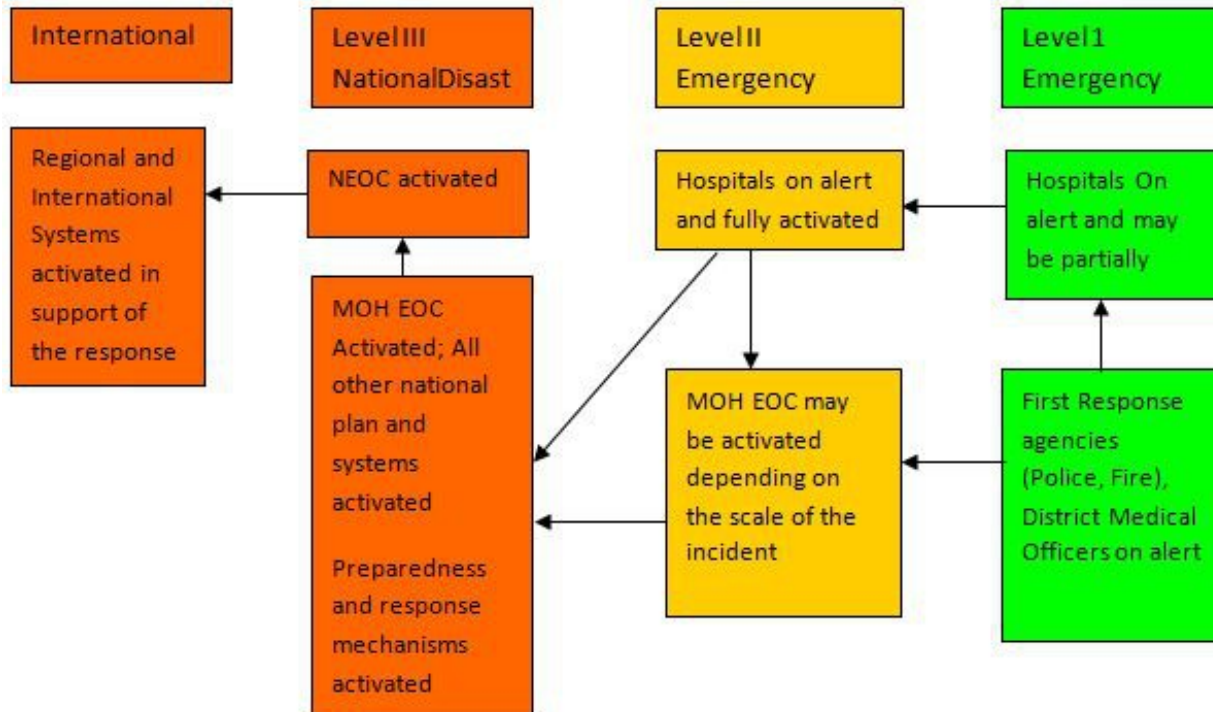
The National Implementation Plan for the Stockholm Convention on Persistent Organic Polutants (2015) was created as part of the commitment of SVG to reduce and eliminate the unintentional release of Persistent Organic Pollutants (POPs) and protect human health and the environment (The Ministry of Agriculture, Rural Transofrmation, Forestry, Fisheries and Industry et. al, 2015).

Individual agencies such as the Forestry Department and Fisheries Division are also working to put mechanisms in place to deal with disasters that could affect resources under their authority, with possible effects on areas outside national jurisdiction. Regional contingency planning is facilitated by agencies such as the Caribbean Disaster Emergency Response Agency (CDERA).

The National Emergency Management Organization (NEMO) is the authority responsible for the coordination of all national activities related to emergency/disaster preparedness, response and recovery in SVG. NEMO's role facilitates the preparation of response and recovery plans and hazard mitigation programmes by agencies having principal responsibility in those areas. The guiding principle is that of Comprehensive Disaster Management (CDM) (National Health Disaster Plan, 2011).

St. Vincent and the Grenadines also has a 2011 National Health Disaster Plan (updated in 2012) which forms an integral part of the National Disaster Plan and follows the guidelines and protocols established by NEMO. The overall purpose of this plan is the identification of actions to be undertaken by the Health Sector Department in order to reduce disaster risks and respond to emergencies and disasters. This plan caters to a variety of potential hazards which may occur in SVG and has among its objectives: preparedness, mitigation and recovery measures and mechanisms.

Figure 6-1 summarises theResponse Mechanism for SVG as provided by the 2011 National Health Disaster Plan. The Plan utilises three levels of response of increasing severity; Level I (First Respondents), Level II and Level III (National Disasters).



Source: Ministry of Health, Wellness and the Environment, 2011)

Figure 6-1: Emergency Responses based on graduated Chemical Spills Scenarios

6.2 Chemical Incident Response

St. Vincent and the Grenadines has a draft National Pollution Contingency Plan (2009) in order to deal with oil spills within the country's territory. The response agency dealing with oil spills with this mandate is the SVG coastguard. The coastguard has a small fleet of patrol vessels, one of which has a reasonable deck area that could be used to carry and deploy response equipment. However, there is currently no government owned specialized equipment in SVG. Chevron West Indies Limited and SOL EC Limited operate terminals and store fuel in Kingstown and hold a small stock of pollution response equipment comprising booms and skimmers sufficient to handle a Tier 1 spill at its facility. Chevron West Indies is a member of the Clean Caribbean and Americas (CCA) and would rely on their resources in the event of a major oil spill. The Response Policy of this Plan states the criteria for the use of chemical dispersants which was derived from The Caribbean Islands Oil Pollution Preparedness, Response and Co-operation Contingency Plan (1992). The country's contingency plan also states that due to severe problems of erosion, manual-cleaning methods must be used on sand beaches. In order to protect the few remaining mangroves in St. Vincent and more extensive mangroves on the island of the Grenadines, minimal clean-up should be carried out in these areas and cleaning of rocky areas should be executed manually (REMPEITC-Carib, 2009).

The National Disaster Plan(2005) of SVG assigns responsibilities for disaster response and planning among national ministries and private sector organizations, and provides specific plans for a variety of hazard profiles including hurricane, flood and volcanic activity and chemical releases. The plan provides a strong framework for committee participation at various levels including the participation of local emergency management committees. The

response mechanism is intricately tied to the type of hazard or threat and involves the following:

- Alert and notification (call out procedures)
- Activation and deactivation
- Mobilisation and deployment
- Resource allocation
- Incident management procedures
- Scene stabilisation
- Triage and treatment
- Transport and hospital care

6.3 Chemical Incident Follow-up and Evaluation

The draft 2011 National Health Disaster Plan has a Post Disaster Response Plan which provides an overview of the actions to be carried out by the Chief Medical Officer and the the designated committee after a disaster has occurred. In accordance with this Plan, all Ministry of Health senior staff, doctors, nurses, environment health officers and administrators, including those on leave at the time must report for duty to their assigned area. If the assigned area is not accessible, they will report to the health facility nearest to their location at the time of the disaster.

Additionally, the Chief Medical Officer in consultation with the Permanent Secretary (PS) activates the Health Emergency Operation Centre in accordance with the standing procedures and gives the Director of Emergency Operations full authority to direct the emergency operations; ensures that the Ministry is represented at the NEMO by its representative or his/her alternate and ensures that meetings are called daily or as often as necessary to receive reports, evaluate the situation and plan further action.

The Post Disaster Response Committee, among its responsibilities, determines and maps areas and populations that are affected by the disaster; determines the extent of the disaster from reports received and by conducting actual surveys of the areas is necessary; establishes means of communication with senior health personnel in the disaster area and assesses reports of casualties and evaluates the ability of local health staff to deal with the situation. It also arranges for the deployment of additional health personnel into the area if necessary and alerts hospitals and other facilities outside the area to receive casualties if necessary. The Permanent Secretary and Health Disaster Co-ordinator have the responsibilities to call and prepare for the meeting of the Standing Disaster Preparedness Committee in January of each year and carry out and arrange follow-up actions as necessary.

The National Insurance Scheme of St. Vincent and the Grenadines also requires that incidents and accidents be reported. This data is however unavailable concerning the number and severity of accidents occurring in the industries.

6.4 Assessment

A qualitative risk assessment conducted for SVG as part of the 2011 draft National Health Disaster Plan determined the country's risk to various types of identified hazards. Among the potential hazards assessed, the risk of a chemical release poses a threat as a result of the release of toxic gases. Although it was stated that the country has no previous records of significant releases of toxic chemicals, it was determined that chemical releases can potentially

occur at any time and pose a medium to high severity impact on citizens and the environment. These releases may derive from volcanic eruptions, or as a result of the destruction of infrastructure during landslides which may occur several times during the year. Though the frequency of a volcanic eruption is low, toxic and flammable gases may be released during such an event. Additionally, major transportation accidents (land, sea and air) and oil fires may contribute towards the release of toxic chemicals into the atmosphere. The risk of such threats are increased because the islands within the Grenadines do not have the necessary facilities in order to deal with chemical waste and as such have to rely on the transportation of the chemicals to the mainland, St. Vincent which is better equipped at the landfill.

The risk of explosions or fires poses a threat due to excessive heat and/or concussive forces that can lead to death and infrastructural damage. No industrial risks were identified due to the lack of industries in the country. However health facilities in the country store and use explosive gases. The severity of this risk was ranked as low to medium.

Acts of terrorism may also introduce explosive hazards to St. Vincent and the Grenadines and result in death and injuries to masses. Though the frequency of such an event was identified as low, the severity was ranked as medium to high.

St. Vincent and the Grenadines has very limited measures in place to handle such events. One of the main responses systems is the Emergency Response system: The Response Policy of the National Oil Policy Contingency Plan; the criteria for the use of dispersants as laid out in the Caribbean Island OPRC Plan. Additionally, the Response Agency to deal with Oil Spills is the St Vincent and the Grenadines Coast Guard.

Based on the above, it is crucial that there be an Action Plan specifically built for the Emergency Response that is to be carried out in the event of Chemical incidents both on land as well as at sea. The draft Chemical Policy 2013 of SVG seeks to address the need for the implementation of a Chemical management Plan for the country. The goal for the policy identifies an appropriate national goal for chemicals management, and defines objectives and policies in respect of the sectors for which regulatory control is considered to be required.

Chapter 7: Chemical Awareness and Understanding

This chapter gives an overview of the mechanisms available to provide information to workers and the general public concerning the potential risks associated with chemicals and the capacity for training and education of target groups affected by chemicals.

7.1 Awareness and Understanding of Chemical Safety Issues

Although there is no national policy at present in SVG on Occupational Health and Safety (OHS), the Government of St. Vincent and the Grenadines is in the process of drafting an OHS legislation to replace the outdated Factories Act, Chapter 335 (1955), revised edition 1990. An OHS committee was set up to examine the ILO CARICOM model on Occupational Health Safety and the Working Environment and, the recommendations from the committee with respect to the terms and conditions in the model law would be incorporated into the OHS bill. The Factories Act (1955) does not address specifically whether workers have the right to remove themselves from work situations that endanger health or safety without jeopardy to their continued employment, but it stipulates conditions under which factories must be maintained. Failure to comply with these regulations would constitute a breach, which might provide legal cover to a worker who refused to work under these conditions.

Provisions for workers' health have been incorporated into a health sector plan for St. Vincent. Under this health sector plan, there is the proposed establishment of an OSH National Advisory Council. With support from the Pan-American Health organisation (PAHO), national OSH educational projects have been designed for St. Vincent. The National Insurance Scheme and the Ministry of Health hosted OSH workshops in 1998. These workshops reported on the sound management of chemicals in the Caribbean and stated that public awareness, education and training is needed in SVG for chemical management at a national level.

The national capacity self-assessment conducted for the period 2005 to 2006 in SVG reported that one of the initiatives to raise public awareness on chemical safety issues is via the Enhance Communications Unit of the Ministry of Health and the Environment to sensitize communities on the effects of agrochemicals. Additionally, the National Emergency Management Organisation (NEMO) has, among its responsibilities, to analyse and forecast the nature of potential hazards and develop and disseminate information packages in order to enhance the capability of individuals, government entities and the private sector to cope with emergencies.

The St. Vincent Electricity Services Limited has an OSH week annually and invites qualified personnel in the field to have discussions with workers. This is part of the company's efforts to ensure environmental awareness and vigilance by providing environmental training and sensitization to the employees

The All Island Recycling facility also hosts a school bottle collecting programme whereby plastics and cans are collected from schools and mangled on site. These activities assist in raising awareness to students on the importance of recycling. Recycle bins are also provided to the schools and communities to encourage persons to engage in environmentally sound methods of waste disposal.

7.2 Education and Training for Sound Management of Chemicals and Waste

According to the National Capacity Self-Assessment conducted for the period 2005 to 2006 in St. Vincent and the Grenadines, much of the information designed for public education is reserved in the domain of academia and is not readily available to the general public. Education of the public on issues relating to sustainable development and environmental management is scarce.

Initiatives mentioned in the National Capacity Self-Assessment specific to education relating to chemicals and wastes include:

- education of the farming community on issues surrounding agro-chemical use;
- the MAFF to have information sessions with farmers and community groups on the negative impacts of chemicals used in agricultural practices and promote alternative measures for good farming practices; and
- the provision of training for Pesticides Control Board members on knowledge of agrochemicals, chemical assessments, etc.

NEMO also has the responsibility to prepare communities to react promptly in order to save lives and protect property in the event that the island is impacted by a disaster or major emergency of any kind. In this regard, the role of the National Emergency Organization is that of providing training for the various agencies involved in disaster management. It is required to identify the skills necessary to implement national disaster management programmes and source the necessary trainers to prepare and conduct relevant training of relevant parties. Chemical hazards are among the many hazards identified under the National Health Disaster Management Plan and as such training relevant to these hazards will be included.

In 2012, a two day chemical safety workshop was held in SVG. The workshop participants included representatives from government ministries, statutory bodies and agencies, and the private sector including major importers of chemicals. This workshop aimed to inform participants on the importance of chemical safety in the workplace, at home and in the wider community, as well as to promote general awareness of the importance of chemical safety communication tools and how to use them effectively. A team from the Caribbean Environmental Health Institute (CEHI) conducted the Chemical Safety Workshop. The workshop was intended for workers with a need to widen their general knowledge pertaining to chemical safety in their workplaces and targeted those who handled chemicals on a daily basis either in the procurement, use, handling or transportation and disposal, as well as persons who are responsible for guiding and educating other workers in the safe use and handling of the chemicals

7.3 Assessment

Awareness and education programs are conducted by both government and non-governmental organisations within the country as part of each organisation's individual social and environmental corporate responsibilities. These programmes help to foster an attitude of awareness personal responsibility among employees and the general public.

Public awareness and education is crucial in SVG in its quest for an effective chemical management system. This is because persons who are educated and/or sensitised to the impacts of chemicals and chemical wastes on the environment and their quality of health, will serve as the driving force required for the authorities in the country to implement or improve effective chemical management systems in the country.

Chapter 8: International Linkages

This chapter describes national participation and involvement in international organisations and agreements concerned with the management of chemicals. It also serves to identify opportunities for an integrated approach at a national level.

8.1 Cooperation and Involvement with International Organisations, Bodies and Agreements

A number of organizations and agencies in SVG have established working relations and linkages to regional and international bodies which are concerned with various aspects of the sound management of chemicals.

Table 8-1 lists the international organizations involved with chemicals management and the related national activities.

Participation in these international organizations, bodies and agreements has been limited with certain focal points being more active than others. Two major challenges encountered are that often times a single individual may be the focal point for several international and regional organizations and there is a very small pool of resource personnel that would allow the desired and required level of attention and follow up. There are also several activities that, while they do not have a direct focus on chemical management, can provide indirect support in certain areas of integrated chemicals management. Several of these activities are in the form of specific projects with specific time frames. Table 8-2 shows the Participation in International Agreements/Procedures Related to Chemicals Management.

Table 8-1: Membership in International Organisations, Programmes and Bodies

International Organisation/Programme/B body	Related National Activities
UNEP	ODS Phase out plan 2010 Terminal phase-out management plan for CFC's 2008
WHO	Pharmaceutical Country Profile Saint Vincent and the Grenadines
ILO	Regional Global Harmonized System (GHS) Workshop for the Caribbean (2013)
UNDP	ODS Phase out plan 2010 Terminal phase-out management plan for CFC's 2008
World Bank	Climate Change Enabling Activity (Additional Financing for Capacity Building in Priority Areas) Enabling to Prepare its First National

	Communication in Response to its Commitment to UNFCCC
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Table 8-2: Participation in International Agreements/Procedures Related to Chemicals Management

International Agreements	Primary Responsible Agency (designation of focal point)	Relevant National Implementation Activities
SAICM	Ministry Health, Wellness and the Environment	Funding for project implementation to meet the initiatives under the different agreements and conventions. MOU prepared reviewed and signed by the CEHI and Government of SVG
Stockholm Convention	Environmental Management Department, Ministry Health, Wellness and the Environment	Implementation of the; e.g. public awareness to relevant stakeholders, schools etc. Participation in the GEF-UNIDO project "Development and Implementation of a Sustainable Management Mechanism for POPs in the Caribbean". Participation in the FAO project "Disposal of Obsolete Pesticides, including POPs, Promotion of Alternatives and Strengthening Pesticides Management in the Caribbean". Develops policy, legislation, standards for environmental protection and conservation
Rotterdam Convention	Ministry of Health, Wellness and the Environment	Implementation of projects related to the safe management of the chemicals subject to the Pic procedure via projects listed under the Stockholm Convention above, as relevant.

International Agreements	Primary Responsible Agency (designation of focal point)	Relevant National Implementation Activities
		Transmission of local chemical usage to the Secretariat for further use by the CRC, as required.
Basel Convention	Public Health Department, Ministry of Health, Wellness and the Environment	Develops policy, legislation, standards for environmental health. Responsible for municipal waste collection and management of sanitary landfills. Undertakes monitoring and enforcement of public health regulations.
Montreal Protocol	National Ozone Unit, Ministry of Health, Wellness and the Environment	Implementation of a national phase out plan for hydrochlorofluorocarbons (HCFCs); e.g. training of technicians, custom brokers etc. Retrofitting of foam companies currently using HCFCs as an agent in production; Phase out of methyl bromide as a fumigant; Public awareness; schools, mall displays etc. Purchase of ozone friendly equipment; e.g. hydrocarbon leak detectors Refrigerant Management Plan Develops National Action Plans for compliance with Montreal Protocol.
Food and Agricultural Organization (FAO) of the UN	Ministry of Agriculture – mostly the Plant Protection Unit	Provides information on agricultural and household pesticides
International Agency for	Ministry of Health-	Hazard assessment;

International Agreements	Primary Responsible Agency (designation of focal point)	Relevant National Implementation Activities
Research in Cancer (IARC)	Chief Medical Officer/	carcinogenicity Safe use of chemicals at work; preventions of industrial accidents
International Labour Organization (ILO)	Environmental Management Unit Labour Department	
International Maritime organization (IMO)	Customs Department	Transport of dangerous goods; : marine pollution
International Programme on Chemical Safety (IPCS/UNEP/ILO/WHO)	Ministry of Health- Environmental Management Unit; Chief Medical Officer; Labour department	Risk assessment ; guidance for setting exposure limits; guide of safe use
United Nations Environmental Programme(UNEP)	Ministry of Health (Environmental Management Department (EMD); Office of the Chief Medical Officer; Labour Department; Ministry of Trade and Industry	Chemicals assessment and management of environmental and health effects; cleaner production; awareness raising about accidents
World Health Organization (WHO)	Ministry of Health (Office of the Chief Medical Officer, Pharmaceutical Department	Chemicals- pharmaceuticals and health effects
Food and Agricultural Organization (FAO) of the UN	Ministry of Agriculture – mostly the Plant Protection Unit	Provides information on agricultural and household pesticides

8.2 Participation in Relevant Development and Technical Assistance Projects

Table 8-3 summarises some of the activities undertaken by SVG as a result of its membership in the various international conventions and organisations. The continued commitment to these initiatives will serve to benefit the country in its goal for an improvement in the chemical

management system. So far, with FAO support, Caribbean countries have located nearly 300 tons of obsolete pesticides that include some of the most dangerous chemicals that have been banned internationally such as dieldrin and heptachlor. This information is being used to plan a clean sweep of the region in order to safely dispose of all existing obsolete pesticides at an estimated cost of US\$ 2 million (Food and Agriculture Association, 2013). The GEF/UNIDO project was approved by the GEF Council in 2013 and seeks to enable the region to reduce and/ or eliminate the threat of POPs as part of the obligations under the Stockholm convention, within the context and realities of eight (8) Caribbean countries, inclusive of SVG. This project is expected to be completed by 2018.

Table 8-3: Participation as Recipient in Relevant Technical Assistance Projects

Name of Project	International/ Bilateral Donor Agency involved	National Contact Point	Relevant Activities
Program on support for fisheries and fishing community development	Japan's Assistance Program	MAFF	Caribbean Fisheries Co-Management Project between fishermen and administration Training Program in the field of coastal fishery development
Testing a Prototype Caribbean Regional Fund for Wastewater Management (CReW)	GEF	MOHWE/CW ASA	Improved marine and coastal ecosystems functioning as a result of wastewater investments and policy reforms; Improved well-being of people whose livelihood depends on coastal and marine ecosystems; Enhanced pollution control in the Caribbean Basin; Reduction in the incidence of waterborne diseases; Increased ratification and implementation of the Land Based Sources of Marine Pollution Protocol (LBS Protocol);
Project on	UNEP-GEF	MOHWE	Institutional strengthening

Name of Project	International/ Bilateral Donor Agency involved	National Contact Point	Relevant Activities
Development of National Biosafety Frameworks			for agencies addressing biosafety through training of personnel 4. Enhancing inter-sectoral coordination between the agencies/stakeholders in biosafety - Technical and Scientific Authority 5. Public Education, Awareness and Involvement of issues relating to biosafety and the development of the NBF
Solid Waste Management Improvement Project	WB/CDB/GEF	CWASA/MO HWE	Improve waste management through the establishment upgrading of landfills, the provision of equipment and the strengthening of the legal framework. In addition, work commenced on the Windward Water Supply Project which is aimed at improving the quality of water supplied to the Windward Coast and the south-eastern part of island of St. Vincent.
Country Programme Framework (CPF) 2012 – 2015 For St. Vincent and the Grenadines Agricultural Sector	FAO	MAFF	To foster Agricultural entrepreneurship. II. To boost production in crops, livestock, forestry and fisheries. III. To conserve the natural environment as well as to increase biodiversity. The major responsibility of the State is to provide the enabling environment and the right incentives.

8.3 Assessment

The CSDU within the Ministry of Health, Wellness and the Environment is responsible for the implementation of the various multilateral environmental conventions that SVG has signed. These include the United Nations Framework Convention on Climate Change (UNFCCC), the United Nations Convention on Biological Diversity (UNCBD), the Montreal Protocol, the United Nations Convention to Combat Desertification (UNCCD), the Cartagena Protocol on Bio safety as well as the Chemical-related conventions.

The government of SVG is involved in a series of agreements and international activities linked to the management of chemicals. SVG is a member of the United Nations and several of its specialized agencies such as the ILO, UNEP, UNIDO, FAO and UNDP and has ratified the following Conventions:

- Vienna Convention (1985) on substances that deplete the ozone layer;
- Basel Convention (1989) on the Transboundary Movement of Hazardous Waste;
- Stockholm Convention (2002) on Persistent Organic Pollutants (POPs);
- Rotterdam Convention (2019) on Industrial Chemicals and Pesticides.

These international agencies assist developing countries and countries in transition with technical and financial resources to meet the requirements of the different conventions. The international programs work with specific national counterparts or focal points appointed by the competent Secretariat and are responsible for aligning proposed activities with institutional planning. As such, the degree of development of national implementation activities of international agreements varies between organisations in terms of priorities and resources.

The development of synergies between the different conventions is important as it improves the use of available resources through more coordinated national frameworks, institutional mechanisms and enforcement capacity dealing with chemicals and wastes, reduces cost of implementing the conventions through synergistic efforts and leads to raised profile of the issue at the national, regional and international levels which can result in increased resources to support chemicals and waste management programmes. Further benefits that derive from the development of synergies include:

- better coordinated technical assistance activities
- better use of resources to support developing countries and countries with economies in transition to implement the conventions
- the development of an integrated approach towards sound chemicals and waste management
- the opportunity to mainstream those issues into national development plans

International cooperation with the ILO in the field of occupational safety and health in the Caribbean region has continued since the start of the 1980s. The follow up to the 1995 Workshop should contribute to the implementation of the provisions of the ILO Chemicals Convention, 1990 (No. 170) and to eventual ratification thereof. Additionally, the collaboration with the WHO has been positive in promoting several occupational safety and health initiatives.

Chapter 9: Availability of Resources for Chemical Management

This chapter provides an overview of the human resources available within government Ministries and related agencies as well as non-governmental organisations to various aspects of chemicals management and highlights resources needed to strengthen the management of chemicals.

9.1 Resources available in Government Ministries/Institutions for Chemical Management

Various government departments share the human resource element required to implement the provisions in the environmentally sound management of chemicals. In two Departments/Units, there are designated officers with responsibility for chemical management related issues. The Chief Plant Protection Officer is the focal point for SAICM while the Director of Environmental Management is the focal point for the chemical related conventions. The Environmental Health Unit acts as an inspectorate for the Public Health with a sub-unit responsible for environmental engineering issues to include monitoring and assessment.

The Plant Protection Unit has two officers designated as Pesticide Inspectors with the responsibility of inspecting storage areas and visiting farmers. The Ministry of Agriculture has Agricultural Extension Officers with the responsibility of visiting farmers to give information on best practices, farm management and safety in the use of pesticides. There is also various government agencies Labour Inspectorate with the authority to audit processes and services involving aspects of chemical management (investigate problems associated with human (public and occupational) exposure and chemical accidents; carry out inspections of plants, materials and equipment, seeking compliance form industry).

Table 9-1 provides a summary of the resources available within the government Ministries and Institutions for chemical management.

Table 9-1: Resources Available in Government Ministries/Institutions

Ministry/Agency concerned	Type of Expertise Available
Customs and Excise Division	Imports and Exports of Chemicals (e.g. agrochemicals)
Ministry of Health, Wellness and Environment	Chemical Management
Ministry of Agriculture, Forestry and Fisheries	Chemical Management
Statistical Department	Statistical Data on quantities of various chemicals
Pesticides Control Board	Registers pesticides and collects information about each one
Pharmaceuticals Services	Registers pharmaceuticals entering the country and collects information about them
National Insurance Scheme	Data on the number and type of accidents
Labour and Ecclesiastical Affairs (Labour Department)	Occupational Health and Safety Issues on human health and the environment
Ministry of Transport	Safe transportation and storage of chemicals
Ministry of Trade	Issuing of Trade permits
Government Printing/Publications offices	Publication and distribution of laws, regulations and other government documents
Ministry responsible for Planning	Donation or receipt of development assistance, which could include e.g., chemicals for agricultural use, technical or financial assistance for the development of chemical industries, or technical assistance for the management of chemicals
Ministry of Foreign Affairs	Coordinate all international aspects of chemicals management, such as the participation in relevant international agreements and conventions

9.2 Resources needed by Government Institutions to fulfil responsibilities related to Chemicals Management

St. Vincent and the Grenadines requires trained professional staff to ensure the sound management of chemicals. The Ministries are understaffed leaving the majority of the workload on a few individuals. Experts are needed in the field of environmental management, environmental policy and compliance, field technicians, IT personnel, chemistry, biology, toxicology and health and safety. However, the availability of finance for wages remains an issue when hiring professionals.

9.3 Resources available in Nongovernment Institutions for Chemicals Management

The resources available from nongovernmental institutions for chemicals management in SVG include the following:

The Trade Unions in SVG are generally responsible for defending, advancing and protecting the interests of the working class at the workplace and in the community, which includes the health and safety of workers. The St. Vincent Employers' Federation (SVEF) is concerned with occupational health and safety issues, as well as those related to human resources

management and industrial relations. The organization acts as a watchdog for legislation that affects employers and sits on the Tripartite Committee on the economy (Kairi Consultants Ltd., 2008).

St Vincent Electricity Services Limited, the island's power generating company has a very structured health, safety and environmental program, with trained professionals and equipment for testing and monitoring potential environmental hazards. The Company has set out in its manual of operations "SAFETY RULES" - policy statements with defined procedures and responsibility. Resources available from VINLEC can be used to enhance or bridge the gaps on chemicals management in SVG.

The Sol Group is a leading petroleum company, supplying fuels, lubricants, bitumen and LPG through an extensive service station network in SVG. Sol also has primary interests in marine, aviation and commercial operations across the Caribbean. The Sol Group is committed to health and safety within the workplace as well as environmental protection by:

- establishing a safe workplace in pursuing the goal of no harm to people;
- integrating health and safety in workplace activities;
- protecting the environment and its biodiversity;
- using material and energy efficiently to provide our products and services;
- managing security risk;
- promoting a culture in which all Sol employees and contractors share this commitment; and
- playing a leading role in promoting best practice in our industry.

The achievement of these goals are guided by specific policies and procedures which assess the diverse environment in which the company operates and the emphasis on safety training sets the guidelines for specific behaviours and procedures to be followed by our workforce.

The St. Vincent Brewery also has an effective environmental, health and safety programme in place, with emphasis being placed on chemical management. The Brewery practices voluntary compliance.

9.4 Resources from Development Assistance Activities

Many developing countries and those in economic transition benefit from multilateral and bilateral assistance activities related to the management of chemicals. These include development assistance and technical cooperation with the UN agencies such as FAO, ILO, UNEP, UNIDO, UNITAR, WHO, and UNDP, as well as capacity building projects with GEF and bilateral donors. In many cases more than one funding agency may be involved. Table 9-2 gives a summary of funding institutions and support given to SVG to better manage chemicals.

Table 9-2: Resources Available through Development Assistance and Technical Cooperation Activities

Funding Institution and International Supporting Institutions	Title of Project and duration dates	Type of Expertise provided
Caribbean Environmental Health Institute (CEHI) funded by Natural Resources Systems Programme (NRSP)	Impacts and Amelioration of agrochemical pollution in Caribbean Waters (2000 – 2003)	Technical expertise based on project
FAO funded through Regional European Union Commission	Food and Agriculture (FAO's) Technical Cooperation Programmes (TCP) (2012)	Capacity building, assistance in policy formulation, agriculture planning and agriculture legislation development
CARDI	(Continuous)	Conducts agricultural research for and on behalf of the government
IICA	Developing small-holder enterprises and producer organizations. (2010 – 2014)	Provides technical support in the areas of capacity building, training and technical assistance
The Taiwanese Technical Mission (TTM) funded by MOFA	Agriculture and Horticulture Development Project (2011 – 2013)	Agricultural and Rural Development in St. Vincent and the Grenadines

9.5 Assessment

A comprehensive management of chemicals requires necessary resources. The private sector has some expertise as well as capacities in terms of financing, hence it is important to enhance collaboration and coordination between the Government agencies and the private sector. There are other supportive agencies which can further strengthen the human resource base in the management of chemicals in SVG. The Customs Department can provide technical support in the storage of dangerous goods. The Bureau of Standards and the Central Water and Sewerage Authority with their laboratory personnel can assist in carrying out exposure assessment and monitoring. The support of the Fire Department can be sought, as one of their roles is that of a first responder. The sound management of chemicals also requires the right professional disciplines such as chemistry, toxicology, environmental sciences, environmental engineering, occupational hygiene, and chemical engineering. Training and skill development is

essential, both technically and scientifically. Exchanges can be negotiated with other countries of the regions to assist in such development.

The different government ministries and agencies have environmental professionals with varied backgrounds working with chemicals management. However, in order to strengthen the development of capacities and the formation of human resources the following specific areas of chemical management need to be staffed:

- Regulation and policy development
- Coordination/project management
- Management of information on chemicals and chemical waste
- Designing and implementing procedures and tools for managing chemicals
- Chemical waste, in particular, storage, transportation and disposal of hazardous chemicals

Initiatives deriving from the recognition by the Government of the importance of an effective chemical management system and the country's membership in a number of related international conventions and organisations contribute to the improvement of deficiencies present in the system.

Chapter 10: Conclusions and Recommendations

This chapter concludes the National Chemical Profile for SVG which discusses the current situation of chemicals management within the country. Its intent is to summarize the properties and propose recommendations for the actions considered most important.

10.1 Chemicals Management situations in St. Vincent and the Grenadines

St. Vincent and the Grenadines is not an industrialized country and depends on the importation of a variety of chemicals for use in the country. Owing to this and its small size, the country suffers from a limited capacity to manage potential risks, and ensure the sound management of chemicals and waste. The Government of SVG has responded with initiatives such as laws, policies and practices, ranging from national to regional and international efforts. However, the focus of these initiatives has been geared towards agrochemicals. This has its genesis in the Pesticides Control Act (1975) which focused on pesticide use (related to the thriving agricultural industry of that era in particular the bananas industry). The development of measures to control other chemicals is at an infancy stage and the situation is compounded by the inadequate administrative arrangements for the management of chemicals as stipulated by the Draft Pesticides and Toxic Chemicals Control Act.

St. Vincent and the Grenadines has a fragmented approach to chemicals management as there are many institutions and agencies involved in some aspects of chemical management, each with their own policy, legislation and mandate. None of the management aspects of chemicals however, are broad and deep enough in scope to address chemical management as a whole. The main legal body for the administration of the measures required for the management of chemicals at the national level is the PCB. The PCB however, is faced with financial problems. There are no resources available to increase the level of efficiency at which the Board functions (includes level of staffing, record keeping, monitoring and research). The execution of the functions of the Board is on a voluntary basis and the dedication of time to address the responsibilities of this body is less than desirable, resulting in unfinished business.

Effective integration and coordination are hampered by some basic constraints such as the absence of a sound and comprehensive national policy on chemical management, inadequate legal and regulatory frameworks for managing chemicals (multiplicity of laws dealing with separate aspects of chemical management encourages compartmentalization) and lack of awareness of the principles of sustainable development, and an appreciation of the inseparable linkages between environmental, social and economic issues.

St. Vincent and the Grenadines also faces additional issues with regards to chemical management, inclusive of but not limited to the following:

- Lack of protocol for the control of chemicals: The protocol for the control of chemicals at the Port Authority is limited and although the permitting system by the PCB and verification by the Customs is in place, there are areas that need improvement. There are also existing gaps with respect to the need to eliminate risks associated with handling of chemicals on clearing of containers and storage in designated areas.
- Improper and inadequate disposal of chemicals and containers: Disposal arrangements for hazardous wastes, spent chemicals and containers are inadequate and limited to deep burial and containment. Containers may also be disposed in an indiscriminate manner.
- Inappropriate use of Personal Protective Equipment (PPE): The entire management regime for toxic chemicals requires that handling and storage utilize protective devices that will preclude harm to personnel. This area is lacking in St Vincent due to limited education, resources and self-preservation awareness. There is not a culture of safety or commitment to follow safety procedures.
- Limited protocol for transportation and use of chemicals: The absence of a management plan for chemicals at the national level has transcended to other sectors and sub-sectors. This is typified by the agricultural use and application of chemicals in an ad hoc manner and by the proliferation of *ad hoc* mixing of chemicals.
- Insufficient data for chemical management: A thorough inventory of chemicals is not available for St Vincent (an inventory of spent pesticides has been undertaken- through an FAO funded project). A database of imported chemicals is non-existent and information on imported chemicals is classified under broad headings. This makes it difficult to access information on specific chemicals and determine potential risks.
- Monitoring: There is a need for effective monitoring programmes in the environment and biological systems. Where monitoring does take place, it is done on an *ad hoc* and specific research oriented basis. Very often the results of such monitoring are not utilized for decision making related to chemicals management.
- Research and development: There is limited country specific information on the chemicals imported and no program is in place to monitor the exposure to chemicals to assess the actual threat to humans and the environment. Analytical capabilities are limited to basic testing and analysis for chemicals, with only one recognized laboratory (SVG Bureau of Standards) in the country. All laboratory based work carried out for managing chemicals are outsourced to other Caribbean countries. The other laboratories in SVG are geared to medical related analyses.
- Information management: There is limited capacity and capability to collect, collate and disseminate information dealing with health and environmental issues associated with inappropriate management of chemicals.

10.2 Recommendations

The NCP (2015) for SVG functions as a working document to evaluate the management of chemicals at a national level. The management of chemicals and associated wastes involves the process of directing, coordinating and controlling the life cycle of chemicals in order to promote an integrated approach to the sustainable production and consumption whilst minimizing the negative effects at a local, national and regional level.

The effective management of chemicals therefore requires better information gathering and integrated approaches to chemicals, and waste management, supported where appropriate by improved environmental governance. The management approach should focus on sustainable development, with emphasis placed on preventative rather than curative actions. The complete life cycle of chemicals must be assessed with the ultimate result conforming to a 'cradle to cradle' approach to chemical management. This will encourage the recovery and recycling of chemicals to reduce the quantity of chemical waste generated. Appropriate information systems, human and financial resources are required.

Five key issues are of primary importance to achieve the sound management of chemicals in the country:

- Legislative reform;
- Set up a National Committee for chemicals management;
- Information transfer and data accessibility;
- Increased infrastructural and technical capacity; and
- Public awareness, training, and education.

Legislative reform

A coherent and comprehensive legal framework needs to be established for the management of chemicals in St. Vincent and the Grenadines. The draft Pesticides and Toxic Chemicals Act should be implemented and this Act should make provisions for implementing the Rotterdam and Stockholm Conventions. Comprehensive regulations should also be prepared under this Act. The draft Occupational Health and Safety Act as well as the draft Environmental Management Act under which the draft Hazardous Waste Regulations should be prepared need to be enacted. These Acts need to be coordinated so that these three pieces of legislation are harmonized to remove possible contradictions and conflict.

It is essential that a holistic and comprehensive national policy for chemicals management be developed in St. Vincent and the Grenadines.

A legislative review would include the draft Pesticides and Toxic Chemical Control Act, the Public Health Act and other legislation regarding workers' protection, and environmental preservation. Any policy developed must also take into consideration the country's international and regional obligations and must also seek to address the issue of participation by both the private sector and the population at large in chemicals management.

Set up a National Committee for Chemicals Management

In an effort to maximize the use of human resources from various agencies with some capacity to manage chemicals, the establishment of a National Committee for Chemicals Management can be beneficial. The Committee will be responsible for improving the efficiency of institutional and organizational structures to improve the overall effectiveness of the coordinated management of chemicals as well as lead in the decision making process for chemical imports to SVG as required under the obligations of the Rotterdam Convention. This Committee can be chaired by the Pesticide Control Board, with stakeholders from EMD, FPU,

EEU, VCU, CSDU, Ministry of Finance and Trade, Port Authority, Customs and Excise, the Solid Waste Authority, NGOs such as All Island Recycling and the private sector such as Input Warehouse and VINLEC.

Information Transfer and Data Accessibility

There is need for a comprehensive chemical characterization inclusive of hazard characterization of chemicals in SVG. The existing database needs to be improved and maintained such that it is capable of providing support information that can enhance the management of chemicals. This information system must be flexible enough to receive information from various sectors, perform inter and intra sectoral collation and analysis and be relatively accessible. This will allow information on chemicals at the national level to transcend sectoral and institutional boundaries and support interagency access.

This database can be developed, managed and maintained by the Chemicals Management Authority in collaboration with the Ministry responsible for health and other key agencies. The Environmental Department should implement a chemical tracking mechanism that can be shared with the Customs Department, the Port Authority, the Ministry of Trade, the Statistical Department and the Solid Waste Management Unit. This mechanism would require importers to declare the proposed storage facility to allow for annual inspections.

Increased Infrastructural and Technical Capacity

A centralized facility for the storage of expired and unused chemicals should be established with standard operating procedures. A disposal facility for chemicals and chemical waste is also recommended to ensure the safe disposal/destruction of industrial chemicals in an environmentally sound manner.

As a priority SVG requires the establishment of a functional, fully equipped scientific laboratory. This should be one centralized laboratory with the capacity to carry out all essential chemical, biochemical and microbial testing, monitoring and analysis in different environmental media. This initiative can be in collaboration with the SVG Bureau of Standard since they already have the basic infrastructure in place.

There is also the need to strengthen the institutional capacity of the Environmental Management Division to execute functions related to chemicals management as the organization, management and operation of the recently established Environmental Management Division remain a work in progress. Administrative procedures, division of labour, human resources management and the health information system are still needs to be refined. Further, the synergy to be derived from the engagement of other sectors such as the Ministry of Agriculture is still under construction.

Public Awareness, Training, and Education

Emphasis must be placed on raising public awareness on environmental issues to enhance sound use and management of chemicals and create an understanding of the contribution that improved chemical management can make to social and economic development of the country. Participation, public awareness and education will be achieved through the following:

- Develop communication channels among the institutions at both the national and local level for the exchange of programmes related to participation, public awareness and education.
- Include issues of chemical management in school curricula.
- Create reference centers and agencies (these need not be new physical entities) with specific mandates to develop public information strategies, programmes and materials.

- Develop mechanisms to secure the participation of all stakeholders, including the local community and the private sector in chemical management and sustainable development. The mechanisms must ensure the breadth and depth of participation.
- Develop and implement public awareness and education for targeted publics (including politicians, policy and decision-makers, NGOs, schools and communities) in the areas of sustainable development in general and chemical management in particular.

Most of the chemicals used in SVG are imported, making the Customs and Excise the first control point where management measures should be implemented effectively. The Customs Department is therefore a key player in any programme for the management and control of toxic chemicals. The Customs Officers and other related personnel need to be trained in the inspection and identification of toxic chemicals as well as the efficiency with which they can deliver toxic chemicals control measures.

By extension the training across sectors in the management of chemicals also needs to be addressed together with the practices employed for the handling, storage, distribution and use of toxic chemicals. Training on the use of materials safety data sheets should be encouraged among stakeholders to ensure rapid responses in the event of an emergency.

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Annex I

**Data required to update the
National Chemical Profile for St.
Vincent and the Grenadines**

Introduction

The NCP for St. Vincent and the Grenadines (SVG) will be updated in a collaborative and comprehensive manner ensuring data accuracy, where data are readily available, and transparency. The existing National Chemical Management Profile was reviewed and the document will be updated based on the guidance document entitled *“Preparing a National Profile to Assess Infrastructure and Capacity Needs for Chemical Management”* (UNITAR, 2012). It is suggested that the National Profile contains, in addition to an introductory section and an executive summary, 10 distinct chapters and a series of annexes, as appropriate. Table 1 outlines the recommended structure of the National Chemical Profile.

Table 1: Outline of National Chemical Profile document

Executive Summary
Introduction to the National Profile
Chapter 1: National Information Overview
Chapter 2: Legal and Institutional Capacity for Chemicals Management
Chapter 3: Chemical Production, Import, Export, Storage, Transport, Use and Disposal
Chapter 4: Data Viability for Chemicals Management
Chapter 5: Infrastructural Capability for Managing Chemicals
Chapter 6: Chemical Emergency Preparedness, Response, and Follow-up
Chapter 7: Chemical Awareness and Understanding
Chapter 8: International Linkages
Chapter 9: Availability of Resources for Chemicals Management
Chapter 10: Conclusions and Recommendations
References
Annex I: Data required to update the National Chemical Profile for St. Vincent and the Grenadines
Annex II: Participation of Ministries, Organisations and other Stakeholders
Annex III: Overview of Legislation governing Chemicals Management in St. Vincent and the Grenadines
Annex IV: St. Vincent and the Grenadine’s Import and Export for 2012

The rest of this document gives a detail account of all the information required to update the NCP on a chapter basis.

Chapter 1: National Background Information

Table 1-1: Overview of National Economic Sectors

National Economic	Economic sub-	Major products	Number of	Number of	Contribution to GDP	Output Value	Growth Rate

Sectors	sectors		Employees ('00) 2014	Facilities	(%) 2014	(US\$ millions)	(%) 2014
Agriculture and Forestry							
Fishing							
Mining and quarrying							
Manufacturing							
Electricity and water							
Construction							
Secondary Industries							
Tertiary Industries							

Table 1-2: Structure of the Major Economic Sectors by size (according to number of employees)

Economic Sectors	Micro farms/Facilities ₁	Small farms/Facilities ₂	Medium farms/Facilities ₃	Large farms/Facilities ₄	No information provided on farm/facility size (%)
Petroleum Industries					
Agriculture and Fisheries					
Food processors and Drink					
Textiles, Garment and Footwear					
Printing, publishing and paper					
Wood and related products					
Chemicals and non-metallic minerals					
Assembly type and related industry					

Miscellaneous Manufacturing					
Construction					
Distribution					
Transport, Storage and Communication					

1 – 1-9 employees; 2- 10-99 employees; 3- 100-249 employees; 4- >249 employees.

Chapter 2: Chemical Production, Import, Export, Storage, Transport, Use, and Disposal

Table 2-1: Chemical Production, Import and Export

Chemical Type	Production/Manufacturing (tons/yr & US\$)	Imports (tons/yr & US\$)	Formulation/Packaging (tons/yr & US\$)	Exports (tons/yr & US\$)
Pesticides				
Fertilizers				
Petroleum Products				
Industrial (used in manufacturing processing facilities)				
Consumer chemicals				
Other chemicals (unknown/mixed use)				

Table 2-2: Raw Materials for Chemicals and Related Industries

Raw Material	Imports (tons/yr)	Extracted locally (tons/yr)	Exports (tons/yr)

Table 2-3: Chemical Use in Belize

Chemical Type	Usage (tons/yr)
Pesticides- Agricultural	
Pesticides- Public health	
Pesticides- Consumer use	
Fertilizers	
Petroleum Products	
Industrial (used in manufacturing /processing facilities)	
Consumer chemicals	
Other chemicals (unknown/mixed use)	

Table 2-4: Bulk Chemical Storage and Warehousing Facilities

Chemical Type	Size/Capacity (m³/tons)	Type of Facility	Location (port, industrial complex, urban, rural)	Labelling, Health & Environment Protection Measures

Table 2-5: Bulk Chemical Distribution and Transportation

Chemical Type	Type of Transportation facility(maritime, inland waterway, rail, road, air)	Appropriate Capacity transported (m ³ or tons/yr)	Labelling, Health & Environment Protection Measures

Table 2-6: Chemical Waste Generation

Type of waste chemical	Generation (tons/yr)	Export (tons/yr)	Import (tons/yr)

Table 2-7: Obsolete Chemicals Stockpiles, Chemical Waste Sites and Contaminated Sites

	Geographical Location (GPS coordinates)	Main content by chemical or groups of chemicals/waste	Magnitude of the site or stock (small, medium, large)
Obsolete Chemicals Stockpile			
Chemical Waste Sites			
Contaminated Sites			

Table 2-8: Technical Facilities for Recovery and Recycling of Chemicals

Location of Facility/Operation or Process	Description of Facility/Operation or Process	Recovery Operation	Capacity of the Facility (m ³)	Does the facility treat wastes imported? (yes/no)

Table 2-9: Capacity for Disposal of Chemicals

Location	Description of Facility, operation or process	Disposal Operation	Capacity of the Facility	Does the Facility treat wastes imported? (yes/no)

Chapter 9: Chemical Emergency Preparedness, Response, and Follow-up

Chemical Emergency Planning

Describe briefly the existing emergency arrangements in the event of a chemical incident:

- Does the country have a chemicals emergency plan and is it part of an overall national disaster management plan?
- Which authorities have various responsibilities and how does the plan operate at regional and local levels?
- Which stakeholders are involved in the development of the plan and its implementation? For example, besides the emergency services themselves, are the following stakeholders involved: health, environment, and local authorities; industry and the transport sector; and meteorological services? Responsibilities may vary depending on whether the chemical incident is in the industrial, transport, domestic, or public health fields.
- Does the plan include regular testing under simulated conditions and are there provisions for modification of the plan based on experience of specific emergencies?
- How are the media involved and what mechanisms exist to inform the public in an emergency?

Are inventories made of installations and transport routes at risk of chemical incidents? Do the fire, police, and other emergency services have specific equipment, including protective clothing, to deal with chemical incidents and are staff specifically trained for such incidents?

Is the GHS being applied in the country? What are the chemical hazard identification systems already in place and enforced in the country, both in the transport and industrial/ commercial sectors? Do they apply to small and medium size enterprises (SMEs)?

Is there a poisons information or other chemicals information service which is available around the clock to provide advice in a chemical emergency and are there dedicated emergency communication systems?

Do local hospitals have patient decontamination facilities and stocks of antidotes, medicines, and appropriate equipment for chemical emergencies?

Are the health or emergency services equipped for transportation of chemically exposed persons?

What facilities are available for incident clean-up and for long term follow-up of exposed persons?

What training is available to prepare the emergency services (e.g. fire, police, civil defence) personnel in dealing with a chemical incident, as well as medical and paramedical staff in handling and treating chemically exposed persons?

Is there any training for veterinarians concerning treatment of exposed animals to toxic substances?

Chemical Incident Response

Describe some of the more significant chemical incidents that have occurred recently in the country:

Table 9-1: Significant Chemical Incidents which occurred recently

Date of Incident	Location ¹	Type of Incident ²	Chemical (s) involved ³	No. of deaths/injured /evacuated	Environmental Contamination or Damage ⁴

1 —Location, give the name of the place, e.g. town and the region/province.

2 —Type of Incident|| could be: industrial accident/fire; transport (road, rail, waterways, air) accident, fire, spill; warehouse/storage site fire; contamination of drinking water, food, medicines, or other consumer goods; chemical misuse; natural disaster involving chemicals; terrorist attack; etc.

3 Chemicals involved could be one individual chemical (e.g. chlorine) or a group of chemicals (e.g. pesticides, PCBs); a natural occurring chemical or toxin (e.g. arsenic in drinking water, aflatoxins, toxic algae in red tide incidents), or a large mixture (e.g. in a fire, when material being burned should be given).

4 Environmental contamination or damage should be described briefly, e.g. air pollution; drinking/ground water, river, lake, sea pollution; soil contamination; destruction of plants, woodlands, commercial crops; loss of wildlife or commercial animals (cattle, sheep, goats, horses, camels, etc.).

Chemical Incident Follow up and Evaluation

Is there a formal or informal mechanism in place to investigate a chemical incident and its outcome? Is there a standardised format for collecting the information about the incident? Give a brief description.

Can the investigation lead to a formal enquiry about the causes and responsibilities of various parties involved? Can the investigation lead to a follow-up activity, e.g. an epidemiological study, a study of improved fire prevention in warehouses? Give a brief description where this has been done in the past.

Is there a register of chemical (and other) incidents? Who has the responsibility for it? Is it kept systematically? How is an incident defined to be entered in the registry?

Is there a follow-up surveillance and rehabilitation mechanism in the health service for exposed persons who may suffer long-term disabilities and sequelae? How is this achieved?

Do the environmental and local authorities (or others) have the responsibility for clean-up after an incident? Is there a follow-up of any damage to the natural or physical environment? Give a brief description.

ANNEX II

Participation of Ministries, Organisations and other Stakeholders for the National Chemical Profile Update

Participation of Ministries, Organisations and Stakeholders for National Chemical Profile update

Organisation	Name	Position	Contact Information	Contribution
BCRC-Caribbean	Dr. Ahmad Khan	Director	#8 Alexandra Street, St. Clair, Port-of-Spain, Trinidad and Tobago. Tel: 868 628-8369	Review of National Chemical Profile update
BCRC-Caribbean	Dr. Danelle Dhaniram	Research Analyst	#8 Alexandra Street, St. Clair, Port-of-Spain, Trinidad and Tobago. Tel: 868 628-8369	Preparation, compiling and review of the NCP
BCRC-Caribbean	Ms. Afiya Edwards	Research Assistant	#8 Alexandra Street, St. Clair, Port-of-Spain, Trinidad and Tobago. Tel: 868 628-8369	Preparation and compiling of NCP
BCRC-Caribbean	Ms. Camille Roopnarine	BCRC-Caribbean Consultant	#8 Alexandra Street, St. Clair, Port-of-Spain, Trinidad and Tobago. Tel: 628-8369	Review of National Chemical Profile update
Ministry of Health, Wellness and the Environment	Mr. Luis de Shong	Permanent Secretary	1 st floor, Ministerial Building, St. Vincent & The Grenadines Tel: 784 456-1111	Overview of department and chemical use in SVG. Press conference
Ministry of	Mr. Carlos	Senior	Environmental	Contact person

Organisation	Name	Position	Contact Information	Contribution
Health, Wellness and the Environment	Wilson	Environmental Health Officer	Health Complex, Tyrell Street, Kingstown, St. Vincent & The Grenadines Tel: 784 456-1991	in SVG. Organised meetings with stakeholders in SVG
Agricultural Input Warehouse Ltd	Mr. Lennox Francis	General Manager	Lower Bay St, Kingstown, St. Vincent & The Grenadines Tel: 784 456-2117	Data on import and use of fertilizers
SVG Bureau of Standards	Mr. Ezra Ledger	Executive Director	Campden Park, Industrial Estate, P.O. Box 1506, St. Vincent & The Grenadines Tel: 784 457-8092	Discussion on technical infrastructure for chemicals in SVG
Ministry of Agriculture (Plant Protection and Quarantine)	Mr. Michael Delpeche	Agricultural Officer	Richmond Hill, Kingstown, St. Vincent & The Grenadines Tel: 784 457-2452 or 784 456-1111	Commitment to provide data on fertilizers
Customs and Excise Department	Ms. Andra Layne	Customers Officer	Custom House, Upper Bay Street, St. Vincent and the Grenadines Tel: 784-456-1083	Commitment to provide data on import and export of chemicals using HS codes

Organisation	Name	Position	Contact Information	Contribution
Statistical Office	Mr. Jamal Byron	Statistician	P.O.Box 608, Kingstown, St. Vincent and the Grenadines Tel: 784 457-2921	State of Environment Report 2012
Port Authority	Mr. Harvey G.W. Caine	Health and Safety Officer	Upper Bay St Box, 1237 Kingstown, St. Vincent & The Grenadines Tel: 784 456-1830	Commitment to provide data on chemicals imports via Port Authority
Ministry of Health Wellness and the Environment (Environmental Management Department)	Mr. Jameel Miller-Findlay	Environmental Officer	Environmental Health Complex, Tyrell Street, Kingstown, St. Vincent & The Grenadines Tel: 784 457-2586	Data on CFCs and other ozone related chemicals provided
Pharmaceutical Services	Mr. Levi Walker	Director	Environmental Health Complex, Tyrell Street, Kingstown, St. Vincent & The Grenadines Tel: 784 457-2586	Discussion on chemicals used in pharmaceutical sector
Solid Waste Management Unit	Mr. Winsbart Quow	Manager	Central Water & Sewerage Authority P.O Box 363 New Montrose	Data on solid waste

Organisation	Name	Position	Contact Information	Contribution
			Kingstown, St. Vincent & The Grenadines Tel: 784- 456-2946	
VINLEC	Mr. Anthony Patterson	Environmental Health and Safety Officer	Paul's Avenue, St. Vincent & The Grenadines Tel: 784 456-1701	Commitment to provide data on chemicals (waste oils)
All Island Recycling	Ms. Mary V. Jocelyn	General manager	Campden Park, St. Vincent & The Grenadines Tel: 784 453-4150	Overview of recycling process in SVG and tour of facility

ANNEX III
**Overview of Legislation governing
Chemicals Management in
St. Vincent and the Grenadines**

(Draft) Pesticides and Toxic Chemicals Control Act

The (Draft) Pesticides and Toxic Chemicals Control will repeal the Pesticides Control Act (1975) which focused mainly on pesticides.

The objects of this ACT are:

- (i) to provide a more comprehensive framework for regulation of not only pesticides but all pesticides and toxic chemicals in general for the purpose of more adequately protecting human and animal health and safety, plant health and the environment; and
- (ii) to implement the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction (the Convention).

The legislation thus embodies an integrated approach to the regulation of pesticides and toxic chemicals in general, including chemical weapons. This approach, integrating domestic pesticides and toxic chemical control and implementation of international obligations under the Chemical Weapons Convention, is intended to reduce the administrative burden. Although administered through an integrated mechanism, the control regimes for both areas remain essentially separate. This gives effect to the differing regulation that is demanded in these two areas.

Plant Protection Act (2005)

An ACT to prevent the introduction and to control the spread of plant pests, to protect plant resources; to facilitate trade in plants and plant products and to regulate matters related thereto. The primary responsibility for the administration of this Act lies with the Minister. This Act repeals and replaces the Pesticides Control Act. It also repeals and amends other related Acts.

The objects are:

- (iii) to provide a more comprehensive framework for regulation of not only pesticides but all pesticides and toxic chemicals in general for the purpose of more adequately protecting human and animal health and safety, plant health and the environment; and
- (iv) to implement the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction (the Convention).

The legislation thus embodies an integrated approach to the regulation of pesticides and toxic chemicals in general, including chemical weapons. This approach, integrating domestic pesticides and toxic chemical control and implementation of international obligations under the Chemical Weapons Convention, is intended to reduce the administrative burden. Although administered through an integrated mechanism, the control regimes for both areas remain essentially separate. This gives effect to the differing regulation that is demanded in these two areas.

The major elements of this Act are as follows:

Administration

1. A Chemicals Management Authority is established to replace the existing Pesticides Control Board. Its mandate differs from its predecessor in the first place, because it is now responsible for pesticides and toxic chemicals generally, and secondly, it will serve as the National Authority under the Chemical Weapons Convention.
2. This Authority is established as an inter-ministerial Board with a minority of representatives from certain private sector interests. This approach to the regulation of pesticides and toxic chemicals is in recognition of the following:
 - (a) the policy that there be Government regulation (instead of industry regulation) of pesticides and toxic chemicals is pursued - hence the predominance of Government representatives. However, the importance of private sector input dictates that it have representatives; and
 - (b) the reality is that the regulation of pesticides and toxic chemicals concerns several disciplines which fall under the portfolio of different ministries, e.g. health, international trade, foreign affairs, agriculture, industry and commerce. However, as pesticides and toxic chemicals are used principally in the field of agriculture, the Board operates under the supervision and direction of the Minister of Agriculture.

Regulation

3. All pesticides and toxic chemicals manufactured or imported will be registered.
4. All permitted activities in pesticides and toxic chemicals will be under licence or permit:

Pest Control Operators are regulated by a licensing scheme (Pest Control Operator Licence).

- 1 The sale, including storage and distribution for purposes of sale, of pesticides and toxic chemicals are also regulated by a licensing scheme (Dealer's Licence).
- 2 The storage and distribution for use of pesticides and toxic chemicals in activities other than sale, such as research, education, and agriculture are regulated by a licensing scheme (General Licence).
- 3 Licences are used to control the import and export of pesticides and toxic chemicals (Import and Export Licences).
- 4 Licences are also used to impose standards in premises in which pesticides and toxic chemicals are manufactured (Premises Licences).

The Convention requires that certain premises be subject to the verification measures in the Convention. Those premises are called "facilities" to distinguish them from the other premises. The special requirements of the Convention are imposed on such premises by using a different regulatory scheme (Facilities Permits).

Environmental Health Services Act (1991)

This is An ACT to make provision for the conservation and maintenance of the environment in the interest of health generally and in particular in relation to places frequented by the public.

The Minister of Health is charged with the responsibility of protecting and promoting public health by providing for ensuring conservation and maintenance of the environment (sect. 3). The Minister may delegate functions pursuant to section 4.

An Environmental Health Board is established under section 5. The Board shall advise the Minister on matters relating to environmental health. An Environmental Health Division is established in the Public Health Department and a Chief Environmental Officer shall be appointed (sects. 6 and 8). The functions of the Division are set out in section 7. Sections 10 to 13 prescribe certain requirements regarding observation of environmental norms by the public. Powers of the Chief Environmental Officer and other public officers are defined in section 13 to 16. Appeal against decisions or notices made under section 6 may be had in accordance with sections 17 to 20. Sections 21 to 30 prescribe offences. Regulation making powers of the Minister are set out in section 31. A Local Authority may issue By-laws under section 32. (35 sections completed by 1 Schedule)

Central Water and Sewerage Authority Act No. 6 of 1978

The Central Water & Sewerage Act provides a basis for water abstraction and distribution and for water quality management in SVG. The Act makes provision for the designation of protected areas for the protection of water resources. However, national standards for the discharge of treated effluents into surface water are not in place but the CWSA applies relevant WHO or EU standards.

Oil in Navigable Waters Act Cap 366

Under the provisions of this Act where oil is discharged, or allowed to escape into waters to which this Act applies, from any vessel, or from any place on land, or from any apparatus used for the purpose of transferring from or to any vessel or to or from any place, the owner of the vessel, the occupier of land or the person having charge of the apparatus, as the case may be, commits an offence and on conviction is liable to a fine of five thousand dollars. It is also an offence to transfer any oil during the hours between sunset and sunrise, to or from any vessel lying in any harbor unless, notice of intention to do so has been given in accordance with the provisions of the Act.

Oil Pollution (Liability and Compensation) Act 1977

This Act makes provision with respect to civil liability for Oil pollution damage by Merchant ships and provides for the payment of contributions by importers of oil to the International Oil Pollution Compensation Fund for the Liability of the Fund to compensate persons who suffer pollution damage. This Act provides that where as a result of any occurrence taking place while

a ship is carrying cargo of persistent oil bulk, any persistent oil carried by the ship is discharged or escapes from the ship, the owner of the ship is liable in the following manner: for any contamination resulting from the discharge or escape, for the cost of any measures reasonably taken after the discharge of the escape for the preventing or reducing any such damage or for any damage done to the State by any measures so taken. By virtue of this Act, SVG contributes to an International Oil Pollution Compensation Fund regarding pollution damage.

The Fisheries Act No. 8 of (1996)

The Fisheries Act (1986) and Regulation (1987), which form part of the OECS harmonized legislation, covers: fisheries access agreements, local and foreign fishing licensing, fish processing establishments, fisheries research, fisheries enforcement and the registration of fishing vessels. The legislation also make provision for conservation measures such as prohibiting the use of any explosive, poison or other noxious substance for the purpose of killing, stunning, disabling, or catching fish; closed seasons, gear restrictions, creation of marine reserves.

Pharmacy Act N. 54 of 2002

The SVG Pharmacy ACT # 54 Of 2002 Sec:3.(5).(c) gives the Pharmacy Council the mandate to decide on matters relating to the registration of drugs and 28 (1) (b) the council has the authority to publish a list which can only be imported into the Country under a license issued by the Council.

According to the Pharmacy Act, only Pharmacists can sell prescription medicines.

Section 27: "registration of drug ought to be a requirement for import", and Section 28: "the Council has the authority to publish a list which can only be imported in to the country under a license issued by the Council"

However, the proposed regulations of the Pharmacy Act are yet to be made law by the Government due to administrative constraints.

Waste Management Act (2000)

This Act contains rules for the public management and disposal of solid waste as defined in section 2 and including hazardous waste as defined in Schedule 1 to this Act, and provides for appointment, functions, etc. of the National Solid Waste Management Authority.

The Act consists of 49 sections divided into 7 Parts:

1. Preliminary (I);
2. The National Solid Waste Management Authority (II);
3. Waste management planning (III);
4. Environmental impact assessment (IV);
5. Waste management licences and permits (V);
6. Waste management operations, Financing and cost recovery (VI);
7. Miscellaneous(VII).

The Central Water and Sewerage Authority is appointed as National Solid Waste Management Authority under section 3. Functions of this Authority are set out in Schedule 3. All solid waste management facilities including land on which they are situated shall be vested in the Authority. An environmental impact assessment shall be carried out in accordance with sections 13 to 18 before establishment of a solid waste management facility. Section 19 of Part V prohibits the deposit of solid waste on indicated lands and waters and requires a licence to be obtained for the construction and operation of any waste management facility. A licence shall also be required for existing facilities pursuant to section 20. Section 31 defines the liability of holders of licences in case of accidents causing damage to health or the environment due to failure of the licence holder. Provisions of part VI regulate the importation, processing and other handling of waste.

ANNEX IV
St. Vincent and the Grenadines
Import and Export
2012-2013

St. Vincent and the Grenadines

Product: TOTAL All products

Sources: ITC calculations based on UN COMTRADE statistics.

Data based on the partner reported data (Mirror data)

Unit : US Dollar thousand

Product code	Product label	St. Vincent and the Grenadine's exports to world		St. Vincent and the Grenadine's imports from world	
		Value in 2012	Value in 2013	Value in 2012	Value in 2013
TOTAL	All products	43042	57245	403242	459344
'01	Live animals	0	0	54	24
'02	Meat and edible meat offal	1	9	14863	12387
'03	Fish, crustaceans, molluscs, aquatic invertebrates nes	267	479	1819	945
'04	Dairy products, eggs, honey, edible animal products nes	6	9	7590	4678
'05	Products of animal origin, nes	0		10	
'06	Live trees, plants, bulbs, roots, cut flowers etc	1	0	453	902
'07	Edible vegetables and certain roots and tubers	4967	1386	2812	714
'08	Edible fruit, nuts, peel of citrus fruit, melons	1932	1517	934	276
'09	Coffee, tea, mate and spices	662	131	526	183
'10	Cereals	4383	401	21027	17180

Product code	Product label	St. Vincent and the Grenadine's exports to world		St. Vincent and the Grenadine's imports from world	
		Value in 2012	Value in 2013	Value in 2012	Value in 2013
'11	Milling products, malt, starches, inulin, wheat gluten	11675	7675	1331	772
'12	Oil seed, oleagic fruits, grain, seed, fruit, etc, nes	0	0	1394	67
'13	Lac, gums, resins, vegetable saps and extracts nes	0	5	3	84
'14	Vegetable plaiting materials, vegetable products nes	0		37	
'15	Animal,vegetable fats and oils, cleavage products, etc	2	2	3836	3105
'16	Meat, fish and seafood food preparations nes	7	49	4304	1934
'17	Sugars and sugar confectionery	0	0	4189	7496
'18	Cocoa and cocoa preparations	0	0	906	153
'19	Cereal, flour, starch, milk preparations and products	28	11	7087	2039
'20	Vegetable, fruit, nut, etc food preparations	6	1	3421	1280
'21	Miscellaneous edible preparations	72	43	9224	2314
'22	Beverages, spirits and vinegar	4434	5422	10358	2867
'23	Residues, wastes of food industry, animal fodder	3743	2586	594	2153

Product code	Product label	St. Vincent and the Grenadine's exports to world		St. Vincent and the Grenadine's imports from world	
		Value in 2012	Value in 2013	Value in 2012	Value in 2013
'24	Tobacco and manufactured tobacco substitutes	4	18	3439	47
'25	Salt, sulphur, earth, stone, plaster, lime and cement	168	1665	8089	2856
'26	Ores, slag and ash	0	0	1	9
'27	Mineral fuels, oils, distillation products, etc	480	0	114989	22387
'28	Inorganic chemicals, precious metal compound, isotopes	0	186	605	145
'29	Organic chemicals	0	3	292	479
'30	Pharmaceutical products	4	27	4328	3760
'31	Fertilizers	2	0	1584	1764
'32	Tanning, dyeing extracts, tannins, derivs, pigmentsetc	12	2	4630	2587
'33	Essential oils, perfumes, cosmetics, toileteries	4	1	3067	1547
'34	Soaps, lubricants, waxes, candles, modelling pastes	1	1	3588	1568
'35	Albuminoids, modified starches, glues, enzymes	1	0	537	75
'36	Explosives, pyrotechnics, matches, pyrophorics, etc	0	0	811	16
'37	Photographic or cinematographic goods	3	3	1043	79
'38	Miscellaneous chemical products	6	0	3818	1939

Product code	Product label	St. Vincent and the Grenadine's exports to world		St. Vincent and the Grenadine's imports from world	
		Value in 2012	Value in 2013	Value in 2012	Value in 2013
'39	Plastics and articles thereof	664	296	9306	5604
'40	Rubber and articles thereof	101	1	4266	2274
'41	Raw hides and skins (other than furskins) and leather	0	0	7	9
'42	Articles of leather, animal gut, harness, travel goods	7	1	695	198
'43	Furskins and artificial fur, manufactures thereof	0	0	0	34
'44	Wood and articles of wood, wood charcoal	35	11	9258	7616
'45	Cork and articles of cork	0	0	16	135
'46	Manufactures of plaiting material, basketwork, etc.	0	0	100	3
'47	Pulp of wood, fibrous cellulosic material, waste etc	9	34	8	0
'48	Paper and paperboard, articles of pulp, paper and board	1748	906	7153	3189
'49	Printed books, newspapers, pictures etc	14	8	3515	2336
'50	Silk	0		12	
'51	Wool, animal hair, horsehair yarn and fabric thereof	0		4	
'52	Cotton	3	0	245	140
'53	Vegetable textile fibres	0		9	

Product code	Product label	St. Vincent and the Grenadine's exports to world		St. Vincent and the Grenadine's imports from world	
		Value in 2012	Value in 2013	Value in 2012	Value in 2013
	nes, paper yarn, woven fabric				
'54	Manmade filaments	0	0	586	107
'55	Manmade staple fibres	1	0	298	14
'56	Wadding, felt, nonwovens, yarns, twine, cordage, etc	10	11	246	446
'57	Carpets and other textile floor coverings	1	1	448	125
'58	Special woven or tufted fabric, lace, tapestry etc	0	0	40	18
'59	Impregnated, coated or laminated textile fabric	5	0	169	48
'60	Knitted or crocheted fabric	0	2	5	1004
'61	Articles of apparel, accessories, knit or crochet	4	1	1114	239
'62	Articles of apparel, accessories, not knit or crochet	207	26	3754	538
'63	Other made textile articles, sets, worn clothing etc	21	8	1754	962
'64	Footwear, gaiters and the like, parts thereof	1	33	1991	686
'65	Headgear and parts thereof	1	1	179	41
'66	Umbrellas, walking-sticks, seat-sticks, whips, etc	0	0	186	49

Product code	Product label	St. Vincent and the Grenadine's exports to world		St. Vincent and the Grenadine's imports from world	
		Value in 2012	Value in 2013	Value in 2012	Value in 2013
'67	Bird skin, feathers, artificial flowers, human hair	0	0	381	149
'68	Stone, plaster, cement, asbestos, mica, etc articles	6	8	3532	4142
'69	Ceramic products	7	3	2737	1686
'70	Glass and glassware	72	1	2950	2329
'71	Pearls, precious stones, metals, coins, etc	0	1039	228	27937
'72	Iron and steel	2422	1357	6683	1343
'73	Articles of iron or steel	748	96	9860	10759
'74	Copper and articles thereof	0	151	653	796
'75	Nickel and articles thereof	0	0	20	17
'76	Aluminium and articles thereof	683	752	4729	1656
'78	Lead and articles thereof	0	162	2	3
'79	Zinc and articles thereof	0	9	58	5
'80	Tin and articles thereof	0	0	0	12
'81	Other base metals, cermets, articles thereof	0	228	2	17
'82	Tools, implements, cutlery, etc of base metal	25	4	1262	668
'83	Miscellaneous articles of base metal	25	2	1608	1262
'84	Machinery, nuclear reactors, boilers, etc	897	270	25018	22098

Product code	Product label	St. Vincent and the Grenadine's exports to world		St. Vincent and the Grenadine's imports from world	
		Value in 2012	Value in 2013	Value in 2012	Value in 2013
'85	Electrical, electronic equipment	1189	195	20024	13864
'86	Railway, tramway locomotives, rolling stock, equipment	0	0	320	29
'87	Vehicles other than railway, tramway	412	28	14300	7415
'88	Aircraft, spacecraft, and parts thereof	20	0	338	503
'89	Ships, boats and other floating structures	35	23761	1504	95231
'90	Optical, photo, technical, medical, etc apparatus	165	192	2302	5019
'91	Clocks and watches and parts thereof	0	0	147	372
'92	Musical instruments, parts and accessories	28	0	110	5
'93	Arms and ammunition, parts and accessories thereof	0	0	52	83
'94	Furniture, lighting, signs, prefabricated buildings	522	300	9349	8437
'95	Toys, games, sports requisites	77	4	1088	547
'96	Miscellaneous manufactured articles	2	2	953	896
'97	Works of art, collectors pieces and antiques	0	5402	78	1646
'99	Commodities not elsewhere specified	0	300	0	123762

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