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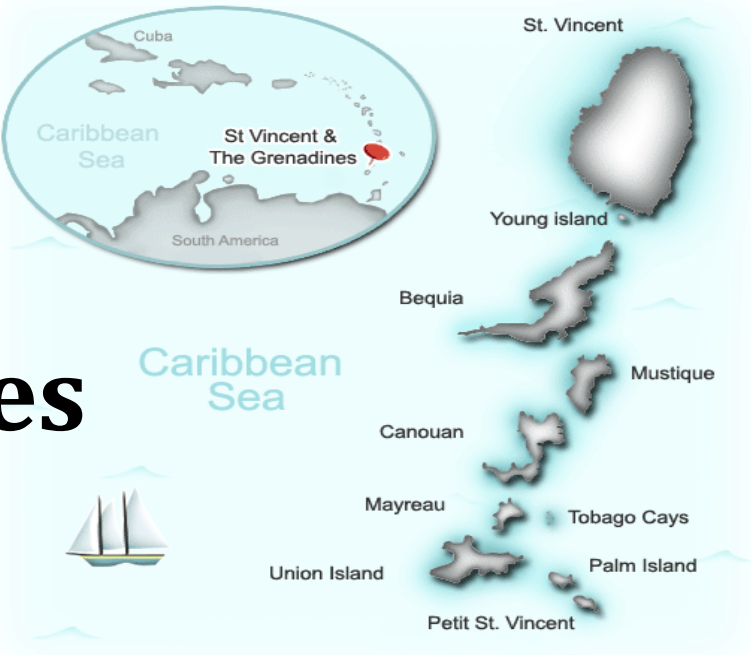
National Chemical Profile for Chemicals Management

St. Vincent and the Grenadines 2015



This document is an update to St. Vincent and the Grenadines (SVG) National Chemical Management Profile for the Management of Chemicals and Waste, "*A SVG 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 to assess 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 mange 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 a substantial amount of the information containedin the document. 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 SVG 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 wholesale and retail trade together with the transport, storage and communication sector, which accounts for approximately half the gross domestic product (GDP) for SVG. The agricultural sector, once recognised as being a key source of revenue to the country, has contracted significantly in recent years and now accounts for 9% of the economic activity.

Chapter 2 provides a summary of the legal and institutional capacity for chemicals management in SVG and focuses on the legal instruments and non-regulatory mechanisms for managing chemicals. Ministries, agencies and other institutions managing chemicals were described as well as a review of the inter-ministerial commissions and coordinating mechanisms as well as the various organizations and non-governmental bodies which support national efforts to manage chemicals.

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 SVG. The main pieces of legislation having direct influence on the life cycle of chemicals include the Pesticides Control Act (revised 1990), the Plant Protection Act (2005), the Environmental Services Act (1991), the

Environmental Health Services Act (2001), the Pharmacy Act (2002) and the Waste Management Act (2000)

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. Hence, SVG has initiated the development of the Environmental Management Act, Occupational Health and Safty Act and a chemicals management policy (all still in draft form) which will allow the Government to enact legislation for the sound management of chemicals.

In addition, there are no institutions that fully addresses the management of chemicals throughout their entire life cycle. The responsibility for regulating is specific to one or several stages of the chemicals' life cycle . The Ministry of Health Wellness and the Environment (MOHWE) is the main Ministry with the overarching responsibilities for the management of chemiclas and chemical wastes. The Pesticides Control Act, whilst it may be sufficient to regulate pesticides and toxic chemicals, excludes the other chemicals that are not characterized as such. This section also indicates that there is no overarching chemicals management coordinating mechanism for SVG, 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.

Chapter 3 gives an overview of the chemical production, import, export, storage, transport, use and disposal of chemicals in SVG. St. Vincent and the Grenadines does not produce chemicals and as such chemicals are imported for use in country. The imported chemicals are 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. 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 the quantities of chemical waste generated and disposed in SVG.

Chapter 4 addresses data accessibility and provides an overview of the availability of data for chemicals management in SVG. Whilst information is available for agricultural chemicals, there is a definite lack of data or minimal data on industrial chemicals, consumer chemicals and chemical wastes. Data access based on the available data is extremely difficult. The data is scattered and not kept in a central location with the ease of accessibility. Data is being received and collected but it is not being compiled and analysed and in some instances ther are gaps in the data collection system. There is a need to coordinate and systemize the available information 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 country to support programmes and policies for the integrated management of chemicals. This chapter indicates that there are limited financial resources and technical equipment available to carry out tailored laboratory analysis. 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 it currently working torwards a more efficient ICT system for SVG.

Chapter 6 addresses chemical emergency preparedness, response and follow up. St. Vincent and the Grenadines have 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. Other Ministerial organisations are also putting mechanisms in place to deal with disaster preparedness in the country.

Chapter 7 deals with the awareness and 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. The chapter highlights the initiatives 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 some 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. However, there is still a need for public awareness, education and training. However, theer is still 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 SVG, 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 offer possibilities for stakeholders to access technical assistance, information and potential funding that would be of benefit to SVG chemical 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. St. Vincent and the Grenadines benefits 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.

Chapter 9 provides information on the availability of human resources for chemicals management in SVG. The public sector in SVG has professional staff with some level of qualification in the area of chemicals management. However, the number of qualified personnel are limited and they are normally dispersed within the different Ministries, working on multiple projects simultaneously. As such, outsourcing of expertise is a common practice. Additionally, challenges are often encountered where there is a single individual who may be the focal point for several international and regional organizations which restricts the required level of attention and follow up required for meeting the obligations of the Conventions, hence the proper management of chemicals. There is therefore an urgent need to increase the overall staff complements by hiring persons with chemicals management expertise, as well as upgrading the skills of existing staff.

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 SVG has made progress towards creating a fondation for chemicals management in the country but there is still need for strengthening. The primary areas which require focus for a comprehensive management of chemicals include legislative reform, setting up of a National Committee for chemicals management, development of a chemical inventory and database, having increased infrastructural capacity, and increased public awareness, training, 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, demulsifies, 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 waste from processing plants. Special Waste is generated mainly by industries.

Chemicals	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	Chemicals that are used by industry to produce a broad range of articles, products and formulations that are used by industry or the public. These includebut not limited to organic and inorganic chemicals**.**

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
CARICOM	Caribbean Community
CARPHA	Caribbean Public Health Agency
CGPC	Coordinating Group of Pesticides Control Boards in the Caribbean
CHIP	Chemical Hazard Information Programme
CMO	Chief Medical Officer
CPCC	Caribbean Program Coordination Centre
CWASA	Central Water and Sewerage Authority
CBOs	Community Based Organizations
CCA	Clean Caribbean and Americas
CDERA	Caribbean Disaster Emergency Response Agency
CDM	Comprehensive Disaster Management
CEHI	Caribbean Environmental Health Institute
CERMES	Centre for Resources Management and Environmental Studies
CFCs	Chlorofluorocarbons
CROSQ	CARICOM Regional Organisation for Standards and Quality
CSD	Commission on Sustainable Development
CSDU	Conservation and Sustainable Development Unit
ECLAC	Economic Commissions for Latin America and the Caribbean

ECOSOC	Economic and Social Council
ECTAD	Eastern Caribbean Trading Agriculture and Development Organisation
EEU	Environmental Engineering Unit
EMD	Environmental Management Department
FAO	Food and Agricultural Organisation of the United Nations
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	International Agency for Research in Cancer
ICCM	International Conference on Chemicals Management
ICS	Incident Command System
ICTs	Information and Communication Technologies
IFCS	International Forum on Chemical Safety
IICA	Inter-American Institute for Cooperation on Agriculture
ILO	International Labour Organisation
IMO	International Maritime Organisation
INTERDEP/ENV	Interdepartmental Project on Environment and the World of Work
IOMC	Inter-Organization Programme for the Sound Management of Chemicals

IPCS	International Programme on Chemical Safety
ISIC	International Standard Industrial Classification
ITSD	Information Technology Services Division
LPG	Liquified Petroleum Gas
MAFF	Ministry of Agriculture, Forestry and Fisheries
MDGS	Millennium Development Goals
MEAs	Multilateral Environmental Agreements
MEAU	Multilateral Environmental Agreement Unit
MHE	Ministry of Health and the Environment
MOHWE	Ministry of Health Wellness and the Environment
MOU	Memorandum of Understanding
MSDS	Material Safety Data Sheets
NCP	National Chemical Profile
NEAB	National Environmental Advisory Board
NEC	National Environmental Commision
NEMO	National Emergency Management Organisation
NEMS	National Environmental Management Strategy
NESDC	National Economic and Social Development Council
NGOs	Non-Governmental Organizations
NHSSP	National Health Sector Strategic Plan
NIS	National Insurance Scheme
NRSP	Natural Resources Systems Programme
OAS	Organisation of American States
OECD	Organisation for Economic Co-operation and Development
OECS	Organisation of Eastern Caribbean States

OHS	Occupational Health and Safety
OPRC Plan	Oil Pollution Response and Cooperation Plan
PAHO	Pan-American Health Organisation
PCBs	Polychlorinated Biphenyls
POPs	Persistent Organic Pollutants
PPE	Personal Protective Equipment
PIC	Prior Informed Consent
PS	Permanent Secretary
PTCCB	Pesticides and Toxic Chemicals Control Board
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
SMEs	Small and Medium size Enterprises
SVEF	St. Vincent Employers' Federation
SVG	St. Vincent and the Grenadines
SVGBS	St. Vincent and the Grenadines Bureau of Standards
SVGCIC	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
WB	World Bank
WIBDECO	Windward Islands Banana Development and Exporting Company
WHO	World Health Organisation
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,theyare 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 agro-chemicals (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 andinternational 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. TheIFCS 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 sustainabledevelopment 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;
- toachieve 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 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 SVG (2013). This was triggered by the updated guidance document issued by UNITAR for preparing a National Chemical Profile (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, SVG 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 SVG 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 km^2) with the main island comprising 133 square miles (344 km^2). 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 (Ministry of Finance and Economic Planning, 2013).

(Source: www.worldatlas.com)

Figure 1-1: Location of SVG

1.1.2 Climate

SVG 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 (SVG Online, 2015).

1.1.3 Terrain and Elevation Extremes

St. Vincent and the Grenadines (SVG) 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 (Ministry of Health and the Envrionment, 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 (Ministry of Health and the Environment, 2010)

1.1.4 Natural Hazards

The La Soufriere volcano is located on the main land of St. Vincent. This volcano is deemed active and had five recorded major eruptions during the last 300 years; 1718, 1812, 1902, 1971 and 1979 (National Environmental Advisory Board & Ministry of Health and the Environment, 2000). St. Vincent and the Grenadines 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.

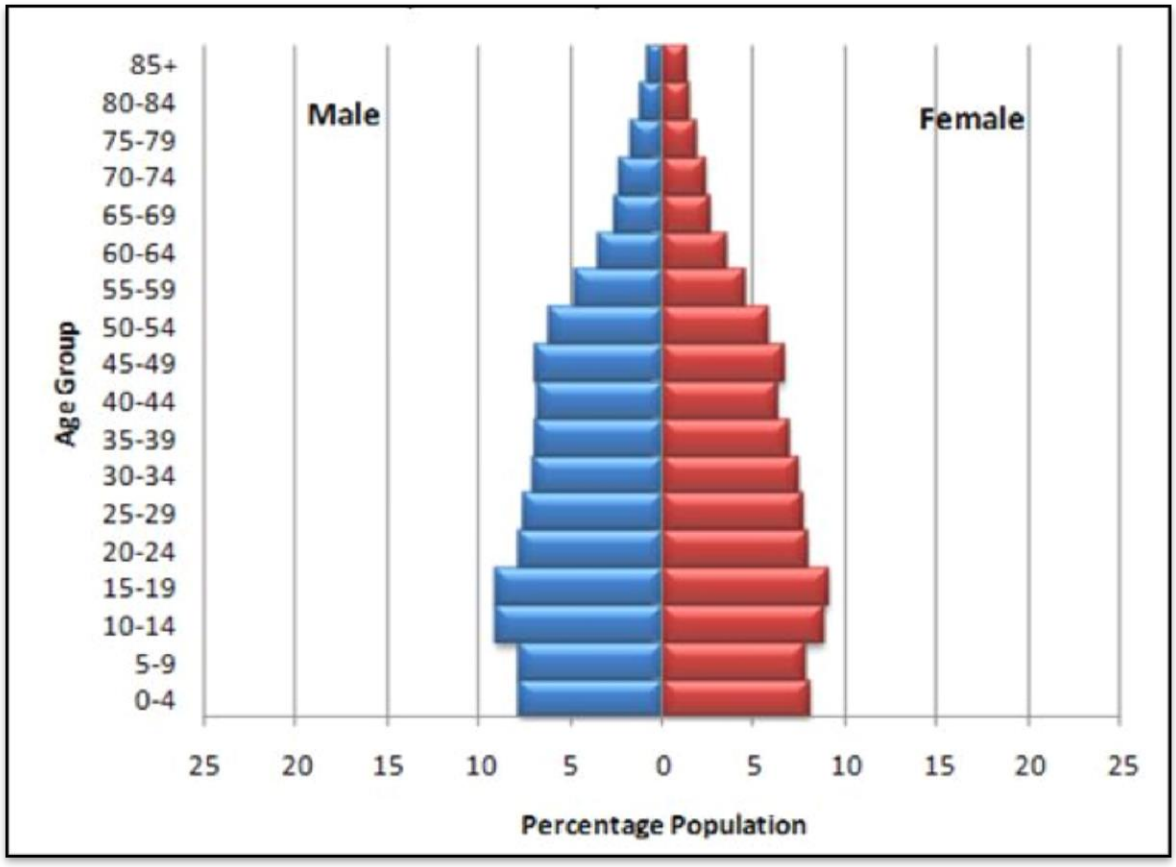
The negative health threats associated with climate change and variability is of growing concern to small-island developing states such as SVG. The impact of global warming, such as rising sea levels increase the risk of storm surges and the strength of hurricanes experienced (Global Facility for Disaster Reduction and Recovery, 2010). In 2004, hurricane Ivan damaged SVG resulting in 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 which resulted in several deaths and adverse effects to living conditions and the national economy.

1.2 Demographic Context Total Population

The 2012 National Census of SVG 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) (Cental Intelligence Agency, 2014). St. Vincent accounts for 92% of the population, of which 25% resides in Kingstown, the country's Capital city. The other 8% of the population dwells in the Grenadines. 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 SVG is representative of a relatively stable or neutral population with an equitable gender distribution (56, 442 males / 53, 593 females) (Figure 1-2) (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 SVG. The median age of the population of SVG is 31.3 years, hence half of the population is younger than 31.3 years whilst the other half is older(Central Intelligence Agency, 2014).



(Source: Statistical Office of SVG 2012)

Figure 1-2: Population pyramid for SVG

1.2.3 Life Expectancy and Birth Rate

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

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 SVG. However, most Vincentians speak a Vincentian creole (All Saints University, 2013). Holm (1989) reported that this creole has possible French influence (Ethonlogue, 2015).

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 SVG 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 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 (Kairi Consultants Limited, 2008).

1.3 Political Structure of SVG

1.3.1 Form and Description of Government

SVG 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 is divided into five (5) Parishes and six (6) towns. The Parishes include: St. Patrick, St. George, St. David, St. Andrew and Charlotte, 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 SVG

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 SVG. 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 Ministry of Health, Wellness and the Environment (MOHWE) of SVG 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 (EMD) 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 SVG, 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

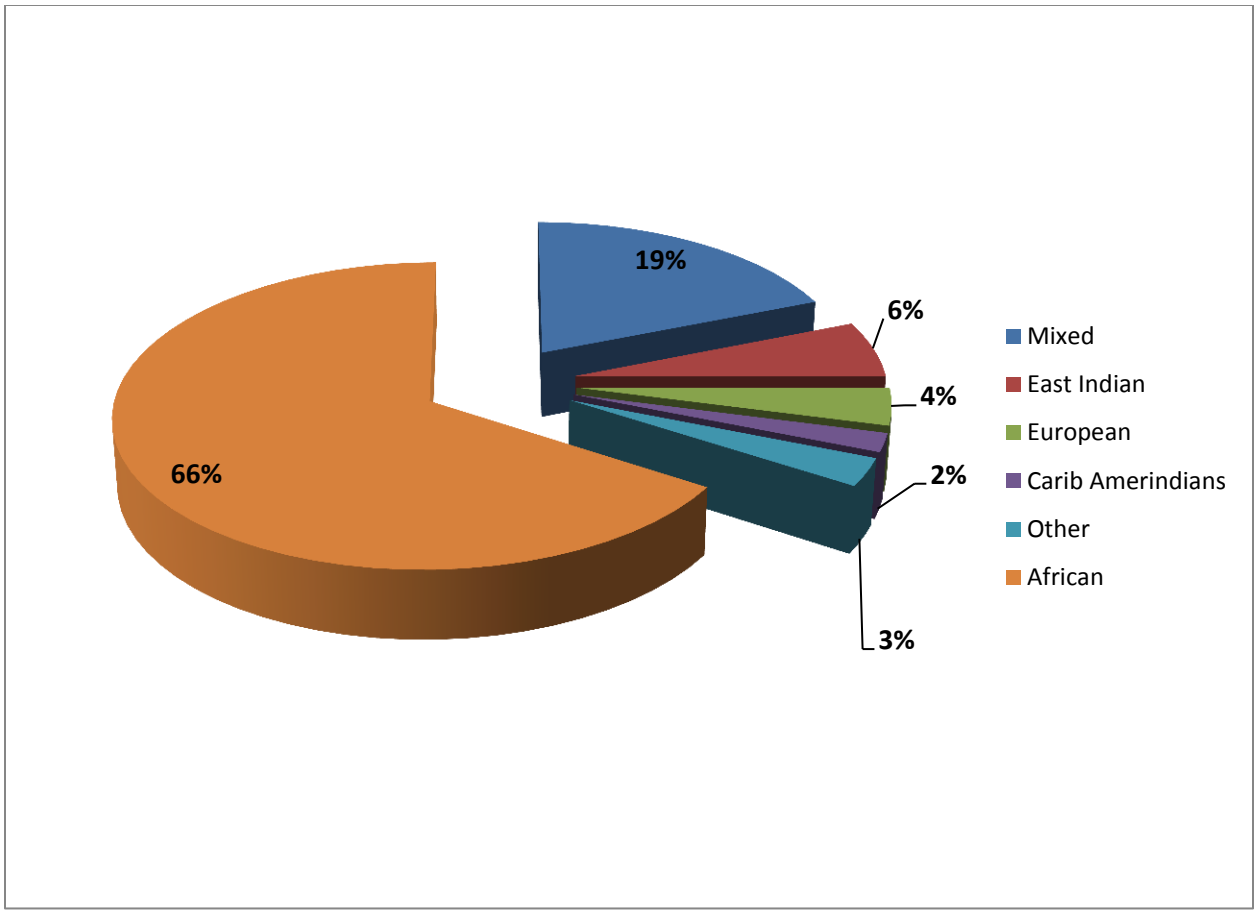
The Physical Planning Unit of the Ministry of Housing, Informal Human Settlements, Land & Surveys and Physical Planning is responsible for the implementation of the Town and Country Planning Act and its various regulations. The Act seeks to ensure orderly and progressive physical development in SVG,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

- development control i.e. the granting of planning permission for development; and
- development planning (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 Ethnicity of St. Vincent and the Grenadines

St. Vincent and the Grenadines is a multicultural society comprising of a variety of ethnicities. The majority of the population is of African descent due to 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 SVG

1.4 Industrial, Agricultural and other key Economic Sectors

The National Report for SVG 2013 states that the agriculture sector which has been the major support for the SVG economy has experienced a significant decline within the last decade. Bananas have long been the largest export crop of SVG, but banana exportsto the EU market have been declining under the terms of EU market access. Banana production in SVG has also declined as a result of labour shortages, low agricultural-sector wages (relative to wages paid in the tourism sector), bad weather, and lower output that is reportedly due to the reduced use of fertilizer and pesticides required by the islands' adherence to the "Fairtrade" sustainable development production standards.

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. SVG has seen an increase in the dependency on the tourism sector for revenue. The construction of an international airport (to be completed by November 2015) coupled with the expansion of the nation's major hotels is expected to contribute to the growth of this sector within the coming 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. Manufacturing activity has suffered from a lack of international competitiveness due in large part to high energy costs in the archipelago. SVG 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 SVG.

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 and Forestry	6.71
Fishing	-	0.43
Mining and Quarrying	-	0.15
Manufacturing	-	4.97
Electricity and Water	Electricity, Gas and Water	4.11
Construction	-	8.34
Wholesale & Retail Trade	-	14.16
Hotels and Restaurants	Hotels and Restaurants	2.65
Transport, Storage and Communication	Transport and Storage, Road, Sea, Air, Supporting and auxiliary transport activities and Communication	13.66
Financial Intermediation	Banks and other financial institutions, Insurance and pension funding and Activities auxiliary to financial intermediation	6.24
Real Estate, Renting and Business Activities	Owner occupied dwellings, Real estate activities, Renting of machinery and equipment and Computerrelated activities and Business services	14.96

National Economic Sectors	Economic Sub-sectors	Contribution to GDP* (%) 2012
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 SVG. Table 1-3 indicate the nature of the problem, location and the responsible Ministries / Agencies within the Government, whilst Table 1-4 describe the intensity of the release of concern and the ability to control the pollutant.

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 Heath 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 solid waste	Mainly urban	Common practice of littering of house waste; taking the waste from home and deliberate dumping in gullies	Many contain some heavy metals; *Volatile organics, Phalates, etc*	CWASA/SWMU
Derelict vehicles	Mainly urban	Abandoned vehiclesin indiscriminate locations.	Heavy metal, plastics, engine oils, lubricants**.**	CWASA/SWMU
Inadequate management of pesticides/	Mainly urban	Inadequate storage at port, use and miss-use on the farm,	Pesticides of all types	Pesticide Control Authority/ Environmental

Nature of Problem	City/Region	Brief Description of Problem	Chemical(s) /Pollutant(s) suspects	Intervening Agency/ Monitoring
chemicals		industries, inexperience handling, inadequate transportation and indiscriminate disposal – result in spillages, injuries to humans, accidents, and exposure		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/SWMU Environmental Health Unit

(Source: Government of SVG, 2013.)

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
Industrial Accidents	National	Low -medium	Low to medium	Insufficient

Nature of Problem	Scale of Problem	Level of Concern	Ability to Control Problem	Availability of Statistical Data
Transport Accidents	National	Low to medium	Low to medium	Insufficient
Unknown Chemical Imports	National	Low	Low	Insufficient
Storage/Disposal of Obsolete Chemicals	National	Medium	Medium	Sufficient
Chemical Poisoning		Low	Low	Insufficient
Persistent Organic Pollutants	National	Low to medium	Low to medium	Insufficient

(Source: Government of SVG, 2013)

1.6 Assessment

St. Vincent and the Grenadines does not produce chemicals but import chemicals for use within the different economic sectors. The issue of chemical management therefore remains a relevant issue to the country. The wholesale and retail trade together with the transport, storage and communication sector accounts for approximately half the GDP for SVG. The agricultural sector, once recognised as being a key source of revenue to the country, has contracted significantly in recent years and now accounts for approximately 7% of the economic activity. This sector primarily consists of the production of milled rice, flour and animal feeds. The manufacturing sector of SVG accounts for approximately 5% of the country's GDP. Figure 1-5 summarises the distribution of GDP for the Economic Sectors in SVG.

In SVG, 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 (Organisation of American States, 2001). Urban areas within the country are the major pollution contributors due to littering, the release of exhaust emissions and the discharge of sewage, waste water and run off into the environment. The inadequate management of pesticides and other chemicals such as nitrates, phosphates, particulates, heavy metals and various hydrocarbons are also of concern in the country.

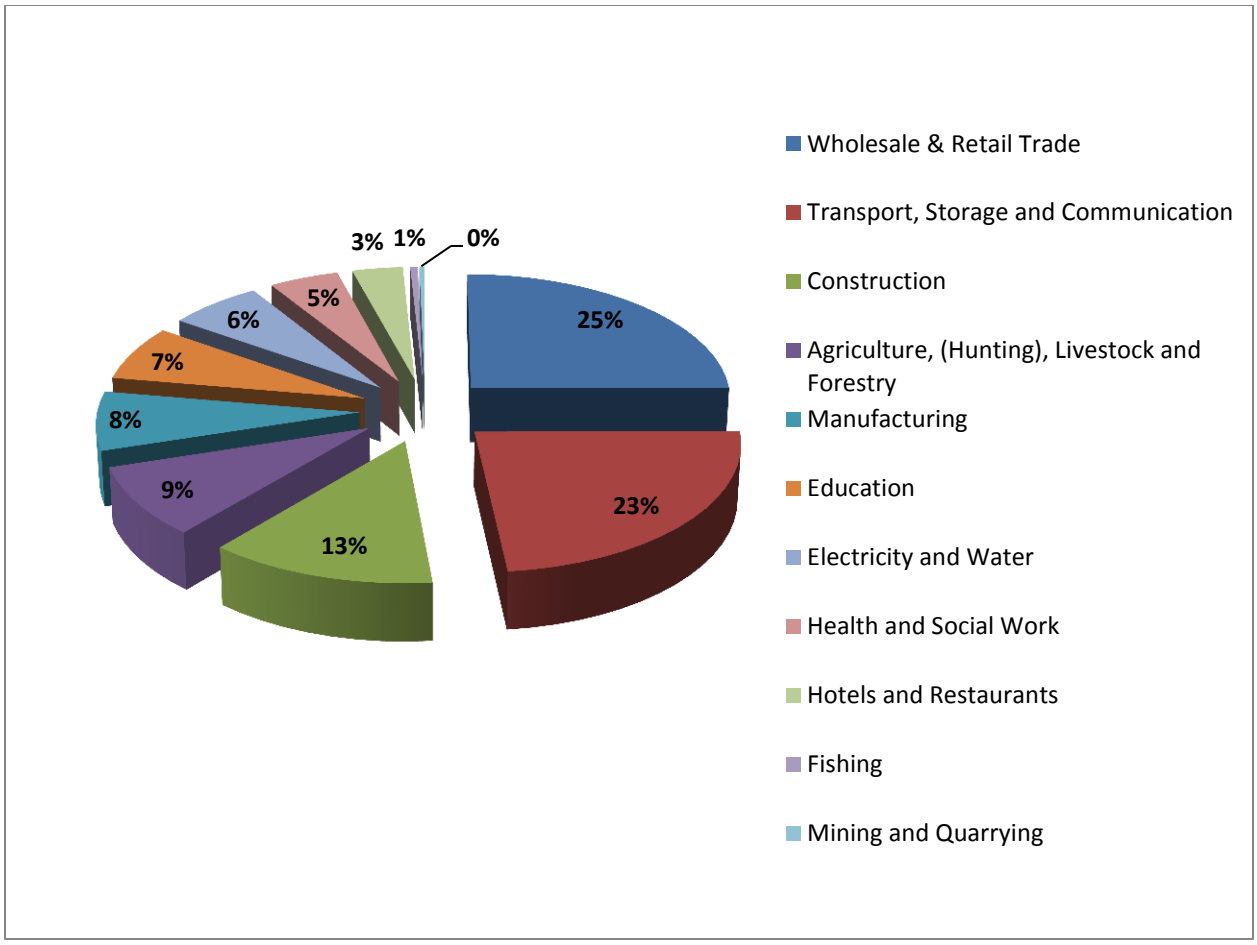


Figure 1-5: GDP Distribution for the Economic Sectors in SVG (2012)

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

There are no specific pieces of legislation that governs the management of chemicals in SVG. Table 2-1 gives an overview of the existing legislation used to manage chemicals in SVG. 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 Storage Use Distribution	To provide for the control of the importation, sale, storage and use of pesticides.	http://faolex.fao.org/docs/pdf/stv17854.pdf
Environmental Health Services Act No. 14 of 1991	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
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
Pharmacy Act No. 54 of 2002	Pharmacy Council	Medical drugs and toxic	All	To decide on matters relating to	-

Legal Instrument	Responsible Ministries or Bodies	Category of Chemical	Chemical life cycle stage covered	Objective of Legal Instrument	Relevant Articles/Provisions
		chemicals		the registration of pharmaceutical drugs	
Public Health Act No. 9 of 1977	Public Health Department	General	Handling	Promotion and protection of human and environmental health.	-
Plant Protection Act No. 16 of 2005	National Plant Protection Agency	Agricultural Chemicals	Use	To regulate activities relating to the protection of plants.	-
Waste Management Act No. 31 of 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
Petroleum Act No. 3 of 1998		Petroleum products	Imports	Controls the importation of petroleum products	-
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.	-
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	-
SVG Shipping Act 2004	Maritime Administration	Hazardous waste	Transport	This act provides for the carriage of bulk and dangerous cargoes	http://www.svg-marad.com/Downloads/Law%20and%2

Legal Instrument	Responsible Ministries or Bodies	Category of Chemical	Chemical life cycle stage covered	Objective of Legal Instrument	Relevant Articles/Provisions
					0Directives/Shipping%20Acts/Shipping%20Act%2C%202004.pdf
National Emergency and Disaster Management Act 2006	National Emergency Management Organisation	All	Storage, Handling	Speaks to locations of chemicals and POPs containing equipment and managing the potential disasters associated with POPs	http://faolex.fao.org/docs/pdf/stv137162.pdf
Central Water and Sewerage Authority Act No. 6 of 1978	The Central Water and Sewage 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
Forestry Act of 1945 (revised 192)	Forestry Department	General	Disposal	Protects water catchment areas.	-
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
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 Merchant ships and	-

Legal Instrument	Responsible Ministries or Bodies	Category of Chemical	Chemical life cycle stage covered	Objective of Legal Instrument	Relevant Articles/Provisions
				compensation.	
The Fisheries Act No. 8 of (1986)	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
Environmental Management Act of 2009 (draft)	Environmental management Department, MOHWE	All	All	To regulate the institutional strengthening of the environmental department to ensure proper chemicals management	-
Occupational Safety and Health (OSH) Act of 2001 (draft)	National OSH Committee	All	Handling, storage, transport, use and disposal	Sets new standards for OSH and addresses the safe use of chemicals in the workplace	-

2.1.2 National Policies and Action Plan for Chemicals Management

Chemicals Management Policy 2013 (Draft)

The draft Chemicals Management Policy for SVG 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 Party to several key international conventions affecting chemicals management. The draft Chemicals Management Policy allows the Government 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 (NHSSP), 2015-2019 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 SVG.

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	02/03/1997

Convention	Chemical(s) of concern	Objectives	Obligations under the Convention	Date acceded/ Ratified
			waste; To formulate legislation to address the formal definition of relevant terms including "hazardous waste", "transboundary movement", and "proper disposal;" to formulate guidelines to deal with the storage, transportation and disposal of hazardous and other wastes;	
Stockholm	Persistent Organic Pollutants (POPs)	to protect human health and the environment from persistent organic pollutants	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; 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 ; To reduce or eliminate releases from unintentionally produced POPs that are listed in Annex C to the Convention To ensure that stockpiles and wastes consisting of, containing or contaminated with POPs are managed safely and in an environmentally sound manner	15/09/2005

Convention	Chemical(s) of concern	Objectives	Obligations under the Convention	Date acceded/ Ratified
			To develop implementation plans, information exchange, public information, awareness and education , research and as well as technical assistance and financial resources and mechanisms	
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; and
- 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.

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).

Another organisation which executes Responsible Care Programmes in SVG is The Pan-American Health Organisation (PAHO). This entity seeks to improve the health and living standards of the citizens in SVG. PAHO's mandate includes chemical safety in relation to food safety and medicines (The Ministry of Agriculture, Rural Transformation, Forestry, Fisheries & Industry and Ministry of Health, Wellness and the Environment, 2015).

2.3 Ministries, Agencies and Governmental Institutions

There is no single Ministry, Agency or Governmental Institution responsible for all aspects of chemicals management in SVG. The MOHWE is the primary Ministry focused 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, Urban Development and Local Government;
- the Ministry of Finance and Planning;
- the Ministry of Housing, Informal Human Settlements, Lands and Surveys and Physical Planning.

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

The 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 form 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 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) 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 managementsuch 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 the 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 SVG.

The Banana Growers' Association of SVG was initiated in the 1950's and consolidated into Parliament through Act 44 of 1954. Howeveer, 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. SVG 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 SVG, there are existing commissions/agencies which contribute to the regulation of chemical management. These include the following:

- Pesticides Control Board (PCB);
- National Environmental Advisory Board (NEAB);
- National Economic and Social Development Council;
- National Emergency Council; and
- Chemicals Management Authority (draft)

Pesticide Control Board (PCB)

The PCB of SVG, 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 SVG. 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 (Inter-American Institute for Cooperation on Agriculture, 2004).

National Environmental Advisory Board (NEAB)

The NEAB was appointed by Cabinet to assistin the coordination of multi-sector environmental activities and is comprised ofrepresentatives from 11 government departments/units and agencies. The NEAB has theoverall responsibility of determining the appropriateness of the St Vincent and theGrenadines National Environmental Management Strategy and Action Plan (NEMS) andmay 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 SVG, 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 Chemicals Management Authority (draft)

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 compromise:

- 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
- arepresentative 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.

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 (SVG 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:

SVG 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 (SVG 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 (CARICOM). Caribean Agriculture Research and Development Institute (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 SVG, 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

SVG'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 itsdependency on fossil fuel based energy for electricity generation. In 2009 and 2012, a solar plant was installed and upgraded respectively, allowing the plant tosupply a gross power of 55 kW.In 2013, plans to install another solar PV were decided.This new plant was expected to prvide 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 EC$700,000.VINLEC also works with the government on geothermal energy investigations. Public Awareness on the importance of energy conservation has also been one if 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 SVG 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. The 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 SVG 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 co-ordination 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 PCB is the committee which is authorized to regulate the importation, sale, storage and use of pesticides in SVG**.** 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.

SVG Bureau of Standards

The SVG Bureau of Standards (SVGBS) 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 administrates 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 Communicationsuse 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 properly managed.The management of fertilizers limited to its importation and storage. St. Vincent and the Granadine 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	Importation	Production	Storage	Transport	Distribution	Use/Handling	Disposal/ Recycle
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 SVG has existing pieces of legislation for the management of chemicals, the legislations are insufficient because whether collectively or individually, they are not comprehensive to regulate the entire life cycles of the 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 Pharmacy Act (2002) also have in place a system to tract poisons and there is the potentional to expand this sytems to all chemicals.

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 there are overlapping of organizational responsibilities at local, national and regional, overly centralized functions and issues related to establishment of priorities and the phasing of programmes for chemicals managemnet.

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. The SAICM is a plan for ensuring that 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 (WHO, 2015). SVG 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 SVG', 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, environmental based programmes and 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, reagents, production of energy and water treatment.

The draft National Chemical Management Profile for SVG (2013) stated SVG primarily imports chemicals from the United States and China. These chemicals are used by manufacturing industries such as those involved with rice milling and flour production, for local and regional markets. 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. Table 3-1 summaries the major chemical imports and exports for SVG. 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 SVG 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

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 St. Vincent and the Grenadines' in 2013 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 (Government of SVG, 2013). Table 3-3 describes the quantity of chemicals being used in the country based on the chemical type and category.

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

Type of Chemical Product	Quantity	
	Litres (L)	Kilograms (kg)
Pesticides (Agricultural)	3430	9047.08
Pesticides (Public Health)	14096.69	83.7
Fertilizer	0	1240.69
Petroleum Products (Auto industry)	176038.76	263.33
Petroleum Products (Transportation/Utilities)	28287967.41	997
Industrial Chemicals (Manufacturing)	8469.37	320055.07
Industrial Chemicals (Construction)	0	42.5
Industrial Chemicals (Service Industry)	1530.4	310.74
Consumer Chemicals (Homes/Business)	7403.38	369.36
Consumer Chemicals (Schools)	203.45	11.96
Consumer Chemicals (Laboratories)	176.54	76.83
Other Chemicals *	2502911.19	0.03

**Other Chemicals: Chemicals falling in this category are listed in Table 3-2*
(Source: Government of SVG, 2013)

St. Vincent Electricity Services Limited (VINLEC) is the dominant power generation industry in St. Vincent and the Grenadines. 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). There are however privately owned electricity systems that may supply diesel powered electricity to some parts of the islands within the Grenadines. Table 3-4 summarizes the consumption of various fuels throughout the island (St. Vincent and the Grenadines, 2010).

Table 3-4: Fuel Consumption in SVG (2009)

Fuel	Tonnes of Oil Equivalent	%
Diesel (VINLEC)	25549	27.50
Aviation Spirit	5	0.01
Kerosene	598	0.64
Hydrofuel	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 is located in Kingstown and supplies fertilizers in bulk at a reduced cost to farmers. The fertilizers are imported 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, in an enclosed ventilated room, outfitted with an extractor in order to eliminate any noxious smells. The chemicals though stored within the same room, are seggregrated 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.).

The SVG Port Authority is the main port of import and export in St. Vincent and the Grenadines, hence all types of hazardous cargo enters this port. Over 99.5 % of hazardous cargo enter and passed though the SVG Port Authority. Imported chemicals are stored together with other cargo as there is no designated storage facility for chemicals. Explosive cargo is not stored at the port but must be loaded directly unto the haulers and leave the Port in the shortest possible time.

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 dismounted 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. Wastes are not separated and as such hazardous (inclusive of chemicals) waste are mixed with non hazardous waste and go to landfill sites. In SVG, there are recurring reported incidents of illegal dumping of industrial waste particularly waste oils in the rivers and streams. The presence of micro-plastics including marine debris and the continuing large-scale burning of vehicle tyres also pose increased environmental challenges. Table 3-5 gives an overview of the types of chemical wastes generated in SVG. 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.

There are currently no waste to energy initiatives in SVG. 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 to the Diamond Landfill. 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.

Table 3-5: 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)

Limited data gathered for SVG during 2011 to 2012 indicated that approximately 2000L of laboratory chemicals, 33, 000L of used engine oil and 14, 800m^3 of compost reached the landfill sites (Solid Waste Management Unit, 2015). Some chemicals are intombed and buried at the landfills.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

There are obsolete chemicals stocks in SVG. The results of a 2012 study conducted by the Food and Agriculture Organisation (FAO) for SVG have an overview of the status of obsolete stockpiles in country. Table 3-6 summarises the quantities of obsolete stocks of various types of pesticides in the country, indicting that there is approximately 3.2 tonnes of obsolete pesticides in SVG, of which more than 80% were identified as organic pesticides. Table 3-7 gives an overview of the obsolete pesticide stockpiles in SVG until 2012. The majority of the obsolete pesticides were stored at Langley Park Airstrip, One. Table 3-8 represents a profile on the nature and condition of containers and stocks in SVG. The table shows that most of the stocks (3.16 tonnes) were undamaged i.e. in a good condition.

The major problem which the obsolete and unused chemicals present is the eventual release into the ground and atmosphere, owing to inadequate and unsuitable storage conditions. Despite the majority of stored obsolete chemicals are currently in good condition, the 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 (Government of SVG, 2013).

Table 3-6: Types (pesticide family) and Quantities of Obsolete Pesticides Stocks in SVG

Pesticide Family	Quantity (tonnes)
Biological control pesticide	0.006
Carbamate pesticide	0.011
Coumarin derivative pesticide	0.025
Organochlorine pesticide	0.069
Organophosphorous pesticide	0.020
Pesticide (organic)	2.745
Pesticide (inorganic/ other)	0.001
Phenoxyacetic acid derivative pesticide	0.001
Pyrethroid pesticide	0.014
Thicarbamate pesticide	0.001
Unknown/ others*	0.299
Total	**3.192**

(Source: FAO, 2012) *Unknowns/others – (Unidentified pesticides, laboratory reagents, plant hormones, fertilisers, other chemicals not in PSMS database).

Table 3-7: Quantity of Obsolete Pesticides in 3 sites / stores in SVG

Site / Store	Pesticide (Tonnes)	Soil (Tonnes)	Other Material (Tonnes)
Langley Park Airstrip	2.650	0.000	25.000
Green Fingers Store	0.301	0.000	11.000
Plant Protection Unit Store Room	0.204	0.000	0.000
Total	3.16	0.000	36.000

(Source: FAO, 2012)

Table 3-8: Nature and Condition of Containers and Stocks in SVG

Nature and Condition of Containers	Stock Quantity (Tonnes)
Compacted	0.011
Leakage	0.008
Surface damage, no leakage	0.017
Undamaged	3.155
Total	3.191

(Source: FAO, 2012)

3.6.2 Technical Facilities for Recovery and Recycling of Chemicals

In SVG, there are limited companies involved in the recycling or recovery of chemical wastes in the country. PET bottles, cans recycling and the extraction of copper are also performed privately on a small scale. 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 via incentives to bring tins and plastic items to the recycling station. At the facility, bottles are weighed and sorted according to size and colour. Bottles are crushed once weekly.

3.6.3 Capacity for Disposal of Chemicals

SVG is limited in its ability to treat with chemical waste which may arrive at the landfill sites. In the smaller islands of the Grenadines, chemical waste is transported to the mainland 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. At Union Island, the majority of waste handled consists of household and commercial waste. Table 3-9 gives an overiew of the disposal of waste in SVG.

Table 3-9: Facilities for Disposal of Waste in SVG

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

(Source: Solid Waste Management Unit, 2015)

3.7 Unintentionally Generated Chemicals

In SVG, 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. Other sources include automobiles, commercial and household heating and cooking, uncontrolled combustion, production and use of chemical and consumer goods. Table 3-10 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 3-10: Sources of unintentional emissions in SVG

Chemical Type	Source
Dioxins and Furans	Clearing of land for agriculture, charcoal production, solid waste management activities, automobile emmissions, 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 SVG 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.

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 the 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. 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). SVG 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 and 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	NA	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: Governement of SVG, 2013)

Y – Data exists N – No Data exists NA – Not Available

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
Port Authority	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 Medical Officer, Pharmaceutical Department)	Chemicals- pharmaceuticals and health effects	World Health Organization (WHO)	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.

SVG 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 SVG 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/AnnexIIIChemicals/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 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 (subscription)	Access via 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

St. Vincent and the Grenadines passed the Freedom of Information Act 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 SVG. 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; and
- 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 SVG. 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 polices 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 for chemical analyses. Table 5-1 summarizes the laboratory capacity related to regulatory chemical analyses 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	(a) Perform microbiological and pharmacological tests on samples of drugs submitted by any participating Government and report the results thereof to that Government. (b) Perform biological availability tests on selected types of drugs. (c) Investigate the stability of drugs under the conditions of storage prevailing in the Region. (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.	ISO ASTM International Codex Alimentarius CROSQ – CARICOM Regional Organisation for Standards and Quality	NO	Public laboratory providing services both of a clinical and public health nature. Contribute to the effective functioning of national health surveillance and care systems
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 advancing the capability of CARPHA Member States in laboratory technology and related public health disciplines

Name	Location	Equipment/Analytical Capabilities	Accreditation	Certified GLP	Purpose
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 SVG 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 service providers.

Information and Communication Technology is also used by those employed in the non-ICT sectors within the country. These sectors include:

- 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; and
- 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 SVG (2010 – 2015) include the enhancement of legislation and regulatory framework to embrace ICT nationwide, the integration of Government with all appropriate information and services online and the effective but safe management of computer and electronic 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 outany required works need to be done by the Ministries locally. The SVG Bureau 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 (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 of goods and services, through the process of standardization and the verification of quality. In 2010, the Bureauof 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 participating laboratories include the SVG Bureau of Standards, the Forensic Drug Laboratory, Central Water and Sewage Authority (CWSA), Bottlers Limited (JU-C), the Fisheries Division, MOHWE, 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 SVG 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 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. The NEMO 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 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.

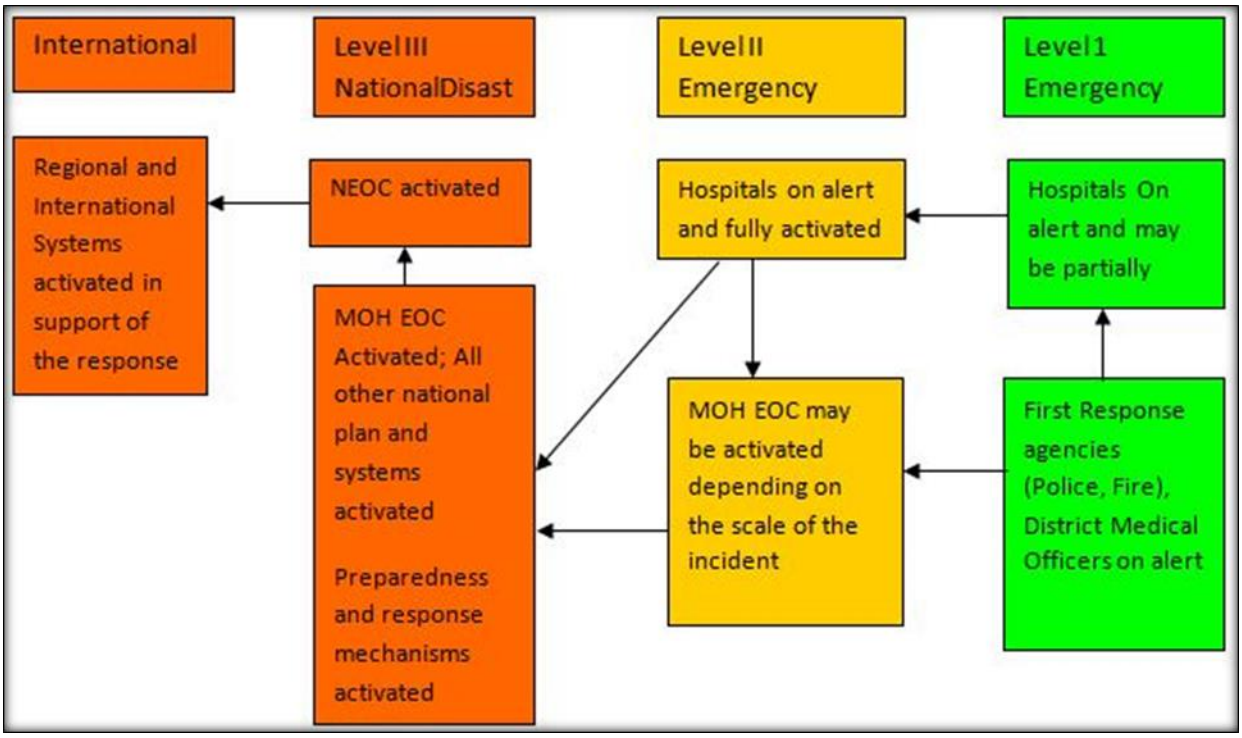
6.2 Chemical Incident Response

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

Figure 6-1 summarises the Response Mechanism for SVG as provided by the 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

6.3 Chemical Incident Follow-up and Evaluation

The draft National Health Disaster Plan (2011) 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 SVG 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 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 vocanic 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.

SVG has very limited measures in place to handle such events. One of the main responses systems is the Response Policy of the National Oil Policy Contingency Plan based on the criteria for the use of dispersants as laid out in the Caribbean Island Oil Pollution Response and Cooperation Plan (OPRC Plan). It is therefore important that an action plan be developed in the event of chemical incidents on land and sea. The draft Chemical Policy 2015 seeks to address this issue by 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 SVG 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 SVG. 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 (VINLIC) has an health and safety month on an annual basis 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 SVG, 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.

The 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/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 Activitiy (Additional Financing for Capacity Building in Priority Areas) Enabling to Prepare its First National Communication in Response to its Commitment to UNFCCC

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. 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;

International Agreements	Primary Responsible Agency (designation of focal point)	Relevant National Implementation Activities
		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 Research in Cancer (IARC)	Ministry of Health- Chief Medical Officer/ Environmental Management Unit Labour Department	Hazard assessment; carcinogenicity Safe use of chemicals at work; preventions of industrial accidents
International Labour Organization (ILO)		
International Maritime organization (IMO)	Port Authority	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.To date, 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 2020.

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/CWASA	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 Development of National Biosafety Frameworks	UNEP-GEF	MOHWE	Institutional strengthening for agencies addressing biosafety through training of personnel 4. Enhancing inter-sectoral coordination between the agencies/stakeholders in biosafety – Technical and Scientific Authority 5.

Name of Project	International/ Bilateral Donor Agency involved	National Contact Point	Relevant Activities
			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/MOHWE	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 SVG 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 MOHWE 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 EMD 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).

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

SVG 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 non-governmental 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);

- VINLEC 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; and
- 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.

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 9-1 gives a summary of funding institutions and support given to SVG to better manage chemicals.

Table 9-1: 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 SVG

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 SVG port Authority 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 SVG

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 towardsagrochemicals. 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.

SVG 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; and
- 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

This updated National Chemical Profile 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 SVG. 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 the draft national policy for chemicals management be implemented in SVG.

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 led by the EMD of the MOHWE, have a core committee consisting of representatives from the different Ministries, and sub–committees comprising of members of the Interministerial committees, statutory bodies, private sector and NGOs. Figure 10-1 gives an overview of the proposed National Chemical Committee for SVG.

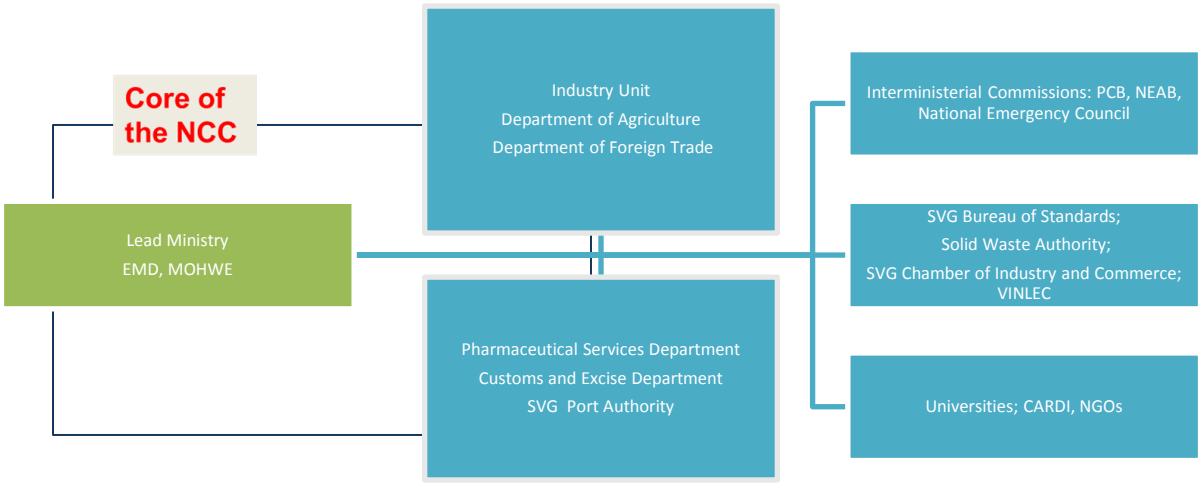


Figure 10-1: Proposed National Chemical Committee for SVG

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 SVG Port Authority the first control point where management measures should be implemented effectively. The SVG Port Authority 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 SVG

Introduction

The NCP for 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 SVG
Annex II: Participation of Ministries, Organisations and other Stakeholders
Annex III: Overview of Legislation governing Chemicals Management in SVG
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 Sectors	Economic sub-sectors	Major products	Number of Employees ('00) 2014	Number of Facilities	Contribution to GDP (%) 2014	Output Value (US$ millions)	Growth Rate (%) 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 3: Chemical Production, Import, Export, Storage, Transport, Use, and Disposal

Table 3-1: 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 3-2: Raw Materials for Chemicals and Related Industries

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

Table 3-3: 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 3-4: Bulk Chemical Storage and Warehousing Facilities

Chemical Type	Size/Capacity (m^3/tons)	Type of Facility	Location (port, industrial complex, urban, rural)	Labelling, Health & Environment Protection Measures

Table 3-5: 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 3-6: Chemical Waste Generation

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

Table 3-7: 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 3-8: 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 3-9: 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 6: 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 6-1: 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.DanelleDhaniram	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	1st floor, Ministerial Building, St. Vincent & The Grenadines Tel: 784 456-1111	Overview of department and chemical use in SVG. Press conference
Ministry of Health, Wellness and the Environment	Mr. Carlos Wilson	Senior Environmental Health Officer	Environmental Health Complex, Tyrell Street, Kingstown, St. Vincent & The Grenadines Tel: 784 456-1991	Contact person 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	Mr. Ezra Ledger	Executive	Campden Park,	Discussion on

Organisation	Name	Position	Contact Information	Contribution
Standards		Director	Industrial Estate, P.O. Box 1506, St. Vincent & The Grenadines Tel: 784 457-8092	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, SVG Tel: 784-456-1083	Commitment to provide data on import and export of chemicals using HS codes – Formal data request letter sent to Comptroller (no response)
Statistical Office	Mr. Jamal Byron	Statistician	P.O.Box 608, Kingstown, SVG 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	HSE policy for Port Authority; draft Chemicals Management Policy; Port Authority memorandum for hazardous chemicals.
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	Discussion on chemicals used in pharmaceutical sector

Organisation	Name	Position	Contact Information	Contribution
			Grenadines Tel: 784 457- 2586	
Solid Waste Management Unit	Mr. Winsbart Quow	Manager	Central Water & Sewerage Authority P.O Box 363 New Montrose Kingstown, St. Vincent & The Grenadines Tel: 784- 456-2946	Data on solid waste
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) – no data received
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 SVG

Pesticides Control Act No. 23 of 1973

This Act established the Pesticides Control Board. Under this Act, the Board has the responsibility to develop regulations which govern the pesticides use. Regulations may extend to the accidental release of these pesticides and their importation, manufacture, sale and use.

Environmental Health Services Act No. 14 of 1991

This ACT makes 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 Act makes provision for the discharge of chemicals into water bodies.

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. An Environmental Health Board is established under the ACT and has the responsibility to advise the Minister on matters relating to environmental health. The Environmental Management Division which is created under this Act can influence number of operations pertaining to chemical and solid waste management, effluent disposal and pest control.

Customs (and Control) Management Act

This Act makes provision for administration and border control responsibilities relating to chemicals management in international trade and the detention, seizure and forfeiture of goods including chemicals which may not have been imported according to the guidelines mandated.

Pharmacy Act No. 54 of 2002

The SVG Pharmacy ACT # 54 0f 2002 makes provision for the Pharmacy Council to decide on matters relating to the registration of drugs. The Act also states that the Council has the authority to publish a list of pharmaceuticals which can only be imported into the country under a license issued by the Council. The Pharmacy Act makes provision for Pharmacists only, to sell prescription medicines and that drug registration ought to be a requirement for import.

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

Public Health Act No. 9 of 1977

This Act makes provision for the Central Board of Health to make and enforce regulations which pertain to the maintenance of public health. These powers allow for the inspection and sanitary conditions of beaches, the removal of of pollution agents, the prevention of infectious diseases and the handling and disposal of wastes.

Waste Management Act No. 31 of 2000

This Act contains rules for the public management and disposal of solid waste, including hazardous waste. This Act makes provision for the appointment and functions of the National Solid Waste Management Authority. The Act gives power to the Authority to matters concerning all solid waste

management facilities including the land on which they are situated. The importation, processing and other handling of waste is also included.

Petroleum Act No. 3 of 1998

This Act makes provision for the importation control of petroleum products.

Convention of Oil Pollution Damage Act No. 6 of 2002

This Act makes provision for oil pollution by merchant ships with respect to civil liability.

Standards Act No. 28 of 2001

This Act makes provisions to prepare and promote standards relating to goods inclusive of chemicals, services, processes and practices produced and/or used within the country. In so doing, the Act ensures industrial efficiency and assists in industrial development, public and indusrial welfare and safeguards against negative impacts on the environment.

Shipping Act 2004

This Act makes provisions for the carriage of bulk and dangerous cargoes (including hazardous chemicals) aboard ships. Such provisions include the carriage and marking of these as well as conditions for their rejection and disposal. Forfeiture of dangerous goods

In this Act, the Maritime Administration is given the Authority to set restricitions on the operations of ships and the overseeing of their registration.

National Emergency and Disaster Management Act 2006

This Act makes provision for the prevention, preparedness, response, mitigation and recovery with respect to hazards, disasters and emergencies. Under this Act, the National Emergency Management Organisation and the National Emergency Council is established in order to develop a National Disaster Management Plan, regulate emergency operation centres and shelters, coordinate activities of persons involved in disaster management and designate specially vulnerable areas.

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 CWSA established under the Act and body corporate. The Authority shall investigate water resources in Saint Vincent and the Grenadines and makes recommendations to the Minister regarding water management and conservation. The Authority shall also carry out surveys, prepare estimates of water and sewerage requirements, construct, maintain and operate water supply and sewerage systems, supply water, examine and survey water resources, etc. A Board is established under the Act for purposes of management of the Authority. The Act makes provision for the designation of protected areas and for the protection of water resources. Although national standards for the discharge of treated effluents into surface water are not in place, the Central Water and Sewerage Authority applies relevant WHO or EU standards.

Forestry Act of 1945

This Act makes provision for the protection of mangrove forest from negative influences including but not limited to chemical pollution.

Litter Act No. 15 of 1991

This Act makes provisions for the protection of the general environment from persons who throw, drops, deposits or leaves litter of any kind in any public place. Under this Act, penalties for transporting goods which when transported, have a high risk of falling off and as such become guilty of also breaching it.

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 charged 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 any 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.

Plant Protection Act No. 16 of 2005 (Draft)

This Act makes provision for the prevention and control of plant pests, to protect plant resources; the facilitation of trade in plant and plant products and the regulation of relevant matters. 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 objectives of the legislation embodies an integrated approach to the regulation of pesticides and toxic chemicals in general, including chemical weapons. The integration of domestic pesticides and toxic chemical control and implementation of international obligations under the Chemical Weapons Convention and is intended to reduce the administrative burden.

Environmental Management Act (Draft, 2009)

This Act makes provision for institutional strengthening mechanisms pertaining to environmental issues suvh as land-based and marine pollution, through the establishment of the Environmental Management Department and the National Environmental Commision (NEC).

The responsibilities of the EMD include the coordination of pollution, prevention and control activities. Such activities incude inspections to ensure industrial compliance with environmental standards and regulations and the issuance of discharge permits, and investigations of pollution incidents.

The NEC provides an advisory service to support the EMD. These include the promotion of capacity-building for environmental management and the security of inter-agency collaboration in environmental management.

The Occupational Safety and Health (OSH) Act of 2001 (Draft, 2001)

This Act is intended to replace the Factories Act of 1957 and sets standards for occupational safety and health in SVG and its scope spans the handling, storage, use, disposal and transport of dangerous substances.

ANNEX IV

SVG Import and Export

2012-2013

SVG

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 product 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
'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

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
'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
'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

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
'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
'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

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
'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 nes, paper yarn, woven fabric	0		9	
'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

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
'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
'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

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
'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
'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

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
'99	Commodities not elsewhere specified	0	300	0	123762

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