Toxics Link
for a toxics-free world

INDIA'S PROGRESS

on STRATEGIC APPROACH TO INTERNATIONAL CHEMICAL MANAGEMENT - 2020

(SAICM)

About Toxics Link

Toxics Link is an Indian environmental research and advocacy organization set up in 1996, engaged in disseminating information to help strengthen the campaign against toxics pollution, provide cleaner alternatives and bring together groups and people affected by this problem. Toxics Link's Mission Statement – "Working together for environmental justice and freedom from toxics. We have taken upon ourselves to collect and share both information about the sources and the dangers of poisons in our environment and bodies, and information about clean and sustainable alternatives for India and the rest of the world." Toxics Link has unique expertise in areas of hazardous, medical, and municipal wastes, international waste trade, and the emerging issues of pesticides, Persistent Organic Pollutants (POPs), hazardous heavy metal contamination etc., from the environment and public health point of view. We have successfully implemented various best practices and have brought in policy changes in the aforementioned areas apart from creating awareness among several stakeholder groups.

Acknowledgment

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List of Abbreviations

DDT	Dichlorodiphenyltrichloroethane
DEHP	Bis(2-ethylhexyl) phthalate
EDCs	Endocrine-disrupting chemicals
EPIs	Emerging policy issues
EU	European Union
FAO	Food and Agriculture Organization of United Nations
GHS	Globally Harmonized System of Classification and Labeling of Chemicals
GCO	Global Chemicals Outlook
GEF	Global Environment Facility
GPA	Global Plan of Action
HHPs	Highly hazardous pesticides
IOMC	Inter-Organization Programme for the Sound Management of Chemicals
ICCM	International Conference on Chemicals Management
IFCS	Intergovernmental Forum on Chemical Safety
JPOI	Johannesburg Plan of Implementation
LCA	Life cycle assessment
MEAs	Multilateral Environmental Agreement (MEA)
MOEFCC	Ministry of Environment, Forest and Climate Change
OPS	Overarching Policy Strategy
PCBs	Polychlorinated biphenyls
PFASs	Per- and polyfluoroalkyl substances
POPs	Persistent organic pollutants
PRTRs	Pollutant Release and Transfer Registers
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals
SAICM	Strategic Approach to International Chemicals Management
SDG	Sustainable Development Goals
SMEs	Small and medium-sized enterprises
UNEA	United Nations Environment Assembly
UNEP GC	UN Environment Programme's Governing Council
WHO	World Health Organization
WSSD	World Summit on Sustainable Development

Preface

Chemicals are integral to modern life however chemicals are also being recognized as a cause of concern and sound management of chemicals is emerging as a key aspect of sustainable development. The negative fallout due to growing chemical use was being recognized as a serious environmental and human health concern and was attracting attention in global development summits.

In this context, the Strategic Approach to International Chemicals Management (SAICM) was adopted as an international non-binding policy framework. SAICM has as its overall objective the achievement of sound management of chemicals throughout their life cycle so that by 2020, chemicals would be produced and used in ways that minimize significant adverse impacts on human health and the environment. The SAICM has identified some critical chemical issues, which need to be addressed globally and proposed a number of the global plan of actions (GPAs) for selected emergency policy issues (EPIs) such as Lead in Paints, Chemical in Products, Highly Hazardous Pesticides, Hazardous Substances in the Life Cycle of Electronic and Electrical Products, Endocrine Disrupting Chemicals, Environmentally Persistent Pharmaceutical Pollutants, Perfluorinated Chemicals, and Nanotechnologies and manufactured Nanomaterials. SAICM emphasizes the need for legal frameworks that address the life cycle of chemicals and waste as well as strong institutional frameworks and coordination mechanisms among relevant stakeholders and collection and systems for the transparent sharing of relevant data and information among all stakeholders using a life cycle approach.

Toxics Link has developed this report to highlight the current developments in SAICM and how far the world has progressed in addressing the challenges of emerging chemical safety issues. Furthermore, the report has also highlighted the initiatives in India towards chemical management, while also outlining some of the gaps in successfully implementing the SAICM in India. The report has also tried to establish the linkages of chemical management and the Sustainable Development Goals 2030 and has proposed some effective approaches towards SAICM beyond 2020.

1.

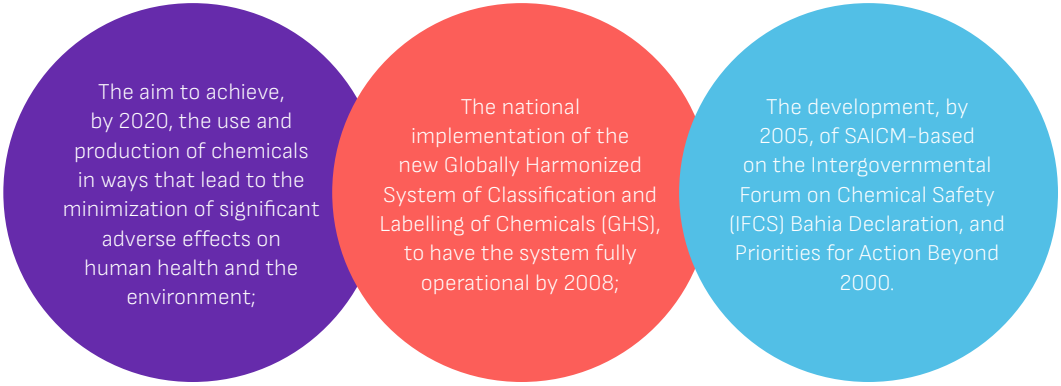
Introduction

Chemicals are integral to modern life, however chemicals are also being recognised as a cause of concern and sound management of chemicals is emerging as a key aspect of sustainable development. Along with vast societal benefits, some chemicals pose serious ecosystem and human health risks. The impact of toxic chemicals is global however but the adverse impacts of chemicals are much more pronounced in the developing economies and countries in economic transition due to inadequate technical, institutional capacities or legal frameworks to efficiently manage chemicals or chemicals in products throughout their life cycles. Therefore, considering the serious consequences of handling, or disposal of hazardous chemicals, the stakeholders including the national governments, Industries, Inter-Government Organisations, Labour Organisations and Non-Government Organisations (NGOs) accepted the need for more comprehensive international chemicals management, which resulted in the initiative of Strategic Approach to International Chemicals Management (SAICM).

1.1 About SAICM

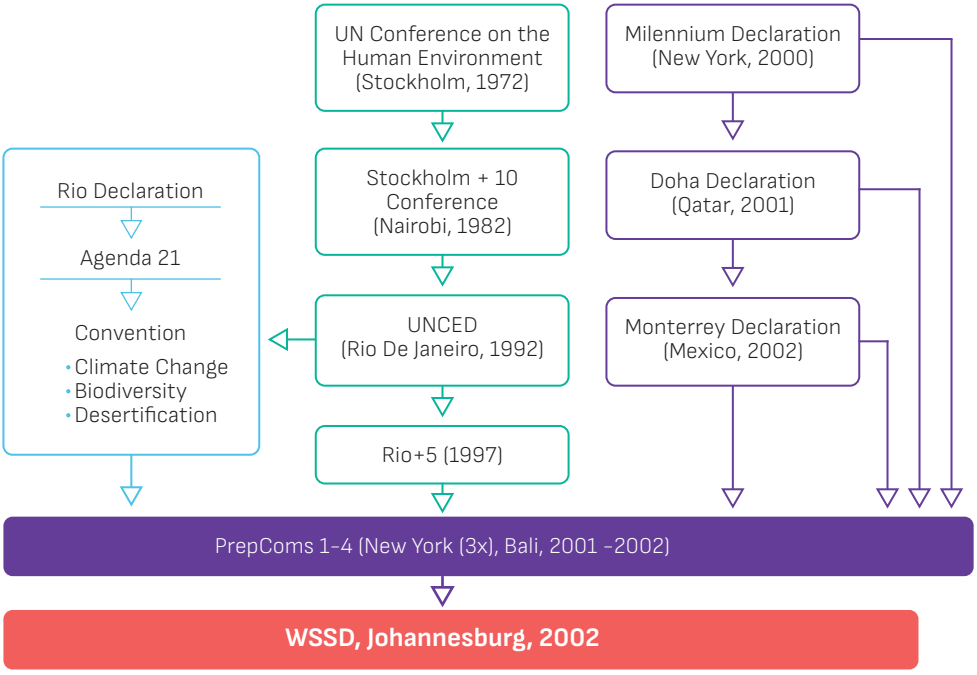
The negative fallout due to growing chemical use was being recognised as a serious environmental and human health concern and was attracting attention in global development summits. The World Summit on Sustainable Development, 2002 at Johannesburg discussed the issue related to chemicals management and agreed to address this as an area of concern for the global community. The international community agreed to draw up a framework and a timeline of 2020 to address the adverse impacts on account of chemicals management. To implement this 2020 goal delegates adopted the Johannesburg Declaration and the Johannesburg Plan of Implementation (JPOI).

The JPOI's chemicals-related targets include:



The first SAICM Prep meeting took place from 9-13 November 2003, in Bangkok, Thailand. It addressed the potential issues during the development of SAICM, explored ways to shape discussions, and considered possible outcomes of the SAICM process. SAICM adopted a three-tier approach, which comprises: a Global Plan of Action (GPA) with targets and timetables; an Overarching Policy Strategy (OPS); and a high-level or ministerial declaration.

Table 1. Schematic representation of events



The 2005 World Summit held at The UN Headquarters in New York from 14-16 September regarding chemicals management, resolved to promote the sound management of chemicals throughout their lifecycle, including hazardous wastes. They resolved to implement a voluntary strategic approach to international management of chemicals and to support developing countries in strengthening their capacity for the sound management of chemicals and hazardous wastes.[1]

The Strategic Approach to International Chemicals Management (SAICM) was conceptualised in 2006 as a voluntary, multi-sector, multi-stakeholder forum to help enhance safe chemical management across the globe. It was adopted by the First International Conference on Chemicals Management (ICCM1) on 6 February 2006 in Dubai.

By 2020, chemicals are "used and produced in ways that lead to the minimization of significant adverse effects on human health and the environment."

1.2 The journey of SAICM from 2006 to 2020

SAICM was formally adopted in 2006 and since then the International Conference on Chemicals Management (ICCM) SAICM's apex governing body does periodic reviews of its progress and proposed suitable actions for chemical management. It also facilitates resource exchange and collaboration. ICCM works with stakeholders to assess progress towards implementation of the Strategic Approach, provides relevant guidance, promotes the implementation of existing instruments, addresses policy issues, and seeks to meet technical and funding needs. Moreover, the ICCM process also took some important decisions to strengthen chemical management and to achieve the 2020 goal.

1 https://enb.iisd.org/events/4th-session-international-conference-chemicals-management-iccm4/curtain-raiser

01

The first session (ICCM 1) held in Dubai, the United Arab Emirates, from 4–6 February 2006, completed negotiations, including an overarching policy strategy and global plan of action and adopted SAICM. The ICCM-1 was the climax of a process of discussion between governments, intergovernmental organisations, non-governmental organisations, and others within the framework of the Preparatory Committee for the Development of a Strategic Approach to International Chemicals Management.[2]

Participants pledged to develop the capacities of all parties involved to accomplish sound chemical and hazardous waste management at all levels, as well as to continue mobilising national and international funding from public and private sources. They also reaffirmed the goal to minimize the significant adverse effects on public health and the environment by 2020.

02

The second International Conference on Chemicals Management (ICCM 2) was held on 11-15 May 2009 in Geneva, Switzerland and undertook the **first periodic review of SAICM's implementation**[3]

They identified four emerging policy issues (EPIs): **Chemicals in products, lead in paint, nanotechnology and manufactured nanomaterials, and hazardous substances within the lifecycle of electrical and electronic products** for cooperative action by SAICM stakeholders.

03

The third International Conference on Chemicals Management (ICCM 3) was held in Nairobi, Kenya, from 17–21 September 2012 and reviewed progress in the implementation of SAICM with **tangible data on 20 indicators of progress adopted at ICCM2**, addressed emerging policy issues and adopted the Health Sector Strategy to address the impact of chemicals on the human health. The resolution was also passed for effective action points on the emerging policy issues.[4]

04

The fourth International Conference on Chemicals Management (ICCM 4) was held in Geneva, Switzerland, from 28 September to 2 October 2015. It reviewed progress toward the 2020 goal and established an intercessional process to maintain momentum until ICCM5 in 2020.

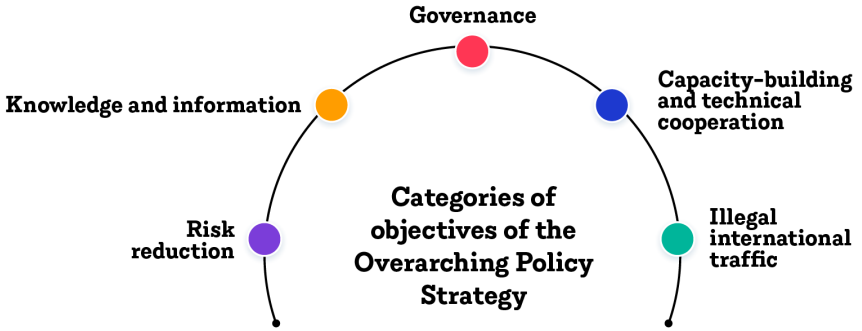
ICCM4 also reviewed the implementation **aspects of emerging policy issues and other issues of concern,** considered the SDGs, discussed sound management of chemicals and waste beyond 2020, and reviewed the proposed activities. ICCM4 adopted the overall orientation and guidance (OOG) for SAICM and added environmentally persistent pharmaceutical pollutants as an EPI and **highly hazardous pesticides as an "issue of concern."** The ICCM4, adopted resolution IV/4 on the sound management of chemicals and waste beyond 2020, which initiated an intercessional process to prepare recommendations regarding the Strategic Approach and the sound management of chemicals and waste beyond 2020.[5]

2 http://www.saicm.org/About/ICCM/ICCM1/tabid/5980/Default.aspx
3 https://www.saicm.org/About/ICCM/ICCM2/tabid/5966/Default.aspx
4 http://www.saicm.org/Portals/12/documents/meetings/IP3/INF/SAICM_IP3_INF3_Final-IndependentEvaluation.pdf
5 https://enb.iisd.org/events/4th-session-international-conference-chemicals-management-iccm4/summa-

1.3 About SAICM Global Plan of Action(GPA)

The International Conference on Chemicals Management at its first session (ICCM1) recommended the Global Plan of Action, which defined "work areas and activities" for implementation of the Strategic Approach. The SAICM Global Plan of Action (GPA) was approved for use and further development as a working tool and guidance document for sound chemicals management and SAICM implementation. The Plan is intended to be reviewed, as appropriate, and the activities considered and implemented by stakeholders according to their applicability.

Figure 1. Overarching Policy Strategy



The SAICM GPA, as a guidance document to assist stakeholders in achieving the objectives of the Strategic Approach, outlines nearly 300 activities to achieve the sound management of chemicals. Life cycle thinking is a concept explicitly affirmed in the 2002 Johannesburg Plan of Implementation of the World Summit on Sustainable Development. Life Cycle Thinking asserts linkages between actors involved in the separate phases of a product system. In this way, it is a form of management that promotes extended stakeholder responsibility and accountability with regards to pollution prevention and it is strongly anchored in SAICM texts and activities i.e.; Sustainable Consumption and Production ,consuming and producing more efficiently and differently sharing resources between the rich and the poor.[6, 7]

SAICM's strategic approach to promoting sustainable development targets all types of chemicals such as agricultural and industrial chemicals (including chemicals within products) at all stages of their life cycle; SAICM is a catalyst, connecting sectors and stakeholders, towards the goal of a chemical-safe, clean and healthy future.[8]

ry-report-28-september
6 https://enb.iisd.org/events/3rd-session-preparatory-committee-development-strategic-approach-international-chemicals-6
7 http://addis.unep.org/projectdatabases/01571/project_general_info
8 http://www.saicm.org/Portals/12/Documents/SAICM_Brochure-2015.pdf

Figure 2. Specific SAICM objectives

About Life Cycle Management of Chemicals[9]

Discussed at ICCM2, 11 May 2009

Life Cycle Management for a broad array of chemical substances and issues

- Individual chemicals
- Chemical mixtures or formulations
- Chemicals embedded in articles
- Chemicals not embedded in end product such as catalysts or ancillary substances like solvents used in the manufacturing process

9 https://www.lifecycleinitiative.org/wp-content/uploads/2012/12/2009%20-%20LCI%20of%20Chemicals.pdf

2.

About Emerging policy issues (EPI)

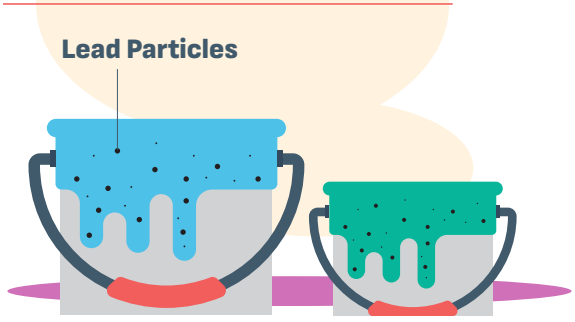
Emerging Policy Issues (EPIs) is an issue involving the production, distribution and use of chemicals, which has not yet been generally recognized or sufficiently addressed, but which may have significant adverse effects on human beings and the environment. EPIs have been nominated for voluntary, cooperative risk reduction actions by countries through the Strategic Approach for International Chemicals Management (SAICM) in the 2nd International Conference on Chemical Safety (ICCM2) in May 2009 and each EPI presents particular environmental and health problems.[11]

Since ICCM2 SAICM has identified emerging policy concerns (EPIs) that provide opportunities to bring together key stakeholders, collaborate across sectors, explore the most up-to-date information and science, advocate effective policies, and launch and support exchange platforms. At ICCM2, ICCM3, and/or ICCM4, resolutions have been adopted on the following eight developing policy concerns and other issues of concern:

- Lead in paints
- Highly hazardous pesticides (HHP)
- Chemicals in product (CiP)
- Hazardous substance within the life cycle of electrical and electronic products (HSLEEP) ("E-waste")
- Endocrine Disrupting Chemicals (EDCs)
- Environmentally Persistent Pharmaceutical Products (EPPPs)
- Nanotechnologies and Manufactured Nanomaterials (NANO)
- Perfluorinated chemicals and the Transition to Safer Alternatives

2.1 Lead in Paint:

Lead is a cumulative toxicant particularly harmful to young children and pregnant women. The cost of reduced cognitive potential (loss of IQ points) due to preventable childhood lead exposure in low and middle-income countries is estimated at $977 billion annually. The issue of Lead in paints was accepted as an emerging issue in **the resolution II/4, Part B, ICCM2** held at Nairobi in 2012 and proposed definite



10 https://saicmknowledge.org/topics

action to eliminate Lead from paints globally and also endorsed a global partnership to promote phasing out the use of lead in paints.[11]

The partnership has since been established as the Global Alliance on Lead in Paint (Lead Paint Alliance), led by UNEP and WHO jointly. The overall goal of the Global Alliance is to prevent children's exposure to lead via paints containing lead and to minimize occupational exposures to lead in paint. The broad objective is to phase out the manufacture and sale of paints containing lead and eventually eliminate the risks from Lead paint. Further the UN Environment Programme's (UNEP) '**Model Law and Guidance for Regulating Lead Paint'** recommends a lead concentration limit of 90 ppm, which set a benchmark for the adoption of the regulation of 90 PPM for the countries.[12]

2.2 Highly Hazardous Pesticides (HHP):

Highly Hazardous Pesticides (HHPs) are defined by their negative effects on humans: confirmed by WHO or the Globally Harmonized System as carcinogens, mutagens, and reproductive toxins; and with evidence of severe or irreversible adverse effects on health and the environment. Chronic exposure to HHPs can result in effects on skin, eyes, nervous system, cardiovascular system, gastrointestinal tract, liver, kidneys, reproductive system, endocrine system and blood, and may affect the immune system.

In 2015 ICCM 4 recognized HHPs as an issue of concern *and called on stakeholders to implement an FAO/UNEP/WHO strategy* ***"to address highly hazardous pesticides with emphasis on promoting agroecological-based alternatives".*** Concerted actions are, therefore, required to mainstream the regulation and sound management of HHPs and contribute to the achievement of the Sustainable Development Agenda 2030. To this effect, FAO-WHO-UNEP are jointly developing a Global Action Plan (GAP) on HHPs to explore a viable and concrete pathway for the international community towards progressive elimination of poisoning and contamination of HHPs and progressive phase-in of alternative measures. The GAP calls for global action by all relevant stakeholders on addressing HHPs and outlines the overall objectives and roadmap.[13]

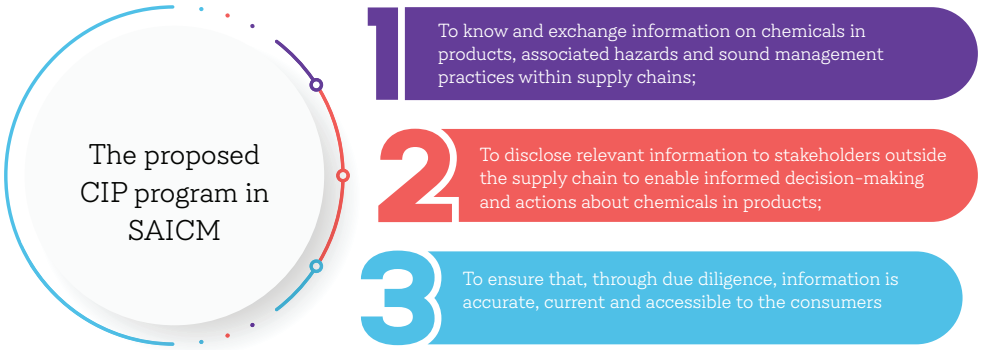
11 https://www.who.int/iomc/saicm/iccm2_resolution_II_4.pdf
12 https://sdg.iisd.org/news/who-makes-case-for-laws-to-eliminate-lead-paint/
13 http://www.saicm.org/Portals/12/documents/meetings/IP2/IP_2_INF_8_PAN_Global_Governance_HHPs_f.pdf

2.3 Chemicals in Products (CiP):

The transparency of information about chemicals in global supply chains has been an emerging policy issue for the Strategic Approach to International Chemicals Management (SAICM) leading to the adoption of Chemicals in Products (CiP) in **the second session of the International Conference of Chemicals Management (ICCM2) in 2009. The overall objective was of promoting the implementation of paragraph 15 (b) of the SAICM Overarching Policy Strategy.** Initially, product sectors of highest priority and concern of chemicals in products were: electronics, building materials, children's products/ toys, textiles, food packaging and personal care products.[15]

Further in 2015, the International Conference on Chemicals Management (ICCM4) Resolution IV/2(1) (B) welcomed CiP and proposed cooperative actions to address information gaps, focusing on the four sectors– **toys, electronics, building products, and textiles** as documentation of hazardous chemicals often does not exist or is not available outside supply chains for consumer products. According to SAICM, information exchange helps identify and address chemicals of concern in products, particularly for manufacturers, retailers and consumers.

The proposed CIP program in SAICM is;[14]



2.3.1 Toys:

Chemicals of concern in toys often enter the lifecycle during plastic production, painting and coating, or through recycled materials. It's especially alarming because children are particularly vulnerable to the health effects of certain chemicals and may be exposed to them through skin contact, mouthing, or inhalation. Some of the chemicals of concern in toys are; POPs from recycled plastic, Polyfluorenes in textile toys, Cadmium in batteries, Lead paint used for toys etc. The Strategic Approach to Chemicals Management has made chemicals of concern in toys a priority sector since ICCM2 as efforts and current work plan intends to hasten the adoption of mechanisms to track and manage chemicals in the supply chains of toys by value chain players, including governments and ensure safe toys. The SAICM has adopted various action points which include product label analysis, a brief analysis of the national voluntary or legally binding system of product labeling; outreach activities

14 https://saicmknowledge.org/sites/default/files/publications/SAICM_Policy_Brief_CIP.pdf

aimed at raising stakeholder awareness on the importance of chemicals in products, information disclosure etc.

2.3.2 Electronics:

There are potential adverse effects during the end-of-life stage and production stage. E-waste is often shipped to developing countries, where workers recovering valuable resources are exposed to toxic substances. The chemicals of concern in electronics include flame retardants in insulation, SCPP in coatings, cables, mercury in switches and the exposure of workers to benzene in factories which has been a priority sector within the work on chemicals in products by the Strategic Approach on Chemicals Management (SAICM). The SAICM also aims at accelerating the adoption of measures by governments and value chain stakeholders to reduce the use of chemicals of concern in electronic products.

The ICCM3 in 2012 approved the addition of new activities linked to hazardous substances within the life cycle of electrical and electronic products to the Global Plan of Action, including the work areas of e-products green design, environmentally sound production of e-products, and e-products awareness-raising.

2.3.3 Building products

The potential sources of hazardous chemicals in building materials include the use of recycled materials and performance-enhancing substances. Some of these chemicals used in construction and construction products are hazardous and can impact human health and the environment at all stages of the product life cycle, ranging from manufacturing to construction, through the use phase to demolition, recycling or disposal. The issues of chemicals of concern in building products are: asbestos, preservative treatment in outdoor, wood, mercury in lighting and lead in paint

Chemicals of concern in building materials for construction have been a focus of the Strategic Approach to Chemicals Management's initiatives through the CiP Programme since ICCM2. Current efforts aim to hasten the adoption of steps to decrease the use of chemicals of concern in building products by governments and value chain stakeholders.

2.3.4 Textiles

The textile industry is one of the largest industries in the world. It is significant for emerging economies and developing countries and it is expected to continue its past growth. However, the current system is highly resource and chemical-intensive. It is estimated that up to 3500 chemicals are used in textile production and potential sources of hazardous chemicals in textiles production include stain resistance coatings and pesticides from cotton production. Some of the chemicals may persist in the environment, build up in the body, and affect immune and reproductive systems.

The chemicals used in textiles are a global concern; therefore ICCM2 has proposed certain immediate measures which include transmission of sufficient information on chemicals and their hazards. [15] The

15 http://www.saicm.org/Portals/12/Documents/EPI/Guidance%20for%20Stakeholder%20in%20Exchanging%20CiP%20Information_October2015.pdf

chemicals in textiles identified as concerns are; Polyfluorenes for stain resistance, Pesticides from cotton Perchloroethylene (PERC) in dry cleaning fluid, plastic microfibres shed during washing etc. It has also found huge knowledge and technology deficit among developed and developing countries. Therefore, deeper knowledge of the value chain's actors, environmental and social implications, and associated intervention techniques for a more sustainable and circular value chain is necessary to minimize associated risks to human health and the environment during textile production.

2.4 Hazardous Substances in the Life Cycle of Electronic and Electrical Products (HSLEEP) ("E-waste"):

Electronic and electrical products contain several hazardous substances, including lead, mercury and other metals, flame retardants and certain phthalates. These hazardous substances can impact human health and the environment through all stages of the life cycle and downstream, hazardous chemicals can be released from e-waste during disposal and recycling, directly affecting workers and entering ecosystems by contaminating the air, water and soil and entering food chains.

ICCM2 in resolution II/4, Part D, endorsed the addition to the Global Plan of Action further at ICCM3 (Nairobi, Kenya, 17–21 September 2012), new activities were added to the SAICM Global Plan of Action related to HSLEEP. ICCM4 (Geneva, Switzerland, 28 September – 2 October 2015), introduced a work plan for the period 2016—2020. It listed various activities related to hazardous substances within the life cycle of electrical and electronic products, including the work areas of e-products green design, environmentally sound manufacturing of e-products and awareness raising for e-products.[16]

2.5 Endocrine Disrupting Chemicals (EDCs):

Endocrine Disrupting Chemicals (EDCs) are a class of chemicals that can mimic our hormones and interfere with the endocrine system of people and wildlife. They can disrupt healthy development and are thought to play a role in a range of disorders: birth defects, reproductive disorders, cancers. Over 800 hundred chemicals are known or suspected EDCs. They can be found in food and thousands of other products (WHO, 2013). **The third session of the ICCM (ICCM 3) recognized EDCs as an emerging policy issue (EPI)**.

16 http://www.saicm.org/Default.aspx?tabid=5474

The SAICM EDCS Workplan 2016-2020 aims to provide relevant stakeholders with up-to-date information and scientific expert guidance to identify or suggest possible interventions that may help reduce exposure to or the effects of endocrine-disrupting chemicals. The main activities are initiatives to identify endocrine-disrupting chemicals and potential endocrine-disrupting chemicals; Review of existing national, regional and global regulatory frameworks that address endocrine-disrupting chemicals; Overview of the current knowledge on chemicals identified as endocrine-disrupting chemicals and selected potential endocrine-disrupting chemicals; and Sharing reports that contain information and reflect perspectives on recent advances in science and their implications.[17]

2.6 Environmentally Persistent Pharmaceutical Products (EPPPs):

The term Environmentally persistent pharmaceutical pollutants (EPPP) was first suggested in the nomination in 2010 of pharmaceuticals and environment as an emerging issue in Strategic Approach to International Chemicals Management (**SAICM**). The Pharmaceuticals, including antibiotics, and their metabolites can enter the environment through a variety of pathways, including manufacturing sites, untreated wastewater from households and hospitals, wastewater treatment plants, and municipal waste streams, animal husbandry, sewage sludge and aquafarming.

While recognising that pharmaceuticals have important benefits for human health and animal welfare, **the SAICM Fourth International Conference on Chemicals Management (ICCM4)** adopted environmentally persistent pharmaceutical pollutants as an emerging policy concern in the SAICM in 2015.[18,19] The ICCM4 considered that information distribution and awareness raising on EPPPs are especially important and that improving the availability and access to information on such chemicals is a priority, as well as implementing cooperative measures with the ultimate goal of increased understanding and awareness among policymakers and other stakeholders. Moreover, the ICCM 4 has also recognised the importance of international cooperation for the creation of awareness on the environment and health impacts of pharmaceutical pollutants.

2.7 Nanotechnologies and Manufactured Nanomaterials (NANO):

Nanotechnology includes the manufacture, use and manipulation of materials at the nanoscale. While there is no internationally agreed definition, nanomaterials have been described as in the size range of 1 to 100 nanometres. Manufactured nanomaterials are now used in many industrial applications and consumer products, providing important benefits in areas such as medicine and environmental management.

Despite multiple benefits associated with the technology, concerns have emerged regarding potential risks posed by manufactured nanomaterials to human health and the environment. In the light of these concerns **"Nanotechnology and manufactured nanomaterials" was designated an emerging policy issue through resolution II/4, Part E, at the second session of the ICCM (ICCM2)** in 2009.

17 http://www.saicm.org/Portals/12/Documents/meetings/OEWG3/doc/OEWG3-6-Progress-on-EPIs_e.pdf
18 http://www.saicm.org/Portals/12/documents/meetings/ICCM4/doc/K1502367%20SAICM-ICCM4-7-e.pdf
19 https://saicmknowledge.org/program/pharmaceutical-pollutants

Additions to the Global Plan of Action related to this area were endorsed at ICCM3 with the aim to facilitate access to relevant information on nanotechnologies and manufactured nanomaterials, in particular for developing countries and countries with economies in transition to enhance their capacity to use and manage nanotechnologies responsibly, to maximize potential benefits and to minimize potential risks; share new information among all stakeholders as it becomes available; promote appropriate action to safeguard human health and the environment; and use upcoming regional, sub-regional, national and other meetings to further increase understanding of such information, for example through the use of workshops.[20]

2.8 Perfluorinated chemicals and the Transition to Safer Alternatives:

As stated in resolution II/5, elaborated to per- and poly-fluoroalkyl substances, PFAS comprise chemicals that are resistant to water, heat, and oil, a quality that explains their ubiquity in household appliances such as water-resistant cleaning supplies, non-stick cookware, and food packaging as microwave popcorn bags, pizza boxes, and cleaning and personal-care products like shampoo, dental floss, and denture cleaners, and in the manufacturing of plastic.

The work plan (2016-2020), resources permitting, focused on the need to gather scientific data and enhance understanding of the alternatives that are available and to widen the debate regarding the replacement of certain fluorinated compounds, where possible, by non-fluorinated alternatives and different technologies.

20 http://www.saicm.org/Implementation/EmergingPolicyIssues/Nanotechnology/tabid/5475/Default.aspx

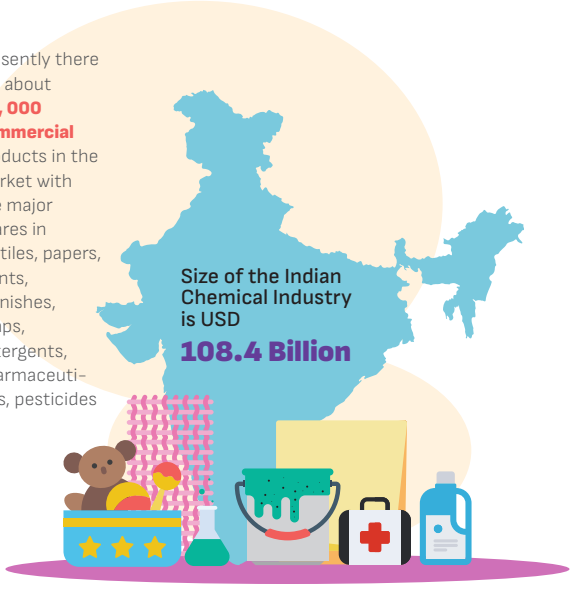
3.

India's progress on SAICM

India is an emerging economy in the world and the growth of the economy also very much depends upon the size of the chemical industry. The market size is growing with the population and urbanization and the country has evolved into a major consumer and producer of chemicals. The size of the Indian Chemical Industry is USD 108.4 Billion. It is the 6th largest in the world and 3rd largest in Asia. It accounts for 3% of the global chemical industry. The total production of the sector during 2014-15 was approximately 21.2 MT. Its contribution to the economy's GDP and manufacturing GDP stands at 2.11% and 15% respectively.[22] A present there are about 80, 000 commercial products in the market with the major shares in textiles, papers, paints, varnishes, soaps, detergents, pharmaceuticals, pesticides etc.

India is a party to SAICM since its inception and has initiated certain actions to regulate the chemicals to protect the environment and human health. It has over 15 Acts and 19 rules that govern different aspects of the chemical industry[22] and many of the rules are governed under the Environment Protection Act 1986. However, it needs to be assessed how far these rules have addressed the implementation of SAICM in the country as the emerging policy issues identified in the SAICM process are very critical for human health and the environment.

Presently there are about **80, 000 commercial** products in the market with the major shares in textiles, papers, paints, varnishes, soaps, detergents, pharmaceuticals, pesticides etc



21 http://www.in.kpmg.com/pdf/KPMG_Chemtech_Report.pdf

22 https://www.chemanager-online.com/en/topics/chemicals-distribution/chemical-control-legislation-india

3.1 Status of Emerging Policy Issues in India

3.1.1 STATUS OF LEAD IN PAINTS:

The Ministry of Environment, Forest and Climate Change (MOEFCC), Government of India has issued a notification in November 2016 as **"The Regulation on Lead contents in Household and Decorative Paints Rules, 2016"** to restrict the lead content to 90 ppm in the household and decorative paints which has come into force from November 2017[23]. Subsequently, the Central Pollution Control Board has issued guidelines to implement the provisions of these rules. However, going by the recent studies of Toxics Link, there are challenges in shifting to lead-free paints by the small and medium scale paint manufacturers.

Implementation challenges of Lead in Paints in India

Toxics Link has conducted five studies, between 2007 to 2015, analysing lead levels in paints sold in Indian markets. The studies show progressively decreasing levels of lead over the years. However, less impact is visible in the SME (small and medium enterprises market share is around 70%) paint manufacturers. Toxics Link's recent report in 2020 "**Compliance of Lead in Paint regulations in India 2020**" observed lead content from 10 ppm to **1,86,062 ppm** in the analysed paint samples with 90% of samples having lead levels above 90 ppm. In this study, only 3 of the 32 samples from Chhattisgarh, Delhi, Goa, Jharkhand, Karnataka, Madhya Pradesh, Rajasthan, Tamil Nadu and Uttar Pradesh[24], manufactured after November 2017 were found to be adhering to the regulations of 90 ppm.

3.1.2 STATUS OF CHEMICALS IN PRODUCTS (CIP):

The Government of India has tried to address the issue of chemical use in products and has formulated certain rules.

3.1.2.1 Electronics

To address the issue of the presence of toxic chemicals used in electronics, the Govt of India has specific provisions on the "Reduction in the Use of Hazardous Substance in the manufacture of electrical and electronic equipment and their components or consumables or parts or spares" in The **E-waste (Management) Rules, 2016.** The rule has the provisions of a 'self-declaration' mechanism for the manufacturers relating to the Reduction in the use of Hazardous Substances (RoHS).[25]

3.1.2.2 Building products

The National Building Code of India (NBC), a comprehensive building Code, is a national instrument providing guidelines for regulating building construction activities across the country.[26] It deals with

23 http://egazette.nic.in/WriteReadData/2016/172451.pdf
24 http://toxicslink.org/Publication/how-safe-is-your-paint
25 http://toxicslink.org/docs/GUIDELINES_EWASTE_RULES_2016.pdf
26 https://bis.gov.in/index.php/standards/technical-department/national-building-code/

construction material with the motive of promoting sustainability in buildings ; however there is nothing specifically mentioned about the chemicals used in the building materials.

3.1.2.3 Toys

There are some specific standards for toys by the Bureau of Indian Standards (BIS) which has included chemicals like Phthalates and heavy metals.

As a part of standard **IS 9873-9-2017**: Safety of toys- Part 9, The Bureau of Indian Standards (BIS) has restricted bis-(2-ethylhexyl) phthalate (DEHP), di-n-butyl phthalate (DBP), benzylbutyl phthalate (BBP), di-iso-decyl phthalate (DIDP), di-n-octyl phthalate (DNOP) & di-iso-nonylphthalate (DINP) in children's toys and teethers in 2017. It contains no regulations for DINP, DIDP and DNOP for toys and products meant for children above four.[27] The standards also include toxic heavy metals which are stringently regulated. However many of the chemicals need to be regulated as being proposed in SAICM and most importantly rigid regulations are required to check the cross-contamination of many toxic chemicals found in recycled plastic, which are being considered as the base material for the toys.

3.1.2.4 Textiles

India is one of the key players in the textile market in the world has banned many of the Azodyes and Benzidine-based dyes since 1993. As of now 112 azo and benzidine-based dyes are prohibited in use/ import in textile-based products under the EPA act 1986.[28] However, chemicals like PERC, pesticides and phenolic compounds are not regulated in textile use.

3.1.3 STATUS OF HAZARDOUS SUBSTANCES IN THE LIFE CYCLE OF ELECTRONIC AND ELECTRICAL PRODUCTS (HSLEEP):

According to the Global E-Waste Monitor 2017, India generates about two million tonnes of e-waste every year and ranks fifth in the world when it comes to its production.[29] Reports state that it might rise to 5 million tonnes by 2021.

To tackle the issue and implement HSLEEP India introduced the **E-waste (Management) Rules, 2016,** enacted since October 1, 2017, and had further strengthened the existing rules. The rule has provisioned the target for the producers, which was missing in the first version of the Rule (2012). Now,

27 https://law.resource.org/pub/in/bis/S11/is.9873.3.1999.pdf
28 https://www.fibre2fashion.com/news/textile-news/newsdetails.aspx?news_id=165804
29 https://www.thehindu.com/news/national/e-waste-recycling-has-doubled-says-centre/article30983383.ece

manufacturers are mandated to take back their sold products with recommended mechanisms. The **E-waste (Management) Rules, 2016 mandate the direction towards** reduction in the use of hazardous substances in the manufacture of electrical and electronic equipment and their components or consumables or parts or spares.[30] The E-waste rules have been framed based on the Extended Producer Responsibility principle.

3.1.4 STATUS OF ENDOCRINE DISRUPTING CHEMICALS (EDCS):

In India, several studies have been undertaken that have highlighted the challenges of EDCs like BPA, Phthalates, PFOAs, Triclosan and other pesticides etc. However, there is no comprehensive legislation in place to regulate the EDCs. In the **Draft Chemicals (Management and Safety) Rules 2019**, the Indian Government has listed several EDCs such as 15 phthalates, nonylphenols, BPA, PFOS & its salts etc., under Schedule-II list of priority substances. However, there is no specific policy and regulation for EDCs in India and the rules are yet to be notified. There are some regulations on EDCs for specific products like Food Safety and Standards (Packaging) Regulations, 2018, which has excluded the use of DINP and DBP from use in printing ink for food packaging materials. These are the most commonly used phthalates in printing ink.

Toxics Link has been instrumental in putting forth the issue of BPA in baby feeding bottles before the parliamentarians and the concerned ministry including the Consumer Ministry and Bureau of Indian Standards.[31,32] The issue was also raised and discussed in the parliament of India many times. Toxics Link has continuously engaged with the Bureau of Indian Standards to create regulations that resulted in the ban of the use of BPA in baby feeding bottles in India since 2014. Subsequently, The Bureau of Indian Standards (BIS) has revised the standards for baby feeding bottles in 2015 as per IS 14625:2015 and prohibited the use of BPA in baby feeding bottles.[33]

30 http://toxicslink.org/docs/GUIDELINES_EWASTE_RULES_2016.pdf
31 http://toxicslink.org/docs/Phthalate%20Factsheet.pdf
32 http://toxicslink.org/docs/BPA-Sippy-Cups-2016.pdf
33 http://bpni.org/IMS-ACT/REVISED-FEEDING-BOTTLE-STANDARDS-2015.pdf

3.1.5 STATUS OF ENVIRONMENTALLY PERSISTENT PHARMACEUTICAL PRODUCTS (EPPPS):

India fulfills 20% of the global demand for medicines and the industry is further growing as Active pharmaceutical ingredients (APIs) producer.[34] However, the growth of the sector has come at a cost to the environment. Toxic chemicals are used extensively to manufacture drugs. Several studies have reported the contamination of air, water and soil in and around bulk drug manufacturing facilities in Patancheru (Telangana), Baddi (Himachal Pradesh), Cuddalore (Tamil Nadu) and other places.[35]

On January 23, 2020, the Union Ministry of Environment, Forests and Climate Change (MoEFCC) notified draft environmental standards for the bulk drug and pharmaceutical manufacturing industry.[36] The proposed standards aim to limit the concentration of antibiotics and other toxins in effluents from the bulk drug manufacturing sector. However even after the draft standards have been put out for public comments for one year, it has not yet been notified. Most pertinently, India has been emerging as a hub for the production of bulk drugs, however without effluent standards for antibiotics, the issues of AMR will emerge as a bigger challenge for the country. Nevertheless, the research studies have raised concerns about superbugs in India.[37]

AMR Policy In India

The Government of India notified a National Policy for Containment of AMR in 2011. Further, based on the GAP, the Indian Ministry of Health and Family Welfare (MoHFW) published the National Action Plan for containing AMR in April 2017, with the MoHFW as the nodal ministry and the National Centre for Disease Control (NCDC) as the key surveillance body. This 5-year action plan on AMR (2017–2021) outlines the priorities and implementation strategies for curbing AMR in India.

3.1.6 STATUS OF PERFLUORINATED CHEMICALS

Toxic chemicals, such as alkylphenols and per- and polyfluoroalkyl substances (PFAS) are used in a wide number of products including textile, food packaging materials, firefighting foams etc., which are a cause of concern for a country like India. Though the Stockholm convention on POPs, "India is a party to" has specifically tried to address some of these long-chain PFAS such as PFOA and PFOS, many of the other chemicals of the Perfluorinated Chemicals Group have not been discussed in the policy realm in the country. Moreover, India is yet to ratify the chemicals (PFOs and PFOAs) listed in the Stockholm convention.

Recently the FSSAI, the food regulators have announced that it will regulate the PFAs in food packaging materials, however, no progress has been made in this direction.[38]

34 https://science.thewire.in/environment/pharma-pollution-tuberculosis-antimicrobial-resistance-patancheru-bollaram-ngt/
35 Toxicslink.org/Publication/pharmaceutical-pollution-in-india-an-emerging-concern
36 http://moef.gov.in/wp-content/uploads/2020/01/finalization.pdf
37 https://www.scidev.net/global/features/the-awful-toll-of-superbugs-in-india-s-hospital/
38 https://www.theweek.in/theweek/cover/2021/05/13/india-infertility-war-exposure-to-chemicals-lowers-sperm-count-egg-quality.html

3.1.7 STATUS OF NANOTECHNOLOGIES AND MANUFACTURED NANOMATERIALS (NANO)

The **'Guidelines for Evaluation of Nanopharmaceuticals in India**' are compiled to evaluate the pharmaceutical preparations containing nanomaterials where the novel application of nanotechnology imparts significant advantages over the existing active pharmaceutical ingredients (API) in terms of targeted delivery to the disease site, higher efficacy, and lower toxicity.[39]

These guidelines have been developed in line with the provisions of **Schedule Y of Drugs and Cosmetics Rules, 1945** as well as the **Second Schedule of the New Drugs and Clinical Trials Rules, 2019** with specific requirements for nanopharmaceuticals. These guidelines have been prepared with an aim to ensure the quality, safety, and efficacy of nanopharmaceuticals as well as to encourage the commercialization of nanotechnology-based inventions in other sectors by increasing their benefit-to-risk ratio.

The issue of labeling of the products has been critically addressed globally and the countries have been adopting the labeling of the nanoproducts to address possible challenges pertaining to nanomaterials. However, despite the extensive use of Nanomaterials and technology in India, there is no policy decision so far to regulate the nanomaterials.

3.1.8 STATUS OF HIGHLY HAZARDOUS PESTICIDES (HHPS)

The Government of India has been trying to address the HHPs and with time many of the pesticides like DDT, Aldrin, Dieldrin and Endosulphan have been phased out. The Anupam Verma Committee constituted in 2013, is the largest review of pesticide use in India. Based on the committee's recommendations, 'Banning of Insecticides Order 2020', prohibits the import, manufacture, sale, transport, distribution and use of 27 pesticides. The pesticides in the proposed list are Acephate, Atrazine, Benfuracarb, Butac Atrazine, Benfuracarb, Butachlor, Captan, Carbofuran, Chlorp Chlorpyriphos, 2,4-D, Deltamethrin, Dicofol, Dimethoate, Dinocap, Diuron, Malathion, Mancozeb, Methomyl, Oxyfluorfen, Pendimethalin, Quinalphos and Sulfosulfuron.[40] One of the chemicals which has been proposed to be banned, Malathion, was used to tackle the recent attack of locusts.

As of last year, of these 318 pesticides registered in India, 18 falls in the extremely hazardous (Class IA) or highly hazardous (Class IB) categories of the World Health Organization's toxicity ratings.[41] The proposed ban includes 10 from these categories.

The Union Cabinet has approved **the Pesticide Management Bill 2020** to promote the use of organic pesticides in the country. **India is the fourth-largest producer of pesticides in the world,** with the market segmentation tilted mainly towards insecticides, with herbicides on the increase in the recent past. It is reported that **eight states consume more than 70% of the pesticides used in India**.[42]

39 http://dbtindia.gov.in/sites/default/files/uploadfiles/Guidelines_For_Evaluation_of_Nanopharmaceuticals_in_India_24.10.19.pdf
40 http://egazette.nic.in/WriteReadData/2020/219423.pdf
41 https://www.who.int/ipcs/assessment/public_health/pesticides/en/
42 https://timesofindia.indiatimes.com/blogs/voices/pesticides-management-bill-2020-is-an-opportunity-to-clean-up-indias-food-and-farming-systems/

Currently, 292 pesticides are registered in the country, and it is estimated that there are around 104 pesticides that are continued to be produced/ used in India whereas they have been banned in two or more countries in the world.

India's Draft Chemicals (Management and Safety) Rules, 20xx

India released the fourth draft Chemicals (Management and Safety) Rules on March 16, 2020 to streamline the chemical management in the country. The draft rules include significant revisions to the list of priority substances that are subject to importation notifications, and hazard communication obligations (***i.e.,*** safety data sheets, labeling, and packaging). In addition, the draft rules include 37 substances that are subject to registration.[43] The rules have also categorised certain chemicals as Endocrine Disrupting Chemicals 2020 in alignment with the proposal of SAICM.

The rules also have the provisions of classification, labeling, and SDS in alignment with the United Nations Eighth Revised Edition (Rev 8) of **the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).**

43 https://chemexcil.in/uploads/files/NEWOCRdraft_07092020.pdf

4.

Indian Industry's response to SAICM

The Government of India is a signatory to SAICM and several international conventions, and has introduced infrequent regulatory updates, which seek to steer the Chemical industry towards continuous improvements in the domain of environment, health, safety and security management. In addition, increased public awareness levels in the country are becoming a key driver for ever-mounting public pressure on the chemical industry.

The chemical industry in India has been playing an important role in supporting the implementation of SAICM through its promotion of the Responsible Care programme and Globally Harmonized System of Classification and Labelling of Chemicals (GHS) implementation. Indian Chemical Council, an apex industry body representing the chemical industry in India is pursuing the **"Responsible Care Programme"**, a global initiative through the International Council of Chemical Associations (ICCA) since 2003.

Today, 53 enlightened industry groups hold the Responsible Care (RC) logo in the country, while a total of 147 industries are signatories to the programme, pursuing the implementation of Codes of management practice.[44]

RESPONSIBLE CARE®
OUR COMMITMENT TO SUSTAINABILITY

44 https://www.indianchemicalcouncil.com/responsible-care-guide-lines.htm#:~:text=Welcome%20to%20Indian%20Chemical%20Council%20(ICC)&text=Responsible%20Care%C2%AE%20programme%2C%20originally,upon%20the%20two%20major%20fundamentals.

The Responsible Care® programme, originally initiated by the Canadian Chemical Producers Association (CCPA) has now been adopted by most of the developed and developing nations. The programme relies upon the two major fundamentals. It is necessary to look beyond the law to prevent all the accidents, and the second and the foremost is that society has certain expectations from the chemical industry as a corporate citizen.

ICC considered a framework for award of RC logo in India, which seeks the industries to sign their commitment for RC guiding principles as a first step; conduct gap assessment to identify the improvement measures; and after reasonable implementation in respect of each code of management practice, industry invites RC auditors for verification, to offer RC logo; thereafter an audit Team will be deputed for a detailed evaluation of code-specific compliance and opportunities for improvement. The same will be scrutinized by the Apex Group for taking a decision on the awarding of the logo and duration of validity.

ICC is considering 6 codes of management practice[45] for evaluation to award the Responsible Care (RC) logo to the member industries, which include:

1. Product stewardship code;
2. Process safety code;
3. Employee health & safety code;
4. Pollution prevention code;
5. Emergency response and communication code; and
6. Distribution code.

Each code has certain attributes for compliance, which are grouped into 4 elements for clarity i.e. management, technology, facilities and people-related attributes. ICC published a guidance manual on RC, in which, each code-specific attribute for compliance is highlighted, as guidance to the RC pursuing industries, for ready reference.

45 https://www.indianchemicalcouncil.com/responsible_care.htm

5.

Role of Indian NGOs in addressing SAICM

Civil society and other related organisations like labour organisations have played a pivotal role from the inception to the various intervention processes of SAICM. Civil society engagement is key to generate support for strong regulatory controls on EPIs proposed in SAICM.[48,49]

Their interventions include seeking reforms in national, state and provincial chemicals-related policies, laws and regulations; campaigning to end industrial polluting practices and to highlight the presence of toxic chemicals in children's toys; campaigning for the establishment of national pollutant release and transfer registries (PRTRs); seeking to end the misuse and reliance on pesticides in agriculture; monitoring human blood for toxic chemicals and to publicise results; opposing improper waste disposal, and promoting waste minimisation; advocating on behalf of workers, farmers and fishing communities to protect against chemical exposure and chemical hazards in the workplace, defining the principles of green chemistry, the assessment of the hazards of nanomaterials and the creation of education and information exchange for various groups of people and industry. They collect data to make it visible and publicly available for engaging with a wide range of stakeholders to garner support for new or strengthened regulations.[46, 47]

46 http://www.saicm.org/Portals/12/Documents/reporting/FinalReport_Independent-Evaluation-SAICM-2006-2015.pdf

47 http://www.saicm.org/Portals/12/Documents/GEF-Project/Abijan-WF/EN_IPEN-Role-Civil-Society.pdf

There are many NGOs that have been designated as the national focal NGOs for SAICM which is a key reorganisation in the context of SAICM. NGOs across the globe have played a decisive role in bringing noticeable changes in some of the emerging policy issues like; Lead in paints, HHPs, Textile, Endocrine-disrupting chemicals and Electronic waste.

In India also NGOs have been actively involved in issues of chemicals management and have been responsible for bringing together all stakeholders to discuss some of these issues. These NGOs take up some interventions on the ground, which has proved to be effective. Many new interventions have been carried out at the grassroots, which have contributed to a better understanding of chemical issues among various stakeholders. The civil society organizations in India have engaged in some of the key emerging policy issues in SAICM including Lead in paints, HHPs, EDCs, and electronics and have been instrumental in bringing noticeable changes.

The organizations like Pesticide Action Network (PAN) India, Kheti Virasat Mission, Centre for Sustainable Agriculture (CSA) have played a key role in phasing out the HHPs and promotion of sustainable agriculture in India.

Toxics Link, SAHAS, Guide Foundation for development, Chintan have been engaging in the management of e-waste issues and also working towards the desired policy for better implementation of e-waste rules in different parts of the country.

Toxics Link is raising the issue of Endocrine Disrupting Chemicals (EDCs) and is engaged with the relevant stakeholders for suitable regulations to phase out the EDCs from products to protect the environment and human health.

Further Toxics Link as the South Asia hub of International POPs Elimination Network (IPEN) has been collaborating with various NGOs in India for building the capacity of these NGOs to take up the chemical and waste issues across the country.

6.

Gaps in the implementation of SAICM in India

India is a significant player in the global chemical trade both in terms of production as well as the consumption of chemicals. Chemical use has been growing exponentially during the last few decades and therefore the country needs to be better prepared for the adverse fallout of the impacts of the chemicals. As a signatory to SAICM, India is committed to the global challenges of chemical management. However, given the improvements in chemical management in India during the fourteen years since India adopted SAICM, there are many gaps and challenges which need to be addressed considering public health and the environment.

6.1 India has not addressed many of the EPIs

The EPIs are discussed extensively in ICCMs and have been part of the SAICM agenda after due consent from the participating countries including India and other stakeholders. However, if the EPIs are analyzed, then many of them have not been addressed legally in India which is critical to protecting the environment and human health. As an example, the issue of Perfluorinated chemicals, Nanomaterials, and pharmaceutical pollutions, and the chemicals used in the building materials have been hardly discussed from the management perspective during these fourteen years of adoption of SAICM. Moreover, despite regulations, to manage some of the EPIs, implementation of these regulations is found to be a key challenge.

6.2 Lack of prioritisation of SAICM in the policy realm

The Government during these six years never prioritized the developments of SAICM and never considered it to be a major

policy realm. Therefore, concerted actions are limited and some of the initiatives taken in the SAICM program like Lead in paints and hazardous pesticides have not yielded the much-desired results. Most importantly India has not adopted the Global Harmonised System of the regulation (GHS) for chemical safety as of now, which could have changed the chemical management practice in the country. Further, the capacity of the stakeholders to understand and implement SAICM is relatively weak and not understood well. Moreover, the voluntary nature of SAICM could be the reason for reduced attention by governments, despite India's active participation in the SAICM process.

6.3 Stakeholders' involvement

Stakeholder consultation involving the Industry, Civil Society, Research Institutions and other organisations is very critical to make the progress of SAICM. The SAICM has also outlined the need for a multi-stakeholder approach to managing chemicals however, there has hardly been any stakeholder consultation in India to address the issues of SAICM. The government needed to create an umbrella for effective stakeholders' consultations on SAICM. However, whatever initiatives have been taken in these directions are from civil societies or industries.

6.4 Lack of data and information.

The creation of data and information are critical factors for sound chemical management and policy in place. However, in India, hardly any efforts are being made to create data on the production and use of toxic chemicals or chemicals of concern. Further due to deregulation of the import of chemicals into the country, many of the chemicals are being imported without checks and balances. For instance, after many countries' affirmative actions on mercury due to the adoption of the Minamata Convention, India has become a hub for the mercury trade without any check and balance. Similarly, there is the likelihood that other banned chemicals are being imported to India without any restrictions.

6.5 Lack of coherence between SAICM and Sustainable Development Goals in India

The Government of India has put a firm commitment to achieving the sustainable development goals. However, chemical and waste management are critical areas that need to be integrated with the SDGs and that process is missing at the moment. There isn't much policy discussion linking SDGs to chemical management. Therefore, the proposed action plan adopted in SAICM needs to be incorporated in the planning process of SDGs in a thoughtful manner, which will be key to the achievement of chemical management as well as the SDG goals.

6.6 Consumer awareness

Consumers play a critical role in ensuring that better and safer chemicals are available in the market. Consumers should be aware that the chemical they are consuming is safe and does not have a significant impact on human health or the environment. This will help in building pressure from consumers and the adoption of safer chemicals in the market. Consumer choice, for example, will have resulted in significant changes in industry practice at both the upstream and downstream levels.

7.

SAICM beyond 2020

> **SAICM was developed to reduce the risk of chemicals on public health and the environment, it is voluntary. Also, SAICM emerged with a clear objective of sound management of chemicals and waste and hazardous chemicals in our environment that impede our progress to achieving the United Nations Sustainable Development Goals (SDGs).**

SDG & Chemical Safety

The ability to achieve sound chemicals and waste management and meaningfully contribute to the Sustainable Development Goals (13 out of 17 SDGs rely heavily on SAICM); GCO II states, "solutions exist, but more ambitious worldwide action by all stakeholders is urgently required".

Global exposures to hazardous chemicals and associated costs are significant. In 2016, the World Health Organization estimated that 164,400 deaths occur annually from unintentional poisonings caused due to chemical exposures. 186,000 annual deaths were due to self-poisoning caused by pesticides. A recent evaluation of the global health costs estimated to exceed 10 percent of global GDP ($11 trillion) from environmental chemical exposures. Thus, with the passage of time, the chemical footprint has evolved into a major environmental concern.

The global conventions (Stockholm, Rotterdam, Basel, and Minamata Convention) and Strategic Approach to International Chemicals Management (**SAICM**) have been adopted to achieve sound management of chemicals throughout their life cycle so that beyond 2020 the chemicals are

produced and used in ways that minimize significant adverse impacts on the environment and human health.

The SDGs set ambitious targets for improving global health by reducing dependence on hazardous chemicals:

SDG Goal No. 3 — Target 3.9: by 2030, to substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution.

SDG Goal No. 6 — Target 6.3: by 2030, to improve water quality by reducing pollution, eliminating dumping and minimizing the release of hazardous chemicals and materials.

SDG Goal No. 12 — Target 12.4: by 2030, to achieve the environmentally sound management of chemicals and all wastes throughout their life cycle.

Many chemicals are being significantly utilized to enhance the quality of life without understanding the impact of such chemicals over their complete life cycle. There is a paucity of data and information available on the health and environmental effects of exposure to these chemicals. Hence it becomes vital to understand its long-term impacts and its costs.

Perhaps a suitable robust mechanism is a need of the hour if the international community is to achieve the 17 sustainable development goals (SDGs) by 2030, because several of the SDGs and their accompanying targets are largely dependent on the SAICM objectives.

SAICM beyond 2020

A new overarching approach for SAICM and the sound management of chemicals and waste beyond 2020 is currently under negotiation through an intercessional process that is expected to conclude at ICCM5.

The **Desired outcome beyond 2020:** To ensure that global efforts on the sound management of chemicals and waste beyond 2020 respond to new issues of concern warranting global action as well as ongoing challenges based on robust, transparent, effective, cost-efficient and inclusive measures to:

a) Establish modalities for identifying and adopting issues of concern;

b) Set out mechanisms for implementation and for monitoring their progress;

c) Recommendations are made to the governing body for any existing or new issues of concern or emerging policy issues moving forward

8.

Way Forward

Chemicals are one of the key elements driving global growth and economy and there is increased knowledge and understanding that chemicals help improve life and lifestyles. It also has a significant downside impacting the environment and public health which needs to be minimized. The SAICM has created and developed a framework to reduce the impact of chemicals on the environment and human health without having mandatory provisions for nations to comply with unlike the Stockholm convention and Minamata Convention. Perhaps SAICM is the only global forum where the full range of known and newly discovered health and environmental concerns associated with the chemical life cycle can be identified, assessed, and addressed.

While SAICM can be useful to chemicals managers from countries at all levels of development, it is of particular importance to those from developing and transition countries and least developed countries (LDCs) that have weak legal, regulatory, institutional, and technical infrastructures and lack information and capacity for protecting their residents and environment from the harms associated with exposure to toxic chemicals and wastes.

Key features of SAICM's importance include its high level of political endorsement and the many ways it links chemical safety to sustainable development; financing; regulatory infrastructure; enforcement; coherency in coordination across ministries and stakeholders; and key chemical safety principle including right to know, substitution, polluter pays principle and others.

Moreover, considering the time and urgency, India needs to work on the gaps and also support the global developments happening on SAICM beyond 2020.

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Annexures

Annexure 1

ICCM RESOLUTIONS

ICCM1 (2006)	ICCM2 (2009)	ICCM3 (2012)	ICCM4 (2015)
I/1: Implementing arrangements	II/1: Rules of procedure of the International Conference on Chemicals Management	III/I: Financial and technical resources for implementation of the Strategic Approach	IV/1: Implementation towards the achievement of the 2020 goal
I/2: Tribute to the Government of the United Arab Emirates	II/2: Regional activities and coordination	III/2: Emerging policy issues	IV/2: Emerging policy issues
I/3: Intergovernmental Forum on Chemical Safety	II/3: Financial and technical resources for implementation	III/3: Managing per fluorinated chemicals and the transition to safer alternatives	IV/3: Highly hazardous pesticides
I/4: Quick Start Programme	II/4: Emerging policy issues	III/4: Strategy for strengthening the engagement of the health sector in the implementation of the Strategic Approach	IV/4: The Strategic Approach and sound management of chemicals and waste beyond 2020
	II/5: Managing per fluorinated chemicals and the transition to safer alternatives	III/5: Indicative budget and staffing table for the period 2013–2015	IV/5: Activities of the secretariat
	II/6: Establishment of an open-ended working group		
	II/7: Commission on Sustainable Development		
	II/8: Health aspects of the sound management of chemicals		
	II/9: Intergovernmental Forum on Chemical Safety		
	II/10: Indicative budget, staffing table and programme of work for the period 2010—2012		

Annexure 2 Overview of EPIs in India

EPIs	Regulations	Present Status
Lead in paint	The Ministry of Environment Forest and Climate Change (MOEFCC) has notified **"The Regulation on Lead contents in Household and Decorative Paints Rules, 2016"** to restrict the lead content to 90 ppm in the household and decorative paints since November 2017.	The Major part of the paint industry is following the prescribed limit.
Chemicals in products	The Bureau of Indian Standards (BIS) has revised the standards for baby feeding bottles in 2015 as per **IS 14625:2015** and prohibited the use of BPA in baby feeding bottles.	In India, the need of the hour is to create scientific data linking the impact of chemicals with human health and the environment.
Hazardous substance within the life cycle of electrical and electronic products	**E-waste (Management) Rules, 2016,** enacted since October 1, 2017,	There is a need for a well-designed, robust and regulated e-waste recovery regime.
Nanotechnology and manufactured nanomaterials	**Guidelines for Evaluation of Nanopharmaceuticals in India** is for use of nanomaterials in pharmaceuticals.	Despite the extensive use of Nanomaterials and technology in India, there no rule has been made to regulate nanomaterials. Efforts to establish a regulatory framework at the national level for addressing the risk and safety aspects of nanotechnology are needed.
Endocrine-disrupting chemicals	The Bureau of Indian Standards (BIS) has revised the standards for baby feeding bottles in 2015 as per **IS 14625:2015** and prohibited the use of BPA in baby feeding bottles.	In India, there are no standards for phthalates in other commonly used products or standards for drinking water, air etc. Guidelines are also needed on labelling of phthalates on products.
Environmentally persistent pharmaceutical pollutants	The Union Ministry of Environment, Forest and Climate Change (MoEF&CC) put out the draft standards for antibiotic residues in the treated effluents of the pharmaceutical industry. The draft, which will be titled the **Environment (Protection) Amendment Rules, 2019**, provides stringent limits for 121 antibiotics.	Various reports have revealed that organic, inorganic and bacterial contamination is critical in the water bodies of India.
Perfluorinated chemicals and the transition to safer alternatives	No regulations in India.	There is no comprehensive information available on production, use and waste management for PFAS in India.
Highly hazardous pesticides	**The Pesticides Management Bill, 2020 will** regulate the production of pesticides and check the sale of spurious products. It replaces the existing Insecticide Act, 1968	The Pesticides industry should be brought under a regulatory regime that makes it accountable for the entire product cycle including disposal.

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