IOMC

INTER-ORGANIZATION PROGRAMME FOR THE SOUND MANAGEMENT OF CHEMICALS

A cooperative agreement among **FAO, ILO, UNDP, UNEP, UNIDO, UNITAR, WHO, World Bank and OECD**

IOMC Review of IOMC Organizations' Implementation of the SAICM Global Plan of Action

June 2014

Updated for the 2nd meeting of the Open-Ended Working Group, Dec. 2014

As a contribution to reporting on implementation of SAICM, the IOMC organizations undertook in preparation for ICCM-3 in 2012 a review of progress on Global Plan of Action activities in which one or more IOMC organization/s is involved. The review aims to identify actions complete, work underway, and any gaps in implementation, in order to inform future activities of all SAICM stakeholders. This review has now been updated by IOMC in May 2014 in preparation for OEWG-2 in December 2014, as well as for a basis for an IOMC high-level analysis paper also prepared for OEWG-2.

The attached version of the GPA contains annotations regarding progress in a new column, and also includes the 2 new work areas and activities adopted by ICCM-3 in 2012 on nanotechnologies and manufactured nanomaterials and hazardous substances within the life-cycle of electrical and electronic products (as Annex 1 and 2 respectively). The document should be read bearing in mind that activities are generally not the responsibility of IOMC organization/s alone, but entail the contributions of a range of other actors. The achievements therefore represent the individual and collective actions of many.

In addition, the document presents perspectives rather than an authoritative analysis. Other SAICM stakeholders will likely have additional perspectives. The exercise was undertaken by IOMC in the spirit of self-assessment and will also need to be read in light of the formal reporting process for SAICM.

This document can also be found on the IOMC website at: http://www.who.int/iomc/saicm/en/.

Table A. Possible work areas and their associated activities

Work Area	**Activity**
1. Assessment of national chemicals management to identify gaps and prioritize actions	1, 165, 207
2. Human health protection	2–6
3. Children and chemical safety	7–10, 150–153, 245–246
4. Occupational health and safety	11–21, 138–149, 255
5. Implementation of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)	22, 99–101, 168, 248–250
6. Highly toxic pesticides – risk management and reduction	23–30, 114–117
7. Pesticide programmes	31
8. Reduced health and environmental risks of pesticides	32–42
9. Cleaner production	43–46, 118, 238–242
10. Remediation of contaminated sites	47– 48, 243
11. Lead in gasoline	49, 156, 244
12. Sound agricultural practices	50–53, 158–160
13. Persistent, bioaccumulative and toxic substances (PBTs); very persistent and very bioaccumulative substances; chemicals that are carcinogens or mutagens or that adversely affect, inter alia, the reproductive, endocrine, immune or nervous systems; persistent organic pollutants (POPs)	54–56
14. Mercury and other chemicals of global concern; chemicals produced or used in high volumes; chemicals subject to wide dispersive uses; and other chemicals of concern at the national level	57–60, 157
15. Risk assessment, management and communication	61–67, 127–137, 247
16. Waste management (and minimization)	68–73, 161–162, 258–262, 272–273
17. Formulation of prevention and response measures to mitigate environmental and health impacts of emergencies involving chemicals	74–79, 237
18. Research, monitoring and data	80–87
19. Hazard data generation and availability	88–97
20. Promotion of industry participation and responsibility	98, 189–192
21. Information management and dissemination	102–113, 256
22. Life cycle	119–123
23. Pollutant release and transfer register (PRTRs) – creation of national and international registers	124–126, 177–180
24. Education and training (public awareness)	154–155
25. Stakeholder participation	163–164
26. Implementation of integrated national programmes for the sound management of chemicals at the national level in a flexible manner	166–167
27. International agreements	169–176
28. Social and economic considerations	181–188, 257
29. Legal, policy and institutional aspects	193–198
30. Liability and compensation	199
31. Stock-taking on progress	200–201
32. Protected areas	202–203, 253–254
33. Prevention of illegal traffic in toxic and dangerous goods	204, 263–271
34. Trade and environment	205, 251–252
35. Civil society and public interest non-governmental organization (NGO) participation	206
36. Capacity-building to support national actions	208–236

Table B. List of possible work areas and their associated activities, actors, targets/timeframes, indicators of progress and implementation aspects. [1]

Work areas addressing risk reduction (objective 1)						
Work area	**Activities**	**Actors**[2]	**Targets/Timeframes**	**Indicators of progress**	**Implementation aspects**	**IOMC Remarks on Implementation**
Assessment of national chemicals management to identify gaps and prioritize actions	1. Develop national profiles and implement action plans for sound management of chemicals.	National Governments Research centres IOMC (UNEP, FAO, WHO, UNIDO, UNITAR, UNDP) Trade unions NGO s	2006–2010	National profiles including action plans are developed.	Interagency and multi-stakeholder committees created to assist the development of national profiles	More than 60 countries prepared/updated their National Profiles since 2006. More than 20 countries preparing SAICM implementation plans or action plans (UNITAR). 14 countries were supported through the "UNDP-UNEP Partnership Initiative on SMC mainstreaming" in the development of national chemicals management situation reports.
Human health protection	2. Fill gaps in abilities to access, interpret and apply knowledge.	Industry National Governments Research centres IOMC (WHO, OECD) Trade unions	2006–2020 (deliverables to be set for each SAICM review period)	Gaps in abilities have diminished.	Improved availability of information on the hazards, risks and safe use of chemicals (including those in manufactured products), in forms relevant to end users, and improved use of existing risk assessments	Core business OECD's eChemPortal, provides free public access to information on properties of chemicals. WHO INCHEM database of chemical risk assessments and WHO-ILO International Chemical Safety Cards freely available on-line. Cards available in multiple languages. Libreville Declaration on

1 A list of the acronyms and abbreviations used in this table is set out following the table.
2 Actors in bold are the principal actors.

The columns dealing with suggested actors, targets and timeframes, indicators of progress and implementation aspects were not fully discussed and sufficient time was not available to achieve agreement during the process to develop the Strategic Approach.

						Health and Environment in Africa. WHO-UNEP Health and Environment Strategic Alliance for the implementation of the Declaration.
	3. Develop and use new and harmonized methods for risk assessment.	IOMC (WHO, OECD) National Governments	2006–2020 (deliverables to be set for each SAICM review period)	New and harmonized methods for risk assessment are developed.	Methods for assessment of dose-response relationships and risks to vulnerable groups, in particular children, pregnant women and fertile people, the elderly and the poor; new tools for risk assessment	A large number of new and harmonized methods developed.
	4. Develop better methods and criteria for determining the impact of chemicals on human health (and thereby on the economy and sustainable development), for setting priorities for action, for the detection of chemicals and for monitoring the progress of SAICM.	IOMC (WHO, OECD) Research centres	2006–2020 (deliverables to be set for each SAICM review period)	Better methods and criteria to determine impacts of chemicals are developed. Chemicals and human health are included in the development assistance agenda.	Usable at the country level Means of determining human health impacts of policy decisions	WHO Burden of disease analysis tools for global and country level. OECD's Environmental Outlook to 2050 outlines key environmental challenges, trends and projections without new policies. WHO/UNEP Situation Analysis and Needs Assessment (SANA) guide for the implementation of the Libreville Declaration on Health and Environment in Africa.
	5. Build capacities of countries to deal with poisonings and chemical incidents.	National Governments Regional organizations IOMC (UNEP, WHO)	2006–2020 (deliverables to be set for each SAICM review period)	The number of countries with capacity to deal with poisoning and chemicals incidents has increased.	An integrated approach to establishment and strengthening of poisons centres and surveillance, alert and response mechanisms for	Too many countries still do not have access to a poisons information centre and lack core capacities to deal with chemical emergencies under the IHR (2006).

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					chemical incidents Technical cooperation on a regional basis	
	6. Include a range of preventive strategies.	National Governments IOMC (WHO)	2006–2020 (deliverables to be set for each SAICM review period)	A range of preventive strategies is included internationally, regionally and nationally.	Education and awareness-raising Capacity building in risk communication	A range of education and awareness-raising materials have been developed on many topics.
Children and chemical safety	7. Develop guidance materials to assist in the preparation of initial national assessments of children's environmental health and the identification of priority concerns; develop and implement action plans to address those priority concerns.	IOMC (UNEP, ILO, WHO, UNIDO, OECD) UNICEF National Governments Stakeholders Regional organizations NGOs	2006–2010	Initial national assessments of children's environmental health and chemical safety are undertaken in all countries. Action plans are prepared and are in use.	Guidance for assessments	WHO Children's environmental health indicators: guidance for risk assessment for childhood exposure to chemicals. UNIDO activities on child labour and their involvement in ASGM projects.
	8. Establish needed infrastructure for research that will reduce uncertainty in risk assessment.	National Governments IOMC (UNEP, ILO, WHO, UNIDO, OECD, UNDP)	2006–2010	Infrastructure is established.	Collection of additional toxicological data on endpoints of particular relevance to children, i.e., in utero or post-natal development and growth, and data that would help identify or quantify the extent to which children are exposed to chemicals of concern Trained researchers	Mainly for research institutions.
	9. Develop mechanisms to share and disseminate information that can be used to reduce uncertainty in risk assessment.	IOMC (UNEP, ILO, WHO, UNIDO, OECD, UNDP) **NGOs** **IFCS**	2006–2010	Mechanisms are developed.		WHO and OECD are developing methodologies (e.g. methodology for estimating uncertainty in exposure assessment published; additional

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						guidance for uncertainty in hazard assessment in press).
	10. Eliminate as a priority any child labour that involves hazardous substances.	**IOMC (ILO)** National Governments Trade unions, NGOs	2006–2010	The number of countries with legislation prohibiting child labour involving hazardous substances has increased. The capacity to implement and enforce such legislation has improved in all countries. The number of countries that have ratified the ILO convention on child labour has increased.	Model legislation	Core business. Implementation of the ILO Convention on the worst forms of child labour, ratified by 180+ countries
Occupational health and safety	11. Develop harmonized data elements on occupational health and safety for recording relevant workplace data in company-specific databases.	**IOMC (ILO, WHO)** National Governments Trade unions Industry	2006–2010	Harmonized data elements for recording relevant workplace data are developed.	ILO Global Strategy on Occupational Safety and Health Standards and guidance	Core business
	12. Consider legislation to protect the health of workers and the public, covering the entire spectrum of work situations in which chemicals are handled, including such sectors as agriculture and health.	National Governments IOMC (ILO) Trade unions Industry	2006–2010	Legislation is fully implemented in all relevant sectors.	Guidance developed on implementation	Core business
	13. Develop a system of health and environmental impact assessment in chemicals handling and incorporate it in occupational safety and health programmes.	**IOMC (ILO, WHO)** National Governments Trade unions Industry NGOs	2006–2010	Health and environmental impact assessments are made part of OHS programmes in all countries.	ILO Global Strategy on Occupational Safety and Health	Underway
	14. Develop, enhance, update and implement ILO safe work standards, ILO guidelines on occupational safety and health management system	**IOMC (ILO)** National Governments Trade unions Industry	2006–2010	ILO safe work standards and guidelines are implemented in all countries. Other non-binding guidelines and codes of	ILO Global Strategy on Occupational Safety and Health Availability of implementable	Core business. Additional tools have been developed to aid implementation

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	(ILO-OSH 2001) and other non-binding guidelines and codes of practice, including those particular to indigenous and tribal populations.			practice to promote sound chemicals management are identified, documented and implemented. Indigenous and tribal practices are identified, documented and implemented.	methodologies Updating of legislation	
	15. Develop national occupational safety and health policies containing specific text on chemicals management, with a clear emphasis on preventive measures, requiring that workplace risk assessments and hazard prevention measures be carried out based on the recognized hierarchy of prevention and control measures.	**National Governments** **Trade unions** **Industry** IOMC (ILO, WHO) NGOs	2006–2010	Occupational health and safety policies refer specifically to chemicals in all countries. National occupational health and safety policies which emphasize preventive measures are developed and implemented in all countries.	ILO Global Strategy on Occupational Safety and Health Incorporation of the needs of workers in small and medium-sized enterprises, the informal sector, migrant workers, undocumented workers and undocumented migrant workers, the self-employed, wage workers and vulnerable groups, including children, young persons, women and the elderly in addressing risk reduction programmes for chemical safety in the workplace Guidance material	Underway
	16. Establish integrated programmes for all public health and safety practitioners and professionals, with an emphasis on identification, assessment and control of	IOMC (ILO, FAO, WHO, UNIDO, UNITAR) National Governments Trade unions Industry	2006–2010	Integrated programmes for all public health and safety practitioners and professionals, with an emphasis on identification, assessment	ILO Global Strategy on Occupational Safety and Health Training institutions and material	ILO developing diagnostic criteria for identifying occupational diseases (including diseases caused by chemicals).

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	occupational chemical risk factors in all workplaces (such as industrial, rural, business and services).	NGOs		and control of occupational chemical risk factors, are established and implemented in all countries.		WHO training materials on chemicals for health professionals published on internet and updated.
	17. Promote exchange of information on successful experiences and projects related to chemical occupational safety and health.	IOMC (ILO, FAO, WHO, UNIDO, UNITAR) National Governments Trade unions Industry NGOs	2006–2010	Systems for information exchange are established in every country.	ILO Global Strategy on Occupational Safety and Health Infrastructure	Mainly through SAICM TFIC
	18. Develop and disseminate chemical safety data sheets to assist enterprises in protecting their workers.	**National Governments** **IOMC (WHO)** **Industry** **Trade unions**	2006–2010	Safety data sheets are developed and disseminated.	Training of professionals Infrastructure for dissemination of safety data sheets	More than 1700 WHO/ILO International Chemical Safety Cards in many languages: on-line automatic translation database launched and new languages being added.
	19. Avoid worker exposure through technical measures where possible; provide appropriate protective equipment; improve the acceptance of wearing protective equipment and stimulate further research on protective equipment to be used under hot and humid conditions.	**National Governments** **IOMC (FAO)** **Industry** **Trade unions**	2005–2010	The number of cases of occupational diseases and accidents shows a constant declining trend. Research on protective equipment gives practicable results.	Awareness-raising for employers and employees Building of technical capacity	Technical guidance and training programmes provided to countries.
	20. Protect workers from chemicals causing asbestosis, other asbestos-related diseases and occupational cancers, those chemicals included in the Rotterdam Convention because of their occupational risks and other hazardous chemicals based	**National Governments** **Trade unions** Industry	2005–2010	The number of cases of asbestosis and other asbestos-related diseases and occupational cancers shows a constant declining trend.	Awareness-raising for employers and employees. Legislation	N/A

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	on their occupational health risks.					
	21. Develop guidance on a harmonized approach to the setting of occupational exposure limits.	IOMC (ILO, FAO, WHO, UNIDO, UNITAR) Trade unions	2006–2010	Guidance is developed.	Establishment of working groups internationally and nationally	WHO EHC on setting health based guidance values published.
Implementation of GHS	22. Establish roles and responsibilities of employers, employees, chemical suppliers and Governments in the implementation of GHS.	IOMC (ILO, FAO, WHO, UNITAR, OECD) **National Governments** **Industry** **Trade unions**	2007	Roles and responsibilities of employers, employees, chemical suppliers and Governments in the implementation of GHS are established and disseminated in all countries.	International initiative: UNITAR/ILO GHS Capacity-building programme Model legislation	UNITAR & ILO guidance on how to develop a national GHS implementation strategy available.
Highly toxic pesticides – risk management and reduction	23. Encourage full implementation of the FAO International Code of Conduct on the Distribution and Use of Pesticides.	**National Governments** IOMC (FAO) Industry (CropLife International) NGOs	2006–2010	The number of countries that have adopted the FAO International Code of Conduct on the Distribution and Use of Pesticides has increased. Implementation strategies for the FAO International Code of Conduct are developed and implemented in all countries.	FAO awareness-raising on the Code of Conduct Life-cycle approach to pesticide management at the national level	Awareness raising and promotion of the FAO Code of Conduct; surveys on effective implementation of the Code.
	24. Give appropriate priority to pest and pesticide management in national sustainable development strategies and poverty reduction papers to enable access to relevant technical and financial assistance, including appropriate technology.	**National Governments** **Agriculture industry** (CropLife International) **IOMC (FAO)** Trade unions, NGOs	2006–2010	National sustainable development strategies and poverty reduction papers have incorporated pest and pesticide management as a priority component, thus enabling access to relevant technical and financial assistance in all countries.	National financial resources Model framework	Policy guidance; FAO Country Planning Frameworks including sustainable pest and pesticide management; support in resource mobilization.
	25. Base national decisions on highly toxic pesticides on an evaluation of their intrinsic hazards and anticipated local exposure to	**National Governments** IOMC (FAO)	2006–2010	Hazard evaluations of all highly toxic pesticides are undertaken in all countries. Exposure assessments are	National financial resources Methodology Need to take into	FAO Criteria for Highly Hazardous Pesticides defined. Pesticide registration toolkit

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	them.			undertaken under local conditions in all countries.	account common conditions of use and the need to reduce risks	in IOMC Toolbox. Pilot projects on identification of HHPs and Risk Reduction Measures at country level.
	26. Prioritize the procurement of least hazardous pest control measures and use best practices to avoid excessive or inappropriate supplies of chemicals.	**National Governments** **Agriculture industry** (CropLife International) Trade unions **IOMC (FAO)**	2006–2010	National and industrial procurement policies include the purchase of the least hazardous pest control measures in all countries. Use of best available techniques is given high priority in all countries.	Procurement policies Best available techniques	Promoting IPM; providing pesticide stock management tools ; supporting risk reduction strategies for pesticide management.
	27. Promote development and use of reduced-risk pesticides and substitution for highly toxic pesticides as well as effective and non-chemical alternative means of pest control.	**Agriculture industry** (CropLife International) IOMC (FAO) National Governments Trade unions Farmer organizations NGOs	2011–2015	Use of highly toxic pesticides is reduced in all countries. Use of non-chemical control measures is promoted in all countries. Use of reduced-risk pesticides is promoted in all countries.	Alternatives available. Local experience in use of pesticides Sensitization of users of pesticides Non-chemical control methods	FAO projects implemented to support regulatory action on Highly Hazardous Pesticides; guidance on procurement aimed at reduced risk control strategies.
	28. Distinguish programmes that have achieved cost effective, significant and sustainable risk reductions from those which have not and incorporate evaluation mechanisms and measures of progress in future programmes.	IOMC (UNEP, FAO, WHO, OECD, UNDP, World Bank)	2006–2010	Programmes that have achieved significant and sustainable risk reductions are documented and disseminated.	OECD risk reduction programmes in the use of pesticides	Web and journal publication of FAO project results.
	29. Promote integrated pest and integrated vector management.	IOMC (UNEP, FAO, WHO, OECD, UNDP, World Bank) National Governments Trade unions NGOs	2006–2010	Integrated pest and integrated vector management are practised in all countries and are included in national agricultural and health strategies.	Model legislation Agricultural extension services Training institutions and material	Core business through FAO corporate policy for sustainable intensification of crop production. OECD activities on promotion and development of policies in favour of IPM adoption. WHO IVM programmes for

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						public health pesticides.
	30. Encourage industry to extend product stewardship and to withdraw voluntarily highly toxic pesticides which are hazardous and cannot be used safely under prevalent conditions.	**National Governments** IOMC (UNEP, FAO, WHO, UNIDO, OECD, UNDP, World Bank) Trade unions Industry (CropLife International)	2006–2010	Voluntary product stewardship initiatives are introduced in all countries. Voluntary withdrawals of highly toxic chemicals are undertaken. Presence of highly toxic chemicals on the market is reduced.	Industry initiatives	Stakeholder engagement in development of policy and guidance (JMPM, JMPS, JMPR).
Pesticide programmes	31. Establish pesticide management programmes to regulate the availability, distribution and use of pesticides and, where appropriate, consider the FAO Code of Conduct on the Distribution and Use of Pesticides.	**National Governments** IOMC (FAO)	2006–2010	Regulation of availability, distribution and use of pesticides is put in place in all countries.	National legislation Technical capacity	Core business; approach incorporated into all pesticide related field projects.
Reduced health and environmental risks of pesticides	32. Implement a pesticide registration and control system which controls risks from the initial point of production/formulation to the disposal of obsolete products or containers.	**National Governments** **IOMC (FAO, UNEP, UNDP, World Bank)**	2010–2015	Pesticide registration and control systems are implemented in all countries.	National legislation Technical capacity	Development and dissemination of guidance and tools (e,g, pesticide registration toolkit in IOMC Toolbox); provision of training and technical support to countries.
	33. Review pesticides available on the market to ensure their use in accordance with approved licenses.	**National Governments** IOMC (FAO)	2011–2015	All countries ensure that pesticides on the market are used in accordance with approved licenses.	National legislation Technical capacity	Guidance to countries
	34. Establish health surveillance programmes.	National Governments **IOMC (ILO, FAO, WHO)** Trade unions	2006–2010	Health surveillance programmes are put in place.	Training of workers to recognize symptoms of pesticide poisonings	WHO training package published. (CD format).
	35. Establish poisoning information and control centres and systems for data collection and analysis.	**National Governments** **Medical institutions** **IOMC (WHO)**	2006–2010	Poisoning information and control centres are established.	Infrastructure Technical capacity	WHO is assisting countries to establish poisons centres, however too many countries still do not have access to a poisons information centre

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	36. Provide extension and advisory services and farmer organizations with information on integrated pest management strategies and methods.	**IOMC (FAO)** **Trade unions** **Farmer organizations**	2006–2010	Information on integrated pest management is distributed to farmer organizations and extension services.	Infrastructure for information exchange Awareness-raising	Training of trainers for IPM
	37. Ensure proper storage conditions for pesticides at the point of sale, in warehouses and on farms.	**National Governments** **Industry** **Trade unions** **Farmer organizations** IOMC (FAO)	2007–2015	Pesticides are stored properly in all countries.	Awareness-raising	Guidance to countries; training; capacity development through projects.
	38. Establish a programme to monitor pesticide residues in food and the environment.	**National Governments** **IOMC (UNEP, FAO, WHO)**	2006–2010	Programmes for monitoring pesticide residues are put in place in all countries.	Laboratory capacity Technical capacity	Standard setting (MRLs); guidelines; capacity development through projects. WHO Global Environmental Monitoring System (GEMS) for Food Contaminants. OECD Test Guidelines on Pesticide Residues.
	39. Make less toxic pesticides available for sale and use.	**Industry** IOMC (FAO)	2006–2010	Less toxic pesticides are available in all countries.	Awareness-raising	Projects implemented to support regulatory action on Highly Hazardous Pesticides; guidance on procurement aimed at reduced risk control strategies.
	40. License and sell pesticide products in containers that are ready to use, unattractive for re-use, inaccessible to children and labelled with clear, unambiguous directions that are understandable for local users.	**National Governments** **Industry** IOMC (FAO)	2006–2010	Only ready-to-use containers are licensed or sold. Pesticide products are labelled with clear instructions for use.	Legislation Awareness-raising	Technical guidance; capacity development through projects.
	41. Ensure that agricultural workers are appropriately trained in safe application methods and that personal	**IOMC (FAO)** **Trade unions** **Farmer organizations**	2006–2010	Agricultural workers are trained in safe application of pesticides.	Training programmes Infrastructure for training	Technical guidance; capacity development through projects.

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	protections are sufficient to allow the safe use of products.	**Agricultural extension services**				
	42. Promote the availability and use of personal protective equipment.	**Industry** **Trade unions** IOMC (FAO) **Farmer organizations**	2006–2010	Availability and use of personal protective equipment is promoted.	Awareness-raising	Technical guidance; capacity development through projects.
Cleaner production	43. Encourage sustainable production and use and promote the transfer, implementation and adoption of pollution prevention policies and cleaner production technologies, in particular best available techniques and best environmental practices (BAT/BEP).	IOMC (UNEP, ILO, FAO, WHO, UNIDO, OECD, UNDP, World Bank) National Governments Industry National cleaner production centres Trade unions NGOs academia	2011–2015	Mechanisms to encourage sustainable production and use and the transfer of appropriate clean technologies are established in all countries. Implementation of BAT/BEP is promoted.	Establishment of national cleaner production centres BAT/BEP	UNIDO -UNEP-RECP programme on resource efficient and cleaner production.
	44. Promote the development and use of products and processes that pose lesser risks.	**Industry** Trade unions IOMC (UNEP, ILO, FAO, WHO, UNIDO, OECD, UNDP, World Bank) Basel Convention Secretariat	2011–2015	Systems for evaluating risks and criteria for substitution are established. A list of alternatives and their properties is published and disseminated to assist in decision-making. List of substituted hazard chemicals is published and disseminated.	Development of methodology UNIDO project: Regional Network on Safe Pesticide Production and Information for Asia and the Pacific (RENPAP) Alternative chemicals	UNIDO-UNEP RECP programme
	45. Incorporate the concept of pollution prevention in policies, programmes and activities on chemicals management.	**National Governments** Trade unions NGOs IOMC (UNEP, ILO, FAO, WHO, UNIDO, OECD, UNDP, World Bank)	2011–2015	Pollution prevention is incorporated in all chemical management initiatives. Pollution prevention initiatives are implemented.	Training institutions and material	Mainstreaming activities UNIDO activities in close cooperation with National Cleaner Production Centres, for introducing Cleaner Production in policies at country level.
	46. Support the further development and adoption of	**National**	2006–2010	FAO/WHO specifications on	Model legislation	Ongoing work of FAO/WHO Joint Meeting

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	FAO and WHO specifications on pesticides.	**Governments** IOMC (UNEP, ILO, FAO, WHO, UNIDO, OECD, UNDP, World Bank) NGOs		pesticides are developed and adopted in all countries.		on Pesticide Specifications in coordination with CIPAC. Capacity development in countries through training and dissemination of technical guidance.
Remediation of contaminated sites	47. Identify contaminated sites and hotspots and develop and implement contaminated site remediation plans to reduce risks to the public and to the environment.	IOMC (FAO, ILO, UNIDO, UNDP, World Bank) Basel Convention Secretariat **National Governments** **Private sector** **NGOs**	2010–2020	Contaminated site remediation plans are developed for all contaminated sites in all countries.	African Stockpiles Programme Model legislation	FAO development and dissemination of strategies for evaluation and treatment of contaminated sites using locally available resources. UNIDO currently working with the Blacksmith Institute on the second phase of Global Toxic Sites Identification; the project also provides assistance on the development of National Strategic Plans to address toxic pollution and to implement interventions at high priority sites. UNDP projects support remediation efforts related to persistent organic pollutants and heavy metals. For example, a joint UNDP/Blacksmith GEF project will (among else) support Indonesia and Philippines to undertake remediation of two lead contaminated sites.
	48. Ensure the remediation of contaminated sites, including those caused by accidents.	**National Governments** **Industry**	2016–2020	Mandatory remediation of contaminated sites is included in national legislation in all countries. Contingency plans for handling accidents involving chemicals are	Model legislation	N/A

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				put in place.		
Lead in gasoline	49. Eliminate lead in gasoline.	**National Governments** IOMC (UNEP, WHO, UNIDO, UNDP, World Bank) GEF Industry	2006–2010	Lead in gasoline is eliminated.	Model legislation Import decisions under Rotterdam Convention on tetraethyl and tetramethyl lead	UNEP Partnership for Clean Fuels and Vehicles
Sound agricultural practices	50. Develop schemes for integrated pest management.	IOMC (UNEP, ILO, FAO, WHO, UNDP, World Bank)	2006–2010	Schemes are developed.	Technical expertise Infrastructure for dissemination of information Awareness-raising	Core business through FAO corporate policy for sustainable intensification of crop production. OECD activities on promotion and development of policies in favour of IPM adoption.
	51. Provide training in alternative and ecological agricultural practices, including non-chemical alternatives.	IOMC (UNEP, ILO, FAO, WHO, UNDP, World Bank) National Governments Research and accredited training institutions Industry Trade unions NGOs	2006 –2010	Training programmes in alternative and ecological agricultural practices including non-chemical alternatives are developed for all countries.	Methodologies and techniques	FAO Project implementing IPM through participatory farmer field schools.
	52. Promote access to lower-risk or safer pesticides.	National Governments IOMC (UNEP, ILO, FAO, WHO, UNDP, World Bank) Trade unions	2006–2010	Access is promoted.	Awareness-raising Infrastructure for dissemination of information	Collection and dissemination of experience and information on non-chemical and less hazardous chemical control options, promotion of local production of biopesticides (FAO).
	53. Undertake development of pest- and disease-resistant crop varieties.	National Governments Agriculture industry Research institutions **IOMC (FAO)**	Ongoing activity	Pest and disease resistant crops have increased.	Research capacity	FAO Programmes assisting countries in conservation and utilization of locally adapted plant genetic resources.

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		CGIAR				
Persistent, bioaccumulative and toxic substances (PBTs); very persistent and very bioaccumulative substances; chemicals that are carcinogens or mutagens or that adversely affect, inter alia, the reproductive, endocrine, immune or nervous system; persistent organic pollutants (POPs)	54. Promote the use of safe and effective alternatives, including non-chemical alternatives to organic chemicals that are highly toxic, persistent and bioaccumulative.	**National Governments** **Research centres** Trade unions NGOs Industry IOMC (UNEP, FAO, WHO, UNIDO, UNITAR, OECD, UNDP, World Bank)	2016–2020	Alternatives are identified and are in use.	Risk assessment methodology Access to information on alternatives to persistent, bioaccumulative and toxic substances (PBTs); very persistent and very bioaccumulative substances; chemicals that are carcinogens or mutagens or that adversely affect, inter alia, the reproductive, endocrine, immune or nervous systems; persistent organic pollutants (POPs) Clear identification of priorities for management of toxic chemicals	Numerous activities directed at specific chemicals, e.g. UNDP POPs/PTS programs in 25 countries. As of February 2013 UNDP is supporting 44 countries in the implementation of POPs and Mercury related projects.
	55. Prioritize for assessment and related studies groups of chemicals posing an unreasonable and otherwise unmanageable risk for human health and the environment, which might include: persistent bioaccumulative and toxic substances, (PBTs); very persistent and very bioaccumulative substances; chemicals that are carcinogens or mutagens or that adversely affect, inter alia, the reproductive, endocrine, immune or	**Industry** National Governments Trade unions IOMC (UNEP, FAO, WHO, UNIDO, UNITAR, OECD, UNDP, World Bank)	2016–2020	Groups of chemicals posing an unreasonable and otherwise unmanageable risk for human health and the environment, which might include persistent bioaccumulative and toxic substances (PBTs); very persistent and very bioaccumulative substances; chemicals that are carcinogens, mutagens or that adversely affect, inter alia, the reproductive,	Risk assessment methodology Training	WHO 10 Chemicals of major public health concern; a range of specific chemicals assessed,, including updated DDT assessment, WHO Lead guidelines in development; WHO documents on mercury.

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	nervous system; and persistent organic pollutants (POPs).			endocrine, immune or nervous systems; and persistent organic pollutants (POPs), are prioritized for assessment and related studies.		
	56. Articulate an integrated approach to chemicals management taking into account multilateral environmental agreements and strategies that target a broad spectrum of chemicals.	**National Governments** Trade unions NGOs Industry IOMC (UNEP, FAO, WHO, UNIDO, UNITAR, OECD, UNDP, World Bank) Basel Convention Secretariat	2016–2020	An integrated approach to chemicals management is developed and implemented in all countries.	Model legislation Training Industry initiatives Development and promotion of reformulations and substitutions	UNEP guidance on development of legal and institutional infrastructures for sound management of chemicals.
Mercury and other chemicals of global concern; chemicals produced or used in high volumes; those subject to wide dispersive uses; and other chemicals of concern at the national level	57. Promote reduction of the risks posed to human health and the environment, especially by lead, mercury and cadmium, by sound environmental management, including a thorough review of relevant studies such as the UNEP global assessment of mercury and its compounds.	**National Governments** NGOs Industry IOMC (UNEP, WHO, UNIDO, UNITAR, OECD, UNDP, World Bank)	2006–2015	Risks posed by chemicals that are harmful to human health and the environment, especially lead, mercury and cadmium, are reduced in all countries. Relevant studies are identified and documented. A review of relevant studies is carried out and the results published and disseminated. Environmentally sound technologies for reduction of risks associated with lead, especially for small recycling enterprises, are put in place and are in use.	Risk assessment methodology Training available	UNEP Mercury partnership, UNEP/WHO Lead in paint Alliance, Partnership on fuels, Lead and Cadmium in batteries. WHO documents and training materials. UNIDO activities in ASGM projects and in zinc smelting projects. UNDP Mercury programs in 20 countries: mercury containing products (medical devices, dental amalgam, lamps), e-waste,, ASGM and Hg inventories. UNITAR/UNEP projects on developing mercury releases inventories (UNEP Toolkit). UNITAR/UNEP Mercury:Learn Training

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						platform.
	58. Consider the need for further action on mercury, considering a full range of options, including the possibility of a legally binding instrument, partnerships and other actions (based on UNEP Governing Council decision 23/9).	IOMC (UNEP, UNIDO) (Cleaner production centres)	2005–2008	Further action on mercury is taken.	Analysis of options Technical capacity	UNEP negotiation of a legally binding instrument on mercury. Ongoing UNIDO activities on co-lead for ASGM under the Global Mercury Partnership. UNITAR Minamata Convention ratification and early implementation projects.
	59. Take immediate action to reduce the risk to human health and the environment posed on a global scale by mercury in products and production processes (based on UNEP Governing Council decision 23/9).	IOMC (UNEP, UNIDO) (Cleaner production centres)	2005–2010	Further action is taken.	Legislation	UNEP Global Mercury Partnership, UNIDO is a partner. UNDP Mercury programs in 20 countries: mercury containing products (medical devices, dental amalgam, lamps), e-waste,, ASGM and Hg inventories.
	60. Consider the review of scientific information, focusing especially on long-range environmental transport, to inform future discussions on the need for global action in relation to lead and cadmium, to be presented to the Governing Council at its twenty-fourth session in 2007 (based on UNEP Governing Council decision 23/9).	IOMC (UNEP) **National Governments**	2007	Necessary actions are initiated.	Assessment of the need for global action	Done.
Risk assessment, management and communication	61. When assessing risk to the general population, consider whether certain segments of the population (i.e., children, pregnant	IOMC (UNEP, ILO, WHO, , UNITAR, OECD, UNDP, World Bank) National Governments	2006–2010	An assessment of whether children and pregnant women have differential susceptibility is carried out.	Evaluation of whether additional risk management actions are needed on a chemical-by-	Done by WHO when assessing chemicals. WHO guidance documents published. WHO/UNEP guidance

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	women) have differential susceptibility or exposure.				chemical basis	published for mercury.
	62. Implement warning systems with regard to the risks posed by the production, use or disposal of chemicals.	**IOMC (WHO)**	2011–2015	Warning systems with regard to the risks posed by the production, use or disposal of chemicals are established in all regions.	Design Location Management	WHO International Health Regulations in place for chemical incidents of international public health concern, however this is not a comprehensive "warning system".
	63. Apply science-based approaches, including those from among existing tools from IOMC organizations on, inter alia, test guidelines, good laboratory practices, mutual acceptance of data, new chemicals, existing chemicals, tools and strategies for testing and assessment.	**National Governments** **NGOs** **IOMC (UNEP, OECD)**	2006–2010	Science-based approaches are used in decision-making in all countries.	Sufficient number of scientists Training and education in science Awareness-raising	Core Business OECD's Chemical Safety Programme has developed Test Guidelines and Principles for Good Laboratory Practice as well as guidance for assessing the risks of new and existing chemicals.
	64. Encourage the development of simplified and standardized tools for integrating science into policy and decision-making relating to chemicals, particularly guidance on risk assessment and risk management methodologies.	**National Governments** **NGOs** IOMC (UNEP, ILO, FAO, WHO, UNITAR, OECD, UNDP, World Bank)	2006–2010	Simplified and standardized tools for integrating science into policy are developed and implemented in all countries. A framework for integrating standardized tools into policy is developed and is in use.	Sufficient number of scientists Training and education in science Awareness-raising Appropriate policies	Guidance on risk assessment and establishment of health based guidance values exist, work is underway on risk communication. What additional tools are needed is unclear.
	65. Establish knowledge on risk assessment procedures, building on existing products such as those generated by OECD, including, inter alia, guidance on the OECD High Production Volume Chemicals hazard assessments, (Quantitative Structure Activity Relationship ((Q)SAR) Analysis, review of pesticide	IOMC (UNEP, ILO, FAO, WHO, , UNITAR, OECD, UNDP, World Bank)	2006–2010	Knowledge on risk assessment procedures is increased.	Awareness-raising Infrastructure for dissemination of information	Core Business (e.g. Manual for OECD Cooperative Chemicals Assessment Programme, OECD QSAR Toolbox, OECD Emission Scenario etc.).

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	hazards and fate studies, emission exposure scenario documents, information exchange and coordination mechanisms.					
	66. Establish programmes for monitoring chemicals and pesticides to assess exposure.	**National Governments**	2006–2015	Monitoring programmes are established.	Technical capacity Regional cooperation	N/A
	67. Apply life-cycle management approaches to ensure that chemicals management decisions are consistent with the goals of sustainable development.	**National Governments** **Industry**	2006–2010	Life-cycle management approaches are applied.	Appropriate policies Awareness-raising	N/A
Waste management (and minimization)	68. Facilitate the identification and disposal of obsolete stocks of pesticides and other chemicals (especially PCBs), particularly in developing countries and countries with economies in transition.	**Basel Convention Secretariat, BCRCs,** Stockholm Convention Secretariat, IOMC (ILO, FAO, WHO, UNIDO, OECD, UNDP, World Bank) Montreal Protocol National Governments Industry Trade unions NGOs	2006–2020	All obsolete stocks of pesticides and other chemicals are identified and disposed of.	Africa Stockpiles Programme Methodology Identification of stockpiles of other chemicals Demonstration and promotion of appropriate destruction technologies	UNIDO programme on demonstration of non-combustion alternative technologies for disposal of PCBs and PCBs containing equipment and wastes. UNDP obsolete pesticides and PCB management projects in 26 countries UNITAR project on Capacity Building for the Elimination of Polychlorinated Biphenyls (PCBs) in Ghana.
	69. Establish and implement national action plans with respect to waste minimization and waste disposal, taking into consideration relevant international agreements and by using the cradle-to-cradle and cradle-to-grave approaches.	**National Governments** **BCRCs** **Trade unions** **NGOs**	2011–2015	National action plans with respect to waste minimization and waste disposal are developed and implemented in all countries.	Model action plans Training	UNDP supports Nigeria and will be supporting Indonesia and Kenya in the ESM of municipal and plastic wastes through waste minimization, recycling and improved waste disposal.
	70. Prevent and minimize	**Industry**	2016–2020	Alternatives are	Assessment	UNIDO programme on

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	hazardous waste generation through the application of best practices, including the use of alternatives that pose less risk.	IOMC (UNEP, ILO, FAO, WHO, UNIDO, OECD, UNDP, World Bank) Basel Convention Secretariat **National cleaner production centres** **Trade unions** **NGOs**		identified and introduced.	methodology Training Development and promotion of safer alternatives	environmentally sound management and disposal of POPs wastes; promotion of non-combustion alternative technologies for disposal of POPs wastes; development of guideline document for BAT/BEP on new POPs. UNEPs activities on integrated solid waste management plans and the establishment of a Global Partnership on Waste Management. UNDP supports approximately 20 countries in reducing the generation of hazardous healthcare waste, by introducing BAT/BEP and the use of alternative products.
	71. Implement the Basel Convention and waste reduction measures at source and identify other waste issues that require full cradle-to-cradle and cradle-to-grave consideration of the fate of chemicals in production and at the end of the useful life of products in which they are present.	**Industry** **BCRCs** National cleaner production centres IOMC (ILO, FAO, WHO, UNIDO, OECD, UNDP, World Bank) Montreal Protocol Trade unions NGOs	2006–2010	Waste reduction measures at source are implemented in all chemical plants. The Basel Convention is implemented in all countries.	Training Awareness-raising Development and promotion of best available techniques	UNIDO activities on POPs and chemical pollution solutions through area-based eco-effective management. UNDP and UNEP are implementing a pilot project on the ESM of used and end-of-life computing equipment in Jordan. UNDP will be implementing an ESM e-waste project in Egypt.
	72. Carry out measures that will inform, educate and protect waste handlers and small-scale recyclers from the hazards of handling and recycling chemical waste.	**National Governments** **Trade unions** **NGOs** **IOMC (ILO)** Basel Convention	2006–2010	Measures to inform, educate and protect waste handlers and small-scale recyclers are carried out.	Particular attention to waste pickers and other actors in the informal recycling sector Infrastructure for dissemination of	A joint UNDP/Blacksmith project supports the phase-out of small scale lead recycling activities by creating alternative livelihoods and supporting larger scale recyclers.

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		Secretariat **United Nations Disaster Assessment and Coordination Team Unit**			information Awareness-raising	
	73. Promote waste prevention and minimization by encouraging production of reusable/recyclable consumer goods and biodegradable products and developing the infrastructure required.	**National Governments** National cleaner production centres IOMC (UNEP, ILO, FAO, WHO, UNIDO, OECD, UNDP, World Bank) Basel Convention Secretariat Industry Trade unions NGOs	2006–2015	Mechanisms to encourage production of reusable/recyclable consumer goods and biodegradable products are in place in all countries.	National cleaner production centres Information on successful initiatives Eco-design	UNIDO-UNEP RECP programme UNEPs activities under resource efficiency
Formulation of prevention and response measures to mitigate environmental and health impacts of emergencies involving chemicals	74. Develop integrated national and international systems to prevent major industrial accidents and for emergency preparedness and response to all accidents and natural disasters involving chemicals.	**National Governments** IOMC (UNEP, ILO, WHO, UNIDO, OECD, UNDP) Basel Convention Secretariat United Nations Disaster Assessment and Coordination Team Industry Trade unions NGOs	2006–2012	Integrated systems and centres to prevent major industrial accidents and for emergency preparedness and response are established and implemented in all countries.	ILO Convention 174, Prevention of Major Industrial Accidents OECD project on safety performance indicators UNEP APELL programme CEFIC Safety and Quality Assessment System for road and rail transport Application of process safety management to chemical operations and the strengthening of integrated approaches Poison centres	Guidance Completed: see OECD Guiding Principles for Chemical Accident Prevention, Preparedness and Response, OECD Guidance on Developing Safety Performance Indicators, OECD Guidance for senior leaders in high hazard industries. UNEPs Flexible Framework for Addressing Chemicals Accident Prevention and Preparedness, and WHO manual for the public health prevention and management of chemical emergencies. WHO International Health Regulations (2005) address chemical events, however may countries lack core capacities for implementation.

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	75. Encourage the development of an international mechanism for responding to requests from countries affected by chemical accidents.	**IOMC (WHO)**	2010–2020	An international mechanism to respond to requests from countries affected by chemical accidents is established and implemented.	Design of mechanism	In place. WHO IHR 2005 include chemical incidents of international public health concern. As well, member states may request WHO assistance. Regional mechanisms e.g. UNECE Convention on Transboundary Effects of Industrial Accidents.
	76. Minimize the occurrence of poisonings and diseases caused by chemicals.	**Industry** National Governments IOMC (UNEP, ILO, WHO, UNIDO, OECD, UNDP) Trade unions NGOs	2006–2010	Occurrence of poisonings and diseases caused by chemicals is reduced and medical surveillance systems are put in place in all countries. Biological indicators are available.	Information systems to collect and manage data National risk reduction strategy Training Availability of information Awareness-raising	Too many countries still do not have access to a poisons information centre. WHO Biological Exposure Indices are available for a range of environmental and occupational contaminants. Data on poisonings to be available in future WHO BoD updates.
	77. Provide for national collection of harmonized data, including categorization by, for example, type of poison, chemical identity, structure, use or function.	**National Governments** IOMC (UNEP, ILO, WHO, UNIDO, OECD, UNDP) Industry NGOs	2006–2010	Systems for collection of harmonized data are established and are used in all countries**.**	OECD chemicals programme	In relation to chemical emergencies and poisoning, WHO IHR and INTOX management system provide harmonized templates.
	78. Address gaps in the application of safety procedures relevant to the operation of chemical-intensive facilities, including the environmentally sound management of hazardous substances and products.	**Industry** IOMC (UNEP, ILO, FAO, WHO, UNIDO, OECD) Trade unions NGOs	2006–2010	Gaps in the application of safety procedures relevant to the operation of chemical-intensive facilities, including the environmentally sound management of hazardous substances and products, are identified. Gaps are filled.	ILO Global Strategy on Occupational Safety and Health	ILO guidance provided by the ILO Global OSH strategy being used. .
	79. Design, site and equip chemical facilities to protect against potential sabotage.	**Industry** National Governments	2006–2010	Chemical facilities are protected against potential sabotage.	Technical capacity	N/A

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Work areas addressing knowledge and information (objective 2)						
Work areas	**Activities**	**Actors**[14]	**Targets/Timeframes**	**Indicators of progress**	**Implementation aspects**	**IOMC remarks on Implementation**
Research, monitoring and data	80. Develop and establish targeted risk assessment approaches to evaluating exposure and impacts, including socio-economic impacts and chronic and synergistic effects of chemicals on human health and the environment.	**National Governments** Industry NGOs IOMC (UNEP, ILO, FAO, WHO, UNIDO, OECD, UNDP)	2006–2010	Systems to monitor exposure and socio economic impacts are put in place in all countries. Assessment and monitoring of exposures are completed and remedial measures are identified and implemented in all countries.	National laboratory accreditation systems Capacity to maintain laboratory equipment Availability of trained professionals	Mainly national government responsibility. WHO has published a methodology for assessment of combined exposures (including synergistic effects). UNEP report on the cost of inaction for sound management of chemicals.
	81. Evaluate whether different segments of the population (e.g., children, women) have different susceptibility and/or exposure on a chemical-by-chemical basis in order of priority.	**National Governments** Industry NGOs IOMC (UNEP, ILO, FAO, WHO, UNIDO, OECD, UNDP)	2006–2010	Exposure monitoring systems are established in all countries. Assessment and monitoring of vulnerable groups have been completed.	National laboratory accreditation systems Capacity to maintain laboratory equipment Availability of trained professionals	Mainly national government responsibility. WHO has published guidance on risk assessment for children.
	82. Develop, validate and share reliable, affordable and practical analytical techniques for monitoring substances for which there is significant concern in environmental media and biological samples. Develop a targeted process to assess and monitor levels of a discrete number of priority contaminants in the environment.	**National Governments** **IOMC (UNEP)** Industry Research centres NGOs	2006–2010	Analytical techniques are developed and are available in all countries.	National laboratory accreditation systems Capacity to maintain laboratory equipment Availability of trained professionals	Partially, for selected substances, such as POPs. Additional work is underway, e.g. by WHO and UNEP on mercury.

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	83. Develop scientific knowledge to strengthen and accelerate innovation, research, development, training and education that promote sustainability.	**National Governments** **Industry** IOMC (UNEP, ILO, FAO, WHO, UNIDO, OECD)	2006–2015	Innovation is supported in all countries.	Training institutions Research centres Information	In hand. Mainly an action for industry, research institutions and others.
	84. Promote research into technologies and alternatives that are less resource intensive and less polluting.	**National Governments** **Industry** IOMC (UNEP, ILO, FAO, WHO, UNIDO, OECD)	2006–2015	Research is advanced and technologies and alternatives are in use.	Research centres Alternatives developed Information	In hand. Mainly an action for national governments and industry, however IOMC organizations contribute.
	85. Collect data on the use patterns of chemicals for which there is a reasonable basis of concern where necessary to support risk assessment characterization and communication.	National Governments NGOs Industry **IOMC (UNEP, WHO, OECD)**	2006–2010	Systems for data collection are established in all countries. Databases are established and are accessible in all countries.		Underway (OECD eChemPortal now provides access to information on use patterns).
	86. Design mechanisms to enable investigators from less developed countries to participate in the development of information on risk reduction.	National Governments Research institutions	2006–2010	Mechanisms are designed.	Model information on risk reduction	N/A
	87. Fill gaps in scientific knowledge (e.g., gaps in understanding of endocrine disruptors).	Research centres Industry IOMC (WHO)	2011–2015	Gaps in scientific knowledge are filled.	Industry long-range research initiative	Mainly an action for research institutions. WHO and UNEP EDC reports.
Hazard data generation and availability	88. Encourage partnerships to promote activities aimed at the collection, compilation and use of additional scientific data.	National Governments Industry Trade unions NGOs IOMC (UNEP, ILO, FAO, WHO, UNITAR, OECD, UNDP) Professional organizations such as farmer organizations	2006–2010	Partnerships to promote activities aimed at the collection and use of additional scientific data are established and are sustained.	OECD High Production Volume Chemicals Programme	Core Business (see OECD Cooperative Chemicals Assessment programme, eChemPortal).

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	89. Generate and share information detailing the inherent hazards of all chemicals in commerce, giving priority to hazard information for those chemicals that have the greatest potential for substantial or significant exposures.	National Governments Industry Trade unions IOMC (UNEP, ILO, FAO, WHO, UNITAR, OECD) NGOs Professional organizations such as farmer organizations	2008	Hazard data is generated and made available on all chemicals in use in a country.	GHS OECD High Production Volume Chemicals Programme Existing hazard information should be systematically identified, collected, validated and shared to avoid duplicative testing. For the generation of new information, advancements in hazard identification and other relevant approaches that reduce the use of animals for toxicity testing should be applied. Use appropriate measures, where necessary according to each country's own situation, to promote the timely generation of hazard information. When implementing the activity, priority should be given to hazard information for those chemicals that have greatest potential for substantial or significant exposures.	Core Business (see OECD Cooperative Chemicals Assessment programme, eChemPortal).

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	90. Establish national priorities for information generation for chemicals that are not produced in high volumes.	National Governments Trade unions NGOs Professional organizations, e.g., farmer organizations IOMC (WHO)	2006–2010 and later	National priorities for information generation for chemicals that are not produced in high volumes are established in each country.	National experts National budgets Use of production/import volume inventories of chemicals in commerce and collection or generation of other relevant information such as information on significant exposure	For national action. Information from international organizations provides a useful basis.
	91. Encourage the use of IPCS health and safety cards (international chemical safety cards, or ICSCs)	National Governments IOMC (UNEP, ILO, FAO, WHO, UNITAR, OECD) Trade unions NGOs Professional organizations such as farmer organizations	2006–2010	IPCS health and safety cards are used.	Availability in appropriate languages	1700 IPCS (WHO/ILO) cards are available in 24 languages. An automated translation database - has been established and additional languages are being implemented.
	92. Agree to time frames for industry, in cooperation and coordination with other stakeholders, to generate hazard information for high-production volume chemicals not addressed under existing commitments.	**Industry** IOMC (UNEP, ILO, UNITAR, OECD)	2006–2010	Time frames are agreed for industry to generate hazard information for high-production volume chemicals not addressed under existing commitments.	OECD High Production Volume Chemicals programme	Delayed, no new commitments from industry following 1000 substances assessed under ICCA initiative.
	93. Promote the establishment of generally applicable guidelines on the respective roles, responsibilities and accountabilities of Governments, producing and importing enterprises and suppliers of chemicals concerning the generation and assessment of hazard information.	**National Governments** Industry Trade unions IOMC (UNEP, ILO, FAO, UNITAR, OECD)	2006–2010	GHS is implemented.		Guidance on how to develop a national GHS implementation strategy is available (UNITAR/ILO). UNEPs guidance on development of legal and institutional infrastructures.

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	94. Further harmonize data formats for hazard information.	**National Governments** Industry IOMC (UNEP, ILO, WHO, UNITAR, OECD, UNDP) Basel Convention Secretariat	2006–2010	GHS is implemented. Harmonized data formats are developed and are in use.	Training	Completed (see OECD Harmonised Templates).
	95. Establish recommendations on tiered approaches to addressing screening information requirements for chemicals that are not produced in high volumes.	IOMC (UNEP, ILO, UNITAR, OECD) **Industry**	2006–2010	Tiered approaches to addressing screening information requirements for chemicals that are not produced in high volumes are established.	Training	This is being addressed by a number of chemical regulatory systems.
	96. Identify possible approaches for prioritization for such chemicals that are not necessarily based on production volume but, e.g., build on significant exposures.	IOMC (UNEP, ILO, FAO, WHO, UNITAR, OECD) **Industry** **Trade unions**	2006–2010	Approaches to prioritization of chemicals for hazard generation are developed.	Technical capacity	This is being addressed by a number of chemical regulatory systems.
	97. Ensure that each pesticide is tested by recognized procedures and test methods to enable a full evaluation of its efficacy, behaviour, fate, hazard and risk, with respect to anticipated conditions in regions or countries where it is used.	Industry		Recognized procedures and test methods are established.	Testing facilities to verify quality and contents of pesticides offered for sale	N/A

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Promotion of industry participation and responsibility	98. Encourage industry to generate new science-based knowledge, building on existing initiatives.	**National Governments** IOMC (FAO, UNIDO, UNITAR, OECD, UNDP) Industry	2006–2010	Mechanisms are established in all countries for using new information generated by industry. New science-based knowledge is developed and is being used.	OECD chemical programme Global industry forums UNIDO programme for all industries	Mainly a responsibility for national governments, however some IOMC Core Business (see OECD QSAR project, development of integrated approaches to testing and assessment, adverse outcome pathways).
GHS	99. Establish information management systems for hazard information.	National Governments Industry	2006–2008	Information systems are established.	International initiative OECD initiative on increasing generation of hazard data	Completed (see OECD Harmonised Templates, eChemPortal)
	100. Prepare safety data sheets and labels.	**Industry**	2006–2008	GHS is implemented.	Responsible Care Information in appropriate languages	N/A
	101. Complete GHS awareness-raising and capacity-building guidance and training materials (including GHS action plan development guidance, national situation analysis guidance and other training tools) and make them available to countries.	Industry Trade unions NGOs IOMC (ILO, WHO, UNITAR)	2007	All countries have prepared implementation strategies for GHS.	Awareness-raising activities Sharing of the results of pilot projects Development of a roster of GHS experts who can provide support on training and capacity-building activities on the application of GHS classification, labelling, and safety data sheets	UNITAR/ILO GHS capacity building programme in place and active since 2001.
Information management and dissemination	102. Establish arrangements for the timely exchange of information on chemicals, including what is necessary to overcome barriers to information exchange (e.g., providing information in local languages).	National Governments Industry	2006–2015	Stakeholders have access to information in local languages in all countries.	GHS Use of article 14 of the Rotterdam Convention to facilitate information exchange on toxicology, ecotoxicology and safety	N/A

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	103. Consider establishing a clearing-house for information on chemical safety to optimize the use of resources.	IOMC (UNEP, ILO, FAO, WHO, UNITAR, OECD, UNDP) Industry	2006–2010	A clearing-house for information on chemical safety is established.	Determination of feasibility	Completed (see OECD eChemPortal)
	104. Ensure that all Government officials from developing countries and countries with economies in transition responsible for chemicals management have access to the Internet and training in its use.	National Governments **IOMC (UNEP)**	2006–2010	All Government officials from developing countries and countries with economies in transition responsible for chemicals management have access to the Internet and are trained in its use.	Infrastructure Training	National government responsibility, however see also UNEP Chemicals Information Exchange Network (CIEN).
	105. Eliminate barriers to information exchange for the sound management of chemicals in order to enhance communication among national, subregional, regional and international stakeholders.	National Governments IOMC (UNEP, ILO, FAO, WHO, UNITAR, OECD, UNDP)	2006–2010	All stakeholders have access to information on the sound management of chemicals.	INFOCAP Elimination of barriers to information exchange	UNEP Chemicals Information Exchange Network (CIEN) PRTR:Learn; Mercury:Learn. FAO promotion of regional and sub-regional information exchange and sharing mechanisms. Regional meeting for the ECOWAS and SADC for data gathering strategy and regional networking held in Senegal, Dec. 2013 (UNEP).
	106. Strengthen the exchange of technical information among the academic, industrial, governmental and intergovernmental sectors.	**Academia** National Governments	2011–2015	Exchange of technical information among the academic, industrial, governmental and intergovernmental sectors occurs freely.	Infrastructure	N/A

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	107. Establish procedures to ensure that any hazardous material put into circulation is accompanied, at a minimum, by appropriate and reliable safety data sheets which provide information that is easy to access, read and understand, taking into account GHS.	National Governments Industry Trade unions	2008	GHS is implemented.	OECD High Production Volume Chemicals Programme Responsible Care Information in appropriate languages	N/A
	108. Articles and products containing hazardous substances should all be accompanied by relevant information for users, workplaces and at disposal sites.	National Governments Industry	2006–2015	All stakeholders have access to information.	Guidance to be developed Information available in appropriate languages	N/A
	109. Improve the information base, including via electronic media such as the Internet and CD ROMs, in particular in developing countries, ensuring that information reaches appropriate target groups to enable their empowerment and ensure their right to know.	National Governments **IOMC (UNEP, OECD)** Trade unions	2011–2015	All stakeholders have access to information.	Infrastructure	Core Business (see OECD eChemPortal)
	110. Include a range of preventive strategies, education and awareness-raising and capacity-building in risk communication.	**National Governments** Industry Trade unions	2011–2015	Risk reduction and communication systems are established in all countries.	Model legislation Training in risk reduction	N/A

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	111. For all chemicals in commerce, appropriate information detailing their inherent hazards should be made available to the public at no charge and generated where needed with essential health, safety and environmental information made available. Other information should be available according to a balance between the public's right to know and the need to protect valid confidential business information and legitimate proprietary interests.	**National Governments** Industry IOMC (UNEP, ILO, WHO, UNITAR, OECD)	2008	GHS is implemented.	Model legislation Establishment of an international repository on hazard data (essential health, safety and environmental information) that will be accessible free of charge Accessibility of other information, balancing the public's right to know and the need to protect valid confidential business information and legitimate proprietary interests	Core Business (see OECD eChemPortal). GHS implementation is in hand.
	112. Undertake awareness-raising for consumers, in particular by educating them on best practices for chemical use, about the risks that the chemicals they use pose to themselves and their environment and the pathways by which exposures occur.	National Governments Industry NGO	2006–2015	Consumer awareness-raising programmes are put in place in all countries.		N/A
	113. Establish information-exchange mechanisms on contamination in border areas.	National Governments	2006–2010	Mechanisms for exchange of information are established.	Infrastructure	N/A

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Highly toxic pesticides risk management and reduction	114. Improve access to and use of information on pesticides, particularly highly toxic pesticides, and promote alternative safer pest control measures through networks such as academia.	Rotterdam Convention Secretariat IOMC (UNEP, ILO, FAO, WHO, OECD, UNDP, World Bank) Montreal Protocol NGOs Trade unions/labour Industry Stockholm Convention Secretariat Academia	2006–2010	Information on pesticides, particularly highly toxic pesticides, and alternative safer pest control measures is available to all stakeholders.	Rotterdam Convention Stockholm Convention Databases	WHO Classification of Pesticides by Hazard updated 2009. FAO/WHO Joint Meeting on Pesticide Management generating advice for countries.
	115. Encourage and facilitate exchange of information, technology and expertise within and among countries by both the public and private sectors for risk reduction and mitigation.	National Governments **IOMC (UNEP, FAO, OECD)**	2006–2015	Systems for exchange of information, technology and expertise within and among countries by both the public and private sectors for risk reduction and mitigation are established in all countries.	Infrastructure	UNEP Chemicals Information Exchange Network (CIEN)
	116. Facilitate access to research results related to alternative pest control (both chemical and non-chemical) and crop protection measures by pesticide users, those exposed to pesticides and extension services.	National Governments IOMC (UNEP, FAO) Industry Trade unions NGOs	2006–2015	Research results related to alternative pest control (both chemical and non-chemical) and crop protection measures by pesticide users, those exposed to pesticides and extension services are accessible to stakeholders.	System to exchange information	FAO Subregional country groupings for harmonization of pesticide registration; education programmes; information exchange networks. OECD IPM Hub.
	117. Evaluate the efficacy of pesticide risk reduction programmes and alternative pest control methods currently implemented and planned by international organizations, Governments, the pesticide, agriculture and trade sectors and other stakeholders.	National Governments Industry IOMC (UNEP, ILO, FAO, WHO, OECD, UNDP, World Bank) NGOs	2006–2015	Mechanisms to evaluate the efficacy of pesticide risk reduction programmes and alternative pest control methods are put in place.	OECD risk reduction programmes Availability of methodologies	FAO Farmer field school IPM programmes recording effectiveness of sustainable production methods.

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Cleaner production	118. Undertake research into innovative means of cleaner production, including those involving waste minimization in all economic sectors.	**Industry** Research centres IOMC (UNEP, UNIDO) Basel Convention Secretariat	2011–2015	Technologies that are environmentally friendly are developed and are used in all economic sectors.	Support for a culture of innovation	UNIDO-UNEP component on Resource Efficient and Cleaner Production (RECP) innovation of ESTs and sustainable product development.
Life cycle	119. Encourage management practices that take into account the full life-cycle approach to sustainable chemicals management, emphasizing front-end pollution prevention approaches.	IOMC (UNEP, ILO, FAO, WHO, UNIDO, UNITAR, OECD, UNDP) Basel Convention Secretariat National Governments National cleaner production centres Industry NGOs	2011–2015	Strategies and priorities, taking into account the full life-cycle approach to sustainable chemicals management, especially regarding front-end pollution prevention approaches, are established in all countries.	Life-cycle strategies	Some progress but more is needed. UNDP-UNEP Mainstreaming of Sound Chemicals Management. UNIDO-UNEP RECP programme and UNIDO Chemical Leasing programme, OECD Sustainable Materials Management, Waste prevention and minimisation.

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	120. Address matters of policy integration in consideration of life-cycle issues.	National Governments National cleaner production centres Industry IOMC (UNEP, ILO, FAO, WHO, UNIDO, UNITAR, OECD, UNDP) Basel Convention Secretariat	2011–2015	Integrated policies that incorporate chemicals management issues into policies for food safety, water and marine ecosystem management, health, occupational health and safety, development cooperation, sustainable production and consumption are adopted in all countries.	Model policies Integration of chemicals management issues into policies for food safety, water and marine ecosystem management, health, occupational health and safety, development cooperation, sustainable production and consumption	Some progress. UNDP-UNEP Mainstreaming of Sound Chemicals Management UNIDO-UNEP RECP programme in close cooperation with National Cleaner Production Centres and Programmes, OECD Sustainable Materials Management, Good progress on developing 10 year plans for many key sectors in Sustainable Production and Consumption. Mainly a national responsibility but ILO provides assistance as part of the core work undertaken within are Decent Work Country Programmes where OSH has been flagged as an area of concern. FAO setting standards for food safety and pesticide residues in food.

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	121. Utilize the life-cycle management concept to identify priority gaps in chemicals management regimes and practices and to design actions to address gaps in order to identify opportunities to manage hazardous products, unintentional toxic emissions and hazardous wastes at the most advantageous point in the chemical life cycle.	National Governments Industry Trade unions IOMC (UNEP, ILO, FAO, WHO, UNIDO, UNITAR, OECD, UNDP) Basel Convention Secretariat National cleaner production centres NGOs	2011–2015	The life-cycle management concept is used for the sound management of chemicals in all countries.	Training Awareness-raising	Some progress. UNDP-UNEP Mainstreaming of Sound Chemicals Management UNIDO-UNEP RECP programme, OECD Sustainable Materials Management, Waste prevention and minimisation.
	122. Promote products that are either degradable and are returned to nature after use or at end use are recycled as industrial feedstocks to produce new products.	**Industry** **IOMC (UNEP, FAO)**	2011–2015	Degradable or recycled products are promoted.	Awareness-raising Research Innovation	Mainly an industry and national government responsibility.
	123. Incorporate life-cycle issues in school curricula.	National Governments National cleaner production centres IOMC (UNEP, ILO, FAO, WHO, UNIDO, UNITAR, OECD, UNDP) Trade unions NGOs	2006–2010	Life cycle issues are incorporated in school curricula.	Expertise in curriculum development	Mainly a national responsibility. UNEP WHO initiative on toxicology in the classroom.
PRTRs – creation of national and international registers	124. Develop a national PRTR/emission inventory design process involving affected and interested parties.	International IGOs IOMC (UNEP, UNIDO, UNITAR, OECD, UNDP), Stockholm Convention Secretariat Regional organizations National Governments	2011–2015	PRTRs are established in all countries.	Infrastructure Consideration of national circumstances and needs	Core Business (see OECD PRTR.net) UNITAR Assisting national projects (11 completed. 8 ongoing) .

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	125. Use PRTRs tailored to variable national conditions as a source of valuable environmental information for industry, Governments and the public and as mechanisms to stimulate reductions in emissions.	National Governments NGOs IOMC (UNEP, UNIDO, UNITAR, OECD, UNDP)	2011–2015	All stakeholders have access to PRTR information. Emissions are reduced in all countries.	Infrastructure	Core Business (see OECD PRTR.net and Centre for PRTR data) UNITAR Assisting national projects.
	126. Develop manuals and implementation guides to explain in a simple form the benefits provided by a registry and the steps necessary to develop one.	IOMC (UNEP, UNIDO, UNITAR, OECD, UNDP)	2011–2015	Manuals and implementation guides are developed.	Availability of technical capacity	Completed (see OECD Series on Pollutant Release and Transfer Registers UNITAR assisting national projects and Guidance Document on Designing PRTRs to be updated in 2014. PRTR:Learn to include training modules in 2014.
Risk assessment, management and communication	127. Manufacturers, importers and formulators should assess data and provide adequate and reliable information to users.	National Governments Industry	2008	Manufacturers, importers and formulators fulfil responsibilities to assess their products and inform users.		N/A
	128. Responsible public authorities should establish general frameworks for risk assessment procedures and controls.	National Governments	2011–2015	Risk assessment procedures and control systems are established in all countries.	Training	N/A
	129. Carry out hazard evaluations in accordance with the requirements of harmonized health and environmental risk assessments, including internationally recommended methodologies.	National Governments IOMC (WHO)	2008	GHS is implemented.	Availability of technical capacity	CICADS and EHCs. IPCS (WHO/ILO) ICSC now include GHS classifications.

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	130. Harmonize principles and methods for risk assessment, e.g., methods for vulnerable groups, for specific toxicological endpoints such as carcinogenicity, immunotoxicity, endocrine disruption and ecotoxicology, for new tools.	IOMC (UNEP, ILO, FAO, WHO, UNIDO, UNITAR, OECD, UNDP)	2016–2020	Risk assessment methodologies are harmonized for specific target groups.	Harmonization of terminology used in hazard and risk assessment Use of molecular epidemiology, clinical and exposure data and scientific advances in toxicogenomics and methods relevant to real-life exposures, e.g., aggregate/cumulative exposures, use of simple analytical methods for in-field exposure assessment	WHO Harmonization Project publishes numerous guidance covering a range of endpoints for human health (including aggregate/cumulative exposures, immunotox etc). OECD also publishes numerous guidance on both human health and ecotox endpoints (including endocrine disruptors, toxicogenomics, exposure etc). FAO pesticide registration toolkit in IOMC Toolbox.
	131. Address gaps in the development of new tools for risk assessment, harmonization of risk assessment methods, better methods to estimate the impacts of chemicals on health in real-life situations and the ability to access, interpret and apply knowledge on risks.	IOMC (UNEP, ILO, FAO, WHO, UNIDO, UNITAR, OECD, UNDP)	2016–2020	Appropriate risk assessment tools are developed and used.	Technical capacity	WHO and OECD published numerous guidance (e.g. OECD Environmental Risk Assessment Toolkit).
	132. Address gaps in the study of chemical exposure pathways and opportunities for pathway intervention (e.g., in food production).	IOMC (UNEP, ILO, FAO, WHO, UNIDO, UNITAR, OECD, UNDP) Industry	2016–2020	Information on chemical exposure pathways and opportunities for pathway intervention are available.	Research capacity	FAO Food safety programmes focussing on determination of maximum residue limits and associated good agricultural practices for pesticide application in crops.

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	133. Further develop methodologies using transparent science-based risk assessment procedures and science-based risk management procedures, taking into account the precautionary approach.	National Governments IOMC (UNEP, ILO, FAO, WHO, UNIDO, UNITAR, OECD, UNDP) NGOs	2016–2020	Methodologies for risk management are available in all countries.	Availability of trained professionals	IOMC Toolbox launched in 2013, being elaborated and disseminated in 2014-15.
	134. Compare assessments of alternative products and practices to ensure that they do not pose larger risks.	National Governments IOMC (UNEP, ILO, FAO, WHO, UNIDO, UNITAR, OECD, UNDP)	2016–2020	A system of comparative evaluation of chemical products is established in all countries.	Availability of trained professionals	Mainly a national responsibility. A number of international activities are underway to provide tools for selection of safer alternatives.
	135. Fill gaps in abilities to access, interpret and apply knowledge (e.g., improve availability of information on the hazards, risks and safe use of chemicals, in forms relevant to end users, and improve use of existing risk assessments).	National Governments Industry NGOs IOMC (UNEP, WHO)	2006–2010	All stakeholders have access to information on chemicals.	GHS	WHO/ILO International Chemical Safety Cards, UNITAR/ILO promoting and facilitating GHS implementation

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	136. Develop common principles for harmonized approaches for performing and reporting health and environmental risk assessments.	Research centres IOMC (UNEP, ILO, FAO, WHO, UNIDO, UNITAR, OECD, UNDP)	2011–2015	Harmonized methodology for risk assessments is available.	Infrastructure	WHO Harmonization Project and OECD produce numerous guidance covering all toxicological end-points (see WHO Human Health Risk Assessment Toolkit and OECD Environmental Risk Assessment Toolkit). WHO/UNEP SANA guide for the implementation of the Libreville Declaration on health and environment in Africa.
	137. Improve understanding of the impact of natural disasters on releases of harmful chemicals and resulting human and wildlife exposures, as well as possible measures to mitigate them.	**National Governments** NGOs IOMC (WHO)	2011–2015	Studies are undertaken to improve understanding of the impact of natural disasters on releases of harmful chemicals and resulting human and wildlife exposures. Results are disseminated to relevant decision makers. Mitigation measures are developed and implemented.		WHO published guidance on Public Health Management of Chemical Incidents.

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Occupational safety and health	138. Establish a means of developing and updating internationally evaluated sources of information on chemicals in the workplace by intergovernmental organizations, in forms and languages suitable for use by workplace participants.	IOMC (ILO, WHO, UNIDO, OECD, UNDP) National Governments Trade unions/labour Industry NGOs	2006–2010	Means of developing and updating internationally evaluated sources of information on chemicals in the workplace by intergovernmental organizations, in forms and languages suitable for use by workplace participants, are established in all countries.	GHS	ILO Core business, in partnership with UNITAR in the UNITAR/ILO GHS capacity building programme..
	139. Promote research on the development of appropriate protective equipment.	**National Governments** Industry Trade unions	2006–2010	Research and development of appropriate protective gear is carried out in all countries. Appropriate protective equipment is available in all countries.	ILO Global Strategy on Occupational Safety and Health Research institutions	N/A
	140. Make information on workplace chemicals from intergovernmental organizations readily and conveniently available at no charge to employers, employees and Governments.	National Governments Industry Trade unions NGOs	2006–2008	Mechanisms to make IGO information on chemicals readily available are established in all countries.	Infrastructure GHS	N/A
	141. Strengthen global information networks in the sharing, exchange and delivery of chemical safety information (e.g. ILO, WHO, INFOCAP).	IOMC (ILO, FAO, WHO, UNIDO, OECD, UNDP) Basel Convention Secretariat Trade unions	2006–2010	Existing global networks are identified and links are strengthened.	Necessary infrastructure	Underway

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	142. Promote the establishment of ILO SafeWork programmes at the national level and the ratification and implementation of ILO conventions 170, 174 and 184.	IOMC (ILO) National Governments Industry Trade unions	2006–2010	ILO Conventions 170, 174 and 184 are ratified and implemented by all countries and ILO SafeWork programmes are established in all countries.	ILO conventions Capacity-building	Underway Ratification and implementation of ILO Convention 187 (Promotional Framework for Occupational Safety and Health)
	143. Implement an integrated approach to the safe use of chemicals in the workplace by establishing new mechanisms for expanding and updating ILO conventions related to hazardous substances and linking them to various other actions such as those associated with codes, information dissemination, enforcement, technical cooperation, etc.	IOMC (ILO) National Governments Industry Trade unions	2006–2010	ILO conventions related to hazardous substances are updated and linked to other related initiatives.	ILO conventions Capacity-building	Underway Constantly reviewed by ILO Committee of Experts for the Application of Standards
	144. Establish approaches and methods for communicating the results of international risk assessments to appropriate workplace participants and stipulate related roles and responsibilities of employers, employees and Governments.	IOMC (ILO, WHO, UNIDO, OECD, UNDP) National Governments Industry Trade unions	2006–2010	Mechanisms for disseminating the results of international risk assessments to appropriate workplace participants are established in all countries.	IPCS OECD chemical programme	ILO/WHO International Chemical Safety Cards. GHS labelling.
	145. Promote the establishment of national inspection systems for the protection of employees from the adverse effects of chemicals and encourage dialogue between employers and employees to maximize chemical safety and minimize workplace hazards.	IOMC (ILO) National Governments Industry Trade unions NGOs	2006–2010	National inspection systems on safe use of chemicals are established in all countries.	ILO conventions Capacity-building	Underway, but mainly a national responsibility

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	146. Strengthen chemical-safety-related information dissemination among social partners and through public media at the national and international levels.	IOMC (**UNEP,** ILO, FAO, WHO, UNIDO, OECD, UNDP) Basel Convention Secretariat National Governments Industry Trade unions NGOs	2006–2010	Chemical-safety-related information dissemination systems are put in place in all countries.	GHS	Mainly a national responsibility.
	147. Stress the importance of workers' right to know in all sectors (formal and informal), i.e., that the information provided to workers should be sufficient for them to protect their safety and health as well as the environment.	IOMC (ILO, FAO, WHO, UNIDO, OECD, UNDP) National Governments Industry Trade unions NGOs	2006–2010	Workers' right to know in all sectors is established in all countries.	GHS ILO Global Strategy on Occupational Safety and Health	Ongoing/underway
	148. Eliminate workplace hazards posed by chemicals through simple, practical methods, in particular chemical control banding.	IOMC (ILO, FAO, WHO, UNIDO, OECD, UNDP) National Governments Industry Trade unions	2006–2020	Workplace hazards due to chemicals are eliminated.	ILO conventions and strategies	Underway
	149. Establish the right of employees to refuse to work in hazardous environments if they are not provided with adequate and correct information about hazardous chemicals to which they are exposed in their work environment and about appropriate ways in which to protect themselves.	IOMC (ILO) National Governments Industry Trade unions NGOs	2006–2010	The right of employees to refuse to work in hazardous environments is established in all countries.	Model legislation Information in appropriate languages	Underway

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Children and chemical safety	150. Promote education and training on children's chemical safety.	IOMC (ILO, WHO, OECD,) UNICEF, Regional organizations National Governments Stakeholders Trade unions NGOs Academia	2006–2010	Government officials and key stakeholders are trained on children's chemical safety.	Availability of training programmes on children's chemical safety Sharing of experience	WHO training tools for a range of chemical hazards on the WHO website.
	151. Promote the use of comparable indicators of children's environmental health as part of a national assessment and prioritization process for managing unacceptable risks to children's health.	National Governments Industry IOMC (ILO, WHO, OECD, UNDP) NGOs	2006–2010	A harmonized approach to data collection, research, legislation and regulations and the use of indicators of children's environmental health is established.	Model legislation	WHO Children's Environmental Health indicators released, and harmonized methodology for studies in development. National governments need to promote their use.
	152. Consider potential enhanced exposures and vulnerabilities of children when setting nationally acceptable levels or criteria related to chemicals.	National Governments IOMC (ILO, WHO, OECD, UNDP) Trade unions NGOs	2011–2015	Potential enhanced exposures and vulnerabilities of children are considered when setting nationally acceptable levels or criteria related to chemicals.	Model legislation	WHO health-based guidelines take into account the special vulnerabilities of children.
	153. Develop broad strategies specifically directed to the health of children and young families.	National Governments IOMC (WHO) Trade unions	2011–2015	National strategies specifically directed to the health of children and young families are put in place in all countries.	Technical capacity available	WHO Programme on Children's Environmental Health.

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Education and training (public awareness)	154. Incorporate chemical safety and especially understanding of the labelling system of GHS into school and university curricula.	IOMC (UNEP, ILO, WHO, UNIDO, UNITAR, UNDP) Basel Convention Secretariat National Governments Training institutions Media institutes Trade unions NGOs	2011–2015	Chemical safety is included in school and university curricula in all countries.	Availability of training material	National responsibility (some are already doing this). UNEP WHO Toxicology in the Classroom.
	155. Provide appropriate training and sensitization on chemical safety for those exposed to chemicals at each stage from manufacture to disposal (crop growers, industries, enforcement agents, etc.).	National Governments Trade unions NGOs **IOMC (UNEP)** Basel Convention Secretariat National agricultural extension services	2011–2015	All relevant officials are trained in chemical safety.	Training institutions Training of trainers	UNEP
Lead in gasoline	156. Undertake research into alternative additives.	**Industry** Research centres	2006–2010	Lead in gasoline is phased out in all countries.	Research centres Possibilities for information on alternatives provided by the Rotterdam Convention website	N/A
Mercury and other chemicals of global concern; chemicals produced or used in high volumes; chemicals subject to wide dispersive uses; and other chemicals of concern at the national level	157. Undertake research into alternatives for other lead-based products.	**Industry** **Academia**	2006–2010	Alternatives to lead are used in products. Improved technologies for small-scale recycling industries are in place and used.	Technical and scientific capacity	N/A

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Sound agricultural practices	158. Undertake research on and implement better agricultural practices, including methods that do not require the application of polluting or harmful chemicals.	**Agriculture industry** **National Governments** IOMC (UNEP, ILO, FAO, WHO, UNDP, World Bank) Trade unions/labour NGOs Research centres International agricultural research centres (CGIAR centres and others) and national agricultural research systems	2011–2015	Better agricultural practices, including methods that do not require the application of chemicals, are identified and implemented in all countries.	Model legislation Agricultural extension services Training institutions and material	FAO experience sharing networks; legislative guidance and models; academic training programmes.
	159. Establish ecologically sound and integrated strategies for the management of pests and, where appropriate, vectors for communicable diseases.	**Agriculture** **Industry** **National Governments** IOMC (UNEP, ILO, FAO, WHO, UNDP, World Bank) Trade unions/labour NGOs	2011–2015	Integrated strategies for the management of pests are established and implemented in all countries.	Model legislation Agricultural extension services Training institutions and material	FAO promotion and dissemination of integrated pest management approaches in crop production at policy and technical levels.
	160. Promote information exchange on alternative and ecological agricultural practices, including on non-chemical alternatives.	IOMC (UNEP, ILO, FAO, WHO, OECD, UNDP, World Bank) National Governments Research and accredited training institutions Industry Trade unions NGOs	2006–2010	Information exchange mechanisms on alternative and ecological agricultural practices are developed in all countries.	Training	FAO information and experience sharing networks on IPM and pest management.

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Waste management (and minimization)	161. Implement information, education and communication packages on the sound management of chemicals, targeting key stakeholders including waste handlers and recyclers.	National Governments IOMC (UNEP, ILO, FAO, WHO, UNIDO, OECD, UNDP, World Bank) Montreal Protocol Basel Convention Secretariat Trade unions NGOs	2006–2010	Effective and sustained information, education and communication activities on sound management of chemical waste are carried out.	Training	UNIDO-UNEP RECP programme and UNIDO Chemical Leasing programme, 3R Initiative UNDP country office programmes on chemicals and hazardous and municipal waste management include awareness raising and training components. UNDP-UNEP Poverty-Environment Initiative. UNEP/UNITAR Guidelines for the development of National Waste Management Strategies available.
	162. Support research on best practices in waste management resulting in increased waste diversion and recovery and reduced chemical hazards for health and the environment.	National Governments NGOs IOMC (UNEP, ILO, FAO, WHO, UNIDO, OECD, UNDP, World Bank) Basel Convention Secretariat	2006–2010	Best practices in waste management to increase waste diversion and recovery and to reduce chemical hazards are identified, documented and disseminated.	Research Dissemination	Good progress. UNEP Global Partnership on Waste Management
Stakeholder participation	163. Undertake awareness-raising and preventive measures campaigns in order to promote safe use of chemicals.	IOMC (UNEP) NGOs Media institutes Industry Trade unions NGOs	2006–2020	All stakeholders are informed of chemical safety issues.	Information in appropriate languages	UNEP Global Chemicals Outlook, Cost of Inaction

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	164. Work to ensure broad and meaningful participation of stakeholders, including women, at all levels in devising responses to chemicals management challenges and in regulatory and decision-making processes that relate to chemical safety.	National Governments Industry Trade unions NGOs IOMC	2006–2010	All stakeholders including women at all levels are involved in devising responses to chemicals management challenges and in regulatory and decision-making processes that relate to chemical safety in all countries.	Model legislation	N/A

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Work areas addressing governance (objective 3)						
Work areas	**Activities**	**Actors[14]**	**Targets/Timeframes**	**Indicators of progress**	**Implementation aspects**	**IOMC Remarks on Implementation**
Assessment of national chemicals management to identify gaps and prioritize actions	165. Have in place multi-sectoral and multi-stakeholder mechanisms to develop national profiles and priority actions.	National Governments Industry Trade unions NGOs IOMC (UNITAR, UNDP)	2006–2010	All countries have mechanisms in place.	Interagency and multi-stakeholder committees	More than 40 countries have set national SAICM priorities via multistakeholder and multisectoral mechanisms. UNDP-UNEP Integrating the Sound Management of Chemicals into MDG-Based Development Planning implemented in 14 countries - all rely heavily on the guidance from multisector/ stakeholder processes.

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Implementation of integrated national programmes for the sound management of chemicals at the national level in a flexible manner	166. With regard to the implementation of national programmes: • Develop comprehensive national profiles; • Formalize inter-ministerial and multi-stakeholder coordinating mechanisms on chemicals management issues, including coordination of national Government and multi-stakeholder positions in international meetings; • Develop national chemical safety policies outlining strategic goals and milestones towards reaching the Johannesburg Summit 2020 goal; • Develop national chemicals safety information exchange systems; • Develop national strategies to mobilize national and external resources and to raise the importance placed on chemicals management within national sustainable development frameworks; • Develop policies of systematic stakeholder involvement, bringing synergies from related initiatives on chemicals management	National Governments All Stakeholders IOMC (UNEP, UNITAR, UNDP) Basel Convention Secretariat	2006–2010	All countries have developed integrated national programmes for the sound management of chemicals.	National poverty eradication and development plans Regional cooperation, experience and best practices Participation of relevant ministries and stakeholders in coordination mechanisms Technical capacity	Progress has been good through: UNDP-UNEP Integrating the Sound Management of Chemicals into MDG-Based Development Planning implemented in 14 countries. UNITAR support for National Profiles, SAICM Implementation Plans, interministerial coordination, stakeholder involvement, information exchange mechanisms, and national SAICM policies.

The columns dealing with suggested actors, targets and timeframes, indicators of progress and implementation aspects were not fully discussed and sufficient time was agreement during the process to develop the Strategic Approach.

	167. Support efforts to implement an integrated approach to the safe use of chemicals at the workplace by establishing effective mechanisms for following up and updating information on international instruments related to hazardous substances.	IOMC (ILO) National Governments Industry and workers	2010	Effective follow-up mechanisms are put in place.	ILO guidance	ILO guidance provided by the International Programme for the Elimination of Child Labour (IPEC) underway.
GHS	168. Review national legislation and align it with GHS requirements.	**National Governments** IOMC (ILO, FAO, UNITAR)	2006–2010	GHS is implemented in all countries.	Model legislation	Mainly a national responsibility. GHS now referenced in FAO Code of Conduct.
International agreements	169. Promote ratification and implementation of all relevant international instruments on chemicals and hazardous waste, encouraging and improving partnerships and coordination (e.g., Stockholm Convention, Rotterdam Convention, Basel Convention, ILO conventions and IMO conventions related to chemicals such as the TBT Convention) and ensuring that necessary procedures are put into place.	**National Governments** International convention secretariats	2006–2010	All conventions are ratified or comparable measures are put in place and implemented in all countries.	Model legislation Funds for ratification and implementation and resources for designated national authorities and focal points	UNITAR support for activities on Basel Convention Ban amendment and Minamata Convention ratification.

The columns dealing with suggested actors, targets and timeframes, indicators of progress and implementation aspects were not fully discussed and sufficient time was not available to achieve agreement during the process to develop the Strategic Approach.

	170. Establish or strengthen coordination, cooperation and partnerships, including coordination among institutions and processes responsible for the implementation of multilateral environmental agreements at the international, national and local levels, in order to address gaps in policies and institutions, exploit potential synergies and improve coherence.	**Secretariats of multilateral environmental agreements** **National Governments** **IOMC** Montreal Protocol	2006–2010	Institutional coordination is strengthened and reporting requirements are streamlined for all conventions. Plans for exploiting potential synergies at all levels among international organizations involved in chemicals management are established.	Clustering of secretariats Inter-ministerial plans for cooperation Awareness-raising among Government representatives on governing bodies of intergovernmental organizations of the need for inter-agency coherence	IOMC continues to coordinate among the now 9 Participating Organizations, and meets from time to time with the convention secretariats.
	171. Consider approaches to facilitate and strengthen synergies and coordination between chemicals and waste conventions, including by developing common structures.	**Secretariats of multilateral environmental agreements** **National Governments**	2006–2010			N/A
	172. Consider evaluating the possibilities and potential benefits of using the Basel and/or Stockholm Convention ways and means for waste management and disposal of wastes of reclaimed ozone-depleting substances regulated under the Montreal Protocol.	**Secretariats of multilateral environmental agreements** **National Governments**	2006–2010			N/A

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	173. Develop pilot projects to pursue implementation of coordination between the national focal points of chemicals-related multilateral environmental agreements (Rotterdam, Stockholm and Basel Conventions and Montreal Protocol) to achieve synergies in their implementation.	**National focal points IOMC**	2006–2010	Pilot projects are carried out. Results are published.	Terms of reference	Synergies process established.
	174. Address gaps at the domestic level in implementation of existing laws and policy instruments promulgated in the context of national environmental management regimes, including with respect to meeting obligations under international legally binding instruments.	**National Governments** Secretariats of multilateral environmental agreements	2006–2010	Gaps are identified in all countries. Strategies to fill gaps are put in place.	Guidance on criteria for the identification of gaps	N/A
	175. Ensure coherence with the proposed Bali Strategic Plan for Technology Support and Capacity-building.	**National Governments IOMC (UNEP)**	2006–2010	Coherence with the Bali Strategic plan is achieved.		The Plan is frequently referenced and efforts are in hand.
	176. Promote, when necessary, the further development of international agreements relating to chemicals.	**National Governments** IOMC **(UNEP)**	2006–2010	Agreement is reached on development of further international agreements relating to chemicals.	Assessment of need for further international agreements	To be done when necessary.

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PRTRs – creation of national and international registers	177. Establish the required framework for creating national PRTRs.	**National Governments** Stockholm Convention Secretariat IOMC (UNEP, UNIDO, UNITAR, OECD, UNDP) UNECE Industry	2011–2015	A framework for creating national PRTRs is established and PRTRs are implemented in all countries.	Model legislation	Core Business (OECD see PRTR.net). UNITAR (see PRTR:Learn) .
	178. Promote a political consensus in favour of public access to national environmental information.	IOMC (UNEP, UNIDO, UNITAR, OECD, UNDP)	2006–2010	Public access to national environmental information is improved.	Awareness-raising	Core Business for OECD (see OECD Environmental Data and Indicators).
	179. Manage information dissemination from PRTRs so that risks are communicated in a timely and accurate fashion without unduly alarming the public.	IOMC (UNEP, UNIDO, UNITAR, OECD, UNDP) **National Governments** **NGOs**	2006–2010	Mechanisms for the dissemination of timely and accurate information from PRTRs are developed.	Infrastructure	Core Business (see OECD Centre for PRTR Data).
	180. Promote harmonization of environmental performance requirements in the context of international trade.	IOMC (UNEP, UNIDO, UNITAR, OECD)	2006–2010	Harmonized environmental performance requirements are developed.		International indicators are available, e.g. UNEP and OECD environment indicators.
Social and economic considerations	181. Establish the capacity to collect and analyse social and economic data.	**National Governments** IOMC Trade unions/labour NGOs	2011–2015	Social and economic data are collected in all countries.	Methodology	Capacity to collect such data is a national responsibility. International organizations have published guidance on socio-economic analysis in relation to chemical assessment.

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	182. Consider and apply approaches to the internalization of the costs to human health, society and the environment of the production and use of chemicals, consistent with Principle 16 of the Rio Declaration.	**National Governments** IOMC	2011–2015	Studies of internalization of costs are carried out in all countries.	Training of scientists UNEP	Progress is piecemeal (not all countries).
	183. Develop methodologies and approaches for integrating chemicals management into social and development strategies.	**IOMC**	2011–2015	Methodologies are developed.	Sufficient number of scientists Training of scientists Awareness-raising for stakeholders	Mainstreaming projects.
	184. Include capacity-building for the sound management of chemicals as one of the priorities in national poverty reduction strategies and country assistance strategies.	**National Governments** **IOMC**	2011–2015	Capacity-building for the sound management of chemicals is incorporated as one of the priorities in national poverty reduction strategies and country assistance strategies in all countries.	Guidance on capacity-building	Mainstreaming projects.
	185. Enhance efforts to implement values of corporate social and environmental responsibility.	**Industry** National Governments Trade unions	2006–2010	Values of corporate social and environmental responsibility are implemented.	Information on social and environmental responsibility	N/A
	186. Develop frameworks for promoting private-public partnerships in the sound management of chemicals and wastes.	**National Governments** Industry Basel Convention Secretariat NGOs Trade unions	2011–2015	Frameworks are developed and implemented in all countries.	Guidance Model legislation	N/A

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	187. Develop a framework to promote the active involvement of all stakeholders, including non-governmental organizations, managers, workers and trade unions in all enterprises – private, public and civil service (formal and informal sector) – in the sound management of chemicals and wastes.	**National Governments** Industry Trade unions NGOs	2006–2010	A framework is developed and implemented.	IGO and Government support	UNITAR support for national SAICM stakeholder involvement policies and Rio Principle 10 projects.
	188. Build the capacities of NGOs, civil society and communities in developing countries so that their responsible and active participation is facilitated. This may include provision of financial support and training in chemical safety agreements and concepts.	**National Governments** **IOMC**	2006–2010	Capacities of NGOs in developing countries are strengthened.		Mainly a national responsibility.
Promote industry participation and responsibility	189. Encourage use of voluntary initiatives (e.g., Responsible Care and FAO Code of Conduct)..	**Industry** IOMC (FAO, UNITAR)	2006–2010	Responsible Care and the FAO Code of Conduct are implemented in all relevant countries.	Government support	Inclusion of private sector as a key stakeholder in policy and guidance development (FAO).
	190. Promote corporate social responsibility for the safe production and use of all products, including through the development of approaches that reduce human and environmental risks for all and do not simply transfer risks to those least able to address them.	**Industry** **IOMC (UNIDO)**	2006–2010	GHS is implemented in all countries and Responsible Care is adopted in all countries that manufacture chemicals. Systems are in place that encourage and promote corporate social and environmental responsibility in all countries.	Responsible Care United Nations Global Compact GHS National cleaner production centres Industry participation in all aspects of chemicals management across the life cycle of chemicals	UNIDO-UNEP RECP programme

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	191. Promote innovations and continuous improvement of chemicals management across the product chain.	**Industry** National Governments	2006–2010	Systems are in place that encourage and promote innovation in all countries.	National cleaner production centres Government support for innovation	N/A
	192. Promote within the industrial sector the adoption of PRTRs and cleaner production methods.	**National Governments**	2006–2010	Use of PRTRs and cleaner production methods is increased.	Awareness-raising	N/A
Legal, policy and institutional aspects	193. Promote a culture of compliance and accountability and effective enforcement and monitoring programmes, including through the development and application of economic instruments.	**National Governments** GEF, IOMC (UNEP, ILO, FAO, UNIDO, UNITAR, OECD, UNDP), Convention secretariats Regional organizations Accredited training institutions	2006–2010	Effective enforcement and monitoring programmes are in place in all countries.	Establishment of programmes Model legislation	UNEPs report on economic instruments. UNIDO-UNEP RECP programme together with National Cleaner Production Centres.
	194. Strengthen policy, law and regulatory frameworks and compliance promotion and enforcement.	**National Governments**	2006–2010	Policy, law and regulatory frameworks and compliance promotion and enforcement are strengthened in all countries.	Model legislation Infrastructure	N/A
	195. Establish national multi-stakeholder coordination bodies on chemicals to provide information and increase awareness of their risks.	**National Governments** Industry Trade unions NGOs	2006–2010	Multi-stakeholder coordination bodies on chemicals are established in all countries.	Guidance Terms of reference	N/A

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	196. Explore innovative consultation processes, such as mediated discussions, with a view to finding common ground and agreement among affected sectors of society on critical issues that impede efforts to achieve the sound management of chemicals.	**National Governments** Industry NGOs	2006–2010	Consultation processes are in place in all countries.	Guidance Terms of reference	N/A
	197. Incorporate capacity-building strategies and promote activities to enhance each country's legal and institutional framework for implementing chemical safety across all relevant ministries and Government agencies.	**National Governments** **IOMC**	2006–2010	Capacity-building strategies and promotion of activities to enhance each country's legal and institutional frameworks for implementing chemical safety across all relevant ministries and Government agencies are established in all countries.	Capacity-building strategies Model legislation	UNEP Guidance on development of legal and institutional infrastructures. UNDP chemicals and waste related project all contains element related to the strengthening of the policy and regulatory framework pertaining to chemicals management.
	198. Encourage countries to harmonize their chemical safety norms.	**National Governments** IOMC (UNEP, ILO, FAO, WHO, UNIDO, UNITAR, OECD, UNDP)	2010–2015	Chemical safety norms are harmonized in all countries.	Safety norms Model legislation	Mainly a national responsibility
Liability and compensation	199. Establish effective implementation and monitoring arrangements.	**National Governments**	2006–2010	Effective implementation and monitoring mechanisms are established.	Model legislation	N/A
Stocktaking on progress	200. Complete periodic questionnaires to measure implementation of the Bahia Declaration.	**IFCS** Regional organizations IGOs	2006–2020	Implementation of the Bahia Declaration is reported in all countries.	Development of a questionnaire Infrastructure for analysis	N/A

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	201. Develop objective indicators for evaluating the influence of chemicals on human health and the environment.	IOMC (**UNEP, FAO,** WHO, OECD) National Governments	2011–2015	Indicators for demonstrating reductions of the risks posed by chemicals to human health and the environment are established.	Funds	OECD Pesticide risk indicators completed in 2002. WHO burden of disease methodology and analysis (which can be applied at international and local level).
Protected areas	202. Ensure that pesticides and chemicals issues are considered within environmental impact assessments covering protected areas.	National Governments GEF Regional organizations	2006–2010	Legislative mechanisms related to protected areas, including the use of chemicals in those areas, are established in all countries.	Model legislation including "no objection certificate" requirements for environmental impact assessment and seismic survey	N/A
	203. Evaluate the dispersion of pollutant releases (air, water and ground) in protected areas.	**National Governments**	2006–2010	Dispersion of pollutants to protected areas is evaluated in all countries.	Technical and research capacity	N/A
Prevention of illegal traffic in toxic and dangerous goods	204. Develop national strategies for prevention, detection and control of illegal traffic, including the strengthening of laws, judicial mechanisms and the capacity of customs administrations and other national authorities to control and prevent illegal shipments of toxic and hazardous chemicals.	IOMC (IFCS) **WCO** **Interpol** OPCW Basel, Rotterdam and other convention secretariats Montreal Protocol National Governments National customs authorities	2006–2010	National strategies for the prevention, detection and control of illegal traffic are developed and implemented in all countries. The Rotterdam Convention is ratified and implemented by all countries.	Rotterdam Convention WCO harmonized tariff codes Training In particular, in line with paragraph 1 of article 13 of the Rotterdam Convention, countries should give appropriate support to initiatives taken by WCO members aiming at the assignment of specific harmonized system codes to certain chemicals falling under the Rotterdam Convention and persistent organic pollutants and enabling their comparison to environmental compliance data.	UNEP Green Customs Initiative

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Trade and environment	205. Ensure mutual supportiveness between trade and environment policies.	IOMC (**UNEP**, UNITAR)		Trade and environment policies are mutually supportive.	Mechanisms for cooperation between trade and environment officials and policy-makers at national and international levels Involvement of trade and environment stakeholders when developing chemicals policies Cooperation and information exchange between chemicals and waste multilateral environmental agreements and WTO	Green Economy initiatives of a number of organizations.
Civil society and public interest NGO participation	206. Include civil society representatives in Government committees formulating, carrying out and monitoring SAICM implementation plans.	Public interest NGOs/civil society Trade unions IPEN IOMC National Governments	2006–2020	Civil society is represented on national committees.	Participation in decision-making	UNITAR facilitate CSO representatives participation in national and regional SAICM projects.
Assessment of national chemicals management to identify gaps and prioritize actions	207. Provide assistance and training for the development of national profiles.	National Governments GEF IOMC (UNITAR, UNDP)	2006–2010	Assistance and training for development of national profiles is provided.	Training	UNITAR (National Profiles and priority setting activities). UNDP-UNEP supported national chemicals management situation reports (14 countries).

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Work areas addressing capacity-building and technical cooperation (objective 4)						
Work areas	**Activities**	**Actors[14]**	**Targets/Timeframes**	**Indicators of progress**	**Implementation aspects**	**IOMC remarks on Implementation**
Capacity-building to support national actions	208. Establish a systematic approach in order to facilitate the provision of advice concerning capacity-building for the sound management of chemicals at the country level to countries that request it. For example: • Consider establishing a help desk which would provide basic advice to countries and/or refer requests to relevant sources (policy institutions, experts, data banks, information, etc) of expertise, policy guidance, funding and guidelines; • Ensure that the process above builds on existing information and tools for capacity building and acts in a complementary way to existing initiatives; • Consider establishing monitoring mechanisms as part of the SAICM stocktaking processes to evaluate the usefulness of the process; • Implement a pilot project to test and refine the concept prior to global implementation.	IOMC Chemical convention secretariats Trade unions	Establishment: 2006–2010 Ongoing operation: 2011–2020	Number of countries requesting assistance Number of requests received and responded to Types of request received	Development and implementation of process as proposed in document SAICM/PrepCom3/Inf/9	N/A

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	209. Strengthen capacities pertaining to infrastructure in developing countries and countries with economies in transition through financial assistance and technology transfer to such countries with a view to addressing the widening gap between developed and developing countries and countries with economies in transition.	**IOMC** GEF Basel Convention Secretariat International financial institutions	2006–2010	Financial, technical and human capacities are developed in all countries.	Training Implementation of technology transfer and updating of programmes	Numerous financial and technical assistance programmes.
	210. Promote the development of databases based on scientific assessment and the establishment of centres for the collection and exchange of information at the national, regional and international levels.	**IOMC**	2006–2010	Databases, chemical registers and data collection and information exchange centres are established in all countries.	Availability of methodologies Training	UNEP chemicals information exchange network
	211. Promote programmes to develop chemicals-management instruments (national profiles, national implementation plans, national emergency preparedness and response plans).	**National Governments** Research and accredited training institutions IOMC BCRCs Trade unions NGOs	2006–2010	National profiles and implementation plans are developed and national emergency preparedness and response plans are in place.	Model legislation Training Coordination mechanism Sharing of experiences on national profiles	Emergency preparedness and response chapter added to UNITAR/IOMC National Profile guidance.
	212. Coordinate assistance programmes at the bilateral and multilateral levels that support capacity-building activities and strategies by developed countries.	National Governments IGOs NGOs Trade unions IOMC	2006–2010	Assistance programmes are coordinated.	Exchange of information on past and ongoing assistance provision activities Development of assistance programmes	IOMC core business. UN assistance coordination through resident coordinator at country level.
	213. Develop sustainable capacity-building strategies in developing countries and countries with economies in transition, recognizing the cross-cutting nature of capacity-building for chemical safety.	**IOMC** BCRCs GEF	2006–2010	Cleaner production technologies are developed and adopted in all countries.	Training	UNIDO-UNEP RECP programme

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	214. Promote contributions to and use of, e.g., INFOCAP for exchanging information and increasing coordination and cooperation on capacity-building activities for chemical safety.	**IOMC** Basel Convention Secretariat National Governments Industry Trade unions NGOs INFOCAP	2006–2010	Coordination mechanisms for information exchange are in place and use of existing mechanisms, e.g., INFOCAP, increases.	Coordination mechanisms and options Training	INFOCAP has not been further developed in recent years.
	215. Strengthen capacities in developing countries and countries with economies in transition pertaining to implementation of international conventions concerning chemicals.	**Secretariats for Rotterdam and Stockholm Conventions** IOMC Basel Convention Secretariat National Governments	2006–2010	Revision of national legislation is in line with provisions of international conventions. Responsible persons, e.g., focal points and designated national authorities, are appointed in each country. Institutional frameworks required for the implementation of international conventions are established in all countries.	Model legislation Training	IOMC capacity building activities: core business – see matrix of country projects. IOMC Toolbox. UNITAR/UNEP projects on using PRTRs as tools to report POPs under the Stockholm Convention (10). UNITAR support for activities on Basel Convention Ban amendment and Minamata Convention ratification. UNDP supported chemicals and waste project support project countries in domesticating international chemicals conventions by strengthening their regulatory and policy framework. FAO support to governments on implementation of BRS Conventions.

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	216. Involve all stakeholders in the elaboration and implementation of comprehensive plans for enhanced capacity-building.	**National Governments** IOMC Industry Trade unions NGOs	2006–2010	Lists of relevant stakeholders are established. Relevant stakeholders are involved in all capacity-building programmes in all countries.	National policy Training	N/A
	217. Develop competencies and capacities for the national planning of projects relevant to the management of chemicals.	**IOMC** GEF	2006–2010	Sound chemicals management is incorporated into national programmes.	Training	UNITAR has developed a programme on skills building for action plan development. National chemicals management situation reports in UNDP-UNEP Partnership Initiative builds national capacity of assessments and chemicals management priority setting.
	218. Establish programmes for scientific and technical training of personnel, including customs personnel.	**IOMC** BCRCs National Governments	2006–2010	A pool of skilled scientists and technical personnel is established in each country.	International and national training programmes and institutions	UNIDO training programmes for national consultants on Resource Efficient and Cleaner Production (RECP). Cumulatively until February 2013, 193,103 people have been trained in POPs management/alternatives under UNDP implemented projects on POPs. Under the institutional strengthening projects funded by MLF, UNDP supports trainings on ozone-depleting substances. FAO postgraduate diploma in pesticide risk management (with UCT).

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	219. Establish national or regional laboratory facilities, complete with modern instruments and equipment, including those necessary for testing emissions and operating according to national standards.	**IOMC (**UNEP, FAO, **UNIDO,** UNITAR, UNDP) National Governments Research institutions Industry	2006–2010	National laboratory facilities, complete with modern instruments and equipment, are established in all countries.	Model legislation Training	UNIDO activities in the identification of the scope of testing, standard methods, preliminary legislation for the laboratories, personnel and management issues, premises and equipment, training, consultancy for financial and organizational sustainability, participation in inter-laboratory comparisons. UNEP POPs activities.
	220. Establish regional reference laboratories operated in accordance with international standards.	**IOMC (**UNEP, FAO, **UNIDO,** UNITAR) National Governments Research institutions Industry	2006–2010	National reference laboratories are established in each country.	International standards Training	UNIDO training activities on chemical metrology, support to inter-comparisons and provision of reference materials. FAO ensuring that countries have access to appropriate analytical laboratory facilities.
	221. Establish or strengthen national infrastructure, including for information management, poison control centres and emergency response capabilities for chemical incidents.	**IOMC (UNEP,** ILO, FAO, WHO, UNIDO, UNITAR, UNDP) National Governments	2006–2010	Infrastructure for the sound management of chemicals is established in all countries.	Methodologies and guidelines Model legislation Training Guidelines	>50% of countries have a poisons information centre. WHO IHR for chemicals in place.
	222. Develop resources for national implementation plans and projects.	**IOMC (UNEP,** ILO, FAO, UNDP) National Governments Trade unions Industry	2006–2010	Resources for national implementation plans and projects are available.	Funding mechanisms and options Training	N/A

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	223. Address capacity needs for regulatory and voluntary approaches to chemicals management.	**National Governments** **Industry** IOMC (UNEP, ILO, FAO, WHO, UNDP)	2006–2010	Capacity needs assessments for regulatory and voluntary approaches are accomplished in all countries.	Identification of regulatory and voluntary approaches Availability of assessment methodologies Training	Capacity needs assessment integrated into updated UNITAR National Profile guidance.
	224. Improve coordination at the national level and strengthen policy integration across sectors, including the development of partnerships with the private sector.	**National Governments** Industry Trade unions NGOs	2006–2010	Multi-stakeholder coordination mechanisms and institutional frameworks are established in all countries.	National policies Training	UNDP-UNEP Partnership Initiative projects established Inter-ministerial coordinating Mechanisms on SMC.
	225. Integrate the sound management of chemicals capacity within ministries involved in supporting chemicals production, use and management.	**National Governments** Industry Trade unions NGOs IOMC (FAO, UNDP)	2006–2010	Sound management of chemicals is incorporated in ministerial plans and programmes in each country.	Model legislation National policy Cross-sectoral coordinating mechanisms	Good progress through: UNDP-UNEP Mainstreaming of Sound Chemicals Management UNEP LIRA guidance and implementation. Strengthening of regulatory frameworks for priority chemicals (Stockholm, Basel Convention) FAO on Registration and life cycle management of pesticides.

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	226. Strengthen technical capacity and availability of technology (including technology transfer).	**IOMC (**UNEP, **FAO, UNIDO,** UNDP) BCRCs National Governments	2006–2010	Technical capacity is developed in all countries. Steps to improve available technology are taken in all countries. Only appropriate technology is transferred to developing countries and countries with economies in transition.	Needs assessment on technical capacity Evaluation of existing technologies Availability of safe technologies Training	UNIDO-UNEP RECP programme and UNIDO Chemical Leasing programme activities in developing national technical capacity and transfer of ESTs. UNDP and WHO Medical waste and mercury programs. UNDP projects on the implementation of the Montreal Protocol support transfer of technologies, which are less harmful to the ozone layer, to developing countries.
	227. Strengthen mechanisms for reporting and consolidating information necessary to produce baseline overviews that will help determine domestic management priorities and gaps (e.g., PRTRs and inventories), taking into account industry reporting initiatives.	**National Governments** Research institutions IOMC (UNEP, ILO, FAO, WHO) BCRCs Industry Trade unions NGOs	2006–2010	Multi-stakeholder mechanisms for reporting and consolidating information necessary to produce baseline overviews are established in all countries.	Methodologies and protocols Training	Mainly a national responsibility, however a range of international guidance has been developed, e.g. on PRTRs.
	228. Develop infrastructure to redress the lack of accreditation bodies and accredited and reference laboratories with capacity to sample environmental and human matrices and foodstuffs.	**National Governments** IOMC (UNEP, FAO, UNIDO) Industry	2006–2010	Accredited and reference laboratories are established at the regional and national levels.	Standards Training	UNIDO activities to support the microbiology and chemical testing laboratories; provision of equipment, training and accreditation and selection and training of assessors.
	229. Establish the necessary training and infrastructure for undertaking the necessary testing of chemicals for their management across their life cycle.	**National Governments** IOMC (UNEP, ILO, FAO, WHO, UNITAR) Trade unions	2006 –2010	Training institutions and chemical testing laboratories are established in all countries.	Standards Training	Mainly a national responsibility, however international organizations provide assistance.

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	230. Develop training programmes in risk assessment and management-related health techniques and communication.	**National Governments** IOMC (UNEP, ILO, FAO, WHO, UNITAR) Trade unions	2006–2010	Training programmes in risk assessment and management are established in all countries.	Risk assessment and management methodologies Training	Mainly a national responsibility, however international organizations provide assistance, e.g. through the development of training materials (WHO).
	231. Address training needed to develop capacity in legislative approaches, policy formulation, analysis and management.	**National Governments** IOMC (UNEP, ILO, FAO, WHO, UNITAR, UNDP) Trade unions	2006–2010	Training needs assessments in legislative approaches, policy formulation, analysis and management are undertaken in all countries.	Model legislation Training	UNEP guidance on development of legal and institutional infrastructures.
	232. Provide training in the application of relevant liability and compensation mechanisms.	**National Governments** IOMC (UNEP, ILO) Trade unions NGOs	2006–2010	Training in the application of liability and compensation mechanisms is provided in all countries.	Model legislation Liability and compensation methodologies and models Training APPEL programme	Mainly a national responsibility.
	233. Provide training in emergency response.	**National Governments** **IOMC (UNEP, FAO,** WHO) Industry Trade unions	2006–2010	Training in emergency response is provided in all countries.	Model legislation Availability of emergency methodologies Training	Under the WHO IHR capacity building and training is being delivered. However, core capacities for responding to chemical incidents need to be improved.

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	234. Provide the necessary technical training and financial resources for national Governments to detect and prevent illegal traffic in toxic and dangerous goods and hazardous wastes.	**IOMC (UNEP, FAO, UNITAR)** **Basel Convention Secretariat** National Governments Industry	2006–2015	Training and financial resources for national Governments to detect and prevent illegal traffic in toxic and dangerous goods and hazardous wastes are provided to all countries that require it. The capacity of countries to detect and prevent illegal traffic in toxic and dangerous goods and hazardous waste is improved.	Training Detection and prevention methodologies	UNEP green customs initiative
	235. Outline specific capacity-building measures for each region.	**IOMC (UNEP, ILO, FAO, WHO)** BCRCs National Governments Industry Trade unions NGOs	2006–2010	Specific capacity-building measures are identified in all regions.	Methodologies Training	Not done in the SAICM context, this may be a role for the regional groups.
	236. Develop tools to assist industry to provide simplified chemicals information to Government and individual users.	**Industry** **National Governments**	2006–2010	Tools for the provision of simplified information are developed.	Infrastructure	N/A
Formulation of preventive and response measures to mitigate environmental and health impacts of emergencies involving chemicals	237. Establish and strengthen poison control centres to provide toxicological information and advice; develop relevant clinical and analytical toxicological facilities according to the needs identified and resources available in each country.	**National Governments** **IOMC (WHO)**	2006–2010	Poison control centres are established and strengthened and clinical and analytical toxicological facilities are established in all countries, according to needs and available resources.	WHO poison centre initiative	WHO is supporting countries, e.g. to establish poisons centres, however too few countries have access to a poisons information centre.

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Cleaner production	238. Provide training in cleaner production techniques.	IOMC (UNEP, UNIDO) **National Governments** Research institutions National cleaner production centres	2006–2010	Training in cleaner production techniques is provided in all countries	Availability of methodologies Training	UNIDO-UNEP RECP programme
	239. Consider means to control the transboundary movement of dirty technologies.	IOMC (UNEP, UNIDO) **National Governments** Industry	2006–2010	Mechanisms for preventing transboundary movement of dirty technologies are developed in all countries.	Model legislation Training	Model legislation not developed.
	240. Clearly define needs with respect to training of trainers.	**National Governments** **Industry** **IOMC (UNEP)**	2006–2010	Instructors' training needs are clearly defined.	Availability of technical capacity	Some train the trainers approaches utilized in various programmes.
	241. Design clear and simple manuals and guides on practical measures to assess production methods and implement improvements.	IOMC (UNEP, UNIDO)	2006–2010	Clear and simple manuals and guides are designed.	Availability of technical capacity	UNIDO CP training toolkit, Chemical Leasing toolkit, and manuals elaborated within the UNIDO-UNEP RECP Programme.
	242. Promote the transfer of technology and knowledge for cleaner production and manufacture of alternatives.	National Governments IOMC (UNEP, FAO, WHO, UNIDO, UNDP, World Bank) GEF NGOs Trade unions Industry				UNIDO-UNEP RECP programme, UNIDO Chemical Leasing programme

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Remediation of contaminated sites	243. Establish infrastructure for analyzing and remediating contaminated sites. Provide training in rehabilitation approaches. Develop capacity to rehabilitate contaminated sites. Develop remediation techniques. Increase international cooperation in the provision of technical and financial assistance to remedy environmental and human health effects of chemicals caused by chemical accidents, mismanagement, military practices and wars.	IOMC (UNEP, FAO, WHO, UNIDO, UNDP) GEF Regional bodies (Basel Convention regional training centres) National Governments Accredited training institutions Industry Trade unions	2011–2015	Infrastructure for analysing and remediating contaminated sites is established in all countries. Training programmes in rehabilitation of contaminated sites are developed and implemented in all countries. International technical and financial assistance is provided to developing countries and countries with economies in transition.	Model legislation Inventory and assessment of contaminated sites Remediation techniques and approaches Training	UNIDO activities to support promotion of global awareness on toxic pollution and the development of support for an international response are project components of the on-going Global Toxic Sites Identification project with the Blacksmith Institute. UNIDO's POPs contaminated site investigation and management toolkit; UNIDO partnership with UNEP and GIZ, Germany on remediation of selected contaminated legacy site in Africa LDCs. Almost all UNDP projects on persistent organic pollutants have training components and piloting of activities on remediation of contaminated sites. FAO assistance to countries in characterization and remediation of pesticide contaminated sites.

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Lead in gasoline	244. Develop capacity to identify alternatives to lead in gasoline, establish the necessary infrastructure for analysing gasoline and upgrade the infrastructure needed to introduce unleaded gasoline.	IOMC (UNEP, UNIDO) Regional bodies National Governments Industry	2006–2010	Infrastructure for analysing gasoline is established in all countries.	Model legislation Methodologies available Training	UNEP Partnership for Clean Fuels and Vehicles
Children and chemical safety	245. Develop mechanisms to facilitate collaborative national and international research and shared technology.	IOMC (ILO, WHO) UNICEF Regional organizations National Governments Research organizations	2006–2010	Mechanisms to facilitate collaborative national and international research and shared technologies are developed.	Availability of methodologies Training	WHO Programme on Children's Environmental Health includes international research coordination.
	246. Establish needed infrastructure for research into the impact of exposure to chemicals on children and women.	IOMC (ILO, WHO) UNICEF National Governments Stakeholders Trade unions Regional organizations	2006–2010	Research on the impact of exposure to chemicals on children and women is undertaken.	Research centres	WHO Programme on Children's Environmental Health includes international research coordination.
Risk assessment, management and communication	247. Establish accredited testing facilities for chemicals.	**Industry** ILAC National Governments	2016–2020	Accredited testing facilities for chemicals are established in all regions.	Accreditation systems Financial resources Training UNEP APELL UNEP PRTR programmes	N/A
Implementation of GHS	248. Establish accredited testing facilities to undertake testing of hazard characteristics of chemicals for classification and verification of label information.	**National Governments**	2011–2015	Accredited testing facilities for GHS purposes are established at least in all economic regions.	ILAC extension of accreditation systems to all regions	N/A

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	249. Promote training in hazard classification.	**National Governments** IOMC (WHO, FAO, OECD, UNITAR) Industry Trade unions NGOs	2006–2010	Multi-stakeholder training programmes on hazard classification are developed and implemented in all countries.	Availability of criteria for hazard classification Training	UNITAR/ILO GHS capacity building programme , including GHS training, in place and active since 2001.
	250. Make available sufficient financial and technical resources to support national and regional GHS capacity-building projects in developing countries and countries with economies in transition.	IOMC (FAO, UNITAR, OECD) GEF	2006–2010	Sufficient financial and technical resources to support national and regional GHS capacity-building projects in developing countries and countries with economies in transition are available.	Availability of national GHS capacity-building programmes Sharing of results of UNITAR pilot projects	UNITAR supports national and regional GHS projects via bilateral donors and other mechanisms.
Trade and environment	251. Provide training on links between trade and environment, including needed negotiating skills.	IOMC (UNEP, UNITAR) WTO National Governments Accredited training institutions	2006–2010	Training programmes in links between trade and environment, including needed negotiating skills, are developed in all countries.	Availability of methodologies Training	UNITAR training for chemicals negotiators available.

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	252. Encourage cooperation between secretariats of multilateral trade and multilateral environmental agreements in development of programmes and materials to enhance mutual understanding of the rules and disciplines in the two areas among Governments, intergovernmental institutions and other stakeholders.	IOMC (UNEP, FAO, UNITAR)	2006–2010	Cooperation is increased.	Discussion at meetings of conferences of parties	Synergies process established.
Protected areas	253. Provide training in the concept of protected areas.	**National Governments** IOMC (UNDP) Regional organizations Trade unions NGOs	2006–2010	Training programmes in the concept of protected areas are developed in each country.	Methodologies Training	Underway
	254. Undertake capacity-building in identifying and monitoring biological indicators.	**IOMC (UNDP)** National Governments	2011–2015	The number of trained personnel has increased and laboratory facilities are in place.		Underway
Occupational health and safety	255. Promote the necessary training and capacity-building for all people involved directly and indirectly with chemical use and disposal.	**IOMC (ILO, FAO, WHO**) National Governments Trade unions Industry	2006–2010	Training capacity is in place.	ILO Global Strategy on Occupational Safety and Health	ILO Core business
Information management and dissemination	256. Develop and enhance the capacity to acquire, generate, store, disseminate and access information, including INFOCAP.	IOMC (ILO, UNEP, UNITAR) **National Governments** NGOs Trade unions/labour	2006–2010	All countries have the capacity to generate data and make it available to stakeholders.	Necessary infrastructure in place Ability to interpret and apply knowledge Training Awareness-raising	INFOCAP has not been further developed in recent years.
Social and economic considerations	257. Establish the capacity to undertake social and economic impact assessment.	**National Governments** IOMC (OECD)	2011–2015	Research institutions are established in all countries.	Training of scientists	Mainly a national responsibility. Guidance has been published.

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Waste management	258. Implement capacity-building programmes on waste minimization and increased resource efficiency, including zero waste resource management, waste prevention, substitution and toxic use reduction, to reduce the volume and toxicity of discarded materials.	**National Governments** IOMC (FAO, WHO, UNIDO, UNITAR, UNDP) NGOs Basel Convention Secretariat BCRCs Trade unions	2006–2010	Programmes are executed to assist national/local authorities to develop zero waste resource management.	Provision of expertise, information Transfer of knowledge required for reduction of volume and toxicity of discarded material	UNDP Not enough progress, attention or funding. On-going UNDP Country Office programmes in around 25 countries UNDP Public Private Partnership Integrated Waste Management OECD SMM-UNIDO-UNEP, UNIDO Chemical Leasing programme RECP programme UNDP-UNEP PEI UNEPs activities on integrated solid waste management plans and the establishment of a Global Partnership on Waste Management.
	259. Develop national and local capacities to monitor, assess and mitigate chemical impacts of dumps, landfills and other waste facilities on human health and the environment.	**IOMC (UNEP**, WHO, UNIDO, UNDP) National Governments Trade unions NGOs	2006–2010	Essential technical and other skills are developed for monitoring, assessing and mitigating chemical problems for dumps, landfills and other waste facilities.	Provision of assistance including training and equipment through assistance programmes	UNIDO- UNEP RECP programme including activities for training of trainers and training of national experts. FAO quantification and elimination of obsolete pesticide stockpiles.
	260. Undertake training programmes for preventing the exposure of waste handlers and recyclers, particularly waste scavengers, to hazardous chemicals and waste.	**National Governments** Trade unions NGOs Basel Convention Secretariat BCRCs IOMC (ILO)	2006–2010	Training programmes addressing the chemical safety needs of waste handlers and recyclers are implemented.	Technical assistance Training	Underway

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	261. Train customs officials to detect illegal transboundary movements of waste.	**National Governments** WCO BCRCs	2006–2010	Customs officials are trained to detect illegal transboundary movements of waste.	Training	N/A
	262. Implement demonstration projects on waste minimization and efficient resource management in different countries with bilateral or multilateral support.	IOMC (UNEP, FAO, UNIDO, UNDP) BCRCs National Governments Trade unions NGOs	2006–2010	Zero waste demonstration projects are identified, supported and carried out.	Infrastructure Trained professionals	UNEPs activities on integrated solid waste management plans and the establishment of a Global Partnership on Waste Management. UNIDO-UNEP RECP programme demonstration projects at company level.

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Work areas addressing illegal traffic (objective 5)						
Work areas	**Activities**	**Actors[14]**	**Targets/Timeframes**	**Indicators of progress**	**Implementation aspects**	**IOMC Remarks on Implementation**
Prevention of illegal traffic in toxic and dangerous goods	263. Promote with WCO the dissemination and use of customs risk profiles and material safety sheets as official means of identifying probable cases of illegal traffic.	National Governments WCO	2006–2010	Harmonized tariff codes developed by WCO for chemicals regulated in terms of international instruments are implemented in all countries.	WCO harmonized tariff codes Training Cooperation with WCO	N/A
	264. Address the matter of resources and operational mechanisms for technical and financial assistance for developing countries and countries with economies in transition, either directly or through a relevant regional organization.	SAICM financial mechanism	2006–2010	A reliable and sustainable financing mechanism is in place.	Availability of funds Development of criteria for accessing funds	N/A
	265. Assess the extent and impact of illegal traffic at the international, regional, subregional, and national levels.	National Governments Regional organizations, e.g., COMESA, AU, EAC, SADC, etc.	2006–2010	An assessment of the extent of illegal traffic is undertaken.	Clarification of the definition of illegal international traffic	N/A
	266. Expand the level of coordination and cooperation among all stakeholders.	National Governments Trade unions NGOs International actors	2006–2010	Coordination among all stakeholders is enhanced in all countries.	Awareness-raising	N/A
	267. Address how international conventions related to the sound management of chemicals and national laws may be more effectively applied to the transboundary movement of toxic and hazardous chemicals.	National Governments IFCS Rotterdam and Basel convention secretariats Trade unions NGOs	2006–2010	Mechanisms to control transboundary movement of toxic and hazardous chemicals are in place.		UNEP green customs initiative

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	268. Promote efforts to prevent illegal international trafficking of toxic and hazardous chemicals and to prevent damage resulting from their transboundary movement and disposal.	National Governments IFCS WCO IGOs	2006–2010	Enforcement mechanisms are in place. Illegal trafficking of toxic and hazardous chemicals is reduced.	Provision of training and required equipment Legislation in place	N/A
	269. Promote the adoption by intergovernmental organizations of decisions on the prevention of illegal international traffic in toxic and hazardous products.	IGOs	2006–2010	Intergovernmental organizations have adopted decisions on the prevention of illegal international traffic in toxic and hazardous products.	Chemical conventions Availability of information on extent of illegal traffic Capacity at the national level to implement control systems	N/A
	270. Train customs, agricultural and health officials to detect illegal toxic hazardous chemicals.	National Governments	2006–2010	Customs, agricultural and health officials are trained to detect illegal toxic and hazardous chemicals.		N/A
	271. Create a global information network, including early warning systems, across international borders, especially at the regional level.	Interpol National Governments WCO WTO Trade unions NGOs	2011–2015	An information network, including early warning systems, is established for all regions.	Type of early warning system identified	N/A
Waste management	272. Strengthen national strategies for prevention, detection and control of illegal transboundary movements of waste.	**National Governments** BCRCs Basel Convention Secretariat Industry Trade unions NGOs	2006–2010	Strengthened strategies are in place.	Provision of training and required equipment	N/A
	273. Promote efforts to prevent illegal traffic of waste.	**National Governments** Basel Convention Secretariat Industry Trade unions NGOs	2006–2010	Illegal transboundary movements of waste are reduced.	Legislation Availability of trained professionals	N/A

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Annex 1: Work activities relating to nanotechnologies and manufactured nanomaterials[a]

WORK AREAS ADDRESSING RISK REDUCTION (OBJECTIVE 1)						
Work areas	**Activities**	**Actors**	**Targets/Time frames**	**Indicators of progress**	**Implementation aspects**	**IOMC Remarks on Implementation**
Nanotechnologies and manufactured nanomaterials	1. Contribute to the development, promotion and adoption of internationally recognized technical guidelines and harmonized standards relating to manufactured nanomaterials.	National Governments, intergovernmental and international organizations, industry, NGOs, IOMC, OECD, ISO	2012–2017	Development of internationally recognized guidelines and standards Increased awareness and use of these guidelines and standards		OECD core activity (see OECD nanosafety programme).
	2. Develop approaches to protect workers, the public and the environment from potential harm related to manufactured nanomaterials.	National Governments, intergovernmental and international organizations, industry, NGOs, workers organizations	2012–2018	Development of relevant policy, law and regulatory frameworks Development of best working practices		
	3. Increase the active involvement of the health sector in order to enhance understanding of possible short-term to long-term occupational health impacts of manufactured nanomaterials.	IOMC (WHO, ILO, OECD), national Governments, industry NGOs and other interested stakeholders	2012–2020	WHO/ILO project to identify, treat and track diseases potentially caused by occupational exposure to manufactured nanomaterials Number of work-related diseases	Biomonitoring and health surveillance of workers Collaboration of the health sector with worker protection authorities and industry Implementation of preventive interventions, when necessary	WHO

WORK AREAS ADDRESSING KNOWLEDGE AND INFORMATION (OBJECTIVE 2)						
Work areas	**Activities**	**Actors**	**Targets/Time frames**	**Indicators of progress**	**Implementation aspects**	**IOMC Remarks on Implementation**
Nanotechnologies and manufactured nanomaterials	4. Increase understanding of the environmental, public and occupational health and safety implications, including risk assessment, of manufactured nanomaterials through coordination, support and/or funding for scientifically sound research.	National Governments, intergovernmental and international organizations, industry, academia, NGOs and other interested groups	2012–	Number of publicly available peer reviewed research papers on hazards and risks Funding for public research on nanomaterials Number of funding opportunities available to promote nanomaterial research	Funding Publications	
	5. Enhance information and knowledge sharing on manufactured nanomaterials regarding international, national and regional policy and regulatory initiatives.	National Governments, intergovernmental and international organizations, industry, NGOs, academia	2012–	Stakeholder access to information on hazards and risks of nanomaterials Number of national and regional workshops on nanomaterials	Awareness raising Capacity-building	OECD, UNITAR series of regional workshops with SAICM completed and national pilot projects and sub-regional work ongoing.
	6. Highlighting possible synergies with activities undertaken under activity 210 of the Global Plan of Action, explore the development of registers/inventories and/or market assessment activities relating to manufactured nanomaterials.	National Governments, intergovernmental and international organizations, industry, NGOs, academia, other interested groups	2012–2018	Number of national or regional inventories developed	Establishment of inventories or registries Legislation	
	7. Promote the availability of information on the presence of manufactured nanomaterials within the product supply and use chain and throughout product life cycles, which could include possible labelling, consistent with relevant international obligations, and/or	National Governments, intergovernmental and international organizations, industry, NGOs	2012–2018	Number of products labelled	Legislation Voluntary schemes	

The columns dealing with suggested actors, targets and timeframes, indicators of progress and implementation aspects were not fully discussed and sufficient time was not available to achieve agreement during the process to develop the Strategic Approach.

	other forms of guidance relating to consumer products containing manufactured nanomaterials.					
WORK AREAS ADDRESSING GOVERNANCE (OBJECTIVE 3)						
Work areas	**Activities**	**Actors**	**Targets/Time frames**	**Indicators of progress**	**Implementation aspects**	**IOMC Remarks on Implementation**
	8. Review the applicability of the GHS criteria for manufactured nanomaterials as well as how information on safe use should be included in MSDS.	Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System on Classification and Labelling of Chemicals	2012–2015	Incorporation of criteria for manufactured nanomaterials into GHS Relevant information about nanomaterials included in MSDS	Revision of "Purple Book"	N/A
	9. Promote public awareness-raising activities on manufactured nanomaterials in all regions.	National Governments, international organizations, NGOs, industry, trade unions, chambers of commerce	2012–2015			UNITAR regional workshops and e-learning course.
Nanotechnologies and manufactured nanomaterials	10. Promote the development of country-specific approaches, incorporating life cycle thinking, to nanomaterials in existing national frameworks, policies, regulatory provisions, best practice guidelines and chemical management programmes.	National Governments, intergovernmental and international organizations, industry, NGOs	2012–2018	Number of chemicals management programmes covering nanomaterials Reports on regulatory and institutional gaps Regulatory provisions covering nanomaterials		OECD core activity (see OECD nanosafety programme).
	11. Promote producer responsibility for providing appropriate guidance on safe use of manufactured nanomaterials throughout the supply chain, including the waste stage.	National Governments, intergovernmental and international organizations, industry, NGOs	2012–	Relevant legislation or/and best practices Number of countries that have extended producer responsibility (EPR) schemes in place (voluntary or mandatory) Number of manufacturers applying EPR schemes	Development of pilot projects for the sustainable management of waste containing nanomaterials	

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	12. Promote coordinated international, regional and national policy strategies regarding the opportunities and risks of nanotechnology and manufactured nanomaterials.	National Governments, intergovernmental and international organizations, industry, NGOs	2012–	Number of national policy and institutional coordination plans in place	Involvement of all stakeholders and use of internationally developed and accepted guidelines	UNITAR guidance document for national strategies available.
Nanotechnologies and manufactured nanomaterials	13. Promote public and private sectors partnerships for the environmentally sound management of manufactured nanomaterials to assist countries, in particular developing countries, small island developing States and countries with economies in transition, to build scientific, technical, and legal capacity.	National Governments, intergovernmental and international organizations, industry, NGOs, academia	2012–2015	Number of public/private partnerships signed		

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Annex 2: Work activities relating to hazardous substances within the life-cycle of electrical and electronic products[a]

Work areas	Activities	Actors	Targets/Time frames	Indicators of progress	Implementation aspects	IOMC Remarks on Implementation
E-products green design	1. Compile and communicate lists of chemicals of concern to human health and/or the environment in e-products.	National and regional authorities, Stockholm Convention, Basel and Stockholm convention regional centres, SAICM secretariat, industry, NGOs, PACE, StEP, UNIDO, academic and research institutions	2012–2015	Database and information freely available on hazards and risks of hazardous chemicals in e-products	IOMC coordination Creation of coordination committees at the national level and networks (global, regional and national) involving all key stakeholders	
	2. Promote public and private partnerships, including on product stewardship approaches and extended producer responsibility, for the environmentally sound management of hazardous substances in e-products during production, use and at the end of life.	National and regional authorities, industry, NGOs, Basel Convention, Stockholm Convention, SAICM secretariat, Basel and Stockholm convention regional centres, PACE, StEP, UNIDO, academic and research institutions	2012–2015	Number of partnerships established Number of partnership projects undertaken	Establishment or use of existing private-public partnership initiatives and global, regional and national networks involving all key stakeholders	

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Work areas	Activities	Actors	Targets/Time frames	Indicators of progress	Implementation aspects	IOMC Remarks on Implementation
	3. Assess and fill gaps in existing policies and legal and institutional frameworks addressing design of e products as applicable.	National and regional authorities, NGOs, Basel Convention regional centres, Stockholm Convention, UNIDO, academic and research institutions	2012–2015	Reports on regulatory and institutional gaps in green e-product design Number of countries and regional authorities with relevant policies, laws, regulations and guidelines Relative reduction in toxic chemicals in e-products	Inter-agency and multi-stakeholder committees created	
	4. Encourage approaches to green design of e-products by quantifying materials that they could recover and identifying the tools and best practices that advance design for hazardous chemical reduction, elimination and substitution. Work with retailers to raise the range of sustainable products available for consumers.	National and regional authorities, industry, NGOs, StEP, UNIDO, UNEP/IETC, Stockholm Convention, academic and research institutions	2012–2015	Number of green design tools identified Best practices guidance developed	National, regional and global coordination Partnerships in cooperation with industry	
	5. Adopt policy instruments taking into account the need to ensure that they addresses the hazard and actions that support hazardous chemical reduction, elimination and substitution in electrical and electronic products. When doing so, consider the work of standardization bodies on the definition of threshold values for the maximum content of hazardous substances in products and measurement methods.	National and regional authorities, industry, NGOs, academic and research institutions	2012–2015	Number of instruments and policy actions adopted and implemented Hazardous chemicals in electrical and electronic products regulated Disclosure of hazardous chemical ingredients across supply chain Green electrical and electronic product procurement initiatives undertaken	Global, regional and national coordination	

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Work areas	Activities	Actors	Targets/Time frames	Indicators of progress	Implementation aspects	IOMC Remarks on Implementation
Environmentally sound manufacturing of e-products	6. Promote sustainable production and pollution prevention and encourage sustainable consumption of e-products.	National and regional authorities, industry, NGOs, UNIDO, UNEP/DTIE, UNITAR, Stockholm Convention, Basel Convention regional centres, cleaner production centres	2012–2015	Pollution prevention tools in place Level of compliance with international best practices achieved Awareness-raising materials available Pollution monitoring schemes in place	Infrastructure Technical capacity	
	7. Prioritize the reduction of exposure; eliminate or substitute hazardous substances of concern[b] in e-products and their production processes; and promote procurement processes that include this objective.	National and regional authorities, industry, NGOs, UNIDO, WHO, ILO, UNITAR, StEP, UNEP/DTIE, Stockholm Convention	2012–2015	Number of effective substitutes and alternatives produced Improvement of the health status of workers and local communities through the use of alternatives and substitutes		
	8. Conduct research and development on safer chemicals substitutes, alternatives and safer production processes for e-products.	National and regional authorities, industry, NGOs, UNIDO, UNITAR, Basel Convention regional centres, UNEP/DTIE, Stockholm Convention, World Bank, academic and research institutions	2012–2015	Number of research outputs Number of research successes achieved Development of safer substitutes and safer production processes	Provision of research and capacity-building assistance, including training and methodologies	
	9. Formulate, promote and implement health-based exposure limits for workers handling e-products that provide equal protection in the workplace and the community.	National and regional authorities, industry, NGOs, ILO, WHO, UNIDO, UNITAR, ISO, academic and research institutions, and the World Bank	2012–2015	Number of policies, laws and regulations developed and enforced Number of illegal traffic shipments returned to their countries of origin	Multi-stakeholder participation Coordination of existing initiatives on the control of transboundary movement of e-waste and illegal shipment	
	10. Identify opportunities to support the work of the Basel					

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Work areas	Activities	Actors	Targets/Time frames	Indicators of progress	Implementation aspects	IOMC Remarks on Implementation
	Convention and the Stockholm Convention in developing policies on the environmentally sound management of e-waste and the control of transboundary movements of hazardous waste.					
	11. Establish voluntary approaches and use of economic instruments, other incentives and extended producer responsibility, as appropriate, and e-products take-back schemes building on existing national and international activities.	National and regional authorities, industry, NGOs, consumer associations	2012–2015	Number of take-back schemes implemented Extent of infrastructure development promoting the use of economic instruments		
	12. Conduct pilot projects that lead to financially self-sustaining initiatives on socially, economically and environmentally sound management of e-waste without duplicating activities, including activities under the Stockholm Convention and the Basel Convention.	National and regional authorities, UNIDO, SAICM secretariat, Stockholm Convention, Basel Convention, PACE, StEP, Basel and Stockholm convention regional centres, industry, academic and research institutions	2012–2015	Number of informal sector persons successfully trained in environmentally sound management of waste, sustainable collection and dismantling of end-of-life e-products and control of illegal traffic Number of pilot projects undertaken Number of project reports completed		
Awareness-raising for e-products	13. Promote awareness, information, education and communication for all relevant stakeholders along the supply chain of hazardous chemicals within the life-cycle of e-products.	National and regional authorities, UNIDO, UNEP, SAICM Secretariat, UNITAR, UNESCO, Stockholm Convention, Basel Convention, PACE, StEP, Basel and Stockholm convention regional centres,	2012-2015	Level of awareness among stakeholders increased. Amount of information, education and communication materials produced.		ILO report on The global impact of e-waste: Addressing the challenge.

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Work areas	Activities	Actors	Targets/Time frames	Indicators of progress	Implementation aspects	IOMC Remarks on Implementation
		industry, academic institutions, NGOs				

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List of acronyms and abbreviations used in table B

APELL	Awareness and Preparedness for Emergencies at a Local Level
AU	African Union
BAT/BEP	Best available techniques/Best environmental practices
BCRC	Basel Convention regional centre
CEFIC	European Chemical Industry Council
CGIAR	Consultative Group on International Agricultural Research
COMESA	Common Market of East and Southern Africa
EAC	East African Community
FAO	Food and Agriculture Organization of the United Nations
GEF	Global Environment Facility
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
IFCS	Intergovernmental Forum on Chemical Safety
IGO	Intergovernmental organization
ILAC	International Laboratory Accreditation Cooperation
ILO	International Labour Organization
INFOCAP	Information Exchange Network on Capacity-building for the Sound Management of Chemicals
Interpol	International Criminal Police Organization
IOMC	Inter-Organization Programme for the Sound Management of Chemicals
IPCS	International Programme for Chemical Safety
IPEN	International POPs Elimination Network
NGO	Non-governmental organization
OECD	Organisation for Economic Co-operation and Development
OPCW	Organisation for the Prohibition of Chemical Weapons
PRTR	Pollutant release and transfer register
Rio Declaration	Rio Declaration on Environment and Development
SADC	Southern African Development Community
TBT Convention	International Convention on the Control of Harmful Antifouling Systems on Ships
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNICEF	United Nations Children's Fund
UNIDO	United Nations Industrial Development Organization
UNITAR	United Nations Institute for Training and Research
WCO	World Customs Organization
WHO	World Health Organization
WTO	World Trade Organization

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