

WORK PLAN BY THE STOCKHOLM CONVENTION REGIONAL CENTRES

Name of Regional Centre: CSIR-National Environmental Engineering Research
Institute (Stockholm Convention Regional Centre on
POPs for Asia Region, India)

Name of the coordinator: Dr. S. R. Wate

Name of the person submitting the workplan: Dr. Asha A. Juwarkar

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This work plan covers the period from 01/01/2014 to 31/12/2015

1. Introduction and Background

Rapid industrialization and globalization has led to the addition of numerous hazardous xenobiotic chemicals into the environment. Twenty two of them have been listed as Persistent Organic Pollutants (POPs) under the Stockholm Convention. These chemicals include chlorinated, brominated and fluorinated compounds, many of them are used in day to day human activities. According to Article 7 of the Stockholm Convention, all the parties have to prepare and submit their respective National Implementation Plan (NIP) in which the country's situation and management issues with respect to POPs have to be covered along with their action plans, needs and priorities. As per the Article 12 of the Stockholm Convention, the regional/sub-regional centre has to serve the concerned parties of the region with respect to the technical assistance and capacity building for fulfilling their obligations under the Stockholm Convention. However, all the parties being served by CSIR-NEERI, SCRC, India have submitted their respective NIPs (viz. India, Bangladesh, Mongolia Nepal, Philippines, Sri Lanka, Thailand, Vietnam and UAE), Maldives and Myanmar are yet to submit the same. The NIPs initially prepared by each party covered the "*dirty dozen*", while, the addition of new chemicals into the Stockholm Convention is essential as the continuous updating of NIPs is required for elimination of POPs from the environment. The importance of updating the old POPs inventory is as essential as inventorization of new POPs. The new POPs especially PFOS and PBDEs are present in various consumer products of day to day use, the hazards of which are usually

unnoticed / ignored by the community. The regional centres should take into account existing or ongoing efforts taking place in the areas of relevance to the Stockholm Convention implementation, in the context of cooperation with other relevant organizations in the region. This is an important movement to facilitate the exchange of information, experience and expertise among the parties in the region which will encourage the integration of various national actions and activities recommended by the Convention. The problems in coordination among the national focal points and the regional centre, funding as well as sharing knowledge and expertise has proved to be the major hindrance in implementation of objectives of the previous work plans.

2. Goals and Objectives:

Goal/s

The major goals of the center is to provide technical assistance to the parties in the region so as to enhance the capacity of the parties with respect to public awareness, environmental monitoring and sound management of POPs and POPs contaminated sites (PCBs, POPs pesticides, dioxins, furans and new POPs), to strengthen the legal and regulatory framework, health and environmental risk assessment for fulfilling their obligations of the Stockholm Convention. Also, to assist parties of the region in review and updating their respective NIPs with respect to new POPs.

Objectives

- To provide technical assistance to the parties including knowledge based services on POPs and new POPs.
- Capacity building in the region for monitoring and assessment of POPs in various environmental matrices.
- To promote environmentally sound management of sites contaminated with POPs.
- Undertake research on the presence of BDEs and PFOS in products, articles and production processes.
- Study E-waste inventory of the regional countries including India along with the regulations on E-waste management in each country and suggest its ESM practices to the parties.

- Establishment of project management team.
- Undertake capacity-building activities including training workshops to ensure that main government officials and industry associations are aware of POPs-related contamination, of alternatives, substitutes and wastes minimization and prevention. Relevant obligations, technical recommendations and guidance under the Stockholm and Basel Conventions will be also addressed.

3: Constraints and Resources:

Constraints

- Difficulty in communicating with the Parties of the region.
- Lack of awareness on the need of the monitoring programme.
- Lack of awareness on the toxic UP-POPs like dioxins, furans and new POPs, their environmental monitoring and analysis.
- The situations in the region such as economic development, legal system, and language sometimes cause inconvenience and difficulties during consultation and activities undertaking.
- Most of the region suffers lack of data on concentrations of POPs in the environmental matrices. This absence of information is preventing the local authorities from taking adequate actions to protect people and environment. Therefore, this activity needs attention in the region.
- A large amount of funding will be required to achieve the goals, so CSIR-NEERI centre needs to find financial agencies to support the work plan.

Resources

CSIR-NEERI has an extensive experience in environmental engineering and waste management. The Institute has outstanding scientific and technical manpower and resources to consult and demonstrate hazardous waste management and disposal technologies. CSIR-NEERI has an adequate knowledge on BAT/BEP; waste management, POPs analysis and has also successfully carried out two major objectives (Objective 4- Measures in relation to unintentionally produced POPs and Objective 5- Measures in relation to waste and contaminated sites) in the formulation

of NIP of the country. Several awareness programmes related to POPs have been organized by CSIR-NEERI at various parts of the country.

The institute is well equipped with instrumental facilities successfully performing the sampling and analysis of POPs. The institute has a basic infrastructure to perform all type of physico-chemical analyses, microbiological and parasitological tests, toxicity and mutagenicity bioassays, toxicological analyses, sampling and field analyses for all kind of environmental matrices. Pesticide Residue Laboratory of CSIR-NEERI has been accredited by NABL for trace level analysis of pesticides residues in environmental samples. The institute is having collaboration with various international institutes as well as experts for knowledge exchange. The Institute is playing a major in designing secured landfills for hazardous waste disposal in India. CSIR-NEERI is involved in R&D and consultancy projects and demonstrated competence in the management and safe disposal of hazardous waste including POPs. Recently, CSIR-NEERI have also developed expertise in analysis of new POPs especially PBDEs in various matrices. The international collaborations also help in updating of the methodologies for analysing various contaminants in different matrices. The centre will be taking full advantage of all the resources to carry out activities on management of POPs to promote and support the implementation of the Stockholm Convention in the region and also strengthening of the synergies among three Conventions on the management of chemicals and wastes.

4: Strategy and Activities

- Enhance awareness on POPs including UP-POPs and newly added POPs among concerned stakeholders
- Enhance and continuously update and upgrade national inventory for POPs stockpiles and wastes
- To improve the communication and capacity of the officials and technical staffs on BAT/BEP for POPs
- Promote and develop regional capacities for POPs monitoring
- Strengthen analytical facilities for POPs in the centre
- Organizing laboratory practical training on POPs monitoring to various stakeholders

- Strengthening institutional capacities to undertake extensive coverage of preventive measures required for the management of releases from POPs stockpiles and wastes
- Identification and prioritization of potential contaminated sites
- Efforts to avail funding from Secretariat of Stockholm Convention, GEF, MoEF and other regional funding agencies
- Develop training and awareness raising booklets and materials
- Conduct desk studies on cost effective and environmentally sound degradation of POPs
- Recently, following three proposals have been communicated for probable funding from Secretariat of Stockholm Convention and UNEP;
 - Updating the PCBs and DDT contaminated sites in India
 - Estimation of PBDEs and PFOS in consumer products and wastes
 - Environmentally sound management of E-waste to control release of new POPs

Appendix I: Budget

Activities	Expenditure
Regional awareness workshops on POPs for capacity building of the stakeholders	\$3,50,000
To develop booklets and materials for public awareness	\$2, 50,000
Strengthening the analytical facilities of the centre	\$8,00,000
Programmes for monitoring of POPs in different environmental matrices for identification of contaminated sites	\$6,00,000
Undertake research on analysis of new POPs especially PBDEs and PFOS and to study their potential alternatives	\$6, 00,000
Undertake studies on Environmentally Sound Management of E-waste	\$2, 00,000
To carry out inventory investigation on POPs use in the selected countries in the region	\$6,00,000
Desk studies on methodologies for cost effective and environmentally sound management of POPs	\$3,50,000
Establishment of project management team	\$2, 50,000
Establishment of information management system	\$2, 00,000
Total	\$42,00,000

Appendix II: Schedule

Activities	2014												2015												
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	
Regional awareness workshops on POPs for capacity building of the stakeholders								√	√	√	√	√									√	√	√	√	√
To develop booklets and materials for public awareness									√	√	√	√	√	√	√	√									
Strengthening the analytical facilities of the centre	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Programmes for monitoring of POPs in different environmental matrices for identification of contaminated sites	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√					
Undertake research on analysis of new POPs especially PBDEs and PFOS and to study their potential alternatives					√	√	√	√	√	√	√	√	√	√	√	√	√	√	√						
Undertake studies on Environmentally Sound Management of E-waste	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√						
To carry out inventory investigation on POPs use in the selected countries in the region				√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√				

Desk studies on methodologies for cost effective and environmentally sound management of POPs	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√		
Establishment of project management team			√	√	√	√	√	√	√	√	√												
Establishment of information management system													√	√	√	√	√	√	√	√	√		

Appendix III: Parties being served by the centre during the period covered by the work plan

Parties to be served by the centre are India, Bangladesh, Maldives, Mongolia, Myanmar, Nepal, Philippines Thailand, Sri Lanka, UAE and Vietnam.

Appendix IV: Ongoing projects, funding sources and partners

Project Title	Funding Sources	Collaborating Partner
Phytoremediation and rhizoremediation of polychlorinated biphenyls (PCBs) contaminated soils	CNR, Italy and CSIR, India	CNR, Italy
Study of degradation of Polychlorinated Biphenyls (PCBs) using chemo-biological approach	CSIR-NEERI	NA
Strategy for decontamination of sites through redox management based on electronegativity of the contaminants	CSIR, India	NA
Monitoring of pesticide residues at national level	IARI, India	IARI, India
Characterization and assessment of conventional water treatment facilities for pharmaceutical and personal care products (PPCPs)	DST, India	NA
Bio-engineering - A phytoremediation option for the mitigation of landslide and slope stability problems in the hilly regions (EDMISSIBLE)	CSIR, India	CSIR-CBRI, India
Preparation of Reference Material of Cr and Pb in soil matrix (MIST: Metrology In Science & Technology)	CSIR, India	CSIR-NPL, India
Potential for carbon sequestration in grassland and afforested ecosystem using molecular and eddy covariance techniques	DBT, India	IIAR and MOIL, India
Integrating bio-treated wastewater with enhanced water use efficiency to support the Green economy in EU and India (Water4Crops)	DBT, India	ICRISAT, India and CNR-IRSA, Italy
Long term impact assessment study for High Rate Transpiration System (HRTS) at M/s Orient Paper Mills (OPM) Amlai, Shahdol (MP)	Orient Paper Mills, India	Orient Paper Mills, India
Land treatment and disposal of effluent from Mahindra Vehicle Manufacturers Ltd using High Rate Transpiration System	Mahindra Vehicle Manufacturers Ltd, India	Mahindra Vehicle Manufacturers Ltd, India
Comprehensive scientific and technical services for establishment of MSW processing facility at village Baingvinim, Goa	Goa Infrastructure Development Corporation, India	Goa Infrastructure Development Corporation, India