



**STOCKHOLM CONVENTION  
ON PERSISTENT ORGANIC POLLUTANTS  
(POPs)**



Effectiveness Evaluation  
Provisional Ad Hoc Technical Working Group (TWG)  
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**Compilation of the capacity and needs of existing national monitoring programmes,  
including other programmes that can contribute to a GMP**  
(January 2007)

Secretariat Note

The Conference of the Parties, in its decision SC-2/13, requested the Secretariat to develop a comprehensive regional inventory of capacities and conduct needs assessment with contributions from national Stockholm Convention focal points.

With this request, the Secretariat has distributed questionnaires (Questionnaire II) to countries and international organizations for reporting on their capacity for POPs monitoring. This survey will extend our knowledge of existing monitoring programmes around the world and help identify the needs of programmes that can contribute to a global monitoring plan on POPs for effectiveness evaluation of the Stockholm Convention.

As of 29 January 2007, the Secretariat has received responses from 10 countries, which are: Austria, Canada, Czech Republic, Bulgaria, Japan, Mali, Moldova, Romania, Slovenia and Tanzania. The information from these responses is presented in two annexes to this note. Annex 1 summarises the capacity of the Group-1 programmes to provide capacity strengthening to the Group-2 programmes. Annex 2 summarises the responses from the questionnaire II of the capacity and needs assessment of Group-2 programmes.

## Glossary of terms

<b>Activity</b>	Any programme or other activity or project that generates data or information on the levels of POPs in the environment or in humans that can contribute to the effectiveness evaluation under Article 16 of the Stockholm Convention
<b>Group-1</b>	Programmes which immediately provide information for the first evaluation, the 1 <sup>st</sup> TWG applied the criteria for the first assessment and identified 19 countries.
<b>Group-2</b>	Programmes that, with identified capacity enhancement, can provide information coverage in areas that would otherwise be inadequately represented in the first evaluation, the 1 <sup>st</sup> TWG applied the criteria for the first assessment and identified 45 countries which have infrastructure.
<b>Group-3</b>	Programmes which may be enhanced with capacity building for future evaluation, the 1 <sup>st</sup> TWG applied the criteria for the first assessment and identified 64 countries.
<b>Group-4</b>	1 <sup>st</sup> TWG applied the criteria for the first assessment and concluded that further information would be needed to fully categorize the capacities of 75 countries.
<b>Limited capacity enhancement</b>	“limited” means that institutionally-organised personnel, and basic infrastructure are already in place and available for capacity enhancement for the first assessment.
<b>Needs</b>	Specific needs will regard to limited capacity enhancement in order to enable full participation in a Phase I monitoring activity.

## Annex 1:

### Capacity of the Group-1 Programmes to Provide Capacity Strengthening to the Group-2 Programmes

<b>Country – Programmes</b>	<b>Austria – MONARPOP</b> (Monitoring Network in the Alpine Region for Persistent and other Organic Ploolutants)	
<b>Materials for the capacity enhancement of Group-2 programmes</b>	Yes, MONARPOP has experience in active air and depositions sampling in remote regions under extreme weather conditions and can provide capacity building on that for any Group-2 Programme. (MONARPOP has also experience in soil and vegetation monitoring, however, these are not core media.). See: <a href="http://www.monarpop.at/index.php">http://www.monarpop.at/index.php</a>	
<b>Needs to develop such materials</b>		
<b>Capacity to provide training to Group-2 programmes</b>	Study design	Yes
	sampling	Yes
	Sample storage	Yes
	Sample preparation	Yes
<b>Needs to provide such training</b>	analysis	Yes
	Data treatment	Yes
<b>Possibilities/needs to provide training in developing regions</b>	Yes, Several years ago we have become a Ltd. Therefore, such activities would need to be funded.	

<b>Country – Programmes</b>	<b>Canada – GAPS</b> (Global Atmospheric Passive Sampling)	
<b>Materials for the capacity enhancement of Group-2 programmes</b>  <b>Needs to develop such materials</b>	Yes, GAPS has expertise in passive air sampling and can assist in capacity building for any Group-2 program.	
<b>Capacity to provide training to Group-2 programmes</b>	Study design	Yes, under GAPS we already engaged in capacity building effort in this aspect.
	sampling	Yes, under GAPS we already engaged in capacity building effort in this aspect.
	Sample storage	Yes, under GAPS we already engaged in capacity building effort in this aspect.
	Sample preparation	Yes, under GAPS we already engaged in capacity building effort in this aspect.
<b>Needs to provide such training</b>	analysis	Yes, under GAPS we already engaged in capacity building effort in this aspect.
	Data treatment	Yes, under GAPS we already engaged in capacity building effort in this aspect.
<b>Possibilities/needs to provide training in developing regions</b>	Yes, as stated above we do this already under GAPS. However, so far we have been restricted in our outreach due to lack of funding, i.e. we have a limited budget for covering training visits to our laboratories or for training groups off-site.	

<b>Country – Programmes</b>	<b>Canada – IADN</b> (Integrated Atmospheric Deposition Network)	
<b>Materials for the capacity enhancement of Group-2 programmes</b>	Yes, IADN is a bi-national network between Canada and the United States. IADN monitors for POPs and has expertise in long-term air monitoring in temperate latitudes, namely the Great Lakes, and can assist in capacity building for any Group-2 program. IADN materials are available at <a href="http://www.epa.gov/glnpo/monitoring/air/iadn.html">http://www.epa.gov/glnpo/monitoring/air/iadn.html</a> .	
<b>Needs to develop such materials</b>		
<b>Capacity to provide training to Group-2 programmes</b>	Study design	Yes.
	sampling	Yes
	Sample storage	Yes
	Sample preparation	Yes
<b>Needs to provide such training</b>	analysis	Yes
	Data treatment	Yes
<b>Possibilities/needs to provide training in developing regions</b>	Yes, study design, sampling, storage, extraction, analysis and data treatment conducted under the NCP program is well-documented (see website above) and are widely available in publications. However, so far we have been restricted in our outreach due to lack of funding, i.e. we have a limited budget for covering training visits to our laboratories or for training groups off-site.	

<b>Country – Programmes</b>	<b>Canada – NCP</b> (Northern Contaminants Program)	
<b>Materials for the capacity enhancement of Group-2 programmes</b>  <b>Needs to develop such materials</b>	Yes, NCP baseline air monitoring for POPs has expertise in long-term air monitoring in remote locations, namely the Arctic, and can assist in capacity building for any Group-2 program.	
<b>Capacity to provide training to Group-2 programmes</b>  <b>Needs to provide such training</b>	Study design	Yes
	sampling	Yes
	Sample storage	Yes
	Sample preparation	Yes
	analysis	Yes
	Data treatment	Yes
<b>Possibilities/needs to provide training in developing regions</b>	Yes, study design, sampling, storage, extraction, analysis and data treatment conducted under the NCP program is well-documented and are widely available in publications. However, so far we have been restricted in our outreach due to lack of funding, i.e. we have a limited budget for covering training visits to our laboratories or for training groups off-site.	

<b>Country – Programmes</b>	<b>Czech Republic – RECETOX/National POPs Centre CR</b>		
<b>Materials for the capacity enhancement of Group-2 programmes</b>	Yes, EMEP Programme; passive sampling manual; PAS monitoring network design; analytical SOPs.  The materials are in Czech language and the translation can be done quickly and easily.		
<b>Needs to develop such materials</b>			
<b>Capacity to provide training to Group-2 programmes</b>	Study design	Yes, with respect of actual international standards	
	sampling	Yes, active sampling for POPs monitoring based on the experience of USEPA and EMEP, sufficient training capacity and all available samplers for potential training	
	Sample storage	Yes, based on internationally standardized methodology	
	Sample preparation	Yes, based on internationally standardized methodology and recent scientific knowledge	
	<b>Needs to provide such training</b>	analysis	Yes, sufficient training and laboratory capacity based on the international procedures.
		Data treatment	Yes, based on internationally standardized methodology and recent scientific knowledge, part of RECETOX fully covered all possible standard statistical methods including data handling and treatment.
<b>Possibilities/needs to provide training in developing regions</b>	Yes, The training of laboratory staffs including the development of appropriate training materials and the organization of interlaboratory tests were performed as a part of EU 5 <sup>th</sup> Framework Programme and as a part of training activities of Regional pts Centre FOR the Central and Eastern Europe (Armenia, Serbia).  Personnel capacity enhancement may be needed to provide such training.		

<b>Country – Programmes</b>	<b>Japan</b>	
<b>Materials for the capacity enhancement of Group-2 programmes</b>	Yes---MOE (Ministry of the Environment) has developed the guidance of POPs monitoring (Background Air Monitoring of POPs in East Asian Countries 2004-2006). It describes design, sampling, analysis, evaluation of results, and quality control, and is thought to be useful for capacity enhancement of programmes in Group-2.	
<b>Needs to develop such materials</b>		
<b>Capacity to provide training to Group-2 programmes</b>	Study design	No
	sampling	No
	Sample storage	No
	Sample preparation	No
	analysis	No
	Data treatment	No
<b>Needs to provide such training</b>		
<b>Possibilities/needs to provide training in developing regions</b>	No, corporation with other programs is the future challenge.	



<b>Country – Programmes</b>	<b>Romania</b>	
<b>Materials for the capacity enhancement of Group-2 programmes</b>	No	
<b>Needs to develop such materials</b>		
<b>Capacity to provide training to Group-2 programmes</b>	Study design	No
	sampling	No
	Sample storage	No
	Sample preparation	No
<b>Needs to provide such training</b>	analysis	No
	Data treatment	Yes
<b>Possibilities/needs to provide training in developing regions</b>	Yes, if the conditions such equipments and training are accomplished.	

<b>Country – Programmes</b>	<b>Slovenia</b>	
<b>Materials for the capacity enhancement of Group-2 programmes</b>	Yes, Monitoring of chemicals in organisms 2005 (trial programme)	
<b>Needs to develop such materials</b>		
<b>Capacity to provide training to Group-2 programmes</b>	Study design	No, there is a need in study design.
	sampling	No, there is a need in sampling.
	Sample storage	No
	Sample preparation	No
<b>Needs to provide such training</b>	analysis	Yes
	Data treatment	No, there is a need in data treatment.
<b>Possibilities/needs to provide training in developing regions</b>	No	

<b>Country – Programmes</b>	<b>Tanzania – Chemistry Department, University of Dar es Salaam</b>	
<b>Materials for the capacity enhancement of Group-2 programmes</b>	Yes. We have the capacity to analyze for all POPs pesticides. We can, in principle, do the PCBs also if we had the reference standards.	
<b>Needs to develop such materials</b>	We need PCBs reference standards.	
<b>Capacity to provide training to Group-2 programmes</b>	Study design	Yes
	sampling	Yes
	Sample storage	Yes
	Sample preparation	Yes
<b>Needs to provide such training</b>	analysis	Yes
	Data treatment	Yes
<b>Possibilities/needs to provide training in developing regions</b>		

## Annex 2:

### Capacity and Needs Assessment of Group-2 Monitoring Programmes

Czech Republic - RECETOX/ National POPs Centre CR

Full participation (including QA/QC) for Phase I of GMP															Full participation (including QA/QC) for Phase I of GMP after limited capacity enhancement																																
Air						Maternal blood						Human milk						Air						Maternal blood						Human milk																	
Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment						
Y	Y	Y	Y	Y	Y													Y	Y	Y	Y	Y	Y																								
<b>Needs for capacity enhancement</b>																																															
Air						Personnel capacity enhancement																																									
Maternal blood						No information																																									
Human milk						No information																																									
<b>Preferred medium for human samples:</b>																																															

**Czech Republic - Institute of Public Health Ostrava, National reference laboratory for POPs**

<b>Full participation (including QA/QC) for Phase I of GMP</b>																<b>Full participation (including QA/QC) for Phase I of GMP after limited capacity enhancement</b>																															
<b>Air</b>						<b>Maternal blood</b>						<b>Human milk</b>						<b>Air</b>						<b>Maternal blood</b>						<b>Human milk</b>																	
Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment						
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y																														
<b>Needs for capacity enhancement</b>																																															
Air																																															
Maternal blood																																															
Human milk																																															
<b>Preferred medium for human samples: both blood and milk---capacity of around 500 samples/year each (total 1000)</b>																																															

## Bulgaria

Full participation (including QA/QC) for Phase I of GMP																Full participation (including QA/QC) for Phase I of GMP after limited capacity enhancement																									
Air						Maternal blood						Human milk						Air						Maternal blood						Human milk											
Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment
N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y
<b>Needs for capacity enhancement</b>																																									
Air						No laboratory available for analysis of POPs releases in the ambient air. Funds for the construction of such lab are not available within the state budget.																																			
Maternal blood						No information																																			
Human milk						<ul style="list-style-type: none"> <li>The monitoring of human milk can be implemented if international funding from WHO is provided to the Ministry of Health, which is the competent authority for this matrix.</li> <li>Strengthening the laboratory infrastructure for analysis of POPs pesticides in human milk, blood and tissues; including delivery of necessary equipment, personnel training and lab accreditation. International funding required due to the restricted national budget funds from international monitoring programmes.</li> </ul>																																			
<b>Preferred medium for human samples: milk</b>																																									

**Mali**

Full participation (including QA/QC) for Phase I of GMP															Full participation (including QA/QC) for Phase I of GMP after limited capacity enhancement																																
Air						Maternal blood						Human milk						Air						Maternal blood						Human milk																	
Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment						
N	N	N	N	N	N	N	N	N	N	N	N							Y	Y	Y	Y	Y	Y																								
<b>Needs for capacity enhancement</b>																																															
Air						We do have basic infrastructure for analysis. We need capacity enhancement, training in monitoring program and laboratory analysis including sampling, sample preparation, analysis data (instrumental) treatment, and some small equipment such as storage container, reagents, and equipment part (column, septa, o-ring, ferrules), air sampling analysis protocol.																																									
Maternal blood																																															
Human milk																																															
<b>Preferred medium for human samples: milk</b>																																															





**Romania - Ministry of Environment and Waters Management**

<b>Full participation (including QA/QC) for Phase I of GMP</b>																<b>Full participation (including QA/QC) for Phase I of GMP after limited capacity enhancement</b>																									
<b>Air</b>						<b>Maternal blood</b>						<b>Human milk</b>						<b>Air</b>						<b>Maternal blood</b>						<b>Human milk</b>											
Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment						
Y	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y
<b>Needs for capacity enhancement</b>																																									
Air						Equipment and training																																			
Maternal blood																																									
Human milk						Equipment and training																																			
<b>Preferred medium for human samples: milk</b>																																									

**Slovenia**

<b>Full participation (including QA/QC) for Phase I of GMP</b>																<b>Full participation (including QA/QC) for Phase I of GMP after limited capacity enhancement</b>																															
<b>Air</b>						<b>Maternal blood</b>						<b>Human milk</b>						<b>Air</b>						<b>Maternal blood</b>						<b>Human milk</b>																	
Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment						
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
<b>Needs for capacity enhancement</b>																																															
Air						Study design, data treatment																																									
Maternal blood						Study design, sampling, data treatment																																									
Human milk						Study design, sampling, sample storage, data treatment																																									
<b>Preferred medium for human samples: both blood and milk</b>																																															

**Tanzania**

Full participation (including QA/QC) for Phase I of GMP																Full participation (including QA/QC) for Phase I of GMP after limited capacity enhancement																									
Air						Maternal blood						Human milk						Air						Maternal blood						Human milk											
Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment	Study design	sampling	Sample storage	Sample preparation	analysis	Data treatment
N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
<b>Needs for capacity enhancement</b>																																									
Air						All the necessary equipment for air sampling, storage and analysis. And, of course, the necessary procedures and literature plus reference standards.																																			
Maternal blood						Hiring of more personnel on part time basis, if all the other requirements (equipment, materials, etc.) are taken care of.																																			
Human milk						Hiring of more personnel on part time basis, if all the other requirements (equipment, materials, etc.) are taken care of.																																			
<b>Preferred medium for human samples: milk</b>																																									