REQUEST FOR CEO ENDORSEMENT

PROJECT TYPE: FULL-SIZED PROJECT
TYPE OF TRUST FUND: GEF TRUST FUND

For more information about GEF, visit TheGEF.org

PART I: PROJECT INFORMATION

Project Title: Continuing regional Support for the POPs Global Monitoring Plan under the Stockholm Convention in the Latin American and Caribbean Region			
Country(ies):	Antigua and Barbuda, Argentina, Barbados, Brazil, Chile, Colombia, Ecuador, Jamaica, Mexico, Peru and Uruguay	GEF Project ID:[1]	4881
GEF Agency(ies):	UNEP	GEF Agency Project ID:	00956
Other Executing Partner(s):	Basel Convention Coordinating Centre-Stockholm Convention Regional Centre in Uruguay	Resubmission Date:	16/12/2014
GEF Focal Area (s):	Chemicals and Waste	Project Duration (Months)	48
Name of Parent Program (if applicable):		Project Agency Fee ($):	363,600

A. FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES[2]

Focal Area Objectives	Expected FA Outcomes	Expected FA Outputs	Trust Fund	Grant Amount ($)	Cofinancing ($)
CHEM-1	Outcome 5: Country capacity built to effectively phase out and reduce releases of POPs	Output 5.1: Countries receiving GEF support to build capacity for the implmentation of the Stockholm Convention		3,376,000	12,805,698
(select) (select)			(select)		
		Sub-Total		3,376,000	12,805,698
		Project Management Cost	GEFTF	190,000	519,703
		Project Evaluation Cost	GEFTF	70,000	50,000
		Total project costs		3,636,000	13,375,401

B. PROJECT DESCRIPTION SUMMARY

Project Objective: To strengthen the capacity for implementation of the updated POPs Global Monitoring Plan (GMP) and to create the conditions for sustainable monitoring of POPs in the Latin American and Caribbean Region

Project Components/ Programs	Financing Type[3]	Project Outcomes	Project Outputs	Trust Fund	(in $) GEF Project Financing	(in $) Confirmed Co-financing
1. Securing conditions for successful project	TA	Relevant stakeholders for project	Technical and administrative support	GEFTF	283,000	564,059

[1] Project ID number remains the same as the assigned PIF number.
[2] When completing Table A, refer to the GEF Website, *Focal Area Results Framework* which is an *Excerpt from GEF 6 Programming Directions*.
[3] Financing type can be either investment or technical assistance.

implementation.		implementation in the Latin American and Caribbean region are committed to carry out the agreed responsibilities.	provided for the implementation of the project and organization of process established in the Latin American and Caribbean			
2. Capacity building and data generation on analysis of core abiotic matrices (air and water).	TA	Regional network and national capacity to carry out air and water sampling is enhanced in the Latin American and Caribbean region, and high quality data is generated on the presence of initial and new POPs in the region.	Training reports and sectoral reports on POPs analysis undertaken on two abiotic core matrices (i.e., air and water) in the Latin American and Caribbean Region	GEFTF	1,355,900	4,314,336
3. Capacity building and data generation on analysis of core biotic matrices (human milk).	TA	Regional network and national capacity to carry out human milk sampling is enhanced in the Latin American and Caribbean region, and high quality data is generated on the presence of initial and new POPs in the region.	Training reports and sectoral report on POPs analysis undertaken on one biotic core matrix (6th round of human milk survey) in the Latin American and Caribbean Region	GEFTF	697,100	4,583,669
4. Assessment of existing analytical capacities and reinforcement of national POPs monitoring.	TA	Accuracy of POPs assessment in the Latin American and Caribbean region is consolidated by performance evaluation of national laboratories, as well as by analysis of additional matrices of major national interest.	Assessment report of existing analytical capacities prepared and report on POPs analysis undertaken in samples of national priority (other than core matrices) in the Latin American and Caribbean Region	GEFTF	625,000	2,770,075
5. Securing conditions for sustainable POPs monitoring.	TA	Contribution to regional report for the GMP is performed, and a roadmap for sustainable POPs monitoring for the Latin American and Caribbean region in global context is developed.	Assessment reports contributing to regional report for the GMP undertaken, and a roadmap for sustainable POPs monitoring developed for the Latin American and Caribbean region	GEFTF	415,000	573,559

Subtotal		3,376,000	12,805,699
Project Management Cost[4] (PMC)	GEFTF	190,000	519,703
Project evaluation costs	GEFTF	70,000	50,000
Total project costs		3,636,000	13,375,401

If Multi-Trust Fund project : PMC in this table should be the total and enter trust fund PMC breakdown here ( )

C. CONFIRMED SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE

Please include confirmed co-financing letters for the project with this form.

Sources of Co-financing	Name of Co-financier	Type of Cofinancing	Amount ($)
National Government	Antigua and Barbuda	In kind	85,000
		In Cash	70,000
	Argentina	In kind	1,250,000
	Barbados	In-kind	400,000
	Brazil	In-kind	800,000
	Chile	In-kind	430,000
	Colombia	In kind	1,141,916
		In cash	611,960
	Ecuador	In kind	300,000
		In cash	312,475
	Jamaica	In kind	500,000
		In cash	728,000
	Mexico	In kind	800,000
	Peru	In kind	809,700
		In Cash	68,150
	Uruguay	In kind	1,868,000
		In Cash	250,000
GEF Agency	UNEP	In-kind	200,000
IGOs	Secretariat of the Basel, Rotterdam and Stockholm conventions	In-kind	430,000
	Secretariat of the Basel, Rotterdam and Stockholm conventions	In-Cash	25,000
	WHO	In-kind	0
Academic institutions	EULA Concepcion (Chile)	In-kind	550,000
	CVUA Freiburg	In-kind	745,200
	CSIC Barcelona	In-kind	1,000,000
Total Co-financing			13,375,401

[4] PMC should be charged proportionately to focal areas based on focal area project grant amount in Table D below.

D. TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES) AND THE PROGRAMMING OF FUNDS

GEF Agency	Trust Fund	Country Name/Global	Focal Area	(in $)		
				GEF Project Financing (a)	Agency Fee [a)] (b)[2]	Total (c)=a+b
UNEP	GEFTF	Regional	Persistent Organic Pollutants	3,636,000	363,600	3,999,600
Total Grant Resources				3,636,000	363,600	3,999,600

a) Refer to the Fee Policy for GEF Partner Agencies

E. CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS:

Component	Grant Amount ($)	Cofinancing ($)	Project Total ($)
International Consultants			0
National/Local Consultants			0

F. DOES THE PROJECT INCLUDE A "NON-GRANT" INSTRUMENT? NO

(If non-grant instruments are used, provide an indicative calendar of expected reflows to your Agency and to the GEF/LDCF/SCCF Trust Fund) in Annex D.

NO

PART II: PROJECT JUSTIFICATION

A. DESCRIBE ANY CHANGES IN ALIGNMENT WITH THE PROJECT DESIGN OF THE ORIGINAL PIF[5]

The project will achieve the same results as approved in the PIF. The project framework and structure described herein is, however, different to the original PIF. It is should be noted that the changes are presentational and have been initiated in order to better group the related Outputs and Activities and so make project implementation and reporting easier and more coherent. The revised structure has been developed based on consultation with the UNEP Quality Assurance Section (QAS) in Nairobi and is compliant with UNEP internal results based management (RBM) practices. The related project logical framework / results matrix has been developed based on the current guidance from QAS on the need for Outcome and Output descriptions which can have the necessary level of detail and also ensure that indicators are set at a level where impacts and results can be clearly reported. The changes to the structure related to this specific project are:

- All activities and outputs related to **abiotic core matrices** (air and water) are consolidated into component 2, which includes: strengthening the POPs labs for old and new POPs to analyse air and water samples (and other abiotic samples such as soil or sediment) including training and data generation for two years. The sampling scheme for air samples is detailed in Annex F, Table 5;
- All activities related to **biotic matrices** (human breast milk)are consolidated into component 3, which is to be implemented in collaboration with WHO; e.g., strengthening the POPs labs for old and new POPs to analyse human milk samples (and other biota such as foodstuffs, fish);
- All quality control work such as the interlab assessments (2 during 4 years) and the samples of national interest (as requested during COP-6) have been consolidated into component 4, which is not directly related to the implementation of the Stockholm Convention obligations but is response to country priorities; herein, the training aspect is reinforced through the simultaneous analysis of samples by a national developing country laboratory and an experienced accredited laboratory.
- In addition to the PIF, the 23rd POP, hexabromocyclodecane will be included in all analysis.

The streamlining of the project and components and Outcomes has resulted in now loss of Outputs or Activities as set out in the original PIF and will allow for clearer reporting of results and impacts in line with UNEP RBM reporting requirements. The cost implications of this reformatting is zero.

A.1 Is the Project Consistent with the National Strategies and Plans or Reports and Assessements under Relevant Conventions, If Applicable (Yes ☒ /No ☐). If Yes, Which Ones and How: NAPAS, NAPS, NBSAPS, ASGM NAPS, MIAS, NCS, TNAS, NCSA, NIPS, PRSPS, NPFE, BUR, Etc.

Countries participating in this project are all Parties to the Stockholm Convention and therefore committed to implement Article 16. All countries have also developed and submitted National Implementation Plans (NIPs), and have indicated the development of monitoring capacity as a component of their NIP (with the exceptions of Brazil). The development of such capacity is either detailed in specific action plans for the implementation of Article 16, and/or included/mentioned in action plans for capacity building, public awareness and/or reporting.

[5] For questions A.1 –A.7 in Part II, if there are no changes since PIF and if not specifically requested in the review sheet at PIF stage, then no need to respond, please enter "NA" after the respective question.

The survey on POPs capacity analysis carried out under the NIP development process and other capacity building projects also showed that all of the participating countries have been facing difficulties setting up the POP monitoring programme. Typically, participating countries lack the human resources, technical capacity, analytical skills and know-how. Regional cooperation is seen as a valuable approach in addressing these capacity gaps. This project will assist participating countries to overcome these difficulties and participate fully in the current GMP programme whilst aiding in the development of a long-term POPs monitoring plan that will include the newly added POPs. The Global GMP programme is carried out by the Secretariat of the Stockholm Convention together with Global Coordination Group based on regional representatives; UNEP DTIE (Chemicals Branch) is a scientific-technical partner and provides capacity building.

The terminal evaluation of the GMP phase 1 projects[6] rated the projects as satisfactory with regards to stakleholders engagement and public awareness (paragraph 201), and highly satisfactory on country ownership and drivenness (paragraph 204). The evaluation recognises the value and effectiveness in engaging the Ministries of Environment and Health (paragraph 202).

The regional report from the GMP phase 1 highlights the importance of the project for the region and lists a number of technical and political achievements and provides recommendations to further improve the situation. In addition, at the occasdion of the final workshop in Barcelona, March 2012, the participating countries expressed the strong support to further impove the capacities and capabilities in the region through implementation of a new project.

A.2. GEF FOCAL AREA[7] AND/OR FUND(S) STRATEGIES, ELIGIBILITY CRITERIA AND PRIORITIES.

The GEF is the principal (interim) financial mechanism of the Stockholm Convention and, as such, supports activities to meet its objectives. As reflected in Article 16 of the Convention, an important element for effective implementation of the convention is the availability of reliable information on POPs levels in humans and in the environment. Following the completion of the 1st Global Monitoring Report (UNEP/POPS/COP.4/33), the Conference of Parties requested in its decision SC-4/31 “the financial mechanism of the Convention (…) to provide sufficient financial support to further step-by-step capacity enhancement (…) to sustain the new monitoring initiatives with provided data for the first monitoring report.” This was reiterated in COP decision SC-5/23, which added the request to “the financial mechanism of the Convention and invites other donors to provide financial support to permit further step-by-step capacity enhancement, including through strategic partnerships, to enable the collection of data on all indicators stipulated in the effectiveness evaluation framework (…)”. In decision SC-6/22, the COP invited the donors to participate in the financing of this data collection effort (paragraph 4).

Moreover, decision SC-6/23 requests the Secretariat “to continue to support training and capacity building activities to assist countries in implementing the global monitoring plan for subsequent effectiveness evaluation (…)” (paragraph 4). It also invites parties “to continue monitor the core media of air and human breast milk or human blood and, if in a position to do so, initiate monitoring of perfluorooctane sulfonate in surface water in support of future evaluations”; and “to support the further development and long-term implementation of the global monitoring plan if in a position to do so” (paragraph 5).

As Parties to the Convention, the participating countries to this project are eligible for application of GEF funds to strengthen the monitoring capacity at national level and so to contribute with national data to the GMP.

The project is therefore in line with the GEF chemicals strategy’s objective 1: “phase out POPs and reduce POPs releases”.

---

[6] See http://www.unep.org/chemicalsandwaste/Portals/9/POPs/GMP%20GRULAC/Terminal%20evaluation_MSPs_Global%20Monitoring%20POPs_GMP1%202013.pdf

[7] For biodiversity projects, please describe which Aichi Target(s) the project will directly contribute to and what indicators will be used to track progress towards achieving these specific Aichi target(s).

A.3 THE GEF AGENCY'S COMPARATIVE ADVANTAGE:

UNEP's mandate and comparative advantage is based on decisions of the Conference of the Parties to the Stockholm Convention and proven expertise such as being laid down in the most recent guidance document for the "Global Monitoring Plan for Persistent Organic Pollutants" as presented to the sixth meeting of the Conference of the Parties to the Stockholm Convention in April/May 2013 (document UNEP/POPs/COP.6/INF/31). Therein, the contribution from the United Nations Environment Programme (UNEP), Chemicals Branch of the Division of Technology, Economics and Industry (DTIE) is acknowledged for both, the initial guidance document prepared in 2007 and the most recent one, prepared in 2013.

The fifth thematic priority (i.e., Subprogram 5: Harmful Substances and Hazardous Waste) of the UNEP Mid-Term Strategy (MTS) has as its objective: "to minimize the impact of harmful substances and hazardous waste on the environment and human beings". All GEF proposed interventions in GEF V, whether POPs, mercury, chemicals or ozone, are complementary to UNEP's, executed by UNEP/DTIE OzonAction or Chemicals Branch, for the years 2010–2013. The UNEP strategy for GEF V is based on the three pillars of MTS 2010-2013, which are described as follows:

a) That States and other stakeholders have increased capacities and financing to assess, manage and reduce risks to human health and the environment posed by chemicals and hazardous wastes;

b) That coherent international policy and technical advice is provided to States and other stakeholders for managing harmful chemicals and hazardous waste in an environmentally sound manner, including through better technology and best practices;

c) That appropriate policy and control systems for harmful substances of global concern are developed and in place in line with States' international obligations.

The MTS for the years 2014-2017 has been approved and individual projects are presently under development. This GEF project will be placed under UNEP's Programme of Work (PoW) Expected Accomplishment B of the (renamed) Subprogramme "chemicals and waste", which reads "Countries, including Major Groups and stakeholders, increasingly use the scientific and technical knowledge and tools needed to implement sound chemicals management and the related MEAs". It builds on main activities of for UNEP Chemicals Branch such as the development and testing of global guidelines for the development of POPs inventories, capacity building of POPs laboratories, the generation of measured concentrations of chemicals in the environment and humans (POPs monitoring).

Thus, continuous support for the project is ensured.

A.4. THE BASELINE AND ANY ASSOCIATED BASELINE PROJECTS:

1. Global environmental problems, root causes and barriers that need to be addressed

Persistent organic pollutants (POPs) are a group of chemicals including those that had/have been widely used in agricultural and industrial practices and those unintentionally produced and released from many anthropogenic activities around the globe. POPs are characterized by persistence – the ability to resist degradation in various matrices such as air, water, sediments and organisms for months and even decades; bio-accumulation - the ability to accumulate in living tissues at levels higher than those in the surrounding environment; harmfulness – the toxicity to human and/or wildlife to give adverse effects to human health and the environment, and potential for long range transport – the potential to travel long distances from the source of release through various matrices such as air, water and migratory species. Specific health effects of POPs include cancer, allergies and hypersensitivity, damage to the central and peripheral nervous systems, reproductive disorders, and disruption of the immune system. Some POPs are also considered to be endocrine disrupters which can damage reproductive and immune systems of the exposed individuals as well as their offspring by altering the hormonal system. The ability of these toxic compounds to

transport to remote areas of the globe, such as the Arctic, and to bioaccumulate through food webs has raised concerns for the health of humans and the environment, particularly for indigenous people that rely on traditional diets of marine mammals and fish. Because of the international scope of manufacture, use and unintentional releases, and the long distance movement, Stockholm Convention on Persistent Organic Pollutants was established in May 2001 to "protect human health and the environment from persistent organic pollutants by reducing or eliminating releases to the environment". The substances presently being addressed under the Convention are aldrin, chlordane, DDT, dieldrin, endrin, heptachlor, hexachlorobenzene, mirex, PCB PCDD/PCDF, toxaphene, chlordecone, hexabromobiphenyl, pentachlorobenzene, lindane (gamma hexachlorocyclohexane), alpha hexachlorocyclohexane, beta hexachlorocyclohexane, tetrabromodiphenyl ether and pentabromodiphenyl ether (commercial pentabromodiphenyl ether), hexabromodiphenyl ether and heptabromodiphenyl ether (commercial octabromodiphenyl ether), perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride (PFOS), endosulfan and hexabromocyclododecane.

2. Baseline scenario and any associated baseline projects

Key Findings of the Global Monitoring Plan Phase 1 Projects

Article 16 of the Stockholm Convention indicates that the effectiveness of the Convention shall be evaluated four years after the date of entry into force of the Convention and periodically thereafter. The Effectiveness Evaluation includes a Global Monitoring Plan (GMP), which monitors the presence of POPs in the environment and in humans. Such monitoring and subsequent assessment should be undertaken at regional basis. One of the objectives of the GMP is to assess POPs regional and global transport. Such monitoring and subsequent assessment should be undertaken at regional basis. The GMP focused initially on the core matrix human milk/blood to examine human exposure, and ambient air to examine long-range transport. With the addition of PFOS to the convention, water has been recommended as a core matrix for this new POP.

The Conference of Parties (COP) has completed its first effectiveness evaluation at its fourth meeting in 2009 (COP4) based in part on the Regional Monitoring Reports, summarized in the Global Monitoring Report. Among other things, the Monitoring Report stresses the limited data available and constrained capacity for sustained monitoring in the Latin American and Caribbean region. In order to improve this situation for future assessments, the reports stresses that "Capacity-building for persistent organic pollutant monitoring programmes for most countries in the region remains the top priority recommendation" and provides some detailed recommendations in this regard. These include in particular: "performance of inter-calibration tests; improving skills for sampling and analysis; strengthening the infrastructure in existing laboratories to provide capability to analyse the core media; institution of quality assurance and quality control policies and procedures; and financial assistance to establish long term programmes and self-sufficient laboratories."[8]

The COP4 also agreed upon the essential modalities for the environmental monitoring component of the subsequent evaluations and included nine new chemicals in the POPs list (decision SC-4/10-18; Annexes A, B, and C). Latter, COP5 added endosulfan as a POP to be listed in Annex A (decision SC-5/3), and COP-6 listed hexabro-mocyclododecane (HBCD) into Annex A (decision SC-6/13).

A GEF MSP projects entitled "Supporting the Implementation of the Global Monitoring Plan of POPs in Latin American and Caribbean Region", was conducted in Latin American and Caribbean by UNEP/DTIE Chemicals Branch with financial assistance from the GEF from 2009 to 2012, in parallel to three other regional and sub regional projects (Pacific Islands Region, Eastern, Southern African Region and Western African Countries). This project enabled provision of quality data on human exposure and environmental concentration of the 12 POPs originally included for the effectiveness evaluation.

[8] Stockholm Convention on Persistent Organic Pollutants (December 2008), First Regional Monitoring report Latin American and Caribbean Region, http://chm.pops.int/Portals/0/Repository/GMP/UNEP-POPS-GMP-RMR-GRULAC.English.PDF

In decision SC-6/23, the COP requested the Secretariat "to continue to support training and capacity-building activities to assist countries in implementing the global monitoring plan for subsequent effectiveness evaluations and to work with partners and other relevant organizations to undertake implementation activities".

The series of GMP projects (phase 1) have generated an abundance of results and **lessons learned** that were used to develop the guidelines for GMP 2. **Highlights include:**

Capacity building at POPs Laboratories:

In the four UNEP/GEF GMP projects participated 28 countries. Four more countries from the GRULAC region – Bahamas, Barbados, Cuba, and Haiti – received similar training from UNEP financed by the SAICM QSP programme. This served as co-financing to the GRULAC GEF MSP project. The main objective was to start up the new GC/ECD instrument and train the laboratory staff in the analysis of the core matrices- (ambient air; human milk and / or human blood).

This complementarily resulted in the following training courses that UNEP organized in the regions through its Expert Laboratories:

Table 1: Training courses organized by UNEP in the regions during GMP1 (2009-2012)

Region	Funding	Number of training courses for POPs Labs	Number of countries participating in the project
Pacific project	GEF	1	8
West Africa project		3	6
South-East Africa project		5	6
GRULAC Project		7	8
GRULAC Project	SAICM QSP	2	4
Regional WS (AMS, BCN)	GEF	2	
Total:		**20**	**32**

In addition, developing country laboratories have been provided with consumables and small materials such as GC columns, analytical standards, solvents or sorption materials.

In the Latin American and Caribbean region through the UNEP/GEF MSP project, the UNEP Expert Laboratories at CSIC Barcelona trained Brazil, Chile, Cuba, Ecuador, Jamaica, Mexico, Peru and Uruguay laboratories and IVM VU Amsterdam trained Barbados. The Antigua&Barbuda, Haiti and Bahamas did not have POPs laboratories. In general, it can be stated that all laboratories had some experiences with POPs analysis and equipment was present although sometimes not fully operational. Further, it should be noted that in Brazil, a well established dioxin laboratory was present that also successfully participated at the interlaboratory study. The main objective of the training was towards the core matrices, polyurethane foams (PUFs) and human milk but also other matrices of national interest were included.

Human milk:

WHO has performed exposure studies on concentrations of specific POPs in human milk at the global level since the end of the 1980s. The main objectives of these studies were: 1) to produce more reliable and comparable data on concentrations of certain POPs in human milk for further improvement of health risk assessment in infants, 2) to provide an overview of exposure levels in various countries and geographical areas, 3) to identify highly exposed local populations in relation to their daily intake for guidance on risk management actions, including epidemiological follow-

up studies; and 4) to promote, if necessary, additional national studies to be closely linked with the respective studies through the use of the same protocol.

The first two rounds of the human milk survey were performed in 1986-1988 and 1992-1993 and covered PCB, PCDD and PCDF. From the third round (2000-2003) the spectrum of compounds analysed was extended to include the initial twelve POPs of the Stockholm Convention. A close collaboration between WHO and UNEP was agreed to perform future surveys, starting from 4th round during (2004-2007) and 5th round during (2008-2012) as joint studies for implementation of the convention. This necessitated modifications of the earlier WHO protocols for the collection, handling and analysis of human milk samples, and especially to include new POPs listed in Annexes A, B or C. The WHO Reference laboratory for mothers' milk at State Institute for Chemical and Veterinary Analysis of Food (CVUA) in Freiburg, Germany analysed the human milk samples for POPs.

The WHO/UNEP protocol for the collection and analysis of pooled human milk has been adapted by the regional coordinator to the national needs. Where necessary, advise and courses were given. The WHO/UNEP Reference laboratory in Freiburg, Germany, provided the countries with glassware where necessary. From the Latin American and Caribbean region a quite comprehensive set of human milk pool were received. It should be noted that the first set consisted of the co-financed samples (from Stockholm Convention secretariat through agreement between UNEP and WHO) from Antigua&Barbuda, Chile and Uruguay. The second set of samples was collected and analysed during the GEF project and included the sample from Chile (another pool), Jamaica, Mexico, Ecuador and Peru.

POPs could be detected in all samples from all regions; however at different scales. Highest concentrations were observed for DDT, followed by PCB. Aldrin and endrin were not identified in any sample; mirex and toxaphene were detected only in few cases and at low concentrations. Dioxin-like POPs were detected in all samples with PCDD/PCDF and dioxin-like PCB (dl-PCB) contributing to the total toxic equivalent (TEQ). Interestingly, there were countries with higher contribution through PCDD/PCDF; others had more PCB. In the GRULAC region, PCDD/PCDF and dl-PCB were present in all samples. For comparison, the total TEQ in the Africa region was 12.5 pg g^{-1} fat; similar to the PCDD/PCDF concentrations in the GRULAC region, which ranged from 2.4 pg TEQ g^{-1} fat to 9.7 pg g^{-1} fat; dl-PCB were lower and the total TEQ had a maximum of 12.1 pg-g^{-1} fat.

In African samples the DDT concentrations ranged from 211 ng g^{-1} fat to 1,743 ng g^{-1} fat, which was higher than in the GRULAC region (range: 119 ng g^{-1} fat-626 ng g^{-1} fat). At a late stage in 2012, the pooled sample from Ethiopia came in with the highest concentration of DDTs that were analysed by the WHO/UNEP Reference Laboratory so far. More than 20,000 ng DDTs per gram fat were detected; notably, about 50% of these were from p,p'-DDT itself and not the degradation products, indicating that application of DDT has occurred quite recently. In general, POPs pesticides but also PCB were higher in Africa than in Latin America; toxaphenes, heptachlors were typically below 10 ng g^{-1} fat. HCB had a maximum of 14 ng g^{-1} fat in GRULAC and only 5 ng g^{-1} fat in Africa. Mirex was the only POP that had higher concentrations in GRULAC than in Africa (a known fact that mirex had very limited applications in the past. Drins were higher in Africa (11.2 ng g^{-1} fat) than in the GRULAC region (max 7.6 ng g^{-1} fat) but still in the same order of magnitude.

The experience from GMP1 projects confirmed that countries' participation in the survey is significantly boosted if it is included in a funded project (*i.e.*, GEF or SAICM QSP), since countries are thus properly informed of the aim, scope, procedures and benefits of the survey.

Moreover, as it was confirmed by the terminal evaluation of GMP1, such project scheme fosters cost-effectiveness, by: (i) establishing partnerships with key organisations, agencies (e.g. WHO), academic and research institutions (e.g. expert laboratories, such as CVUA); (ii) building on existing programmes (e.g. WHO milk survey); (iii) adopting existing procedures (WHO guidelines for human milk sampling); (iv) engaging local stakeholders (e.g. local health centres) for identification of mothers' milk donors, or engaging only laboratories having minimum requirements for POPs analysis[9].

[9]See *Terminal Evaluation of the Four UNEP GEF Medium Size Projects: GEF ID GFL/2328-2760-4A37/4A76/4A77/4A80*; p.6(§8)

Finally, this project responds to decision SC-6/23, which encouraged Parties to the Stockholm Convention to continue to monitor human milk and requested the Secretariat to continue to support training and capacity building to assist countries in this regard.

Ambient air with passive air samplers (PAS):

All countries in the GEF GMP (and the SAICM QSP) projects were equipped with Passive Air Samplers (PAS) to set-up a PAS network. Within the project, samples were taken for one year: each sampler did carry one PUF, which was exposed for 3 months according to the recommendation from the GMP guidance document, then exchanged and stored until analysis.

The projects showed great cooperation from the participating countries and a total of 129 PUFs were analyzed for POPs pesticides and indicator PCB. Presently, we can only use the data that were generated by the expert laboratories since the developing country laboratories still have some problems with this matrix (which was new to all laboratories). As the interlaboratory study did show, the difference between the laboratories is still too large to allow more than one laboratory to report results.

The results show large differences between POPs and regions. For example: Africa and Pacific Islands region was high in DDT and drins (aldrin, endrin, dieldrin) whereas in GRULAC region all concentrations were extremely low. On the other, mirex was only detected – although at very low concentrations – in the GRULAC region. PCB were present in all countries but at different concentrations: the highest concentrations throughout the year was ob-served in La Havana, Cuba (SAICM QSP project) due to the fact that the sampler was positioned at the entry to the harbor and the industrial zone.
For PCDD/PCDF and dl-PCB, the four 3-months PUFs were combined into one result to provide an annual average. The concentrations in the Latin American and Caribbean countries were quantifiable; however, sometimes only because of very sensitive detection limits that had been achieved by the UNEP Expert laboratory. The highest TEQs were observed in Cuba, Peru, Democratic Republic of Congo, and Ghana.

It should be noted that the PUFs from PAS are snapshots and characteristic of the collection capacity of the sampler but also of the location where the PAS is placed. From the results and the feedback from the countries it be-came evident that further harmonization is needed to have a better representativeness of the sampling site. Some countries have placed the samplers in urban areas (DR Congo, Cuba) whereas others placed them in (the most) remote site of the country (defined as background). Further definition and generic characterization is necessary for better comparison of the results.

Global Interlaboratory Assessment:

With the assistance of GEF funding, so far the largest interlaboratory study on persistent organic pollutants, named the “Bi-ennial Global Interlaboratory Assessment on Persistent Organic Pollutant – First Round” has been implemented during 2010-2011. Its goal was to test the capabilities of laboratories in the analysis of the twelve initial POPs listed in the Stockholm Convention. The UNEP Interlaboratory Assessment was performed according to internationally agreed standards (following ISO-International Organization for Standardization and ILAC-International Laboratory Accreditation Cooperation). Such proficiency tests are valuable management tools to allow external quality controls of the performance of a laboratory that undertakes chemical analysis.

The basis for the interlaboratory assessment is laid down in the Databank of Operational POPs Laboratories, which was developed by the UNEP/GEF Global project on POPs laboratory capacity building from 2005 to 2007. The databank is being maintained by UNEP/DTIE Chemicals Branch and is made available on the Web-site (http://212.203.125.2/databank/Home/Welcome.aspx). Presently there are more than 230 POPs laboratories registered. Of these, 103 subscribed to the First Round of the Bi-ennial Global Interlaboratory Assessment on Persistent Organic Pollutants, which offered a number of test samples for analysis (i.e., standards, solutions for POPs pesticides, for PCB, and for dioxin-like POPs; and real samples such as sediment, fish, human milk and fly ash).

Finally, this proficiency test had 83 POPs laboratories from 47 countries representing all UN regions reporting results for at least one POP and one sample type back to UNEP. The distribution of the laboratories per group of POPs and region was as follows:

i. Simple POPs (PCB and organochlorine pesticides), 12 laboratories came from WEOG region and 61 laboratories came from the other four UN regions (10 from Africa, 35 from Asia, 3 from CEE, and 23 from GRULAC);

ii. Complex POPs (polychlorinated dibenzo-p-dioxins, polychlorinated dibenzofurans, dioxin-like polychlorinated biphenyls), 10 laboratories came from WEOG region and 40 came from the other four UN regions (3 from Africa, 32 from Asia, 1 from CEE, and 4 from GRULAC).

As can be seen from the summary above, the Latin American and Caribbean region is equipped with quite a number of POPs laboratories including dioxin laboratories (three within the UNEP/GEF project in Brazil Jamaica and Ecuador but also in Colombia, Argentina and Costa Rica).

It was also noted that some laboratories have been too optimistic: they registered for the interlaboratory study (and received the test samples) but were not able to submit the results within the time period (8 weeks). For the POPs pesticide standard solution, the performance of the African laboratories was reasonable (RSD > 45%), better than for GRULAC but not sufficient (target <25%). For real samples (sediment, fish, human milk), the results were not yet acceptable (>100%) and further training is needed so that laboratories improve and then finally will be able to deliver their own results to the Global Monitoring Plan rather than relying on POPs Expert laboratories.

In order to determine the "true" concentration of (here) POPs in a sample, a chemical laboratory must be able to prove that it is capable to identify and quantify chemicals (=analytes) of interest at concentrations of interest. Such accuracy and precision in the determination of POPs is required by article 16 of the convention and subsequence guidance developed for the Global Monitoring Plan (GMP). The needs and support are documented in COP decisions SC-3/16, SC-4/31, SC-5/18 and SC-6/23. To provide reliable monitoring information for the Parties to the Stockholm Convention, the guidance in the GMP document aims to “confirm a 50% decline in the levels of POPs within a 10 year period”. This means that POPs laboratories must be capable – at any time – to analyze samples for POPs within a margin of ±12.5 %.

The assessment showed that while the measurement of test solutions was largely satisfactory, results for real sample matrices - sediment, fish, and human milk - more frequently were unsatisfactory. Particular difficulties were experienced in the analysis of matrices with high lipid contents (fish, human milk) and for the lower chlorinated PCB and organochlorine pesticides (including DDT). Laboratories from developed countries did not necessarily show a better performance than the developing country laboratories. Especially the overall very good performance of dioxin laboratories from China was stunning.

UNEP has established criteria to generate high quality POPs data through the 2005-2007 Global POPs Capacity building project, which include presence of analytical equipment, identification of analytes for reporting, orientation for data acceptance. These criteria are being further developed for the revised Guidance document for the Global Monitoring Plan (GMP) together with the regional and global coordination groups under the auspices of the Secretariat of the Stockholm Convention (see document UNEP/POPS/COP.6/INF/31 at www.pops.int). In order to be able to establish time trends for POPs concentrations in the environment and humans, it was agreed that for a given POP chemical, the variance between laboratories analysing the same sample should be less than 25% (see above: from 12.5% above the true value to 12.5% below the true value). It was further agreed that POPs laboratories should prove their performance regularly in interlaboratory comparison studies; preferentially on an annual basis.

However, the results of the First round has demonstrated that in all UN regions, the quality of the POPs data are not yet at the desired or necessary level. Especially for true samples – sediment, fish, human milk – the relative standard deviations range up to 250 %, which indicates that certain laboratories still have severe difficulties.

Other lessons learned from GMP phase 1

From the terminal evaluation of the four GMP phase 1 projects, it is worth to first highlight that the four GMP1 projects rated them as highly satisfactory. The GMP phase 2 project thus replicates the best practices learned during phase 1.

The national reports and the regional report typically contain conclusions and recommendations as well as lessons learned.

More generally, **the evaluation report** for the four UNEP/GEF MSP project from GMP1 include the following lessons learned (for the Latin American and Caribbean region but also for the three sister projects, 2009-2012). The most important lessons learned is that the project should not be too ambitious and consider the realities for implementation. These include:

- Whereas the budgets were adequate for all projects, the time needs were heavily underestimated. All projects had to undergo extensions without requesting additional funds. This aspect has been taken into account for this project with having four years for executing 2-years samplings (*e.g.*, for air and water);
- The issue that staff is moving out of jobs and no proper hand-over takes place at national institution needs to be better embedded in the terms of reference for the national coordinator when sub-contracting personnel;
- Having a faster feedback/exchange mechanism between partners, *e.g.*, reports from expert laboratories after training to speed up implementation of procedures in national laboratories;
- Make provisions for exchange of information and experiences and results at regional and international level such as participation in workshops and thus, enhancing south-south cooperation;

Valuable lessons also emerged during **the terminal evaluation** that include lessons related to technical aspects as well as to overall management of the project (not arranged in any order of priority):

i. Project documents need careful screening to ensure that they are technically feasible and that goals and objectives are realistic under the proposed timeframe and are consistent with real capacities at national level.

ii. Running the same project in one region or in parallel in many regions by the same management team and same technical experts require different time planning.

iii. Identification and adopting measures that promote efficiency ensures successful implementation of project.

iv. Clearly defined and agreed roles at all levels avoid delays in project implementation.

v. The mixed form of agency execution and counterpart execution (through sub-contracts to counterpart institutions e.g. regional coordination institutions) is a very efficient implementation modality when the capacities are sufficient and exist at counterpart level: substantive competence, procurement, financial management, and auditing.

vi. Recruiting consultants with the appropriate language proficiency ensures better understanding of reports and other documents.

Specific conclusions from the GRULAC regional GMP1 project:

<u>Technical conclusions</u>

- The presence of POPs has been detected in the GRULAC region both in air and breast milk and in mirror samples, which reflects the importance of an appropriate monitoring in order to quantify human exposure and associated risks, and of observing their behavior over time in order to evaluate the effectiveness of the Convention. In breast milk, POPs have been detected in all samples, the highest values being for DDT, followed by PCB. The presence of PCDD/PCDF and dl-PCB has also been detected in all analyzed samples. In air, it should be noted that PCB has been

detected in all countries in the region, and that reference laboratories have been able to detect the presence of PCDD/PCDF and dl-PCB given their low quantification and detection limits.

- The region needs measurement methodologies, with high quality standards, which are essential to comply with what is established under the Stockholm Convention, and it also requires an indicator of its effectiveness.
- Technicians in the region have been trained, increasing strengths related to the institutional capacities to respond to the analytical activities required by POPs in particular, given the low quantification and/or detection levels needed.
- Laboratories have been provided with consumables such as chromatographic columns, POPs standards and solvents, which, though scarce, have enabled the development of the intended analytical techniques.
- In many cases, the lack of material resources, infrastructures and high resolution equipment, which would be necessary for countries that have ratified the Stockholm Convention to comply with their obligations, became evident.
- It is also quite clear that the GRULAC region shows major differences as to the equipment available for POPs monitoring, and these contrasts will be greater when monitoring the new POPs introduced in the Convention (SC-4/10-18, 2009 and endosulfan 2011), such as PFOS or flame retardants.
- Inter-laboratory results emphasize the need to improve the analysis capacity and quality assurance (QA) in participating laboratories, particularly considering the general goal of an analytical variation of only 25% (Z = 2) among participants in the intercalibration round. It is therefore essential to review the methodologies for the determination of moisture and fat in samples, in order to implement the corrective actions required to ensure the correct measurement of analytes, thus avoiding repercussions on the final result, since POPs concentrations are reported on a dry basis and in μg/kg of fat. In this particular case, since reported results of the monitoring of POPs in breast milk are provided by the CVUA laboratory of Freiburg, all data are comparable. Problems with the determination of fat and moisture were evidenced in the inter-laboratory exercise and inter-country and intra-region mirror samples and their comparison with the reference laboratories.

Political implications

- The authorities of the GMP participating countries have assumed the responsibility for being a member of a UNEP/GEF project, thus contributing the required counterparts.
- Besides, states have demonstrated their commitment by ratifying the Stockholm Convention and collaborating in measuring the effectiveness of its application.
- It is necessary to emphasize the importance of working in collaboration with all the stakeholders involved within the country, in order to facilitate the submission of samples, import and export of consumables (Customs, Ministries, Laboratories).
- Authorities should, where possible, provide the necessary resources for the appropriate control of POPs and the analysis of their life cycle, in order to reduce health and environmental risks, and as part of their hazardous substances management policies.
- It should be noted that the 5th Conference of the Parties of the Stockholm Convention decided to continue to implement the GMP Project, and to provide financial support to perform long-term monitoring in selected matrices: air and breast milk or human blood, for the purpose of future assessments.

Recommendations

- To improve customs mechanisms, or through any company, to systematize the international exchange of samples, standards or laboratory inputs for this type of programmes. Customs formalities may pose a problem since, generally, these products are liquids, powders or toxic standards.

- To provide practical training focused on the matrices of interest, so that training effectiveness can be assessed, taking into account the existing equipment in member countries.
- In order to make the intercomparison exercise more effective, a more efficient communication with the reference laboratory is required to discuss and clarify doubts regarding the methodologies.
- Considering that some difficulties arose during this project due to the lack of interinstitutional communication, the change of national coordinator or specific monitoring activities not belonging to any programme, we recommend that countries make their choices more carefully.
- Regarding air samples, in order to achieve a better representation per country, it is necessary to harmonize the location of samplers, since in some cases they are located near a city or in an industrial area and in others in rural areas, or to increase the sampling points.
- If necessary, perform monitoring in human matrices in new studies, and consider the time it takes to prepare and approve the sampling protocol by national ethics committees.
- The population to be monitored should be trained since, in certain countries, there were some problems with the milk sampling, given that several mothers refused to participate due to local traditions or ignorance.

Background Information for the Latin American and Caribbean Region

The POPs laboratories in the GRULAC region participate well in international projects. Sometimes, their analytical difficulties are not related to the POPs analysis per se but they have learned to pay attention to other parameters such as determination of fat or humidity to report the results in the desired unit.

The GRULAC region recognized that although their participation in the interlaboratory assessment was high (and they should be applauded for having accepted this challenge), the results are not yet satisfactory. The GRULAC laboratories expressed their desire to continue in these proficiency tests and improve their performance. A first step will be to improve the internal QA/QC schemes.

The participation of Latin American and Caribbean countries in this inter calibration study has helped to standardize the methods used for screening persistent organic pollutants in different matrices. Moreover the analytical capabilities of laboratories have been strengthened.

The regional GEF project (2009-2012) has received high political attention, and countries have committed to set aside resources to continue with POPs monitoring and ask for continuation of the just finalized project.

It was also recognized that administrative procedures need improvement, and authorities have to be trained to facilitate the import and export of samples to be analyzed for POPs, and the shipment of materials for the national laboratories.

In general, the performance of CSIC laboratory did differ in some extend from the performance of Latin American and Caribbean region laboratories. Therefore, it is suggested to rapidly improve POPs analysis in the region.

More emphasis will be put on the selection of additional and national samples for POPs analysis to increase the knowledge about the presence of POPs in the environment in GRULAC. Subsequently, the day -to-day work needs better structure and more systematic, practicable approaches.

Based on the good experiences, all participating countries recommended to maintain the networks for human and environmental samples and further coordinate within the region.

In the overall, the project for the first time in the region enabled the participating countries to obtain results on the levels of POPs in mother's milk and the air.

The laboratories experienced challenges due to the complexity of the method of analysis of POPs in the selected matrices.

Human milk analysis revealed the presence of all POPs in mother's milk samples; however, at different scales. Among all POPs, DDTs had by far the highest concentration of all POPs. The highest measured concentration of DDTs in human milk measured by the UNEP/WHO Reference Laboratories for POPs in human milk was found in the national pool of Mexico (700 ng DDTs per gram lipid) for the Latin American and Caribbean region..

The project on the monitoring of POPs in two priority matrices provided capacity building for the national laboratories. It also raised awareness of decision makers in considering the level of POPs contamination in human beings and the environment. The results obtained in the mother's milk samples show the need for continuous monitoring of POPs and to propose mitigation for the reduction of the levels of potential exposure to the POPs.

For further participation of the Latin American and Caribbean countries in the monitoring of POPs there is a need of strengthening of analytical capacity for basic POPs, and to foresee the analysis of the new POPs (which seems to be more complex).

In line with the conclusions and recommendations of the 1st monitoring reports, several challenges and capacity-building needs where put forward in order to enable the region to effectively contribute to future monitoring reports and for countries to fulfil their obligations under the Stockholm convention. These include:

- Improve/perfect the process established in phase 1, including improving political visibility of the project and its value for Sound Management of Chemicals (SMC); improve coordination between national/regional levels; develop mechanisms for South-South collaboration and sharing of experience; more training for laboratory personnel;
- Ensure continuity/sustainability of the effort, including continued inter-calibration studies to improve quality of analysis and comparability of data within the region;
- Include more countries and sites where data were missing for the first report;
- Include new POPs and introduce an additional mactrice (i.e., water); and provide adequate training and capacity-building in sampling and analyising them.

3. Proposed alternative scenario, with a brief description of expected outcomes and components of the project

The GMP phase 2 project (hereinafter "GMP2 project") intends to build on the results of phase 1 (2009-2012) and continue in assisting countries of the Latin American and Caribbean region that are Parties to Stockholm Convention to respect their obligations under Article 16. The project will strengthen the countries' capacity for implementation of the revised POPs Global Monitoring Plan, generate sufficient high quality data on the presence and transport of POP in the region, and create the conditions for sustainability of the networks (see the Objective tree in Annex B). Hence, the staff in participating laboratories will receive further training to consolidate and extend their performance in sampling and analysis of the initial as well as the new POPs and matrices (*i.e.*, water and matrices of core national interest). The project will also allow national laboratories to improve their ability to analyse POPs according to international standards consistent with GMP Guidelines, will develop detailed guidelines, protocols and manuals, and will facilitate reporting under the GMP. Finally, the project will develop a long-term monitoring plan for the region (through a roadmap). This regional monitoring plan will ensure frequent generation of data and input into the regional and global monitoring plans, which will feed the report to the Stockholm Convention 's Conference of the Parties.

The GMP Guidelines recommends that 15-20 sites per region are equipped with passive air samplers (PAS). This project covers about one fifth of the countries in the region. We will establish at least one PAS sampling site in each country. Each sampling site will generate 4 results for each group of POPs so that each country will be characterized with 4 measured data sets per year (8 data sets during 2-years exposure). Each country will have one PAS network

coordinator with people in the field responsible for collecting the exposed PUF samples and exchanging the PUFs in the sampler. The project will build national capacity to maintain the network of PAS.

It is envisaged that the laboratories involved in GMP2 project will participated in the Bi-ennial Global Interlaboratory Assessment on POPs. The interlaboratory assessments are performed according to internationally agreed standards (following ISO-International Organization for Standardization and ILAC-International Laboratory Accreditation Cooperation). Such proficiency tests are valuable management tools to allow external quality controls of the performance of a laboratory that undertakes chemical analysis. The results are laid down in a databank, which is being maintained by UNEP Chemicals and is made available on its website[10], thus increasing the visibility of qualified laboratories. The first round of interlaboratory assessment (2010-2011) had 83 laboratories from 47 countries participating. The second round to incorporate the newly listed POPs is presently underway, financed by the Global Environment Facility through the MSP project "Developing the methods and tools for the analysis of new POPs" and the European Union through its ENRTP programme. It is envisaged to have two more rounds during the implementation of this project - together with the sister projects in the Pacific Islands states, in Asia, and in African countries region. These two rounds - upon CEO endorsement of this and the sister projects - will be implemented in 2015-2016 and 2017-2018, respectively. The increase in number of countries participating is desirable; however, more important would be the continuous participation of the same laboratories in such proficiency testing to improve already existing capacities but to include more POPs and more matrices. This project will also build capacity in participating countries on monitoring “new” POPs. It is understood that the national laboratories trained for the 12 initial POPs may not be necessarily capable to analyze the 11 “new” POPs. Therefore new partnerships and collaboration with specialized laboratories may be necessary. With this project, the momentum generated by the First Round of the Bi-ennial Interlaboratory Assessment will be maintained since laboratories and the users of analytical data have understood that the results must be trustworthy between data generators. Laboratories that performed well are aware that they need to continue demonstrating their proficiency and laboratories not yet at the necessary performance level are willing to improve and undergo further tests to finally achieve. All laboratories and clients/ stakeholders are aware that each of the interlaboratory comparison studies is a snapshot and that the proficiency of the laboratories will change upon exterior factors such as change in personnel, acquisition of new equipment and sometimes even procurement of analytical standards or consumables. For each POP or each matrix that will be analyzed for the first time in a POPs laboratory, the laboratory must demonstrate its capabilities on an objective, internationally agreed basis.

Regarding monitoring of POPs concentration in humans, according to the GMP Guidelines, there will be one pooled mothers milk sample collected per country. This sample should comprise milk from 50 donor mothers. Large countries might generate two pooled samples of 50 donors each. Each country anticipates that mothers milk sampling would be led by one senior public health scientist and working together with a team of up to 10 nurses or students to establish nation-wide coverage. The teams will receive training in the interviewing and sampling techniques necessary. It is understood that the national laboratories may not be necessarily capable to analyse the 11 “new” POPs. Therefore new partnerships and collaboration with specialized laboratories may be necessary.

Due to the boundaries of the final objective (*i.e.*, implementing the Global Monitoring Plan at regional level) some limitations are given in the project, such as:

i. The sampling locations cannot be changed during the project’s implementation (and afterwards);

ii. Sampling for all three core matrices (*i.e.*, air, water, human milk) has to follow agreed plans and methods, and therefore, no deviations are permitted;

iii. Interpretation of the results need to be carefully done by respecting/protecting the individual donor (in case of the human milk) and not over-interpreting the results;

[10] http://212.203.125.2/databank/Home/Welcome.aspx

iv. It should be noted that high concentrations of POPs in a country may negatively influence important economic activities, such as tourism.

Since the Global Monitoring Plan does explicitly not address hot-spots, it is not envisaged (and actually would be against the objectives of the Global Monitoring Plan) that highly contaminated sites will be assessed or analysed in this project.

The situation analysis behind the project design can be found in the form of problem and objective trees in Annex B. The expected outcomes, outputs and related activities of the project are listed below. Related indicators and assumptions can be found in the logical framework in Annex A.

Expected Scenario and Outcomes

Project component 1: Securing conditions for successful project implementation.

Expected outcome:

Relevant stakeholders for project implementation in the Latin American and Caribbean region are committed to carry out the agreed responsibilities.

Expected output:

Technical and administrative support provided for the implementation of the project and organization of process established in the Latin American and Caribbean Region.

Planned activities:

- Key stakeholders sign legal documents to carry POPs monitoring activities for all 23 POPs in the region;
- Organise a regional inception workshop to launch the project and detail the activities and responsibilities with a workplan and budget;
- Update POPs laboratory databank with information on new laboratories, new POPs and new matrices.

Project component 2: Capacity building and data generation on analysis of core abiotic matrices (air and water).

Expected outcome:

Regional network and national capacity to carry out air and water sampling is enhanced in the Latin American and Caribbean region, and high quality data is generated on the presence of initial and new POPs in the region.

Expected output:

Training reports and sectoral reports on POPs analysis undertaken on two abiotic core matrices (i.e., air and water) in the Latin American and Caribbean Region.

Planned activities:

- Identify the sampling sites for air monitoring in the region, and provide them sampling equipment and materials to make them operational;
- Identify strategic sampling sites for water monitoring in the region, and provide them sampling equipment and materials to make them operational;

- Provide equipment, training and guidelines to make operational the national laboratories undertaking analysis of abiotic matrices in the region;
- Analyse national samples for air and water and report high quality data for the region;
- Summarize results of analysis from the region in two distinctive sectoral reports, i.e. one for air and one for water.

Project component 3: Capacity building and data generation on analysis of core biotic matrices (human milk).

Expected outcome:

Regional network and national capacity to carry out human milk sampling is enhanced in the Latin American and Caribbean region, and high quality data is generated on the presence of initial and new POPs in the region.

Expected output:

Training reports and sectoral report on POPs analysis undertaken on one biotic core matrix (6^{th} round of human milk survey) in the Latin American and Caribbean Region.

Planned activities:

- Provide materials and guidelines to countries in the region to undertake sampling of human milk for the 6th round of UNEP/WHO survey;
- Provide materials, training and guidelines to national laboratories in the region to undertake analysis of human milk samples;
- Successfully implement the 6th round of human milk survey in the Latin American and Caribbean region, with high quality data reported by the UNEP/WHO reference laboratory;
- Compare results of the 6th round of human milk survey with data from earlier rounds and report them to the Global Monitoring Plan.

Project component 4: Assessment of existing analytical capacities and reinforcement of national POPs monitoring.

Expected outcome:

Accuracy of POPs assessment in the Latin American and Caribbean region is consolidated by performance evaluation of national laboratories, as well as by analysis of additional matrices of major national interest.

Expected output:

Assessment report of existing analytical capacities prepared and report on POPs analysis undertaken in samples of national priority (other than core matrices) in the Latin American and Caribbean Region.

Planned activities:

- Organise two rounds of the “Bi-ennial Global Interlaboratory Assessment for POPs Laboratories” implementing the 3rd and 4th round and prepare a report summarizing the test results;
- At national level, each country identifies, collect and analyse samples of major interest for national chemicals management (such as fish or other foodstuffs but also sediments and soils), with high quality data being reported.

Project component 5: Securing conditions for sustainable POPs monitoring.

Expected outcome:

Contribution to regional report for the GMP is performed, and a roadmap for sustainable POPs monitoring for the Latin American and Caribbean region in global context is developed.

Expected output:

Assessment reports contributing to regional report for the GMP undertaken, and a roadmap for sustainable POPs monitoring developed for the Latin American and Caribbean region.

Planned activities:

- Develop conclusions, lessons learned and recommendations from GMP phase 2 for future monitoring plan;
- Prepare a state-of-the-art report to picture the present situation of POPs in the Latin American and Caribbean region's environment and humans;
- Develop a roadmap for sustainable POPs monitoring in the Latin American and Caribbean region

Sustainability

There is every indication that the relevant stakeholders have bought into and taken ownership of the GMP1 project. However, there is a need to confirm and secure political will by decision makers in order to ensure the sustainability of the project.

Other challenges to the project's sustainability that have been mentioned in the terminal evaluation report include the following: (i) the maintenance of laboratory equipment, which should be a priority for further study; (ii) the set up of national laboratory, which would allow all countries to be more independent with regard of routine monitoring of POP nationwide; (iii) the project activities should be extended to other matrices, such as foodstuffs, water, the aquatic resources, etc. The project components and outcomes as described above take these recommendations into account, *i.e.*, strengthening existing laboratories for both, abiotic and biotic samples (components 2 and 3) as well as analysing samples of national interest in component 4.

A. 5. INCREMENTAL /ADDITIONAL COST REASONING: DESCRIBE THE INCREMENTAL (GEF TRUST FUND) OR ADDITIONAL (LDCF/SCCF) ACTIVITIES REQUESTED FOR GEF/LDCF/SCCF FINANCING AND THE ASSOCIATED GLOBAL ENVIRONMENTAL BENEFITS (GEF TRUST FUND) OR ASSOCIATED ADAPTATION BENEFITS (LDCF/SCCF) TO BE DELIVERED BY THE PROJECT:

Incremental cost reasoning

In line with the GMP implementation plan, the project builds on existing POPs monitoring programmes and networks, and operates in close collaboration with the coordination groups established under the Stockholm Convention. The GEF funding will cover the incremental costs of the regional activities being performed regarding POPs analysis.

The GMP project (2009-2012) has initiated the analysis and monitoring of the 12 initial POPs. The main contributions from the baseline to this project are the following:

- Analytical capacity was built for the first time in the Latin American and Caribbean Region to analyse basic POPs. This was possible through training, improved clean-up procedures and the use of dedicated gas chromatograph for POPs analysis;
- The personnel at laboratories in the GRULAC region has a greater awareness of international standards for POPs analyses and is able to submit high quality data to the GMP;
- In the region (like in other regions), the highest POPs concentrations in mothers' milk was for DDTs. This suggest the need to continue the periodic monitoring of POPs in the region;
- The laboratories participating in the inter-laboratory study have expressed their desire to continue in these proficiency tests and improve their performance;
- While the participation of laboratories in GRULAC was high, the QA/QC still remains an issue.

Countries are ready to contribute to continue this analysis but have limited funding to continue the intercalibration studies. This component and a wider scope of the monitoring activities (more sampling/analysis) and POPs analysis will be covered by this project.

This project will also reinforce the capacity of the laboratories in the GRULAC region with appropriate training and programmes to include the analysis of new POPs. Without the GEF resources, the programmes would not be able to perform collection and analysis of POPs containing sample with sufficient quality and comparability for the 12 initial POPs and there will be no data available for 11 newly listed POPs (10). As a result, data from the region would be missing from the monitoring report, while the GRULAC region is critical for assessing global transport and levels of POPs. It should be noted that for the first time, one data point for dioxin-like POPs in ambient air was generated in 2011.

Global environmental benefits

The global environmental benefit has to be seen in the context of the efforts of the COP to establish an effective global system for monitoring of the effectiveness of the implementation of the Stockholm Convention. The project contributes to these efforts by strengthening the monitoring capacity at national level and with this enabling the participating countries to contribute national data to the GMP in a regionally and internationally agreed and harmonized approach.

In addition, the project will contribute to the current efforts towards improving the understanding of human exposure to and environmental concentration of POPs at the national, regional and global levels including spatial and time trends. As such, the project will facilitate the adoption of effective risk reduction measures at the national and international levels, and therefore the minimization of the global risks to humans and the environment.

A.6 Risks, Including Climate Change, Potential Social And Environmental Risks That Might Prevent The Project Objectives From Being Achieved, And Measures That Address These Risks:

A program involving 12 countries has obvious logistical and communication risks/challenges. The project builds on an already existing networks with proven capacity to carry out the project activities, as seen in table 2 below.

One challenge was the delay in the collection of the human milk samples due to ethical issue at the level of the Ministries of Health. Possible solutions and approaches were proposed. These issues/difficulties and solutions are listed in table 2, point 2.

The not yet satisfactory performance of the POPs laboratories constitutes another risk. However, this was expected and time is needed to reach overall satisfactory performance, as explained in table 2, point 3.

Table 2: Summing up of risks and mitigation measures identified:

Risk identified	Mitigation measure
1. Logistical risks inherent to a programme involving 12 countries.	- The former project consisted of one regional coordinator at the BCCC-SCRC (which acted as regional coordinators in phase 1) and delivered to the global coordinator at Chemicals Branch in UNEP/DTIE. The BCCC-SCRC is very familiar in coordinating with UNEP Chemicals Branch and is well established in their region; - All countries have WHO focal points; - Lessons learned from the 1st POPs monitoring project concerning administrative issues and technical orientation will be taken into account in this project.
2. Delay in the collection of samples especially related to ethical issues in relation to human milk samples at national level	Solutions will be further discussed during the regional workshop to be held in component 1 of this new project (phase 2), and the issues will be addressed in the revised workplan and project arrangements.
3. Inability to conduct satisfactory laboratory work.	The participating laboratories and their hosting institutions have demonstrated a high degree of dedication to the monitoring issue, and with time – 4 years assumed for this new project – it can be expected that the laboratories will improve as they receive further training and more samples from national and international clients. In order to gain experience, the national institutions should be encouraged to utilize the analytical capacity for own projects so that laboratories frequently analyse samples for POPs. Interested and adequately equipped laboratories for PFOS analysis within the region need to be identified using the criteriaestablished through the UNEP/GEF project on New POPs Monitoring. It is hoped that at least one laboratory will be enabled to deliver analytical results for the perfluoroalkyl compounds (PFOS and precrusors). The laboratories equipped with gas chromatographs and mass spectrometers will be the first candidates for the analysis of the brominated flame retardants, such as PBB and PBDE. For external quality assurance and quality control, a number of samples will be analyzed in an experienced back-up laboratory.

A.7. OUTLINE THE COORDINATION WITH OTHER RELEVANT GEF-FINANCED AND OTHER INITIATIVES:

The project contributes to output 522 of the Expected Accomplishment 5(b) of UNEP Programme of Work (PoW), namely: "Thematic Assessments of environmental transport and fate of chemicals, and monitoring of trends in chemicals production, handling, movement, use, release and disposal, catalyze coordinated action on chemicals management in the UN system". The project is coordinated with other PoW outputs, and provides inputs for them (*e.g.*, lessons learned, best practices and guidance materials).

The project is implemented in tandem with the other three GMP2 sister projects "Continuing regional support for the POPs Global Monitoring Plan under the Stockholm Convention in the Asian/African[11]/Pacific Islands region".

The project also builds on the outcomes of the ongoing **UNEP/GEF** global project "**Establishing the Tools and Methods to Include the Nine New POPs into Global Monitoring Plan"**, which is at its final stage and has created the necessary basis to address the analysis of nine new POPs according to international standards. The UNEP/GEF MSP project on the development of tools and methods to analyse new POPs provides the basis for the analysis of not only the nine new POPs listed in 2009 but also the additional two new POPs listed in 2011 and 2013, resp. It lays down the scientific and practical modalities at regional level to provide global monitoring data for environmental concentrations and human exposure. The results are updated and amended guidance documents and input into regional reports and regional POPs monitoring systems**.** The present project (i.e., GMP2 in the Latin American and Caribbean region) will use the guidelines developed under the above-mentioned New POPs analytical project. In reverse, this regional project will contribute to the New POPs analytical project through experiences gained on the ground.

6th Round of the UNEP/WHO human milk survey:

This project has been launched jointly by the World Health Organisation (WHO), and UNEP, represented by the Secretariat of the Basel, Rotterdam and Stockholm Conventions (BRS Secretariat) and UNEP/DTIE Chemicals Branch at the extraordinary meeting of the Conferences of the Parties in April/May 2013 (COP-6 for Stockholm, COP-11 for Basel and COP-6 for Rotterdam conventions). The project uses the same guidelines and the same Reference Laboratory and will generate one joint report for the Global Monitoring Plan and submission to the next meeting of the Conference of the Parties to the Stockholm Convention (COP-7, 2015). This large global project will share responsibilities and funds whereby the BRS Secretariat through WHO will assist eligible developing countries that have participated in previous rounds of the survey and the UNEP/GEF projects will assist countries/parties participating in UNEP's regional GEF projects. This survey will provide data on POPs concentrations in human milk in the Latin American and Caribbean region as part of the global 6th round of the human milk survey that has been launched by WHO and UNEP.

B. ADDITIONAL INFORMATION NOT ADDRESSED AT PIF STAGE:

B.1 WILL PROJECT DESIGN INCLUDE THE PARTICIPATION OF RELEVANT STAKEHOLDERS FROM CIVIL SOCIETY AND INDIGENOUS PEOPLE? (YES ☒ /NO ☐). IF YES, IDENTIFY KEY STAKEHOLDERS AND BRIEFLY DESCRIBE HOW THEY WILL BE ENGAGED IN PROJECT DESIGN/ PREPARATION:.

This project contributes to UNEP Programme of Work output 522 (also named 5B2): "Thematic Assessments of

[11] GEF Project ID 4886 "Continuing Regional Support for the POPs Global Monitoring Plan under the Stockholm Convention in the Africa Region" and GEF Project ID 4881 "Continuing Regional Support for the POPs Global Monitoring Plan under the Stockholm Convention in the Latin American and Caribbean Region".

environmental transport and fate of chemicals, and monitoring of trends in chemicals production, handling, movement, use, release and disposal, catalyze coordinated action on chemicals management in the UN system". It contributes to the first indicator under expected accomplishment (b): "Increase in the number of Governments addressing priority chemical issues, including their obligations under the chemicals MEAs, through the use of risk assessment and management tools provided by UNEP".

Key stakeholders and beneficiaries are Governments through their Ministries and Agencies including the national focal points for the Stockholm Convention, research institutions, and to a lesser extend private institutions. The participating countries will be able to provide significant input to Article 16 of the Stockholm Convention by providing regional data to the effectiveness evaluation and the Global Monitoring Plan for POPs.

The main direct beneficiaries will be the participating laboratories (assumed 12-15 and relying on previous participation, see annex containing laboratories that participated in the GMP1 projects and in interlaboratory assessments) receiving training and consumables/spares. Other direct beneficiaries are the environment and health sectors in all GEF-5 PIF participating countries. Jointly, they will collect/organize the collection of human milk samples for the GMP through the mothers donating the human milk. Ministries of Environment, Ministry of Health and other related institutions from the participating countries involved in the implementation of the monitoring component of the NIP will enhance their experiences in ambient air monitoring and interpretation of data.

Indirect beneficiaries are the general public since for most of the countries for the first time national data will be generated in a systematic and comparable way that will characterize their exposure to POPs. The ambient air data will provide information as to the "import" of POPs from neighbouring regions and the human data will provide information as to the present exposure at the top of the food-chain. The staff operating the networks together with the laboratories in the region but also in cooperation with the expert laboratories will share experiences and mutually assist each other.

The Stockholm Regional Centre in Uruguay will be the executing agency. It will provide administrative and technical supervision in the implementation of the project. UNEP Chemicals will provide support to the Executing Agency and will closely liaise with the Stockholm Convention Secretariat, other co-funding partner, including the World Health Organization who is implementing a global mothers' milk survey.

Key stakeholders in the project will be ISO (International Standards Organisation) and ILAC (International Laboratory Accreditation Cooperation) as well as IUPAC (International Union of Pure and Applied Chemistry) to guarantee that (other) internationally agreed standards are followed. In reverse, results and criteria from the UNEP/GEF projects will feed into their decision documents and projects.

In order to provide the highest technical standards, it is envisaged that the Executing Agency will subcontract the expert laboratory Consejo Superior de Investigaciones Científicas (CSIC), Barcelona, Spain for training and mirror analysis of samples, and the expert laboratories from Free University Amsterdam, IVM VU, the Netherlands, and Örebro University, MTM Centre, Sweden, for the organization of inter-calibration studies. The WHO Reference laboratory for human milk at Chemisches Untersuchungsamt Freiburg (CVUA Freiburg), Germany, will assist in matters related to this core matrix. Further coordination will be done with other air monitoring activities such as Environment Canada and RECETOX-Czech Republic.

Table 3: Stakeholders participation in the project

Key stakeholders	Role in the proposed project
(ISO) International Standards Organisation and ILAC International Laboratory Accreditation Cooperation (ILAC) as well as (International Union of Pure and Applied Chemistry) (IUPAC)	– Guarantee that (other) internationally agreed standards are followed.
Expert laboratories from Consejo Superior de Investigaciones Científicas (CSIC), Barcelona, Spain, Free University Amsterdam, IVM VU, the Netherlands, and Örebro University, MTM Centre, Sweden	– Organize training and mirror analysis of samples, and organization of inter-calibration studies; – MTM Centre Örebro also serves as reference laboratory for PFOS in human milk
WHO/UNEP Reference laboratory for human milk at Chemisches Untersuchungsamt Freiburg (CVUA Freiburg), Germany	– Undertakes the analysis of lipophilic POPs in human milk and assists in matters related to this core matrix
RECETOX-Czech Republic	– Hosts the GMP databank initiated by the BRS Secretariat to serve the Latin American and Caribbean region as a data repository – Assist in matters related to air monitoring – As a Stockholm Convention Regional Center also supports on other capacity building aspects
Participating countries from the Latin American and Caribbean region; mainly through their ministries of environment (for component 2) and ministries of health (for component 3)	– Provide significant input to Article 16 of the Stockholm Convention by providing regional data to the effectiveness evaluation and the Global Monitoring Plan for POPs; – Establishment and maintenance of the air and water networks – Collect/organize the collection of human milk and blood samples for the GMP through the mothers donating the breast milk and blood; – Provide human milk donors with results of the analysis and the interpretation of it.
Staff operating the networks together with the laboratories in the region	– Maintain the sampling network for ambient air – Receive training and consumables/spares – Generate national data in a systematic and comparable way that will characterize their exposure to POPs.

The project implementation structure and roles will be the following:

Implementing Agency (IA): This project will be implemented by UNEP DTIE, Chemcials Branch. As Implementing Agency, UNEP will be responsible for the overall project supervision, overseeing the project progress through the monitoring and evaluation of project activities and progress reports. It will report the project implementing progress to GEF and will take part in the project Steering Committee. UNEP will closely collaborate with the EA and provide it with administrative support in the implementation of the project.

Executing Agency (EA): As EA, The Stockholm Convention Regional Centre for Latin American and the Caribbean Region (BCCC-SCRC) will execute, manage and be responsible for the project and its activities on a day-to-day basis and maintain frequent contact with the participating countries. It will provide technical support to participating countries and regional laboratory and establish the necessary managerial and technical teams, as needed, to execute the project. . BCCC-SCRC will submit half-yearly progress reports to the implementing agency at UNEP and will also be responsible for the issuing of legal documents such as small-scale funding agreements (SSFAs) with participating governments and other institutions.

The BCCC-SCRC and UNEP/DTIE Chemicals Branch will search for and hire expert organizations and consultants necessary for technical activities and supervise their work.The BCCC-SCRC and UNEP/DTIE Chemicals Branch will closely liaise with the Stockholm Convention Secretariat, other co-funding partner, including the World Health Organization which is implementing a global human milk survey. Financial transactions, audits and reports will be carried out in accordance with UNEP procedures. .

Project Steering Committee (PSC) will be established, and will meet at the beginning, mid-point and prior to the end of the project. The PSC will assess the progress of the project and give advice and guidelines. The PSC is composed of UNEP IA,BCCC-SCRC EA, the Secretariat of the Basel, Rotterdam and Stockholm Convention (BRS Secretariat), the World Health Organisation (WHO) and donor institutions such as expert laboratories, and Recetox (hosting the GMP databank).

As is shown in the graphical sketch below, the EA makes agreement with all partners in the project (*i.e.*, beneficiary countries in the Latin American and Caribbean Region), the IA makes agreement with expert laboratories, consultants, and procurements if necessary. By implementing the agreements, the partners report back to the EA and interact among themselves according to project activities.

A graphical sketch is shown in the Figure below:

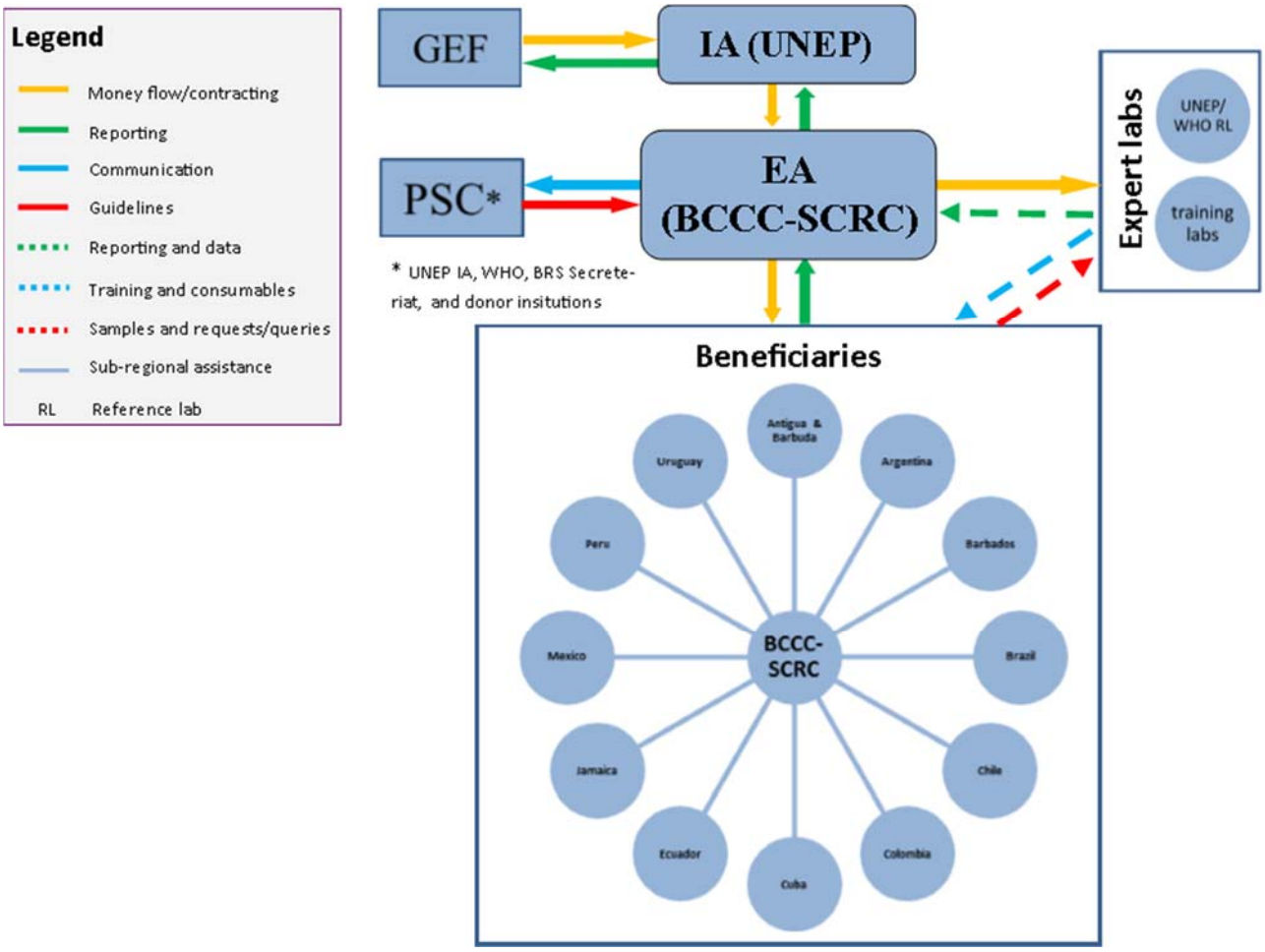


Table 4: Implementation arrangements

Actor		Role in the project
Steering Committee	UNEP/DTIE Chemicals Branch (IA)	– Implementing agency, overall supervision of the project, monitoring progress
	BCCC-SCRC	– Executing agency, responsible for the project and its activities on a day-to-day basis
	World Health Organization	– IGO responsible for human health, cooperation partner that is implementing the global human milk survey jointly with UNEP/DTIE Chemicals Branch and the BRS Secretariat.
	BRS Secretariat	– Leadership on issues related to the Stockholm Convention in general and Global Monitoring Plan specifically. Co-funding partner
	Donor institutions	– Expert laboratories that provide training and backstopping to developing countries and to UNEP
UNEP/DTIE Chemicals Branch (IA)		– Implementing Agency, responsible for legal arrangements with support institutions; technical and scientific backstopping and closely liaise with the Secretariat of the Basel, Rotterdam and Stockholm conventions
BCCC-SCRC (EA)		– Executing Agency partner for regional delivery in the Latin American and Caribbean region, responsible for legal arrangements with participating countries and closely liaise with the Secretariat of the Basel, Rotterdam and Stockholm conventions

B.2 DESCRIBE THE SOCIOECONOMIC BENEFITS TO BE DELIVERED BY THE PROJECT AT THE NATIONAL AND LOCAL LEVELS, INCLUDING CONSIDERATION OF GENDER DIMENSIONS, AND HOW THESE WILL SUPPORT THE ACHIEVEMENT OF GLOBAL ENVIRONMENT BENEFITS (GEF TRUST FUND OR ADAPTATION BENEFITS (LDCF/SCCF):

General socio-economic benefits

The general public is the indirect beneficiary of the project since for most of the countries national data will be generated for the first time in a systematic and comparable way that will characterize their exposure to POPs. The ambient air data will provide information as to the "import" of POPs from neighbouring regions and the human data will provide information as to the present exposure at the top of the food-chain. More generally, data generated through the project will allow a more accurate knowledge of human exposure and environmental concentration of POPs at the national, regional and global levels, therefore enabling an assessment of the effectiveness of the measures adopted and the development of more efficient measures where relevant. In addition, the POPs laboratory

will apply the standards as established in "Good Laboratory Practices" (GLP) which includes in particular the laboratory management of human resources.

Contributions to MDGs and UNDAFs

The UNDAFs of all the 12 countries involved in this project have been analyzed, in order for the project to be in line with them. The UNDAFs are closely linked to the MDGs and human development, with the aim to allow their achievement at the national level. No further specific information could be found by the Regional Center or the Regional Office.

This project contributes to the achievement of the UNDAFs by coordinating and providing scientific guidance towards four of the MDGs, namely:

- eradicating extreme poverty (see explanation in the next paragraph)by avoiding exposures to harmful substances which causes lost wages due to illness, the death of current or potential wage earners, or financial hardship brought about by the crippling costs of medical expenses and long-term care for the chronically ill or for children with severe developmental problems
- improving maternal health through identification of highly exposed mothers (at national scale) and initiating/triggering counter-measures;
- ensuring environmental sustainability through identification of primary pollutants and initiation of countermeasures; and
- developing a global partnership for development.

Gender dimensions

The proposed project is of a scientific nature that does not directly impact people's productive activities. Therefore the gender equity issue takes a different dimension than for pure emissions reductions activities. The particular vulnerability to POPs exposure of women in childbearing age is taken into account in the design of the monitoring activities, notably by the incorporation of mother's milk as one of the core matrices of the POPs GMP. The collection of human milk samples will be conducted on the basis of the ethical clearance as required by WHO, and after signature of the statement of interest by both, health and environment sector.

For society as a whole, the health effects of exposures to harmful substances and hazardous waste lead to an increase in public health costs, loss in productivity, and a legacy of health and environmental problems passed down to future generations. The improper management of chemicals perpetuates a vicious cycle of resource degradation, increasing poverty and the erosion of livelihoods.

The participating countries clearly expressed the need and the interest to continue POPs Monitoring projects utilizing and improving established partnerships and cooperations. They concluded that the first phase of the project produced atmospheric data on POPs and in mothers' milk in Latin American and Caribbean that was non-existent before. It trained various laboratories in the passive air sampling, analysis, quantitation and standardization of results. It enhanced collaboration between countries and laboratories.

B.3. EXPLAIN HOW COST-EFFECTIVENESS IS REFLECTED IN THE PROJECT DESIGN:

The project builds on a GEF project implemented by UNEP from 2009 to 2012 (*i.e.,* GMP Phase 1 project) and its conclusions and recommendations, which have been incorporated here to enhance efficient and cost-effective implementation. It is worth noting that the external terminal evaluation of the Phase 1 project rated the projects' implementation as cost-effective. Hence, the factors of success identified in the evaluation have been replicated in Phase 2, namely: (i) partnerships with strategic players (*i.e.*, key organisations, agencies, and academic and research institutions); (ii) building on relevant existing programmes in the region (*e.g.*, WHO milk survey); (iii) the

adoption of existing procedures (WHO guidelines for human milk sampling); (iv) engaging local stakeholders (e.g. for identification of sites and mother's milk donors).

The international coordination by UNEP/DTIE Chemicals Branch as the implementing agency together with BCCC-SCRC as executing agency have been chosen in order to increase efficiency. However, the project follows the approach of identifying and building on what is already existing in the region whenever possible/relevant.

Cost-effectiveness has also been considered in the choice of samplers for core matrices. Instead of using expensive active samplers, passive air samplers (PAS) have been selected as the main tool for the monitoring of POPs in the air, as they are really cheap and easy to use while being reliable. The use of PAS increases the sustainability of the project, as they are consequently more appropriate for the local context in terms of post-project monitoring activities in the region. Hence, these cheaper, more easy to use monitoring tools make capacity building measures (e.g., trainings) much more relevant and efficient as well.

C. DESCRIBE THE BUDGETED M &E PLAN:

The project will follow UNEP standard monitoring, reporting and evaluation processes and procedures. Reporting requirements and templates are an integral part of the UNEP legal instrument to be signed by the executing agency. The project M&E plan is consistent with the GEF Monitoring and Evaluation policy.

Day-to-day management and monitoring of the project activities will be the responsibility of the executing agency, UNEP/DTIE Chemicals Branch together with BCCC-SCRC. BCCC-SCRC will assist the executing agency within the region and maintain frequent contact with the participating countries. BCCC-SCRC will submit half-yearly progress reports to UNEP/DTIE Chemicals Branch. BCCC-SCRC will also be responsible for the issuing of legal documents such as small-scale funding agreements (SSFAs) with participating governments and other institutions, especially expert laboratories assisting in the capacity building activities of the project according to the work plan and expected outcomes.

The half-yearly reports will include progress in implementation of the project, financial report, a work plan and expected expenditures for the next reporting period. It will also identify obstacles occurred during implementation period.

Each participating country will nominate a national coordinator, responsible for the coordination and oversight of national activities. In consultation with UNEP the national coordinator will identify suitable national institutions to carry out the activities on the ground such as the sampling of air, water, and human milk. They will also identify samples of national interest for POPs analysis.

The Project Steering Committee (PSC) will comprise UNEP IA, BCCC-SCRC EA, the World Health Organisation (WHO), the Secretariat of the Basel Rotterdam and Stockholm conventions (BRS Secretariat) and donors such as expert laboratories, Recetox (in function of the Stockholm Convention Regional Centre and host of the GMP databank). The PSC will monitor the progress of the project and give advice as to implementation issues. The PSC meetings will be held back to back with major meetings (*e.g.*, the inception workshop and the final lessons learned workshop), in association with COP-BRS Secretariat meeting. At month 12, the PSC will meet through teleconference. Hence, no additional fund is needed for travel and DSA.

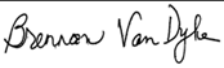
Table 5: Monitoring and Evaluation Budget including internal supervision

M&E activity	**Purpose**	**Responsible Party**	**Budget GEF (US$)**	**Time-frame**
Half-yearly progress reports		UNEP and BCCC-SCRC EA	0	
PIRs		UNEP EA with UNEP TM	0	Months 26, 38, 50
Final report	Reviews effectiveness against implementation plan, highlights technical outputs, identifies lessons learned and likely design approaches for future projects, assesses likelihood of achieving design outcomes	UNEP in cooperation with BCCC-SCRC	0	At end of project implementation
Project review and steering by PSC	Assesses progress, effectiveness of operations and technical outputs; Recommends adaptation where necessary and confirms implementation plan.	PSC	0	Months 2, 24, and 48
Mid-term review	Reviews project performance at mid-term, to analyze whether the project is on track, what problems and challenges the project is encountering, and which corrective actions are required	BCCC-SCRC with UNEP TM	26,000	Month 24
End-term financial audit at national level	Reviews use of project funds against budget and assesses probity of expenditure and transactions at national level.	BCCC-SCRC with national partners	0	Month 44
Independent Terminal evaluation	Reviews effectiveness, efficiency and timeliness of project implementation, coordination mechanisms and outputs Identifies lessons learned and likely remedial actions for future projects Highlights technical achievements and assesses against prevailing benchmarks	UNEP TM in coordination with UNEP Evaluation Office (EO)	35,000	At end of project implementation
Annual audits	Reviews use of project funds against budget and assesses probity of expenditure and transactions (3 audits)	BCCC-SCRC with UNEP TM	9,000	
Total indicative M&E cost			**70,000**	

PART III: CERTIFICATION BY GEF PARTNER AGENCY(IES)

A. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies[12] and procedures and meets the GEF criteria for CEO endorsement under GEF-6.

Agency Coordinator, Agency Name	Signature	Date (dd/mm/yyyy)	Project Contact Person	Telephone	Email Address
Brennan Van Dyke Director, UNEP GEF Coordination Office		December 16, 2014	Kevin Helps Senior Programe Officer	+254-20-762-3140	kevin.helps@unep.org

B. ADDITIONAL GEF PROJECT AGENCY CERTIFICATION *(Applicable Only to newly accredited GEF Project Agencies)*

Record of Endorsement of GEF Operational Focal Points on Behalf of the Governments:

Name	Position	Ministry	Date (dd/mm/yyyy)
Her Excellency Diann BLACK LAYNE Ambassador and GEF NOFP, Ministry of Foreign Affairs Antigua and Barbuda	GEF Operational Focal Point	Ministry of Foreign Affairs	10.04.2012
Ms. Maria Fabiana LOGUZZO General Director for Environmental Matters Ministry of Foreign Affairs Argentina	GEF Operational Focal Point	Ministry of Environment and Sustainable Development	6.08.2012
Mr. Rickardo WARD Project Manager, Ministry of Environment and Drainage Barbados	GEF Operational Focal Point	Ministry of Environment and Drainage	14.03.2012
Mr. Rodrigo VIEIRA General Coordinator for External Financing, Ministry of Planning, Budget and Management, Secretaria de Assuntos Internacionais, Brazil	GEF Operational Focal Point	Ministry of Planning, Budget and Management	02.05.2012
Ms. Ximena GEORGE-NASCIMENTO Secretaria de Relaciones Internacionales, Ministerio del Medio Ambiente/ Ministry of Environment Chile	GEF Operational Focal Point	Ministry of Environment	29.03.2012
Mrs. Alejandra TORRES DROMGOLD Ministry of Environment, Ministry of Environment and	GEF Operational	Ministry of Environment and	03.05.2012

[12] GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, and SCCF

Sustainable Development Colombia	Focal Point	Sustainable Development	
H.E. Mrs. Lorena TAPIA Minister, Ministry of Environment Ecuador	GEF Operational Focal Point	Ministry of Envirtonment	17.12.12
Miss. Leonie BARNABY Senior Director, Ministry of Land and Environment Jamaica	GEF Operational Focal Point	Ministry of Land and Environment	19.03.2012
Ms. Margarita PEREZ VILLASENOR Deputy Director General Ministry of Finance and Public Credit Mexico	GEF Operational Focal Point	Ministry of Finance and Public Credit	24.05.2012
Mr. Jose Antonio GONZALEZ NORRIS Director of the International Cooperation and Negotiations Directorate, Ministry of Environment Peru	GEF Operational Focal Point	Ministry of Environment	14.03.2012
Mrs. Silvia FERNANDEZ Advisor to Director, Ministry of Housing, Land Planning and Environment, National Directorate of Environment Uruguay	GEF Operational Focal Point	Ministry of Housing, Land Planning and Environment	14.03.2012

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

OVERALL GOAL: Protect human health and environment from toxic exposure to POPs

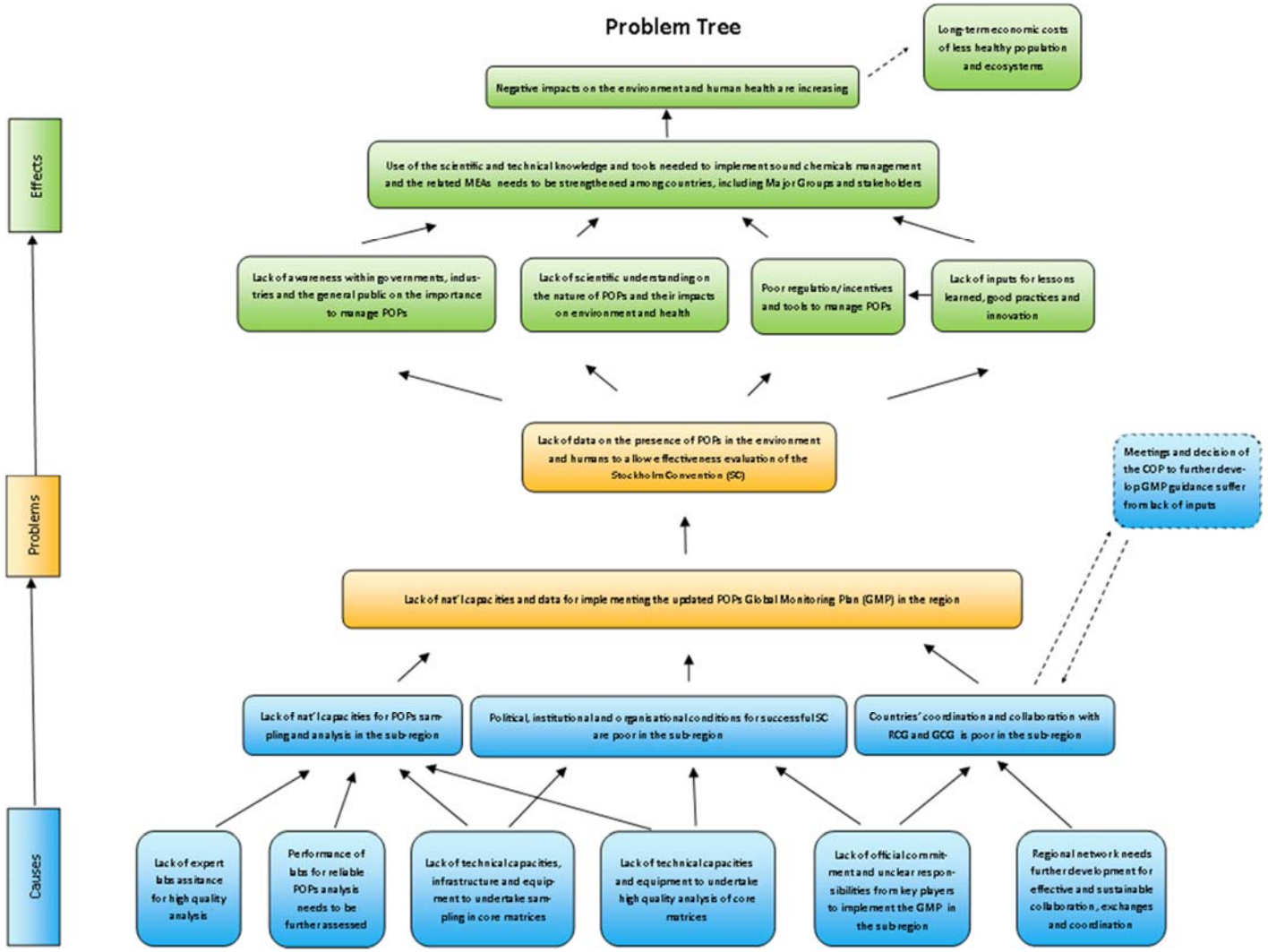
UNEP Programme of Work			
Expected Accomplishment 5(b): Countries, including Major Groups and stakeholders, increasingly use the scientific and technical knowledge and tools needed to implement sound chemicals management and the related MEAs **Output. 522:** Thematic Assessments of environmental transport and fate of chemicals, and monitoring of trends in chemicals production, handling, movement, use, release and disposal, catalyze coordinated action on chemicals management in the UN system **Indicator (i):** Increase in the number of Governments addressing priority chemical issues, including their obligations under the chemicals MEAs, through the use of risk assessment and management tools provided by UNEP			
Project outcome	**Indicators**	**Means of verification**	**Assumptions and risks**
National capacities for implementing the updated POPs Global Monitoring Plan (GMP) are strengthened, high quality data on the presence and transport of POPs are generated, and conditions for sustainable monitoring of POPs are in place in the Latin American and Caribbean Region	• # of countries capable to undertake sampling in the core and other matrices for POPs analysis Baseline: 0 Target: 12 (100% in this project) • # of countries with reported data on up to 23 POPs; Baseline: 0 Target: 12 • # of regional roadmap for sustainable POPs monitoring published. Baseline: 0 Target: 1	• Shipment documentation on samples sent for analysis; • Reports of training in POPs analysis at UNEP website; • Data are visualized and accessible, *e.g.* via GMP databank or UNEP's website; • Regional roadmap document.	• (Co-)funding parties provide the funds they have committed; • Political commitment among the participating countries stays active throughout the project; • No natural or man-made disasters occur that may affect the implementation of the project; • No vandalism affects the national network infrastructures (esp., for air and water); • Financial and human resources are sufficient; • Trained staff remains in place.

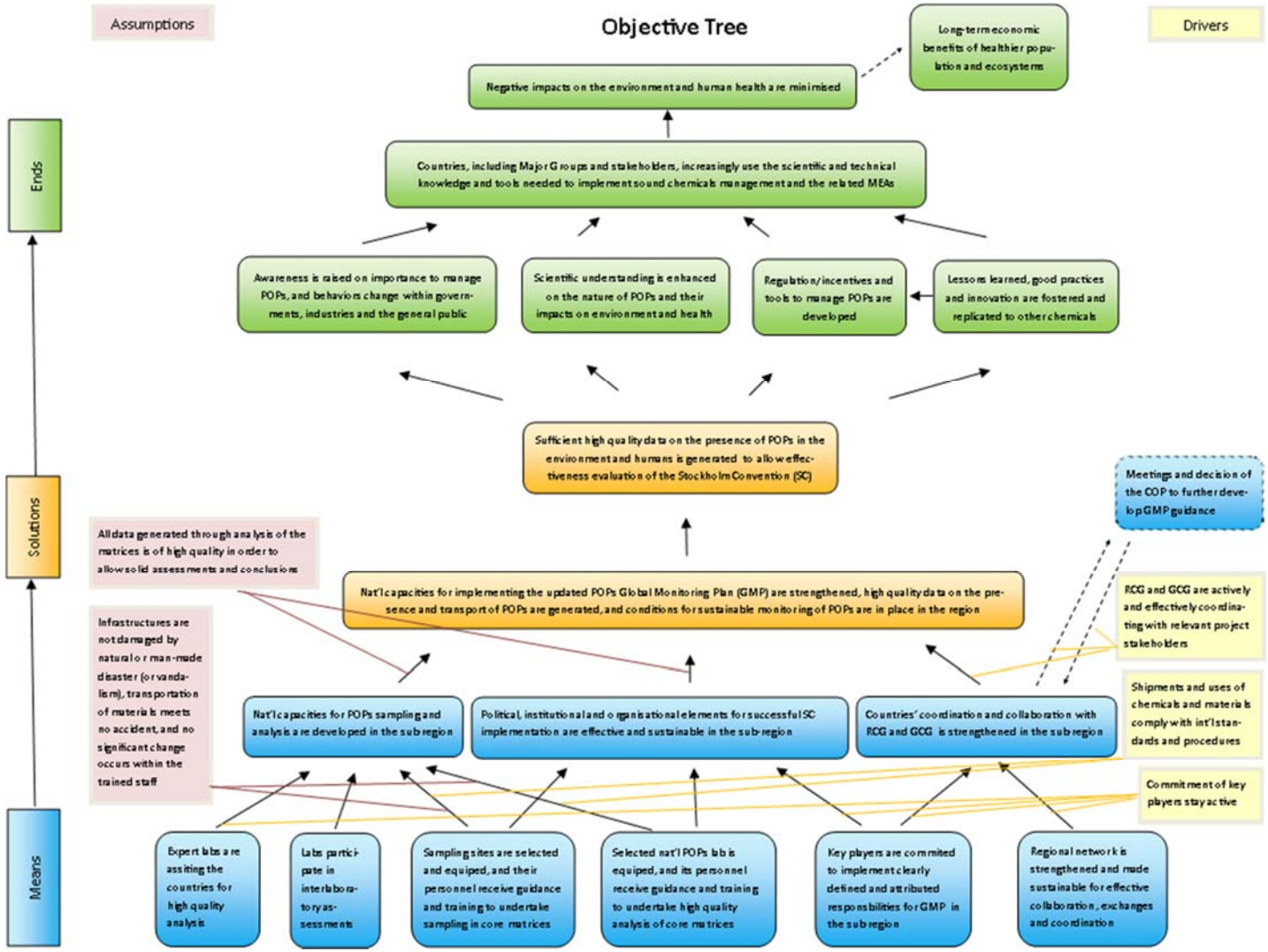
Project outputs	Indicators	Means of verification	Assumptions and risks
1. Technical and administrative support provided for the implementation of the project and organization of process established in the Latin American and Caribbean Region	• # of national project implementation agreements signed Baseline: 0 Target: 12 • # of laboratories submitted information to UNEP for updating information in the databank Baseline: 0 Target: At least 8	• Agreements with national entities for project execution available at the EA upon request • UNEP laboratory databank website includes information provided by project countries	• Legal agreements are in place during the project period • UNEP laboratory databank is accessible
Project output Milestones			**Expected Milestone delivery date**
M1.1: Relevant stakeholders, POPs laboratories and POPs monitoring activities identified			31 December 2014
M1.2: Regional inception workshop held and workplan agreed			30 June 2015
2. Training reports and sectoral reports on POPs analysis undertaken on two abiotic core matrices (*i.e.*, air and water) in the Latin American and Caribbean Region	• # of countries that carried out sampling in abiotic matrices Baseline: 0 Target: At least 10 • # of training reports for analysis of abiotic matrices Baseline: 0 Target: At least 8 • # of sectoral reports developed in abiotic matrices Baseline: 0 Target: 2 (one on air; one on water)	• Photos of PAS and water samplers at specified sites available at the EA upon request • Training report available on UNEP website • Sectoral reports (2) one on air and one of water available at UNEP's website	• No natural or man-made disaster damages the sampling sites (its adequacy for sampling) or the air sampling materials • Personnel ready to dedicate time and expertise over the period of two years • Training of national laboratories is adequate and effective
M2.1 Hands-on training to national laboratories on abiotic samples concluded			31 December 2015
M2.1 All national samples are taken and in the laboratory for analysis			30 June 2017
3. Training reports and sectoral report on POPs analysis undertaken on one biotic core matrix (6th round of human milk survey) in the Latin American and	• # of countries that carried out sampling in biotic matrices Baseline: 0 Target: At least 10 • # of training report for analysis of biotic matrices	• Shipment documents from Latin American and Caribbean countries to the reference lab available at the EA	• Infrastructure and practical arrangements can be realized as planned • No substantial changes in personnel

Caribbean Region	Baseline: 0 Target: At least 8 • # of sectoral reports developed in biotic matrices Baseline: 0 Target: 1	• Training report available on UNEP website • Sectoral report for 6th human milk survey available at UNEP's website	
M3.1 Hands-on training to national laboratories on biotic samples concluded			31 December 2015
M3.2: 6th round of human milk survey concluded and report available			31 December 2016
4. Assessment report of existing analytical capacities prepared and report on POPs analysis undertaken in samples of national priority (other than core matrices) in the Latin American and Caribbean Region	• # of rounds for interlaboratory assessments held Baseline: 0 Target: 2 • # of countries having high quality data reported for samples of major national interest. Baseline: 0 Target: Up to 8	• Bi-ennial Global Interlaboratory Assessment reports available through UNEP's website • Reports containing quantitative results of POPs analysis.	• Financial and human resources are sufficient; • Other regions, including developed country regions, are interested and participate in both rounds of interlaboratory assessment (OECD countries finance their participation.
M4.1: First round of Interlaboratory assessment concluded and report available			30 June 2016
M4.2: Second round of Interlaboratory assessment concluded and report available			30 June 2018
5. Assessment reports contributing to regional report for the GMP undertaken, and a roadmap for sustainable POPs monitoring developed for the Latin American and Caribbean region	• # of assessments on POPs presence in the region and its capacity to analyse them Baseline: 0 Target: Two assessments, i.e. (i) presence of POPs through quantitative data; (ii) analytical capacity and performance of the national laboratories in the region • # of regional roadmap for sustainable POPs monitoring in the region, with strategy for implementation, milestones and timetable in a regional roadmap. Baseline: 0 Target: 1	• Assessment reports available through UNEP's website • Regional roadmap document • Report from final workshop available in UNEP's website	• The quality of the data gathered through analysis of the matrices is of sufficient quality to undertake assessments and draw conclusions and lessons learned in order to design a roadmap • Project has proceeded at pace and coverage as anticipated • Financial and human resources are sufficient

	• # of countries providing inputs to develop conclusions and lessons learned on GMP phase 2, as well as recommendations and future plans Baseline: 0 Target: All countries (12) provide a national sets of recommendations		
M5.1: Draft report on the present situation of POPs in the region's environment and humans and draft regional summary report available			31 December 2017
M5.2: Final workshop concluded, with a report including conclusions, lessons learned, recommendations and roadmap for future monitoring plan in the Latin American and Caribbean region			30 June 2018

ANNEX B: SITUATION ANALYSIS




Assumptions
Objective Tree
Drivers
Long-term economic benefits of healthier population and ecosystems
Negative impacts on the environment and human health are minimised
Countries, including Major Groups and stakeholders, increasingly use the scientific and technical knowledge and tools needed to implement sound chemicals management and the related MEAs
Awareness is raised on importance to manage POPs, and behaviors change within governments, industries and the general public
Scientific understanding is enhanced on the nature of POPs and their impacts on environment and health
Regulation/incentives and tools to manage POPs are developed
Lessons learned, good practices and innovation are fostered and replicated to other chemicals
Sufficient high quality data on the presence of POPs in the environment and humans is generated to allow effectiveness evaluation of the Stockholm Convention (SC)
Meetings and decision of the COP to further develop GMP guidance
All data generated through analysis of the matrices is of high quality in order to allow solid assessments and conclusions
Nat'l capacities for implementing the updated POPs Global Monitoring Plan (GMP) are strengthened, high quality data on the presence and transport of POPs are generated, and conditions for sustainable monitoring of POPs are in place in the region
RCG and GCG are actively and effectively coordinating with relevant project stakeholders
Infrastructures are not damaged by natural or man-made disaster (or vandalism), transportation of materials meets no accident, and no significant change occurs within the trained staff
Nat'l capacities for POPs sampling and analysis are developed in the sub-region
Political, institutional and organisational elements for successful SC implementation are effective and sustainable in the sub-region
Countries' coordination and collaboration with RCG and GCG is strengthened in the sub-region
Shipments and uses of chemicals and materials comply with int'l standards and procedures
Commitment of key players stay active
Expert labs are assiting the countries for high quality analysis
Labs participate in interlaboratory assessments
Sampling sites are selected and equiped, and their personnel receive guidance and training to undertake sampling in core matrices
Selected nat'l POPs lab is equiped, and its personnel receive guidance and training to undertake high quality analysis of core matrices
Key players are commited to implement clearly defined and attributed responsibilities for GMP in the sub-region
Regional network is strengthened and made sustainable for effective collaboration, exchanges and coordination
Ends
Solutions
Means

ANNEX C: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

STAP Comments (3 October 2012)	UNEP Reply (20 Sep 2014)
This PIF project framework is generally clear in explaining what the project hopes to achieve. However, when one moves into the text of the PIF (Section B.1), it is necessary to sift through much extraneous information to determine project baseline, and what was left undone/problematic in the last phase of the project. As a result, the incremental reasoning of Section B2 suffers, since it is difficult to clearly correlate the summarised baseline points with new intended mitigative action. Similarly, one could generate a more concise set of risks and risk mitigation strategies for section B4, and there would be more confidence overall that this phase of GMP support will not repeat past mistakes and that the new approach is sound. For some shortfalls one can easily correlate the new corrective action, but it is hard to pinpoint the response to each. The risks lack similar development. So for example, how will the 250% standard deviations associated with POPs data from true samples be addressed? How can it be ensured that there is a way to consistently identify those additional elements that may present analytic challenges for the new POPs, in particular the interference of other parameters like determination of water content (inaccurately referred to as 'humidity' in this document) and fat interferences in previous analytical attempts of other POPs. Therefore, in the eventual project document, it will be important to address these issues succinctly, with a crisp, systematic analysis of summarised baseline elements (including what was left undone/problems encountered in the first project), then a proposed set of incremental actions for each, followed by an analysis of related risks, and mitigation strategies	Thank you for the comments. With this project document we have strictly followed the template for GEF-5 projects; thus, the PIF structure is superseded. We have carefully considered and filled the sections mentioned and have made reference to the evaluation report of the GMP1 projects. This evaluation found the two African projects as well as the GRULAC and Pacific Islands project highly successful; thus, the probability of making mistakes is minimal since a very experienced team will be implementing this project on bith sites, nationally and internationally. We have added specific conclusions and recommendations from the GRULAC regional report for GEF GMP1 phase. The result of 250% standard deviation are a technical outcome and are not caused by the project management or the project design. The most important aspect of the interlaboratory assessment is to engage the maximum number of POPs laboratories. Participation is the first success and the continued participation in future assessments shall be reached. The quality of the results is from training, which will be provided through this and other projects, and especially routine analysis, which means that the laboratories has to generate clients outside of the GEF projects. This project has two rounds of interlaboratory assessments and a large number of samples for analysis.
Another element that is missing from the project is how conditions for sustainability of networks can be improved. Any government lab will require buy-in from the decision-makers to understand the importance of the work being done, and how it can feed into national issues of development, human and environmental health. It is upon this basis that most labs (even some private ones that may rely on government-based work) derive funding support. Regulatory/legislative demand generally drives the activity of environmental and other standards laboratories. The emphasis of the utility of the POPs monitoring data in the	The sustainability aspect has been addressed in the project addressing political and economic support as well as reminding of the obligations under the Stockholm Convention. It should be noted that this project is in support to the implementation of the Stockholm Convention; therefore, the focus. The best argument for sustainability is quality performance along the parameters. These are spelled out in this project and associated guidelines.

PIF is mostly to the Stockholm Convention. However, Convention buy-in is likely not what will sustain activity of a lab post project: those line Ministries at the centre of Health and (Economic) Development will have far more influence on providing ongoing support to the continued operation of labs, and to lending them scope to participate fully in the project itself. Therefore, it would be good if the Project Framework include an element that would help generate outreach and buy-in to important national players to illustrate the importance of POPs monitoring to national development (e.g. one could highlight the impact of POPs on food and feed safety, and how this translates to economic losses, trade etc.). If this is not done, the GMP could be seen as marginal and academic with no hope for long-term sustainability.	It should be noted that performance quality is for the combination of POP and matrix. Good performance in one combination, *e.g.*, PCB in fish, indicates that the results can be trusted and that similar quality is for data for human milk analysis. It does not mean that the laboratory will provide good results for, *e.g.*, DDT in soil. Outreach component is included in the project as a general item but especially sectoral. It has to be taken into account the responsibility of parties when undertaking monitoring projects and reporting analytical results. The data typically are official and reflect the country's situation. Outreach and proper presentation of the results shall be carefully crafted in order to not mislead countries and customers. On the other hand, robustness in the assessments will increase credibility in the process and its results.
In order to address the sustainability issue, consideration could be given to prioritizing analytes that should done by laboratories in countries and regions that have shown levels of concern for certain POPs based on the 1st round. It seems that aldrin and endrin were below detection limit, and mirex and toxaphene were found at very low levels. The need to maintain adequacy for these compounds (also considering that there is no known manufacture anymore) could therefore be evaluated, and laboratory support efforts concentrated on compounds that were identified as of concern from the first round. Adequate analytical resources remain available in the participating laboratories in Europe as a check on compounds that are difficult to analyse and/or present only at very low levels	This comment mixes the results from the interlaboratory assessment with the concentrations found in the environment in GRULAC countries. Neither the Stockholm Convention or the GMP guide or the GEF GMP1 project establish(ed) levels of concern. The GMP1 results clearly identified priorties in the region as to the concentrations of POPs in the environment and in humans Fortunately, the presence of POPs pesticides in the ambient air is low in comparison to other regions. As for mirex, where th GRULAC region had an outstanding situation – almost the only region where mirex was used – there is not much legacy left. In general, it is extremely difficult to follow changes with time when the starting concentrations are already low/close to limit of quantification. It needs expert judgement to make an informed decision how low should analysis sensitivity been forced to deliver numeric data.
Similarly, the next round could also see a check on which of the newer POPs are of concern in the region. Air, sediments, and breast milk may not the best matrixes to look for PFOS as they generally occur at very low levels (although some of the related compounds might be), and a careful deliberation may be needed on how to include PFOS as a compound. Both these considerations will support sustainability, as countries and laboratories may not be willing to support unnecessary capacity for compounds not deemed a problem, or even absent	All POPs and at least all core matrices have to be offered and countries to accept for analysis according to capacities. The needs assessment at national level is triggered through this project and will results in the reports of the last component. Human milk is still a recommended matrix in the GMP guide; with respect to sampling, shipment and analysis, the advantages continue to be the same. The GMP guide document and this project attempt to address all POPs listed in the annexes of the Convention; it will not exclude certain POPs upfront (or even before the first measurements are done).

	The plan for sustainability will build on the results of the GMP2 project, the capacities and the needs and propose a (hopefully) feasible and practicable roadmap for future monitoring.
Page 6: There is reference in the text to a training overview table, which should be "shown below", though it is actually above. It also adds no value to the PIF, and could just be summarised verbally as "In October 2010, 5 day training sessions took place in Chile, Peru, Mexico, Brazil, Uruguay, Jamaica, and Ecuador"	We apologize for the misplacing of the table, which might have resulted from moving text parts within the template. This comment does not apply to the CEO endorsement document. The content is rephrased in this document and forms an important part of the baseline for countries.
Page 8: Para 2. Suggest reworking of first sentence which now reads: "In order to determine the "true" concentration of (here) POPs in a sample, a chemical laboratory must be able to prove that it is capable to (sic) identify and quantify chemicals (=analytes) of interest at concentrations of interest".	This phrase is the same in all three documents (UNEP's PIF, STAP's comments, this CEO endorsement); we do not understand the comment
Page 8: Para 7. Suggest reworking of first sentence, and checking of punctuation, which now reads: " The GRULAC region recognized that although their participation in the interlaboratory study was high (And they should be applauded for having accepted this challenge), the results are not yet."	This sentence has been completed.
Page 11, Section B4, Para 1, last sentence does not inspire confidence. It currently questions if the LATU Laboratory of Uruguay confirmed its capacity as regional hub for the POPs analysis training during the first project, since the sentence ends with bracketed question marks. Did it or didn't it?	Please ignore the "??"; this was an oversight in the PIF. The Centre in Uruguay fully met expectations and is capable to coordinate the FSP project.
This is a necessary project, but an improved approach to mitigating past failures needs to be addressed through a more systematic approach to identifying baseline problems, incremental reasoning and risk analysis.	We do not understand the issue of being trapped in past failures since the first rond of regional GMP support projects has been rated highly successful. The relevant sections are included
STAP acknowledges that on scientific or technical grounds the concept has merit. However, STAP may state its views on the concept emphasizing any issues where the project could be improved. Follow up: The GEF Agency is invited to approach STAP for advice during the development of the project prior to submission of the final document for CEO endorsement.	Since this and the following comments as to the content and the quality of the PIF proposal was not evident from STAP's comments, UNEP approached the chair of the STAP in 2013 and he explained this comment should be understsood that more funds could have been requested. However, such intention does not coincide with GEF Sec policy.
STAP has identified specific scientific or technical challenges, omissions or opportunities that should be addressed by the project proponents during project	It should be noted that this project has been developed according to country needs and in close cooperation with the BRS Secretariat and the Global

development. Follow up: One or more options are open to STAP and the GEF Agency: (i) GEF Agency should discuss the issues with STAP to clarify them and possible solutions. (ii) In its request for CEO endorsement, the GEF Agency will report on actions taken in response to STAP's recommended actions.	Coordination Group of the Global Monitoring Plan lead by the Stockholm Convention Secretariat. The challenges, the STAP reviewer has identified were discussed with the STAP chair and no real challenges were identified. We refer to the evaluation of the previous four MSP projects on GMP projects. UNEP has taken into account these and inserted into relevant sections of this project.
STAP has identified significant scientific or technical challenges or omissions in the PIF and recommends significant improvements to project design. Follow-up: (i) The Agency should request that the project undergoes a STAP review prior to CEO endorsement, at a point in time when the particular scientific or technical issue is sufficiently developed to be reviewed, or as agreed between the Agency and STAP. (ii) In its request for CEO endorsement, the Agency will report on actions taken in response to STAP concerns.	UNEP will submit the CEO endorsement request to STAP before submission to the GEF Secretariat. UNEP submitted the CEEO endorsement request to STAP in early October 2015. STAP confirmed that its comments were addressed accordingly and endorsed the document on 15 October.

ANNEX D: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS[13]

A. Provide detailed funding amount of the PPG activities financing status in the table below:

N/A

ANNEX E: CALENDAR OF EXPECTED REFLOWS (if non-grant instrument is used)

Provide a calendar of expected reflows to the GEF/LDCF/SCCF Trust Funds or to your Agency (and/or revolving fund that will be set up)

N/A

[13] If at CEO Endorsement, the PPG activities have not been completed and there is a balance of unspent fund, Agencies can continue to undertake the activities up to one year of project start. No later than one year from start of project implementation, Agencies should report this table to the GEF Secretariat on the completion of PPG activities and the amount spent for the activities. Agencies should also report closing of PPG to Trustee in its Quarterly Report.

ANNEX F: TECHNICAL INFORMATION ON PAS SAMPLING

1. Ambient air sampling using passive air samplers (PAS)

Generic principle of passive air samplers (PAS)

Ambient air monitoring for POPs is a challenging task. Next to the habitual difficulties inherent to the accurate detection and quantifications of POPs in environmental samples, the low concentrations of POPs in air require sampling techniques accumulating volumes of air that are large enough to overcome analytical detection limits. To sample large and well-known volumes of air within an acceptable period of time (typically a few hours to a few days), active air samplers proofed to be the method of choice. However, active air samplers have some relevant disadvantages. Instrumental acquisition costs, demand of maintenance, as well as requirement of reliable power supply, are crucial limitations to the use of active air samplers, in particular in countries with limited financial resources.

Passive air samplers (PAS) have been developed as simple and cost-effective alternatives to active air samplers and they have been recommended for use in the global monitoring projects under the Stockholm Convention. Polyurethane foam (PUF) disks proved to be adequate adsorbents in PAS. PAS used in the UNEP/GEF projects are identical to the devices used in several previous networks; they consist of a PUF disk protected from dry and wet deposition by a stainless steel casing. The general layout and principle of the circulating air is shown in Figure 1

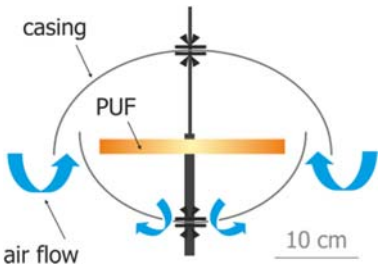


Figure 1: Cross section through a passive air sampler (pas) equipped with a polyurethane foam (puf) disk as adsorbent for airborne persistent organic pollutants (pops)

Deployment of PAS and collection of PUF

In the UNEP/GEF monitoring projects, three types of passive air samplers have been and will be used. Such differentiation is necessary due to practical issues such as not to brake existing networks, *i.e.,* MONET in Africa, accessibility of samplers. Although slightly different in shape, all types follow the principle as shown above and the results have proven to be comparable. In the previous project, the respective providers of the samplers also provided cleaned PUFs, wrapped in aluminum foil; each PAS was delivered with five PUFs for a 1-year sampling: four PUFs for the four seasons and one in reserve or as a laboratory blank. Table 1 shows the distribution of the PAS according to UNEP/GEF project and the providers.

PAS will be installed vertically at about 1.5 m to 2.0 m above ground or above the roof of a building. PAS will be exposed for two consecutive years in each country and PUFs will be changed every three months.

Table 1: Type and distribution of PAS and PUFs

Regional project	Provider/shipment from	Reference
Africa	Recetox	MONET
Asia	TBD	South-east Asia network
Pacific Islands	Tisch Co. (USA) through USP/IAS	GAPS
Latin America and the Caribbean	CSIC	Spanish network

Figure 2: PAS used in the GRULAC region

Figure 3: PAS used in the African region

Figure 4: PAS used in the pacific islands region

For the positioning and installation of samplers, a document with a standard operating procedure was prepared and provided to the participants of these projects. Whenever possible, the instructions provided in the standard operating procedure were followed by the operators on site. The regional representation of the sampling site was one of the most important criteria that had to be considered. Sampling locations should not be heavily influenced by POP emissions from very close local sources, but rather sample air representative of a wide region around the site.

A description of all selected sites was provided. PAS were located in urban and industrial regions, as well as in rural and remote sites (Table 2).

Location of PAS samplers

Table 2: GRULAC -location of sampling sites from GMP 1 project; site assignment for GMP 2 project (country, ISO-3 alpha code, site, type, latitude, longitude, altitude)

Country	ISO 3-apha code	Site	Type	Latitude	Longitude	Altitude (m a.s.l.)
Antigua and Barbuda	ATG	St. Phillip's	rural	17° 4' N	61° 45' W	17
Argentina	ARG	TBD at inception meeting				
Barbados	BRB	St. James or Christ Church[1]	urban	13° 11' N, 13° 05' N	59° 37' W, 59° 31' W	72, 97
Brazil	BRA	São Paulo	urban	23° 33' S	46° 43' W	727
Chile	CHL	Canal Melchor	rural	45° 35' S	72° 09' W	424
Colombia	COL	TBD at inception meeting				
Ecuador	ECU	Quito	urban	00° 13' S	78° 30' W	2820
Jamaica	JAM	Kingston	urban	17˚ 60' N	76˚47 W	2
Mexico	MEX	Monte Azules, Chiapas	background	16° 08' N	90° 54' W	50
Peru	PER	Lima	urban	11° 54' S	77° 03' W	162
Uruguay	URY	Montevideo	industrial	34º 51' S	56º 07' W	40

Table 3: West, East, and Southern Africa - location of sampling sites from GMP 1 project; site assignment for GMP 2 project (country, ISO-3 alpha code, site, type, latitude, longitude, altitude)

Country	ISO 3-apha code	Site	Type	Latitude	Longitude	Altitude (m a.s.l.)
Dem. Rep. Congo	COD	Kinshasa	urban	04° 21' S	15° 17' E	450
Ethiopia	ETH	Addis Ababa	urban	09° 01' N	38° 49' E	2383
Ghana	GHA	Accra	urban	5° 39' N	0° 10' W	77
Kenya	KEN	Nairobi	urban	01° 15' S	36° 44' E	1841
Mali	MLI	Bamako	urban	12° 06' N	08° 02' W	336
Mauritius	MUS	Reduit	urban	29° 13' S	59° 30' E	310
Morocco	MOR	TBD at inception meeting				
Nigeria	NGA	Abuja Sheda	rural	8° 53' N	7° 3' E	210
Senegal	SEN	Ngoye/Bambey	rural	14° 38' N	16° 25' W	23
Tanzania	TZA	TBD at inception meeting				
Togo	TGO	Kouma-Konda	rural	06° 57’ N	00° 35’ E	64
Tunisia	TUN	TBD at inception meeting				
Uganda	UGA	Soroti	urban	01° 42’ N	33° 37’ E	1061
Zambia	ZMB	Lusaka	urban	15° 19’ S	28° 27’ E	1152

Table 4: Pacific Islands location of sampling sites from GMP 1 project; site assignment for GMP 2 project (country, ISO-3 alpha code, site, type, latitude, longitude, altitude)

Country	ISO 3-apha code	Site	Type	Latitude	Longitude	Altitude (m a.s.l.)
Fiji	FJI	Suva Nausori or Nadi	urban-industrial or rural	18° 08’ S, 18° 02’ S, 17° 45’ S	178° 27’ E, 178° 33’ E, 177° 27’ E	6, 30, 22
Kiribati	KIR	Tarawa or Beru	Urban or background	01° 21’ N, 01° 21’ S	172° 59’ E, 175° 59’ E	2
Marshall Islands	MHL	TBD at inception meeting				
Niue	NIU	Alofi	urban	19° 04’ S	169° 55’ E	59
Palau	PLW	Koror[1]	urban	7° 20’ N	134° 28’ E	20
Samoa	WSM	Apia[1]	urban	13° 50’ S	171° 45’	141
Solomon Islands	SLB	Honiara, Munda or Lata	Urban or rural	09° 25’ S, 08° 20’ S, 10° 43’ S	159° 58’ E, 157° 15’ E, 145° 48’ E	55, 4, 24
Tuvalu	TUV	Funafuti	urban	08° 32’ S	179° 12’ E	3
Vanuatu	VUT	TBD at inception meeting				

Scheme for the set-up of the PAS and the analysis of POPs

Table 5: Assignment of samplers, PUFs, and analytes according to laboratory

No of sampler	Number of PUFs	Group of analytes / POPs in the group	Number of analyses *per* year
Sampler 1	PUFs 1-4	For basic POPs pesticides in expert back-up laboratory	4
		drins, chlordanes, DDTs, HCHs, heptachlors, mirex, HCB, pentachlorobenzene, endosulfans, toxaphenes, chlordecone	toxaphene, annual sample only
Sampler 2	PUFs 1-4	For basic POPs in national POPs laboratory	4
		drins, chlordanes, DDTs, HCHs, heptachlors, mirex, HCB, pentachlorobenzene, endosulfans, toxaphenes, chlordecone	toxaphene, annual sample only
Sampler 3	PUFs 1-4	For indicator PCB in expert back-up laboratory	4
		6 indicator PCB	
Sampler 4	PUFs 1-4	For indicator PCB in national POPs laboratory	4
		6 indicator PCB	
Sampler 5	PUFs 1-4	For dioxin-like POPs in expert back-up laboratory (combined into one extract as annual average)	1
		17 PCDD/PCDF, 12 dl-PCB	
Sampler 6	PUFs 1-4	For dioxin-like POPs in national dioxin laboratory (combined into one extract as annual average)	1
		17 PCDD/PCDF, 12 dl-PCB	
Sampler 7	PUFs 1-4	For dioxin-like POPs in expert back-up laboratory (each exposure to generate one seasonal data point; total of 4 per year and country)	4
		17 PCDD/PCDF, 12 dl-PCB	
Sampler 8	PUFs 1-4	For dioxin-like POPs in national laboratory (each exposure to generate one seasonal data point; total of 4 per year and country)	4
		17 PCDD/PCDF, 12 dl-PCB	
Sampler 9	PUFs 1-4	For BFR in expert laboratory	4
		8 PBDE, HBCD, PBB	
Sampler 10	PUFs 1-4	For BFR in national laboratory	4
		8 PBDE, HBCD, PBB	
Sampler 11	PUFs 1-4	For PFOS in expert laboratory	4
		6 PFAS	
Sampler 12	PUFs 1-4	For PFOS in national laboratory	4
		6 PFAS	

2. Countries that participated in the 5th round of the human milk survey

All efforts will be undertaken to support countries that participated in the 5th round of the WHO/UNEP milk survey participating in the component 3 of this project, *i.e.*, 6th round of the human milk survey. The following table summarizes the institutions that have been supported in the 5th round

Table 6: Africa - countries and coordinators where human milk samples were collected and analysed during the implementation of the regional project during GMP phase 1

Country	Laboratories	Human milk coordinator
DR Congo		Prof.Dr José OKON-D'AHOKA Université Pédagogique Nationale (UPN) Directeur du Programme National de Promotion de la Médecine Traditionnelle et des Plantes Médicinales (PNMT/PM) Ministère de la Santé Kinshasa/RD Congo Email: okondahu-ka_fr@yahoo.fr
Egypt	The Central Laboratory of Residue Analysis of Pesticides and Heavy Metals in food	Prof. Dr. Gehad Abu Al Atta Laboratory coordinator: Elmarsafy Ashraf Mahmoud Central Lab of Residue Analysis of Pesticides and Heavy metals in Food (QCAP). 208 Port Saied St. Elsaida zenab – Cairo Email: Ashnour@live.com
Ethiopia	No established POPs laboratory	Mr. Habtamu Wodajo Environmental Protection Authority Laboratory Addis Ababa Email: habwodajo@yahoo.com
Ghana	Pesticide Residue Laboratory (Organic Residue Laboratory) of GAEC.	Dr. Edith Clarke Occupational and Envi-ronmental Health Unit, Ghana Health Service, PMB, Ministries, Accra Email: essieclarke@yahoo.com; ochealth@ghana.com
Kenya	Laboratory at the Department of Chemistry, University of Nairobi	Dr. Ms. Laetitia Kanja Department of Public Health, Pharmacology &Toxicology, College of Agriculture & Veterinary Sciences, University of Nairobi, Kabete Kampus, Nairobi Email: lkanja@uonbi.ac.ke
Mali	Environmental Toxicology and Quality Control Laboratory (ETQCL), Bamako	Dr. Samaké Raki Ba Direction Nationale de la santé, Division nutrition Ntomikorobougou Bamako Email: rbasamake@yahoo.fr rbasamake@yahoo.fr
Mauritius	National Environment Laboratory at Reduit	Dr. Surnam NCD/BF coordinator Ministry of Health and Quality of Life
Nigeria	National Laboratory (Jawura Environmental Services	Dr. Obi Anyadiegwu Chief consultant Hospi-talia Consultaire

	Limited)	Masaka Close, Zone 7 Abuja
Senegal	The Ceres-Locustox Foundation, Dakar	Dr. Aminata Touré Responsable du Departement de Toxicovigilance, Centre Antipoison; Dakar Email: amitoure@hotmail.com
Togo		Madame GOTO Ekpetsi Chantal, Directrice des Laboratoires d'Analyse Chimique a l'Institut Togolais de Recherche Agronomique, BP : 1163, Email : itra@cafe.tg
Uganda	Government Analytical Laboratory (DGAL) – the POPs Laboratory Pesticide Residue Laboratory	Dr. Agaba. Edson. Friday Ministry of Health, National Drug Authority Plot 46 – 48 Lumumba Avenue P.O. Box.23096 Kampala Email: agabafriday@hotmail.com and agaba_friday@yahoo.co.uk
Zambia		Dr. Nanthalile Mugala Consultant Paediatrician Diplomat: Child, Environment and Health P. O. Box 50380 Lusaka Email: nmugala@yahoo.com

Table 7: Pacific Islands countries and coordinators where human milk samples were collected and analysed during the implementation of the regional project during GMP phase 1

Country	Insitution	Human milk coordinator
Niue	Department of Environment	Haden Talagi Project Coordinator Email: haden.talagi@mail.gov.nu / h_talagi@mail.nu
Samoa	Division of Environment and Conservation Ministry of Natural Resources and Environment	Fuatino Matatumua-Leota Principal Chemicals & Hazardous Waste Management Officer Email: fuatino.leota@mnre.gov.ws, fuatinol@gmail.com
Solomon Islands	Environment and Conservation Division (ECD) Ministry of Environment, Climate Change, Disaster Management and Meteorology (MECDM)	Rosemary Apa Chief Environment Officer Email: rosemaryapa@gmail.com

Table 8: GRULAC countries and coordinators where human milk samples were collected and analysed during the implementation of the regional project during GMP phase 1

Country	Laboratories	Human milk coordinator
Antigua and Barbuda		Dr. Linroy Christian Department of Analytical Services Dunbars, Friars Hill, St. John's, Email: *lchristian@apuainet.ag*
Brazil	The Laboratory of the Center for Worker's Health and Human Ecology at FIOCRUZ	Ana Maria C. B. Braga, Thomas Krauss Fundação Oswaldo Cruz (FIOCRUZ) National School of Public Health, Centre for Workers Health and Human Ecology Studies Rua Leopoldo Bulhões, 1480, Manguinhos. Rio de Janeiro, RJ
Jamaica	Ministry of Public Health CEAC in Guayaquil	National coordinator: Prof. Tara Dasgupta Pesticide Research Laboratory Department of Chemistry University of the West Indies Email: *tara.dasgupta@gmail.com* *tara.dasgupta@uwimona.edu.jm*
Chile	Sub Departamento del Ambiente, Instituto de Salud Pública de Chile Av. Maratón 1000, Santiago E-mail : itrivino@ispch.cl	Ivan Triviño Sub Departamento del Ambiente Instituto de Salud Pública de Chile Av. Maratón 1000, Santiago E-mail : itrivino@ispch.cl
Ecuador	Did not submit a human milk sample	
Mexico		National coordinator: Ms. Ana Patricia Martínez Bolívar Director of Research on Atmospheric Monitoring and Analytical Characterization of Pollutants, National Centre for Environmental Research and Training, National Institute of Ecology Email: mabaorta@prodigy.net.mx, abolivar@ine.gob.mx
Peru	General Directorate of Environmental Health (DIGESA) – Ministry of Health Email: sosorio@digesa.minsa.gob.pe	National coordinator: Biol. E. Soledad Osorio Alva Director of the Environmental Control Laboratory. General Directorate of Environmental Health (DIGESA) – Ministry of Health Email: sosorio@digesa.minsa.gob.pe
Uruguay	LATU Technological Laboratory of Uruguay (LATU) Av. Italia 6201, Montevideo Email: atorre@latu.org.uy	National coordinator: Chem. Gabriela Medina Head of the Department of Solid Waste – Environmental Performance and Control Division, Ministry of Housing, Land Use and Environment Email: gabriela.medina@dinama.gub.uy

3. Laboratories identified in developing countries to analyse POPs

The following laboratories have participated in the first phase of the UNEP/GEF GMP. It is attempted to engage them in this GMP2 project and further enhance their capacities and capabilities. For countries, participating for the first time in the GMP project, the national coordinator together assisted by UNEP will identify a national laboratory and nominate for the project. It is expected that not all countries will have operational POPs laboratories.

Table 9: Laboratories from the African region that participated in the regional project during GMP phase 1

Country	Name of laboratory	Name of laboratory
Congo DR	Did not have an operational laboratory for POPs analysis during GMP 1	
Egypt	Central Lab of Residue Analysis of Pesticides and Heavy Metals in Food (QCAP). 208 Port Saied St. Elsaida zenab Cairo Email: Ashnour@live.com	
Ethiopia	Did not have an operational laboratory for POPs analysis during GMP 1	
Ghana	Department of Chemistry National Nuclear Research Institute Ghana Atomic Energy Commission (GAEC) P.O. Box LG 80, Legon-Accra E-mail: dedehosae@fastmail.fm	
Kenya	Chemistry Department, University of Nairobi, Box 30197, Nairobi E-mail: madadivin2002@yahoo.com, vmadadi@uon.ac.ke	
Mali	Environmental Toxicology and Quality Control Laboratory, Central Veterinary Laboratory, BP 2295 Bamako E-mail: berthesafiatou@yahoo.com	Division Nutrition Direction Nationale de la Santé, Ministère de la Santé, BP 233 Bamako E-mail: rbasamake@yahoo.fr
Morocco	TBD by national coordinator at inception	
Mauritius	Department of Environment National Environmental Laboratory Ministry of Environment and Sustainable Development, National Laboratories Complex, Reduit E-mail: srojubally@gmail.com	Government Analyst Division Ministry of Health and Quality National Laboratories Complex, 1st. floor, Reduit E-mail: vgoury@gmail.com

Country	Name of laboratory	Name of laboratory
Nigeria	TBD by national coordinator at inception	
Senegal	Unité Chimie Environnementale Fondation de CERES-LOCUSTOX Km. 15 route de Rufisque, BP 3300 Dakar E-mail: cereslocustox@orange.sn, bgadji@yahoo.fr	
Tanzania	TBD by national coordinator at inception	
Togo	Did not have an operational laboratory for POPs analysis during GMP 1	
Tunisia	TBD by national coordinator at inception	Centre International des Technologies de l'Environnement de Tunis (CITET), Tunis, has been pre-assigned for human milk/biological matrices
Uganda	Toxicology & Pesticide Residue Laboratories Government Analytical Laboratory Ministry of Internal Affairs Plot 2 Lourded Road, Nrikasero Hill Wandegeya, P.O.Box 2174, Kampala E-mail: ekaye50@yahoo.com	
Zambia	Department of Chemistry, University of Zambia, P.O. Box 32379, 10101 Lusaka E-mail: chiposyabb@yahoo.com, lengwe_judy@yahoo.com	

Table 10: Laboratories from the GRULAC region that participated in the regional project during GMP phase 1

Country	Name of laboratory	Name of laboratory
Antigua and Barbuda	Department of Analytical Services UNEP/Secretariat of the Secretariat Convention, Dunbars, Friars Hill, St. John's E-mail: lchristian@apuainet.ag	
Barbados	Government Analytical Services Culloden road BB 14018 St. Michael E-mail : pesticides@gas.gov.bb	
Brazil	Physical Chemical Analysis Division CETESB-Companhia Ambiental do Esado de São Paulo E-mail: myumikot@cetesbnet.sp.gov.br	National School of Public Health Oswaldo Cruz Foundation Rua Leopoldo Bulhões 1480 Manguinhos, Rio de Janeiro E-mail: thomas@ensp.fiocruz.br
Chile	Centro de Investigación de Ecosistemas de la Patagonia (CIEP), Bilbao 449 Coyhaique E-mail : rquiroz@intesal.cl	Sub Departamento del Ambiente Instituto de Salud Pública de Chile Av. Maratón 1000, Santiago E-mail : itrivino@ispch.cl
Colombia	TBD by national coordinator at inception	
Ecuador	Laboratorios de Agrocalidad Av. Amazonas y Eloy Alfaro, Edificio del	

Country	Name of laboratory	Name of laboratory
	MAGAP, Noveno piso Quito Email: liliarecalde@yahoo.com	
Jamaica	Department of West Indies University of the West Indies Mona, Kingston 7 E-Mail: tara.dasgupta@gmail.com, Raymond.reid@uwimona.edu.jm	
Mexico	Research and Analytical Characterization of Pollutants National Institute of Ecology San Rafael Atlixco No. 186 Col. Vicentina 09340 México D.F. E-mail : totuno@ine.gob.mx	
Peru	Atmospheric Pollutants Laboratory Environmental Control Laboratory Dirección General de Salud Ambiental Calle los Pinos 259 Urb. Camacho La Molina, Lima 12 E-mail: avega@digesa.minsa.gob.pe	Environmental Control Laboratory Organic Functional Unit Dirección General de Salud Ambiental – DIGESA, Ministry of Health Jr. Las amapolas No. 350 Lince Lima 14 E-mail: digesa@digesa.minsa.gob.pe
	Director del Centro de Control de Insumos y residuos Tóxicos. Servicio Nacional de Sanidad Agraria – SENASA E-mail: *olucas@senesa.gob.pe*	
Uruguay	Laboratorio Tecnológico del Uruguay LATU Av. Italia 6201 Montevideo E-mail: atorre@latu.org.uy	Departamento Laboratorio Ambiental DINAMA Dirección Nacional de Medio Ambiente Ministerio de Vivienda, Ordenamiento Territorial y Medio Ambiente Galicia 1133, Montevideo http://www.dinama.gub.uy/rlau/

Table 11: Laboratories from the Pacific Islands region that participated in the regional project during GMP phase 1

Country	Name of laboratory	Name of laboratory
Fiji	Institute of Applied Sciences, University of the South Pacific Suva, E-mail: aalbersberg@usp.ac.fj	
Kiribati	Did not have an operational laboratory for POPs analysis during GMP 1	
Marshall Islands	Did not have an operational laboratory for POPs analysis during GMP 1	
Niue	Did not have an operational laboratory for POPs analysis during GMP 1	
Palau	Did not have an operational laboratory for POPs analysis during GMP 1	
Samoa	Did not have an operational laboratory for POPs analysis during GMP 1	
Solomon Islands	Did not have an operational laboratory for POPs analysis during GMP 1	
Tuvalu	Did not have an operational laboratory for POPs analysis during GMP 1	
Vanuatu	TBD by national coordinator at inception	

Table 12: Laboratories from the Asian region that are pre-assigned to participate in this GMP 2 project

Country	Name of laboratory	Name of laboratory
Cambodia	TBD by national coordinator at inception	
Indonesia	TBD by national coordinator at inception	
Lao PDR	TBD by national coordinator at inception	
Mongolia	TBD by national coordinator at inception	
Philippines	TBD by national coordinator at inception	
Thailand	TBD by national coordinator at inception	
Vietnam	TBD by national coordinator at inception	

4. Laboratories that participated in the 1st and 2nd rounds of the interlaboratory assessments

Two rounds of interlaboratory assessments have been undertaken in 2009-2011 and 2012-2013. The participation of developing country laboratories has been supported through UNEP/GEF, UNEP/SAICM projects and bilateral donors such as the government of Norway (1st round) and the European Union (2nd round).

Table 13: Laboratories from Africa that participated in the global inter-laboratory assessments

Country	Name of laboratory	City	1st	2nd
Egypt	Central Laboratory of Residue Analysis of Pesticides and Heavy Metals in Food	Dokki, Giza	X	
Ghana	Pesticide Residue Laboratory, Ghana Atomic Energy Commission	Accra	X	X
Kenya	Kephis Analytical Chemistry Laboratory	Nairobi	X	X
Kenya	Department of Chemistry, University of Nairobi	Nairobi	X	X
Mali	Central Veterinary Laboratory	Bamako	X	X
Mauritius	Government Analyst Division	Reduit		X
Nigeria	Analytical & Environmental Lab, Chemistry Department, University of Lagos	Lagos		X
Sénégal	Ceres Locustox	Dakar	X	X
Tunisia	CITET	Tunis		X
Uganda	Directorate Of Government Analytical Laboratory	Kampala	X	X
Zambia	University of Zambia, Department of Chemistry, Analytical Services Laboratory	Lusaka	X	X

Table 14: Laboratories from Asia that participated in the global inter-laboratory assessments

Country	Name of laboratory	City	1st	2nd
Thailand	SECOT Co., Ltd.	Bangkok	X	X
Thailand	Environmental Laboratory	Bangkok	X	
VietNam	Institute of Marine Environment and Resources (IMER)	Haiphong	X	
Viet Nam	Center of analytical service and experimentation of Hochiminh city, Vietnam	Ho Chi Minh		X
Vietnam	Dioxin Laboratory	Ha Noi	X	X
Vietnam	Chemical and Environmental Department	Hanoi	X	X
Vietnam	Research center for Environmental Technology and Sustainable Development, VNU University of Science	Hanoi	X	X

Table 15: Laboratories from Pacific Islands that participated in the global inter-laboratory assessments

Country	Name of laboratory	City	1st	2nd
Fiji	Institute of Applied Sciences, University of the South Pacific	Suva	X	X

Table 16: Laboratories from GRULAC that participated in the global inter-laboratory assessments

Country	Name of laboratory	City	1st	2nd
Argentina	INTI Argentina	San Martín	X	X
Argentina	Lab. Environ. Chemistry & Biogeochem, University of La Plata	Florencio Varela	X	
Barbados	Governmental Analytical Services Laboratory	St. Michael	X	
Brazil	Laboratório Nacional Agropecuário - Lanagro/Mg	Pedro Leopoldo, MG	X	X
Brazil	Lab. de Microcontaminantes Orgânicos e Ecotoxicologia Aquática (CONECO)	Rio Grande	X	X
Brazil	Divisão de Análises Físico-Químicas CETESB	São Paulo	X	
Brazil	Escola Nacional de Saúde Pública (ENSP/CESTEH), Fundação Oswaldo Cruz (FIOCRUZ)	Rio de Janeiro	X	
Chile	Centro EULA - Barrio Universitario S/N Universidad de Concepción.	Concepcion	X	
Chile	FARMAVET Lab. De Farmacologia vet. Area de Dioxinas Universidad de Chile	Santiago de Chile		X
Chile	Instituto de Salud Pública de Chile	Santiago	X	
Colombia	Laboratorio de Cromatografía,Universidad Industrial de Santander	Bucaramanga	X	X
Colombia	Laboratorio de Análisis de Contaminantes Persistentes	Medellín	X	
Ecuador	Laboratorio De Plaguicidas De Agrocalidad	Quito	X	X
Jamaica	Pesticide Research Laboratory Department of Chemistry, University of the West Indies	Kingston	X	X
México	National Center of Environmental Research and Training	Mexico, D.F.	X	X
Mexico	Cinvestav Unidad Merida	Merida, Yucatan	X	
Perú	Dirección de Laboratorio de Control Ambiental	Lima	X	
Perú	Unidad del Centro de Control de Insumos y Residuos Tóxicos	Lima	X	
Uruguay	Laboratorio Tecnológico del Uruguay (LATU)	Montevideo	X	X
Uruguay	Departamento Laboratorio Ambiental DINAMA	Montevideo	X	X
Uruguay	Laboratorio de Análisis Orgánico, Facultad de Química	Montevideo	X	

APPENDICES

1. Acronyms and abbreviations
2. Overall Project Budget
3. GEF Budget by project component and UNEP budget lines
4. Co-financing by source and UNEP Budget lines
5. Public awareness, communications and mainstreaming
6. Environmental and social safeguards
7. Workplan and timetable
8. Key deliverables and benchmarks
9. Summary of reporting requirements and responsibilities
10. Standard terminal evaluation
11. Decision making flowchart and Organigram
12. Terms of reference
13. Co-financing commitment letters from project partners
14. Endorsement letters of GEF National Focal Points
15. Draft Procurement plan
16. Tracking tools
17. Supervision Plan