Comprehensive Reduction and Elimination of Persistent Organic Pollutants in Pakistan

Atlas Award ID: 00081936
Atlas Project ID: 00091045

Annual Progress Report

January – December 2019

PROJECT SNAPSHOT

Date:	11 January 2015
Award ID:	00081936
Project ID:	00091045
Project Title:	Comprehensive Reduction & Elimination of Persistent Organic Pollutants in Pakistan
Project Start Date:	Jan 01,2015
Project End Date:	Sep 30,2020
Implementing Partner:	Ministry of Climate Change
Responsible Parties:	UNDP
Project Budget (all years):	5,45,00,000
Core Resources: Non-Core Resources: Government contribution: Donor 1 Donor 2	

Project Brief Description and Outputs:

Objectives of this project are reducing human health and environmental risks by enhancing management capacities and disposal of POPs in Pakistan through:

- **i.** Development and implementation of a regulatory, policy and enforcement system to reduce POPs releases and to regulate POPs waste disposal;
- **ii.** Capacity building to reduce exposure to and releases of POPs;
- **iii.** Collection, transport and disposal of 300t of PCB and 1200 t of POPs Pesticides

The elimination of POPs pesticide stockpiles became even more urgent after the 2010 floods which damaged some of the storage sites of hazardous chemicals and pesticides. To ensure environmentally sound disposal of POPs, a facility to be upgraded, tested and permitted in compliance with Stockholm Convention BAT/BEP. As an alternative, the project will however keep open the option of shipment of POPs waste abroad for disposal, in compliance with the Basel Convention, if at an early stage it will result evident that the POPs cannot be disposed of using the technologies available in the country.

The project Outputs are:

Output 1. strengthened POPs regulatory and policy instruments adopted and effectively made operational by Government enforcement agencies and other organizations involved in regulating POPs management

Output 2. Governance and enforcement particularly on illegal imports framework for controlling POPs improved

Output 3: Stakeholder groups aware of sources and prepared to mitigate POPs exposure and releases.

Output4. Cost effective POPs exposure mitigation undertaken focusing mainly on PCBs.

Output 5. Awareness on POPs pesticides among key target groups, such as decision makers, staff in high/risk occupations etc. raised.

Output 6. Physical Capacity to undertake POPs disposal projects at provincial level established.

Output 7. Environmentally safe disposal of particularly risky POPs stockpiles and the sound disposal of up 1500 tons of POPS Pesticides and PCBs.

Overall Project Quality Rating (mark on the scale of 1 to 5 as per the following criteria):				
Exemplary (5) *****	High (4) ****	Satisfactory (3) ***	Poor (2) **	Inadequate (1) *
All outputs are rated High or Exemplary	All outputs are rated Satisfactory or higher, and at least two criteria are rated High or Exemplary	One output may be rated Poor, and all other criteria are rated Satisfactory or higher	Two outputs are rated Poor, and all other criteria are rated Satisfactory or higher	One output is rated Inadequate, or more than two criteria are rated Poor

Budget 2019	1,574,000/- US$
Expenditure 2019	852,366/- US$
Delivery %	54 %[ANGP1]

CONTENTS

ACRONYMS

- AJK Azad Jammu & Kashmir
- APR Annual Progress Report / Annual Project Review
- AWP Annual Work Plan
- CO Country Office
- EIA Environmental Impact Assessment
- FSP Full Size Project (GEF terminology)
- GEF Global Environment Facility
- GOP Government of Pakistan
- MT Metric Ton
- M&E Monitoring and Evaluation
- NIP National Implementation Plan
- NPD National Project Director
- PSC Project Steering Committee
- PCBs Polychlorinated biphenyls
- PM Project Manager
- PMU Project Management Unit (PMU)
- POPs Persistent Organic Pollutants
- SC Stockholm Convention on POPs
- UNDP United Nations Development Program
- UNEP United Nation Environment Program
- UNDP-CO United Nations Development Program Country Office
- USD United States Dollar
- WHO World Health Organization

1. INTRODUCTION

During 1950's and with the high slogans of green revolution, the Department of Plant Protection promoted the use of chemical pesticides without clearly knowing the non-degradable nature of POPs in Pakistan agriculture as a remedy of all the insect pest issues. This also led to the indiscriminate use of chemical pesticides without any distinction of the POPs pesticides. Because of poor governance and lack of implementation mechanism for the existing pesticides laws of 1971 and 1973 which were related to storage, transportation and application of chemical pesticides the existing legislation is ineffective.

The only law having direct significance with respect to POPs in Pakistan is the Agricultural Pesticides Ordinance, 1971. This law was promulgated in 1971 with the purpose of regulating the import, manufacture, formulation, sale, distribution and use of pesticides in Pakistan. The provisions of this law are supposed to be applied parallel to other laws. Eight POPs are included in the Agricultural Pesticides Ordinance. This ordinance has to be updated with the new pesticide POPs. However, there is no specific law on Polychlorinated biphenyls (PCBs). It's production, supply & use is not specifically regulated in any way in Pakistan. More importantly, Pakistan completely lacks of any norm regulating the inventory and management of PCB containing equipment and wastes. The National Implementation Plan of Pakistan 2004-05 highlights the need for such legislation and underlines the year 2025 by which the country has to dispose of all PCBs contaminated equipment. This description forms the basis for primary legislation related to PCBs management in the country.

Primarily the liberalization of pesticide trade had been welcomed as it had given benefit to the farmers. Unfortunately, this has not been entirely problem free. In some cases, unethical activities such as: formulating pesticides using active ingredient in substandard quantity and adulteration at supply chain, packing, distribution and marketing level were reported. These malpractices are affecting the plant protection quality and causing damage to the environment. Extreme events like storms and floods in Pakistan are another factor in the release of POPs into the environment, because such disasters release stockpiles stored in drums and bags. Pakistan is a signatory of Stockholm Convention and it filed a preliminary audit of its POPs stockpiles. According to audit report, about half of the stores were in low-lying areas near water bodies, including the areas that were flooded in the year 2010 and 2011.Such events hence, destroying the area and ultimately putting the world at risk.

During recent site visits under PPG activity and meetings with pesticide dealers, it was clearly noted that not only expired, obsolete and POPs contaminated pesticides are secretly sold in the market but also they are being widely used as household pesticides with new labels. Therefore, there is an urgent need for strict implementation of pesticides related rules and regulations. Moreover, the Department of Plant Protection has emphasized to update the legislation by also including clauses about household pesticides.

2. SITUATION ANALYSIS

1.1 Legislation on POPs

The legal and regulatory tools and documents dealing with toxic chemicals, including the PCBs and POPs pesticides in Pakistan are clearly limited. National legislation exists in the form of Agricultural Pesticides Ordinance 1971 which is supported by the Agricultural Pesticides Rules 1973. As per the recent GAP analysis report of project, review of the existing legislations indicated below is required:

- Import/Export Policy Order 2016 (Pakistan).
- National Environmental Policy 2005
- Handling, Manufacture, Storage, Import of hazardous waste and substances Rules, Draft-2016
- KPK Environmental Protection Agency. Environmental Assessment Checklist and Guidelines. Brick Kiln Units
- Pakistan environmental legislation and the National Environmental Quality Standards. Government of Pakistan October 1997
- The Pakistan Environmental Protection Act, 1997
- National Biosafety Guidelines (May 2005)
- Agricultural Pesticide Ordinance/Act. (1971)
- Amendment of Act XL of 1997 in Regulation of Generation, Transmission and Distribution of Electric Power
- The Regulation of Generation, Transmission and Distribution of Electric Power Act 1997
- National Electric Power Regulatory Authority (Sale of Electric Power by Renewable Energy Companies) Guidelines 2015
- National Electric Power Regulatory Authority Standard Operating Procedures (SOPs) for Inspection

1.2 Situation of POPs Pesticides and PCBs in Pakistan

As per the NIP (baseline document of this project), there are approximately 6033 MT of obsolete stocks of POPs pesticides (3800 MT Punjab, 2016 MT Sindh, 48 MT KPK, 135 MT Balochistan, 31.5 MT AJK and 0.5 MT Northern areas). Considering these figures, one of the targets of project was set to transport and dispose of 1200 MT of POPs Pesticides (mainly from Punjab and Sindh) and 300MT of PCBs contaminated oil.

However, it was observed during the recent reconfirmation activities of the project that the figures does not match with the NIP and there is no proper record of thousands of tons of the POPs contaminated pesticide stocks available in Sindh and Punjab. Project has already disposed of 443 MT of POPs pesticides from various locations and as per the recent reports of reconfirmation the available remaining stockpiles are 286 MT because Punjab has already disposed of available stockpiles with them before even the start of this project. Considering this, project will not be able to complete its target of disposing of 1200 MT of POPs Pesticides from Pakistan.

The inventory of PCBs was missing from NIP and there was no PCB management plan in place either at national or at any electric power company level. For this project has started work to develop PCBs Management Plan and Inventory with formal sampling and chemical analysis of the transformers for PCBs contamination. This will help to eliminate or phase out PCBs contaminated equipment and oil from Pakistan even after the end of project.

1.3 Monitoring and Disposal capability in Pakistan

There is no organized system of identification and monitoring of POPs pesticides and PCBs at national or provincial level due to lack of equipment and capacity, unavailability of an organized monitoring system and lack of coordination among the relevant line agencies. To address this, project is efficiently working to build the capacity of relevant national and provincial stakeholder by provision of equipment for sampling and analysis of POPs and training to relevant staff members.

Availability of facilities in Pakistan for the safe disposal of hazardous waste is generally missing. Apparently, there were no improvement on the disposal capacity after NIP. The only viable options found by the POPs Project were the established capacity of the Bestway cement kiln plant in Islamabad through which 485 MT of POPs pesticides and PCBs has been disposed of so far and an incineration facility in Karachi. The project is also working on feasibility, procurement & installation of mobile technology for PCBs treatment and development of POPs treatment facility which will serve as sustainable solution for the issue.

3. PROJECT PERFORMANCE AND RESULTS

3.1. Contribution towards Country Programme Outcome[1]

UNSDF Outcome: 6.3: Legal and regulatory frameworks and policies are in place, and institutions capacitated for the conservation, sustainable use, inclusive access and benefit-sharing of natural resources, biodiversity, chemicals, waste management and ecosystems.			
Indicator(s): Number of regulatory tools and policy frameworks relevant to the management of POPs including PCBs, hazardous waste pesticides strengthened and updated	Baseline: The initial POPs pesticides as included in the Stockholm Convention before 2009 are regulated in Pakistan, through the Agricultural Pesticides Ordinance, 1971. However, the legislation in the form of rules and guidelines to control and manage these POPs pesticides is missing. New POPs like PFOs and brominated flame retardants are not regulated in Pakistan A PCBs regulation is completely missing. Regulation on U-POPs emission is not compliant with the SC BAT/BEP	Target(s): One POPs legislation related draft report developed	Achievement(s): As part of the amendments in existing legislation, the draft rules on POPs to be included in section 31 of Pakistan Environment Protection Act (PEPA) have already been drafted and shared with all stakeholders to receive inputs. After thorough review from all relevant government departments, comments received have been incorporated. The work to develop national technical guidelines on POPs for all sectors have also been started which will be a part of draft rules.

[1] Outcomes describe the intended changes in development conditions that result from the interventions of governments and other stakeholders, including international development agencies such as UNDP. They are medium-term development results created through the delivery of outputs and the contributions of various partners and non-partners. Outcomes provide a clear vision of what has changed or will change globally or in a particular region, country or community within a period of time. They normally relate to changes in institutional performance or behavior among individuals or groups. Outcomes cannot normally be achieved by only one agency and are not under the direct control of a project manager.

Description of output level high/outcome level results achieved in 2019: **Activity Result 1.1.1** For this reporting period, cumulative progress has been estimated at 75% to completion:- The legal consultant has developed draft rules to amend the existing legislation (Pakistan Environment Protection Act) which was being shared with all relevant stakeholders for inputs. As part of this draft rules, work to develop national level guidelines for all sectors have also been started.
Means of Verification • Draft Rules to include POPs in Pakistan Environment Protection Act • TORs/Inception report of National Technical Guidelines

3.2. Progress towards Project Results/Outputs[2]

Project Output I: Strengthened POPs regulatory and policy instruments adopted and effectively made operational by Government enforcement agencies and other organizations involved in regulating POPs management.			
Indicator(s): Number of regulatory tools and policy frameworks relevant to the management of POPs including PCBs, hazardous waste pesticides strengthened and updated	Baseline: The initial POPs pesticides as included in the Stockholm Convention before 2009 are regulated in Pakistan, through the Agricultural Pesticides Ordinance, 1971. However, the legislation in the form of rules and guidelines to control and manage these POPs pesticides is missing. New POPs like PFOs and brominated flame retardants are not regulated in Pakistan A PCBs regulation is completely missing. Regulation on U-POPs emission is not compliant with the SC BAT/BEP	Target(s): One POPs legislation related draft report developed	Achievement(s): The cumulative progress has been estimated at 75% to completion against this. Draft rules in section 31 of existing Pakistan Environment Protection Act (PEPA) for inclusion of additional clauses to regulate all kinds of POPs including new POPs have been developed and draft comprehensive sector-specific (Agriculture/Plant Protection, Pakistan Customs, NEPRA/Ministry of Energy, Ministry of Industries and Production, Ministry of Health and EPA's) National Technical Guidelines document for control & management of all kinds of POPs in Pakistan has been started. After incorporating feedback from all relevant departments into both documents (Draft rules as part of legislation on POPs and National Technical Guidelines document) with these will be shared further for approval and will be disseminated and replicated at all levels.

[2] Outputs are short-term development results produced by project and non-project activities. They must be achieved with the resources provided and within the time-frame specified (usually less than five years).

Description of output level results achieved in 2019:

Activity Result 1.1.1

Amendment in existing regulatory and policy legislation to include POPS PCBs

For this reporting period, cumulative progress has been estimated at 75% to completion:- The legal consultant has developed draft rules to amend the existing legislation (Pakistan Environment Protection Act) which was being shared with all relevant stakeholders for inputs

Activity Result 1.2.1

National technical guidelines on POPs management and control developed

As part of the draft rules to amend existing legislation, development of national level guidelines for all relevant sectors has also been started. This sector specific guideline document will address and identify roles/responsibilities of each department to phase out POPs pesticides and PCBs from the country.

Activity Result 1.3.1

Data Compiled and chemicals profile for Pakistan updated and elaborated

The progress to completion under this activity is at 50% and will be completed by June 2020. Extensive data has been collected and compilation report to update national chemical profile of Pakistan has been shared with the Chemical focal point in International Cooperation Wing of Ministry of Climate Change. Now the same data will be used for finalizing and publishing the updated chemical profile of Pakistan which was developed in 2009. However, some additional data on some of the chemicals which is being collected from relevant departments to be a part of this report which requires more time till June 2020.

Overall Output Status (mark the output on the scale of 1 to 5 as per the following criteria): **(3)**

Exemplary (5) *****	High (4) ****	~~Satisfactory (3) ***~~	Poor (2) **	Inadequate (1) *
The project is expected to over-achieve targeted outputs and/or expected levels of quality, and there is evidence that outputs are contributing to targeted outcomes	The project is expected to over-achieve targeted outputs and/or expected levels of quality	The project is expected to achieve targeted outputs with expected levels of quality	The project is expected to partially achieve targeted outputs, with less than expected levels of quality	Project outputs will likely not be achieved and/or are not likely to be effective in supporting the achievement of targeted outcomes

Means of Verification

- Draft Rules to include POPs into legislation
- Data Compilation Report – Draft Final Report

Project Output II:
Governance and enforcement particularly on illegal imports framework for controlling POPs improved.

Indicator(s):	Baseline:	Target(s):	Achievement(s):
Extent to which main custom	Inadequate specialized skills,	30 staff from central and provincial level	The procedures and circulars establishing

offices out of the total number which has adopted procedures and circulars establishing POPs management.	financial resources, equipment Inadequate specialized skills, financial resources, equipment and working tools by respective institutions dealing with POPs; Lack of dedicated administrative structure.	administration trained on enforcement of POPs related provisions. Guidance / circulars on PCB identification, inventory labelling and disposal issued; Guidance / circulars on obsolete pesticides including POPs identification, inventory and disposal issued; Guidance for import / export of POPs containing materials and goods.	POPs management will be shared once the technical guidelines on POPs management are developed. In this regard, international consultant is on board. These guidelines, once approved from the government will be disseminated to all the concerned custom departments.

Description of output level <u>results achieved</u> in 2019:

Activity Result 2.1.1:

Specific technical capacities of government officials on Custom, import & export procedures enhanced

To enhance the technical capacities of custom officials, technical trainings were imparted specifically to the custom department officials to enhance their knowledge in terms of identification and regulation of POPs. As part of these onsite trainings, a standard training manual was developed to be shared with all relevant departments. This training manual was further used as guidance documents to conduct all trainings.

In these trainings, all three chemical Conventions i.e. Stockholm, Basel and Rotterdam Conventions were introduced and the role of customs in controlling POPs in import (and export) was highlighted. The training also focused on the more specific and technical topic of custom related activities on dry ports and seaports in the context of main and new industrial POPs. In last phase of trainings, project has planned on-site trainings for the relevant departments on comprehensive procedures to be adopted for the management of POPs.

Overall Output Status (mark the output on the scale of 1 to 5 as per the following criteria): **(4)**				
Exemplary (5) *****	~~High (4) ****~~	Satisfactory (3) ***	Poor (2) **	Inadequate (1) *
The project is expected to over-achieve targeted outputs and/or expected levels of quality, and there is evidence that outputs are contributing to targeted outcomes	The project is expected to over-achieve targeted outputs and/or expected levels of quality	The project is expected to achieve targeted outputs with expected levels of quality	The project is expected to partially achieve targeted outputs, with less than expected levels of quality	Project outputs will likely not be achieved and/or are not likely to be effective in supporting the achievement of targeted outcomes
Means of Verification • Training Reports • Attendance Sheets • Pre and Post Evaluation Sheets				

Project Output III: Stakeholder groups aware of sources and prepared to mitigate POPs exposure and releases.			
Indicator(s): Extent to which institutes and communities demonstrate through their practices/behavior enhanced awareness on POPs.	Baseline: Inadequate resources for dissemination of information on the viable POPs alternatives	Target(s): 30 members of institute and 50 communities training session on POPs exposure mainly for PCB.	Achievement(s): No targets were being set for year 2019
Description of output level <u>results achieved</u> in 2019: **Activity Result 3.1.1** **Awareness level of stakeholders and communities enhanced on POPs exposure and management** No targets were being set for year 2019			

Overall Output Status (mark the output on the scale of 1 to 5 as per the following criteria):				
Exemplary (5) *****	High (4) ****	Satisfactory (3) ***	Poor (2) **	Inadequate (1) *
The project is expected to over-achieve targeted outputs and/or expected levels of	The project is expected to over-achieve targeted outputs and/or expected levels of	The project is expected to achieve targeted outputs with expected levels of quality	The project is expected to partially achieve targeted outputs, with less than expected levels	Project outputs will likely not be achieved and/or are not likely to be effective in supporting the

quality, and there is evidence that outputs are contributing to targeted outcomes	quality		of quality	achievement of targeted outcomes
Means of Verification				

Project Output IV: Cost effective POPs exposure mitigation undertaken focusing mainly on PCBs.			
Indicator(s):	Baseline:	Target(s):	Achievement(s):
Extent to which DISCOs & other relevant industries demonstrate effective compliance with POPs exposure in PCBs.	Lack of guidelines on risk minimization procedures for handling, transportation, storage and disposal of PCB contaminated equipment.	Training of PCB holders in safe PCB handling during maintenance (DISCOs, GENCOs, IPPs, NTDC, and Ministry of Energy etc.	Training of relevant power distribution companies was completed.

Description of output level <u>results achieved</u> in 2019:

Activity Result 4.1.1

Capacities of DISCOs & other relevant stakeholders enhanced

- A training manual has been developed to provide on-site trainings to grass root level workers in the power and industrial sector, including farmer communities.
- 13 number of onsite have been conducted to exchange information on POPs management and all relevant power companies were part of these trainings.

Overall Output Status (mark the output on the scale of 1 to 5 as per the following criteria):

Exemplary (5) *****	~~High (4) ****~~	Satisfactory (3) ***	Poor (2) **	Inadequate (1) *
The project is expected to over-achieve targeted outputs and/or expected levels of quality, and there is evidence that outputs are contributing to targeted outcomes	The project is expected to over-achieve targeted outputs and/or expected levels of quality	The project is expected to achieve targeted outputs with expected levels of quality	The project is expected to partially achieve targeted outputs, with less than expected levels of quality	Project outputs will likely not be achieved and/or are not likely to be effective in supporting the achievement of targeted outcomes

Means of Verification

- Training Reports
- Attendance Sheets
- Pre and Post Evaluation Sheets

Project Output V: Awareness on POPs pesticides among key target groups, such as decision makers, staff in high/risk occupations etc. raised.			
Indicator(s):	Baseline:	Target(s):	Achievement(s):

Extent to which stakeholder groups have enhanced practices towards POPs.	Lack of awareness, both for the public at large, decision makers or farmers, on public awareness on health and environmental risks associated with POP pesticides.	Generate the awareness in 10institutes and 10 communities in relevant areas (agriculture intensive, manufacturing districts, power sector, and waste management) trained on pesticide POPs and their toxicology features, POPs exposure scenario, alternatives to POPs and POPs-free technologies including a specific training activity for addressing gender issue, carried out.	Strengthened the Capacity building of General masses by engaging students into the main activities of the project. Dissemination of Information on POPs through short and long documentaries, brochures and flyers is in progress.

Description of output level <u>results achieved</u> in 2019:

Activity Result 5.1.1

Strengthening of Academia on POPs and PCBs issues

- Students and environment departments from academia sector are constantly being engaged into various project activities i.e. trainings, conferences, project workshops and internship opportunities.
- Work has been done on dissemination of information on POPs through developing short animated documentaries in both English and local language i.e. Urdu along with other knowledge material i.e. brochures and flyers.
- To learn best management practices (BMPs) and best available technologies (BAPs), international meetings were being organized in Turkey along with relevant government representative for the identification and management of POPs by similar POPs project being run by UNIDO and UNDP turkey. This helped the stakeholders from Pakistan for the replication of POPs management practices suitable in the context of Pakistan

Overall Output Status (mark the output on the scale of 1 to 5 as per the following criteria):

Exemplary (5) *****	~~High (4) ****~~	Satisfactory (3) ***	Poor (2) **	Inadequate (1) *
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Means of Verification

- Contracts of University Interns
- Information and Knowledge material disseminated

- Short documentaries and project brochures etc.
- Sampling reports
- Procurement and installation certificates

Project Output VI:
Physical Capacity to undertake POPs disposal projects at provincial level established.

Indicator(s):	Baseline:	Target(s):	Achievement(s):
1.Percentage of inventory of POPs and PCBs stockpiles mapped and digitized	**1.** Inventory of POPs stockpiles mapped and digitized.	**1.** National Inventory of POPs stockpile upgraded, including map for identifying priority sites.	Sampling and testing activity of 2000 contaminated samples from all provinces including AJK and GB has been completed.
2.Number of electrical equipment tested for PCB.	**2.**Number of electrical equipment tested for PCB.	**2.** 2000 PCB contaminated electrical equipment Tests	Development of PCBs inventory at national level has been started.
3.Extent to which DISCOs/NTDC staff are capable for sampling, analysis and labeling of PCB contaminated equipment.	**3.**Extent to which training on sampling, analysis and labelling of PCB contaminated equipment has been effective	**3.** Relevant DISCOs and NTDC staff trained on POPs BAT/BEP and upgradation of dismantling facilities.	Procurement and installation of three GCMS equipment in relevant government departments to test all kind of POPs.
4. No. of PCB storage and dismantling facilities effectively upgraded.	**4.**Number of PCB storage and dismantling facilities effectively upgraded.		

Description of output level <u>results achieved</u> in 2019:

Activity Result 6.1.1

POPs inventory and identification of priority sites

- The development of national technical guidelines is still under process. The training on the guidelines will be organized after these are developed and approved. For now, project has already organized PCBs trainings for power generation/distribution companies on PCBs management. Four trainings on PCBs for the staff of the power generation companies in Lahore, Islamabad, Multan and Karachi were conducted. Participants were mostly from the Energy (electric power) sector, other relevant stakeholders including Environment Protection Agencies and National Electric Power Regulatory Authority (NEPRA).
- Four different laboratories/ firms and national consultant to compile the information

required for the development of the PCBs inventory has been engaged. The work related to the sampling and testing activity of 2000 samples is being supplemented to update the data for finalizing the inventory report. Out of these 2000 samples collected and analyzed, 37 have been found to be contaminated.

Activity Result 6.3.1
Strengthening of Provincial National Labs

Three Gas Chromatography – Mass Spectrometer (GCMS use to identify and test all kinds of POPs) was procured and provided to Environmental Protection Agencies at provincial and federal level. The EPA staff has also been trained to perform POPs samples analysis, which will ultimately support the project target to upgrade POPs inventory at national level to enhance the capacity of public sector on POPs exposure and control and help in the sustainability point of view as this has strengthened the institutional capacity of government departments on POPs management.

Overall Output Status (mark the output on the scale of 1 to 5 as per the following criteria):

Exemplary (5) *****	~~High (4) ****~~	Satisfactory (3) ***	Poor (2) **	Inadequate (1) *
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Means of Verification

- Final reports of reconfirmation
- Laboratory report of tests samples
- Procurement of GC-MS

Project Output VII:
Environmentally safe disposal of particularly risky POPs stockpiles and the sound disposal of up 1500 tonnes of POPS Pesticides and PCBs

Indicator(s):	Baseline:	Target(s):	Achievement(s):
Amount of POPs pesticide disposed of in an environmentally safe way. Amount of PCBs disposed of in an environmentally safe way.	NIP for POPs inventory - 6031 MT out of which 3,800 MT in Punjab, 2,016 MT Sindh, 48 MT KPK, 135 MT Baluchistan, 31.5 MT AJK and 0.5 MT Northern Areas of Pakistan. A PCB inventory is missing. Storage facilities are not safe and POPs may be easily	Plan developed to pilot disposal of POPs stockpile from Sindh and Baluchistan province.	10 MT POPs PCBs were disposed off.

	released in the environment. Dismantling facilities for PCBs do not currently envisage any procedure or equipment for the safe dismantling and decontamination of PCB contaminated equipment.		

Description of output level <u>results achieved</u> in 2019:

Activity Result 7.1.2

POPs stockpile Disposed

- Project has not disposed of any pesticides tonnage in this reporting period. Based on this percentage progress to completion target is approximately 40%. After checking ground realities, the project advertised RFP to engage disposal facility and transport vendor for the remaining stockpiles of POPs pesticides which is 286 MT (with reference to the new NIP developed in 2019). The TORs have been developed to engage environmentally sound incineration or cement kiln facility to dispose off POPs pesticides in environmentally safe way.
- For contaminated sites remediation, the project is considering disposal through incineration after successful destruction of Pesticides stockpiles, as recommended by the consultant.
- The cumulative tonnage of PCBs phased out by the disposal facility during this reporting time is 10 tones and 42 tones in total. Based on this percentage progress to completion target is approximately 15%. As PCBs contaminated equipment i.e. transformers are considered as an asset of the concerned power companies and departments which resulted in hesitation from the departments in the provision of NOC for handing over the transformers for disposal.
- Work on development of feasibility of proposed mobile/static technology for PCBs treatment has been started by an international expert. Based on this feasibility report, the project will either work on the up gradation of existing PCBs dismantling facilities or will procure the proposed technology.

Overall Output Status (mark the output on the scale of 1 to 5 as per the following criteria):

Exemplary (5) *****	High (4) ****	~~Satisfactory (3) ***~~	Poor (2) **	Inadequate (1) *
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Means of Verification

- Reports of meetings held
- RFPs of transport and disposal company

<table>
<tr><td colspan="4">Project Output VIII:
National POPs management and disposal scheme and replication plan developed.</td></tr>
<tr><td>Indicator(s):

Existence of National POPs management and Disposal Plan with detailed plans on

1. National scheme for POPs pesticide disposal
Management plan for PCBs</td><td>Baseline:

The action plans for pesticidal POPs disposal and PCBs management established in the NIP have not been implemented yet.</td><td>Target(s):

National scheme for POPs disposal as a part of hazardous waste management scheme developed.
Nationwide PCB management strategy developed.</td><td>Achievement(s):

International expert has been engaged to develop national scheme or management plan for disposal of POPs.</td></tr>
<tr><td colspan="4">Description of output level <u>results achieved</u> in 2019:
Activity Result 8.1.1
National POPs Management and Disposal Plan
International consultant has started work to develop POPs management plan. Meetings with all relevant stakeholders have been completed and the draft management plan will also be shared with all in a consultative meeting to be held by June 2020.</td></tr>
<tr><td colspan="4">Overall Output Status (mark the output on the scale of 1 to 5 as per the following criteria):</td></tr>
</table>

Exemplary (5) *****	~~High (4) ****~~	Satisfactory (3) ***	Poor (2) **	Inadequate (1) *
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Means of Verification

- Inception Report of International expert

4. LESSONS LEARNT

Please indicate if the lesson you are describing was derived from either a project success (e.g. the results were achieved or even exceeded) or from a project challenge (e.g. the results were not achieved within intended time/budget/quality parameters). Please cite evidence or any other sources that support your assertions to the success/challenge of the

project. Report on any review/evaluations undertaken relating to the project and how they were used during implementation. What are the key findings?

The main challenges faced during this reporting period were around:

- Identification of cement companies/incinerator plants/kilns with the capacity and required standards to dispose of POPs pesticides and meetings with the management to discuss challenges was a time taking process. Uptil now, the project has only disposed of 443.77 tons of POPs pesticides out of 1200 MT target set for the project as the remaining POPs pesticides stockpiles left in country is 286 MT as confirmed during recent surveys of project. To dispose remaining 286 MT, project had to meet various incinerators and cement companies to map out potential vendors at national level after which process to engage the firms to transport, handling and dispose of POPs pesticides has been initiated. With this, project will only dispose the remaining quantity of 286 MT instead of 757 MT POPs pesticides (remaining target as per project document).
- As PCBs contaminated equipment i.e. transformers are considered the asset of concern power departments which resulted in hesitation from the department in the provision of NOC for handing over the transforms for disposal. For POPs PCBs, the transport firm and disposal firm are on board but project is facing challenges and issues for provision of NOCs from power companies as PCB contaminated oil is still considered as an asset in Pakistan. To address this issue, the project started work on legislation and development of PCBs inventory by engaging internationally accredited laboratories for the sampling, labelling and analysis of 2000 samples of PCBs.
- To build a consensus among all relevant government departments on developing the legislation on POPs through amendments in the existing legislation or by stand-alone legislation was also a tedious process.

Despite these challenges, the project was able to have constant meetings with government departments on legislation, private cement companies/incinerator plant management team to discuss the challenges for disposal of POPs pesticides and Ministry of Energy, Power Division (MOE)/National Electric Power Regulatory Authority (NEPRA) for issuance of NOC for disposal of POP. As a result, draft rules on existing legislation have already been prepared, RFP for disposal of POPs pesticides have already been advertised and the project has initially disposed of 10MT of PCBs this year.

Project was able to successfully incorporate MTR recommendations into the planning and received satisfactory ratings on Project Implementation Report. Based on this, project has been extended for additional 9 months which gives plenty of time for the PMU to completed the pending targets.

5. THE WAY FORWARD/KEY PRIORITIES FOR 2020

State priority actions/recommendations planned for the coming period to overcome constraints, build on achievements and partnerships, and use the lessons learned during the period. Indicate any major adjustments in strategies, targets or key results planned for the coming period; taking into consideration project alignment with the national

developments/trends etc.

Based on the recent ratings of the project, meetings of technical review committee and project steering committee POPs project will expand its scope of work and will work towards the sustainability of this project. The key priority actions will be around:

- Project will finalize sector specific national technical guidelines including energy, textile manufacturing, iron, steel, ship-breaking, plastic industry, dry/seaports and other relevant stakeholders for effective enforcement to regulate and control POPs at all levels. Project will complete Chemical Profile and Policy work. Project will develop operating rules and will complete the legislation framework for POPs management.
- As PCBs contaminated equipment is the asset of power companies which results in hesitation from the department on handing over the transforms for disposal. For this, project will work on introducing advanced technologies or mobile technology for onsite treatment of contaminated oil after which the departments can still use the transformers. Project will finalize the feasibility report to procure any mobile/onsite treatment technology in the context of Pakistan. Based on this report, treatment technology will be installed which will help in sustainability of the project.
- Project will work on disposal of 286 MT of POPs Pesticides.
- Since very little work has been done on the management of POPs PCBs, which results in lack of awareness and commitment of Power sector and non-availability of POPs PCBs inventory at national level. Project will analyze 3000 PCBs samples. Project will work on development of PCBs management plan for all relevant power sectors to phase out PCBs from the country and will also develop profile/inventory of POPs PCBs in Pakistan.

Annex: AWP based Reporting Matrix

EXPECTED OUTPUTS	Progress on Annual Target - On Track/Achieved, Require Monitoring/Not Achieved, Require Urgent Management Attention	PLANNED ACTIVITIES (as per AWP)	Activity Status *On Track/Achieved (76%-100%), Require Monitoring/Not Achieved (50%-75%), Require Urgent Management Attention (0-49%)*	AWP Budget ($)	Expenditure ($)	% Delivery
Project Output 1: Strengthened POPs regulatory and policy instruments adopted and effectively made operational by Government enforcement agencies and other organizations involved in regulating POPs management						
Indicator 1.1: Number of regulatory tools and frameworks on POPs strengthened and updated ***Baseline 1.1:***initial POPs pesticides in Stockholm Convention are banned in Pakistan, through Agricultural Pesticides Ordinance, 1971 ***Target 1.1:***Key POPs related legislation updated and amended.	Require Monitoring/Not Achieved	Activity Result 1.1.1Amendment in existing regulatory and policy legislation to include POPS PCBs				
		Activity 1.1.1 Development of rules for POPs PCB	Require Monitoring/Not Achieved	25,000	23,554	94.21%
Indicator 1.2: Extent to which national Technical POPs management Guidelines compliant with SC developed and effectively implemented. **Baseline1.2: scale 2** [National Technical POPs management Guidelines established, but not being effectively implemented (up to 20%)] **Target1.2: Scale 3:** National Technical POPs management Guidelines established, and partially implemented (51-85%)	Require Monitoring/Not Achieved	Activity Result 1.2.1 National technical POPs management guidelines developed				
		Activity 1.2.1 Formulation of national technical guidelines on POPs management and control	Require Monitoring/Not Achieved	43,000	0.00	0.0 [ANGP2]
Indicator 1.2:Extent to which national Technical POPs management Guidelines	Require	Activity Result 1.2.1		Data Compiled and chemicals profile for Pakistan updated and elaborated		

compliant with SC developed and effectively implemented ***Baseline 1.2:***Chemical Profile for the country was completed in 2009 by the International Cooperation Wing of the former Ministry of Environment. ***Target 1.2:***Data compilation and elaboration of an updated Chemicals Profile for Pakistan	Monitoring/Not Achieved	Activity 1.2.1 a Data Compiled and chemicals profile for Pakistan updated and elaborated	Require Monitoring/Not Achieved	20,000	18,574	92.87%
Project Output 2: Governance and enforcement particularly on illegal imports framework for controlling POPs improved						
Indicator 2.1: Extent to which main custom offices has adopted procedures and circulars establishing POPs management and enforcement. ***Baseline 2.1:*** Inadequate awareness of importers and custom officers on imports requirements; Inadequate POPs inspectorate services Lack of control on the export of PCB content of end of life electrical equipment. ***Target 2.1:***Custom officers and managers trained on POPs management and enforcement related	On Track/Achieved	Activity Result 2.1.1		Specific technical capacities of government officials on Custom, import & export procedures enhanced		
		Action 2.1.1 Development of training manual for all relevant Government departments on POPs management	On Track/Achieved	27,000	23,655	87.61%

issues and strategies						

Project Output 4: **Cost effective POPs exposure mitigation undertaken focusing mainly on PCBs.**						
Indicator 4.1:Extent to which DISCOs & other relevant industries demonstrate effective compliance with POPs exposure in PCBs. ***Baseline 4.1:***Lack of guidelines on risk minimization procedures for handling, transportation, storage and disposal of PCB contaminated equipment. Lack of adequate legal provision for monitoring of POPs release and their effects to human environment; There are no legal provisions focusing on PCBs management ***Target 2.1:*** Strengthen of all DISCOs, GENCOS, IPPs, NTDC, NEPRA and related Ministries on PCBs management	On Track/Achieved	Activity Result 4.1.1		Capacity building of PCB holders (DISCOs, GENCOs, IPPs, NTDC, and Ministry of Energy etc.) on safe handling and maintenance of POPS PCBs		
		Activity 4.1.1 On site trainings of operators/workers from different industrial (textile, iron and steel, ship-breaking, plastic), energy and border/ports control authorities on POPs reduction, BMPs, BAT/BEP.	On Track/Achieved	18,000	15,772	87.62%
Project Output 5: Awareness on POPs pesticides among key target groups, such as decision makers, staff in high/risk occupations etc. raised.						
Indicator 5.1:Extent to which stakeholder groups have enhanced practices towards POPs. ***Baseline 5.1:***Lack of awareness, both for the public at large, decision makers or farmers, on public awareness on health and environmental risks associated with POP pesticides ***Target 5.1:*** Generate the awareness in 10 institutes and 10 communities in relevant areas (agriculture intensive,	On Track/Achieved	Activity Result 5.1.1		Strengthening of Academia on POPs and PCBs issues		
		Activity 5.1.1 a Capacity Building of Academia regarding POPs	On Track/Achieved	20,000	18,280	90.4%
		Activity 5.1.1 b) b)Dissemination of information through Awareness Material/Reports regarding POPs and PCBs to key target groups	On Track/Achieved	44,000	42,701	94.04%
		Action 5.1.1. c) Training courses for POPs PMU (on job trainings	On Track/Achieved	4,000	2,568	64.20%

manufacturing districts, power sector, and waste management) trained on pesticide POPs		Action 5.1.1 d) Capacity building of EPAs, relevant authorities on BAT/BEP for POPs (Unintentional and new POPs) through exposure to International Best Management Practices	On Track/Achieved	55,000	45,757	83.19%
Project Output 6: Physical Capacity to undertake POPs disposal projects at provincial level established.						
Indicator 6.1: Percentage of inventory of POPs and PCBs stockpiles mapped and digitized. ***Baseline 6.1:*** National Implementation Plan (NIP) for POPs, inventories approximately 6,031 MT of obsolete stocks of POPs pesticides in 430 identified sites. Of these 3,800 MT are in Punjab, 2,016 MT in Sindh, 48 MT in KPK, 135 MT in Baluchistan, 31.5 MT in AJK and 0.5 MT in Northern Areas ***Target 6.1:*** National Inventory of POPs stockpile upgraded, including map for identifying priority sites	On Track/Achieved	Activity Result 6.1.1	Amount & location of POPs stock piles reconfirmed and inventory developed including map for identified priority sites.			
		Activity 6.1.1 a Pilot inventory of PCBs at national level and work on PCB Database	On Track/Achieved	15,000	13,806	92.04%
		Activity 6.1.1 b) Sampling and testing of 800 equipment contaminated with PCBs in Punjab & Islamabad	On Track/Achieved	28,000	25152	89.82%
	On Track/Achieved	Activity 6.1.1 c) Sampling and testing of 600 equipment contaminated with PCBs in Sindh	On Track/Achieved	30,000	26,947	89.82%
	On Track/Achieved	Activity 6.1.1 d) Sampling and testing of 100 equipment contaminated with PCBs in Baluchistan	On Track/Achieved	11,000	9,660	87.81%
Indicator 6.2 Extent to which DISCOs/NTDC staff are capable for sampling, analysis and labeling of PCB contaminated equipment ***Baseline 6.2*** Storage facilities are not safe and POPs may be easily released	On Track/Achieved	Activity 6.1.1 e) Sampling and testing of 500 equipment contaminated with PCBs in AJK, GB, Khyber Pakhtunkhwah	On Track/Achieved	21,000	18,608	88.60%

in the environment ***Target 6.2:*2000 PCB Tests**						
		Activity 6.3.1 Identification of POPs and PCBs at EPA level through provision of equipment (2 GCMS)	Require Monitoring/Not Achieved	320,000	46,099	14.40%

Project Output 7: **Environmentally safe disposal of particularly risky POPs stockpiles and the sound disposal of up 1500 tonnes of POPS Pesticides and PCBs**						
Indicator ***7.1:***Amount of POPs pesticide disposed off in an environmentally safe way. ***Baseline*** ***7.1:***Currently the greatest part of POPs stockpiles and PCBs are not managed in an environmentally safe way ***Target 7.1:*** 1200 tons of obsolete POPs stockpile	On Track/Achieved	**Activity Result 7.1.2**		**POPs stockpile Disposed**		
		Activity 7.1.1 a Transport and disposal of 286 MT of POPs Pesticides	Require Monitoring/Not Achieved	387,000	281,486	72.73%
		Activity 7.2.1 a Handling and Transportation of 75 MT available POPs PCBs contaminated equipment/oil	Require Monitoring/Not Achieved	1,000	0.0	0.0
		Activity 7.1.2 b Disposal of 75 MT of POPs PCBs contaminated equipment/oil	Require Monitoring/Not Achieved	100,000	8,004	8.04%
		Activity 7.1.2 c Technical Component (services)	On Track/Achieved	48,000	43,486	90.59%
		Activity 7.1.2 d Feasibility, Procurement & Installation of Mobile Technology for PCBs treatment	Require Monitoring/Not Achieved	48,500	0.0	0.0 [ANGP3]
		Activity Result 8.1.1 National POPs Management and Disposal Plan				
Output 8. National POPs management and disposal scheme and replication plan developed.	On Track/Achieved	**Action 8.1.1 a)** Development of PCBs management plan	On Track/Achieved	50,000	0.0	0.0 [ANGP4]

Indicator 8.1: Existence of National POPs management and Disposal Plan with detailed plans on 1. National scheme for POPs pesticide disposal 2. Management plan for PCBs. **Baseline 8.1:** The action plans for pesticide POPs disposal and PCBs management established in the NIP have not been implemented yet. **Targets 8.1:**No Target in 2019						