Comprehensive Reduction and Elimination of Persistent Organic Pollutants in Pakistan

Atlas Award ID: 00081936
Atlas Project ID: 00091045

Annual Progress Report

January – December 2018

Insert photos

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:	Dec 31,2019
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 1200t 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 2018	1,160,000/- US$
Expenditure 2018	634,449/- US$
Delivery %	55 %

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

Pakistan has banned use of all severely toxic and hazardous pesticides included in the PIC and POP list in the early 1990s. In addition to POP pesticides, several other pesticides have also been banned. The action required urgency as such chemicals are long lived, includes several banned pesticides and insect repellent DDT. They are dispersed around the planet by atmospheric patterns, do not degrade naturally, and are associated to hormonal, developmental and reproductive disorders with an increased risk of Cancer, Diabetes and Dementia. Recently the government is considering banning all formulations of monocrotophos and methamidophos. Practically no pesticide falling in the WHO Category is being used. Due to availability of comparatively safe new chemistry molecules and IGRs at competitive prices, the use of pesticides falling into WHO Category II is also declining.

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:

1. Import/Export Policy Order 2016 (Pakistan).
2. National Environmental Policy 2005
3. PEPA 1997
4. National Biosafety Guidelines (May 2005)
5. Handling, Manufacture, Storage, Import of hazardous waste Rules, Draft-2016
6. Agricultural Pesticide Act. (1971)
7. Amendment of Act XL 1997 in Regulation Generation, Transmission/Distribution of Electric Power
8. Regulation of Generation 1997, Transmission/Distribution of Electric Power
9. NEPRA Guidelines 2015
10. NEPRA SOPs for Inspection

1.2 Situation of POPs Pesticides and PCBs in Pakistan

As per NIP (baseline document of project), there is approx. 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, targets of project was set to transport and dispose of 1200 MT of POPs Pesticides (mainly 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 230 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 is missing from NIP and there is no PCB management plan in place either at national. Project has started work to develop PCBs Inventory and management guidelines 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 and availability of facilities for safe disposal is generally missing at national level due to lack of capacity, unavailability of organized monitoring system and lack of coordination among the relevant line agencies. Project is efficiently working to build the capacity of relevant national and provincial stakeholder by training and provision of equipment for sampling and analysis of POPs.

The only viable option found by the POPs Project was the established capacity of the Bestway cement kiln plant in Islamabad through which 475 MT has been disposed of so far. Project is now working on installation of mobile technology for PCBs treatment and development of POPs treatment facility through Public-Private Partnership 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):	Baseline:	Target(s):	Achievement(s):
Number of regulatory tools and policy frameworks relevant to the management of POPs including PCBs, hazardous waste pesticides strengthened and updated	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	One POPs legislation related draft report developed	GAP Analysis of existing rules and legislation on POPs has been completed and a national level consultative meeting was conducted to build a consensus among all relevant provincial and national level stakeholders on whether to go for standalone legislation on POPs or amendments to include POPs management in existing legislation. Majority of the stakeholders were in favour of amendments in existing legislation by including POPs which will be completed in 2019.

[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 2018:

Activity Result 1.1.1
For this reporting period, cumulative progress has been estimated at 50% to completion:-
The legal consultant has developed gap analysis report of existing legislations and same was being shared with all relevant stakeholders for inputs. The work on amendments in already present legislation will be completed in 2019 which includes;

1. Pakistan Environmental Protection Act 1997.
2. Handling, Manufacture, Storage, Import of hazardous waste and hazardous substances Rules", Draft-2016.
3. The Agricultural Pesticide Ordinance.
4. The Consolidated Agricultural Pesticides Rules, 1973.
5. Import/export Policy Order 2016.

Means of Verification

- Approved GAP analysis report
- Letters from all relevant stakeholders in response to the GAP analysis report being shared

3.2. Progress towards Project Results/Outputs[2]

<table>
<tr><td colspan="4">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.</td></tr>
<tr><td>Indicator(s):

Number of regulatory tools and policy frameworks relevant to the management of POPs including PCBs, hazardous waste pesticides strengthened and updated</td><td>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</td><td>Target(s):

One POPs legislation related draft report developed</td><td>Achievement(s):

The consultation meetings with all relevant stakeholders have been complete, GAP analysis report has been developed and shared for inputs.
The legislation (amendment in existing legislation) will be initiated by March 2018.</td></tr>
<tr><td colspan="4">Description of output level <u>results achieved</u> in 2018:
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 50% to completion:-
The legal consultant has developed gap analysis report of existing legislations and same was being shared with all relevant stakeholders for inputs. The work on amendments in already present legislation will be completed in 2019 which includes;
1. Pakistan Environmental Protection Act 1997.
2. Handling, Manufacture, Storage, Import of hazardous waste and hazardous substances Rules", Draft-2016.
3. The Agricultural Pesticide Ordinance.
4. The Consolidated Agricultural Pesticides Rules, 1973.
5. Import/export Policy Order 2016.

Activity Result 1.2.1
Data Compiled and chemicals profile for Pakistan updated and elaborated
• Data compilation to update National Chemicals Profile is underway and consultant has acquired data from primary and secondary stakeholders.</td></tr>
</table>

[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).

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 • Approved GAP analysis report • Letters from all relevant stakeholders in response to the GAP analysis report being shared • Data Compilation Report – First Deliverable Submitted				

Project Output II: Governance and enforcement particularly on illegal imports framework for controlling POPs improved.			
Indicator(s): Extent to which main custom offices out of the total number which has adopted procedures and circulars establishing POPs management.	Baseline: Inadequate specialized skills, financial resources, equipment Inadequate specialized skills, financial resources, equipment and working tools by respective institutions dealing with POPs; Lack of dedicated administrative structure.	Target(s): 30 staff from central and provincial level 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.	Achievement(s): Two training sessions for custom officers were conducted in November 2018 for border/offshore management of POPs (dirty dozen & new POPs).

Description of output level results achieved in 2018:

Activity Result 2.1.1:

Capacity of 30 staff members from central and Provincial level administration trained on enforcement of POPs related provisions

- An international training firm from Netherlands, TAUW was engaged and a team of two master trainers, Mr. Matthijs Bouwknegt from Netherlands and a national trainer Dr. Irshad Ahmad from Pakistan along with POPs Technical Advisor conducted trainings in Lahore and Islamabad.
- Two number of training workshops has been completed for custom officers and managers from all relevant provinces and around 68 participants attended these trainings out of which 6 were females.

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):	Baseline:	Target(s):	Achievement(s):
Extent to which institutes and communities demonstrate through their practices/behavior enhanced awareness on POPs.	Inadequate resources for dissemination of information on the viable POPs alternatives	30 members of institute and 50 communities training session on POPs exposure mainly for PCB.	Training workshop of relevant institutions and communities relevant Government departments, relevant power distribution companies, private organizations, Labs and academia (in GB and KP) on POPs was completed.

Description of output level results achieved in 2018:

Activity Result 3.1.1
Professional and community level training sessions on POPs exposure mainly for PCB

- A Pakistani training firm S&S, was engaged and two number of training workshops has been completed in GB and KPK.
- Around 225 participants attended these trainings out of which 22 were females.

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 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 sessions for Energy Sector on PCBs management were conducted at 4 different locations in November 2018

Description of output level results achieved in 2018:

- An international training firm from Netherlands, TAUW was engaged and a team of two master trainers, Mr. Ion Barbarasa from Moldova, and national master trainer Dr. Irshad Ahmad from Pakistan along with POPs Technical Advisor conducted trainings in Lahore and Islamabad.
- Four number of training workshops has been completed for power sector officials from all relevant DISCOs, GENCOs, IPPs, NTDC, and Ministry of Energy etc. and around 151 participants attended these trainings out of which 13 were females.

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 10 institutes 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 2018:

Activity Result 5.1.1

Strengthening of Academia on POPs and PCBs issues

- Project has engaged eight interns from various universities out of which 5 were females. These interns worked in different capacities into the project activities.
- Project also engaged consultant for developing communication material including documentaries and brochures to create awareness among masses and to increase the visibility of the project.

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	The project is expected to over-achieve targeted outputs and/or	The project is expected to achieve targeted	The project is expected to partially achieve targeted outputs, with	Project outputs will likely not be achieved and/or are not likely to

expected levels of quality, and there is evidence that outputs are contributing to targeted outcomes	expected levels of quality	outputs with expected levels of quality	less than expected levels of quality	be effective in supporting the achievement of targeted outcomes

Means of Verification

- Contracts of University Interns
- Information and Knowledge material disseminated
- Short documentaries and project brochures etc.

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.	**1.** Project completed reconfirmation of POPs Pesticide Stockpiles in provinces and total of 227.5 MT i.e. 5.1 MT in Punjab including Islamabad, Sindh 74.2 MT, Balochistan 99.4 MT, Khyber Pakhtunkhwa 48 MT, AJK 48 MT, and GB 0.7 MT.
2. Number of electrical equipment tested for PCB.	**2.** Number of electrical equipment tested for PCB.	**2.** 2000 PCB contaminated electrical equipment Tests	
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.	**2.** Sampling and Testing of PCBs was also initiated and 57 samples were tested, out of which 17 were highly contaminated. (Concentration more than 50 PPM)
4. No. of PCB storage and dismantling facilities effectively upgraded.	**4.** Number of PCB storage and dismantling facilities effectively upgraded.		**3.** Project has worked on strengthening the capacity of EPA laboratories through provision of equipment's i.e. GC-MS which will be used for identification and testing of POPs.

Description of output level results achieved in 2018:

Activity Result 6.1.1
Amount & location of POPs stock piles reconfirmed and inventory developed including map for identified priority sites.

- Project reconfirmed the quantum and location of POPs pesticides in all provinces including GB and AJK along with the mapping on GIS map.
- The same was also shared with all relevant stakeholders and concern departments to cross check in case of any communication gap.
- Final reports were printed and shared with all stakeholders.
- The same process was initiated for the inventory of PCBs and an MOU was singed with NEPRA, a parent body of all DISCOs and GENCOs etc.
- Through NEPRA, locations were finalized and letters were send for sample collection
- COMSATS Abbottabad laboratory was engaged to collect samples along with POPs PMU and NEPRA official from concern department and get it tested.
- The tests reports were further shared with concern departments for NOCs.

Activity Result 6.2.1
Strengthening of Provincial National Labs

- Individual meetings were conducted with provincial and federal EPA to identify the need of department for identification and management of POPs pesticides and PCBs.
- EPAs shared their letter of requirement in which it was highlighted to install and train EPA official on GC-MS
- Gas Chromatography –Mass Spectrometry Equipment has been procured for EPAs for the identification and management of all types of POPs.

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

- 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	NIP for POPs inventory - 6031 MT out of which 3,800 MT in	Plan developed to pilot disposal of	Research on remediation of

of in an environmentally safe way. Amount of PCBs disposed of in an environmentally safe way.	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 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.	POPs stockpile from Sindh and Baluchistan province.	POPs (including contaminated soil) through advanced technologies was initiated. Meetings with POPs Project of UNDP and UNIDO Turkey and Ministry of Environment Turkey were organized for exposure to POPs best management practices was completed. Assessment of Persistent organic pollutants for human health exposure was also initiated.

Description of output level results achieved in 2018:

Activity Result 7.1.2

POPs stockpile Disposed

- For transport and disposal of POPs, services of vendor was advertised by UNDP and SOPs were developed and shared with selected vendors to ensure disposal of POPs in environmentally safe manner.
- Meetings were held with Ministry of Environment Turkey and POPs project by UNDP/UNIDO Turkey to exchange information and lessons learnt which helped project to identify advanced technologies being used in other countries for elimination of POPs pesticides and PCBs.
- For the Remediation of Contaminated Sites, consultant has been engaged who working on five hotspots all around Pakistan and on Health Assessment and Environmental Impacts of POPs.

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

- Reports of meetings held

- Reports of Remediation and health assessment consultancy

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?

1. The National Implementation Plan (NIP) developed in 2009 (baseline document of this project) has not been updated yet by MOCC due to which project has to reconfirm quantum and location of POPs pesticides and there was a huge difference between the figures identified in NIP and recent reconfirmation reports. This is the main reason that project might not be able to complete its target of transport and disposal of 1200 MT of POPs Pesticides as project has already disposed of 443 MT of POPs Pesticides and remaining only 227.5 is available in all provinces.
2. The PCBs Inventory is missing from the NIP and even under the project, this activity was not initiated after the start of project which was initiated in 2018 and all relevant authorities are on board. This activity will be a great achievement under this project as the PCBs inventory at national level will help Pakistan to phase out and eliminate PCBs contaminated oil and equipment to bring national environmental and health benefits.
3. Mid-term evaluation of the project was successfully completed and against the recommendation management response has been submitted. To address the recommendation project has already incorporated around the key findings, which are:
    - Testing of Pakistan Laboratory capabilities for project analytical needs should be combined with international lab testing (at least initially) to act as a 'field split' and test performance on timely delivery of results and quality.
    - POPs types are poorly quantified for pesticides and virtually unknown for PCBs. Project needs to re-verify POPs pesticides which are mixed with non-POPs and establish detail inventory of PCBs i.e. what PCBs exist (locations and quantities).
    - Legislation can target different sectors (agriculture, electricity, ship breaking etc.) for which Regulators and industry should be consulted and legislation to be finalized.
    - Develop National Management Plans (PCBs/OCPs/uPOPS) or addendum to the project for alternate treatment of PCBs to be considered.
    - With around 30% of total project budget utilized, extension of 18 month is recommended, this would also allow other technologies to be considered (i.e. PCB specific) that may be more suitable/sustainable in the Pakistan context.
    - Moreover another review is recommended before starting the extension period to evaluate the progress of remaining 12 months of the existing period.
4. Another challenge was the time consuming process of vendor selection for our transport and disposal activity due to which the project was not able to timely initiate the activity.
5. The change in National Project Director was another main challenge due to which there was hindrance to take approvals, keep a regular track and timely completion of activities in each quarter. In result, there was a delay to share advance request to UNDP and project could only manage to utilize budget of two quarters.

5. THE WAY FORWARD/ KEY PRIORITIES FOR 2019

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 findings of MTR report, 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 projects considering the importance of this issue and lack of capacity at local and national level on identification and management of POPs. The key priority actions will be around:

- Project will finalize amendments in existing legislation to include POPs pesticides and PCBs which will strengthen the enforcement mechanism to regulate the use and further illegal trading of POPs. After this, project will also conduct training workshops for operators from specific industrial sectors, energy textile manufacturing, iron, steel, ship-breaking, plastic industry, staff members from dry/seaports and other relevant stakeholders on enforcement mechanism for POPs control.
- Considering the importance of Federal EPA and provincial EPAs in the regulation and monitoring of POPs, project will specifically work on capacity building of EPAs on BAT/BEP for POPs (Unintentional and new POPs) on best management practices.
- As there is no national level disposal facility in Pakistan, project will this year work on developing such facility through public private partnership to ensure sustainability of the project after its end year.
- As PCBs contaminated equipment i.e. transformers are considered asset of concern departments 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.

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 a Development of rules for POPs PCB	Require Monitoring/Not Achieved	30,000	18,509	62%
Indicator 1.2: Extent to which national Technical POPs management Guidelines		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	Require Monitoring/Not Achieved	Activity 1.2.1 a Data Compiled and chemicals profile for Pakistan updated and elaborated	Require Monitoring/Not Achieved	7,000	669	10%
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	On Track/Achieved	**Activity Result 2.1.1**		Capacity of 30 staff members from central and Provincial level administration trained on enforcement of POPs related provisions		
		Activity 2.1.1 a Training of 30 Staff members from central and Provincial level on enforcement of POPs related provisions.	On Track/Achieved	23,000	21,936	95%
		Activity 2.1.1 b Custom officers and Managers trained on POPs issues and strategies	On Track/Achieved	35,000	26,965	77%

enforcement related issues and strategies						

Project Output 3: Stakeholder groups aware of sources and prepared to mitigate POPs exposure and releases						
Indicator 3.1:Extent to which institutes and communities demonstrate through their practices/behavior enhanced awareness on POPs. ***Baseline 3.1:***Inadequate resources for dissemination of information on the viable POPs alternatives ***Target 3.1:*** At least 30 institutes and 50 communities in relevant areas 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	On Track/Achieved	Activity Result 3.1.1		Professional and community level training sessions on POPs exposure mainly for PCB		
		Activity 3.1.1 a Mainstreaming gender to strengthen the management of POPS.	On Track/Achieved	10,000	6,305	63%
		Activity 3.1.1 b Training/ Awareness sessions of relevant institutions and communities relevant Government departments, relevant power distribution companies , private organizations , Labs and academia (in GB and KP) on POPs exposure mainly PCB	On Track/Achieved	48,000	44,454	93%
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 a Capacity building of PCB holders (DISCOs, GENCOs, IPPs, NTDC, and Ministry of Energy etc.) on safe handling and maintenance of POPS PCBs. (One day training workshops in 5provinces and one state AJK)	On Track/Achieved	159,133	136,856	86%

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, 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.	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	8,000	6,683	84%
		Activity 5.1.1 b)Dissemination of information through Awareness Material/Reports regarding POPs and PCBs to key target groups	On Track/Achieved	49,000	28,042	57%
Project Output 6: Governance and enforcement particularly on illegal imports framework for controlling POPs improved						
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 Reconfirmation and development of inventory of POPs stockpiles In Baluchistan& Sindh	On Track/Achieved	21,050	9,975	47%
		Activity 6.1.1 b Reconfirmation and development of inventory of POPs stockpiles (Pesticides and PCBs) In AJK, & GB,KP	On Track/Achieved	20,000	5,426	27%
	On Track/Achieved	Activity 6.1.1 c	On Track/Achieved	17,500	11,674	67%

		Reconfirmation and development of inventory of POPs stockpiles in Punjab and Federal				
	On Track/Achieved	Activity 6.1.1 d) Sampling and testing of PCBs from all Provinces	On Track/Achieved	28,000	19,532	70%
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 in the environment ***Target 6.2:*****2000 PCB Tests**	On Track/Achieved	**Activity Result 6.2.1**	**Strengthening of Provincial National Labs**			
		Activity 6.2.1 a) Identification and management of POPS and PCBS through provision of equipment's	On Track/Achieved	280,000	797	0%
		Action 6.2.1 b) Up gradation of two PCB storage and dismantling facilities	Require Monitoring/Not Achieved	9,000	3,010	33%

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 7.1.2 a Disposal of 50 MT of POPs pesticide.	Require Monitoring/Not Achieved	2,000	0.0	0%
		Activity 7.1.2 b Handling and Transportation of 350 MT of POPs PCBs and pesticides	Require Monitoring/Not Achieved	46,948	26,476	56%

		Activity 7.1.2 c Disposal of 300 MT of POPs PCBs	Require Monitoring/Not Achieved	30,000	13,118	44%