



Project Implementation Report¹

(1 July 2022 – 30 June 2023)

Project Title:	<i>Removal of Technical and Economic Barriers to Initiating the Clean-up Activities for Alpha-HCH, Beta-HCH and Lindane Contaminated Sites at OHIS</i>
GEF ID:	4385
UNIDO ID:	100122
GEF Replenishment Cycle:	GEF-5
Country(ies):	Republic of North Macedonia
Region:	ECA - Europe and Central Asia
GEF Focal Area:	Persistent Organic Pollutants (POPs)
Integrated Approach Pilot (IAP) Programs²:	N/A
Stand-alone / Child Project:	N/A
Implementing Department/Division:	ENV / IPM
Co-Implementing Agency:	N/A
Executing Agency(ies):	Ministry of Environment and Physical Planning (MoEPP) / POPs Unit
Project Type:	Full-Sized Project (FSP)
Project Duration:	60 months (5 years),
Extension(s):	3
GEF Project Financing:	3,100,000 USD
Agency Fee:	294,500 USD
Co-financing Amount:	USD 12,450,000
Date of CEO Endorsement/Approval:	12/15/2014
UNIDO Approval Date:	1/29/2015
Actual Implementation Start:	2/11/2015
Cumulative disbursement as of 30 June 2023:	3,071,440.89
Mid-term Review (MTR) Date:	4/1/2019
Original Project Completion Date:	2/11/2020
Project Completion Date as reported in FY22:	12/31/2022
Current SAP Completion Date:	3/31/2023
Expected Project Completion Date:	3/31/2023

¹ This termination/final report presents the project final accumulative data

² Only for **GEF-6 projects**, if applicable

Expected Terminal Evaluation (TE) Date:	3/31/2023
Expected Financial Closure Date:	12/31/2023
UNIDO Project Manager ³ :	Vladimir Anastasov

I. Brief description of project and status overview

Project Objective
<p><i>The project objective is to set up a sustainable mechanism to ensure a sustainable clean up operation at the selected HCH contaminated site for future industrial use, and to protect human health and the environment from their adverse effects by reducing and eliminating the releases of and exposure to HCHs (6,000 m3 or 10,700 tons to be disposed of within the project period). A number of barriers for sound POPs contaminated site management have been identified in North Macedonia. These barriers can be roughly divided into legal, awareness and know-how related, institutional and technical capacity, economic and financial. The proposed FSP Full-sized project has been designed to address a variety of barriers in order to ensure its successful execution and achievement of project objectives. With GEF funding, Macedonia would initiate, by leveraging its governmental budget, its actions to eliminate the releases of POPs from alpha-HCH, beta-HCH and Lindane contaminated sites and establish an operation mechanism to continue the decontamination operation at the OHIS premise that is now situated within the expanded capital city of Skopje. The GEF resource will help secure governmental cash contribution in addition to in-kind cofinancing contribution related to the daily operation of the state-owned company, OHIS. The project on completion will establish, enhance and enforce the legal and institutional capacities to support, justify and evaluate the clean-up of the OHIS site contaminated by alpha-HCH, beta-HCH and lindane. The project will also characterize the HCH-contaminated site, assess the risks posed to humans and the environment and define risk management options. The project will also establish the site clean up plans and strategies and mobilize the cooperation and commitment of key stakeholders including local communities. The clean up operation will be initiated and the execution mechanism will be put in place to sustain the clean up operations beyond the project period.</i></p>

Baseline
<p>The Republic of North Macedonia ratified the Stockholm Convention on the 27th of May 2004 and as the first step towards meeting the obligations under the Convention was the development and formulation of the National Implementation Plan (NIP). The NIP was prepared and transmitted to the Stockholm Convention Secretariat on the 9th of February 2005.</p> <p>To address the problem of the HCH technical waste was identified as one of the highest priorities set in the first National Implementation Plan that was prepared under the UNIDO/GEF project (GEF ID: 1518) "Enabling Activities to Facilitate Early Action on the Implementation of the Stockholm Convention on Persistent Organic Pollutants (POPs)".</p> <p>Although at that time HCH was not yet included in the list of POPs chemicals, it was included in the strategic planning, due to the existing quantities of industrial waste containing technical mixture of HCH isomers in the Former Yugoslav Republic of Macedonia. The initial NIP identified the following priorities relevant to the POPs contaminated sites issue:</p> <ul style="list-style-type: none"> • Inventory of "hot spots"; • PCB/OCP containing waste management; • Preparation of new and amendment of existing legislation; • Monitoring of POPs; • Public awareness and education; • Control of HCH. <p>For addressing the identified country-specific objectives and priorities, specific action plans (see Annex 2) related to the remediation of the POPs contaminated sites were developed as necessary to meet the requirements of the Stockholm Convention.</p> <p>The recently revised National Implementation Plan on POPs listed the HCH contamination at OHIS site as one of the highest priorities in the field of POPs management. NIP foresees several action plans related to</p>

³ Person responsible for report content

the management of POPs contaminated sites:

- a. Clean-up and remediation of contaminated locations with POPs including their ultimate disposal (NIP/ Action plan 15.7) is mostly addressed to the remediation of the lindane-HCH production and storage site at OHIS;
- b. Establishment of National laboratory for monitoring and analysis of the POPs (NIP/Action plan 15.10);
- c. Establishment of a system for Eco-Bio Monitoring (NIP /Action plan 15.9) proposed activities related to strengthening the capacity of health and laboratory organizations to assess and monitor the effects of POPs on human health and the environment;
- d. Raising awareness and capacity building of all stakeholders about the potential risk of product, processes and chemicals containing POPs on human health and the environment (NIP/ Action plan 15.2);
- e. Raising awareness and strengthening capacities to control the POPs emissions from the industry (NIP/ Action plan 15.2a)

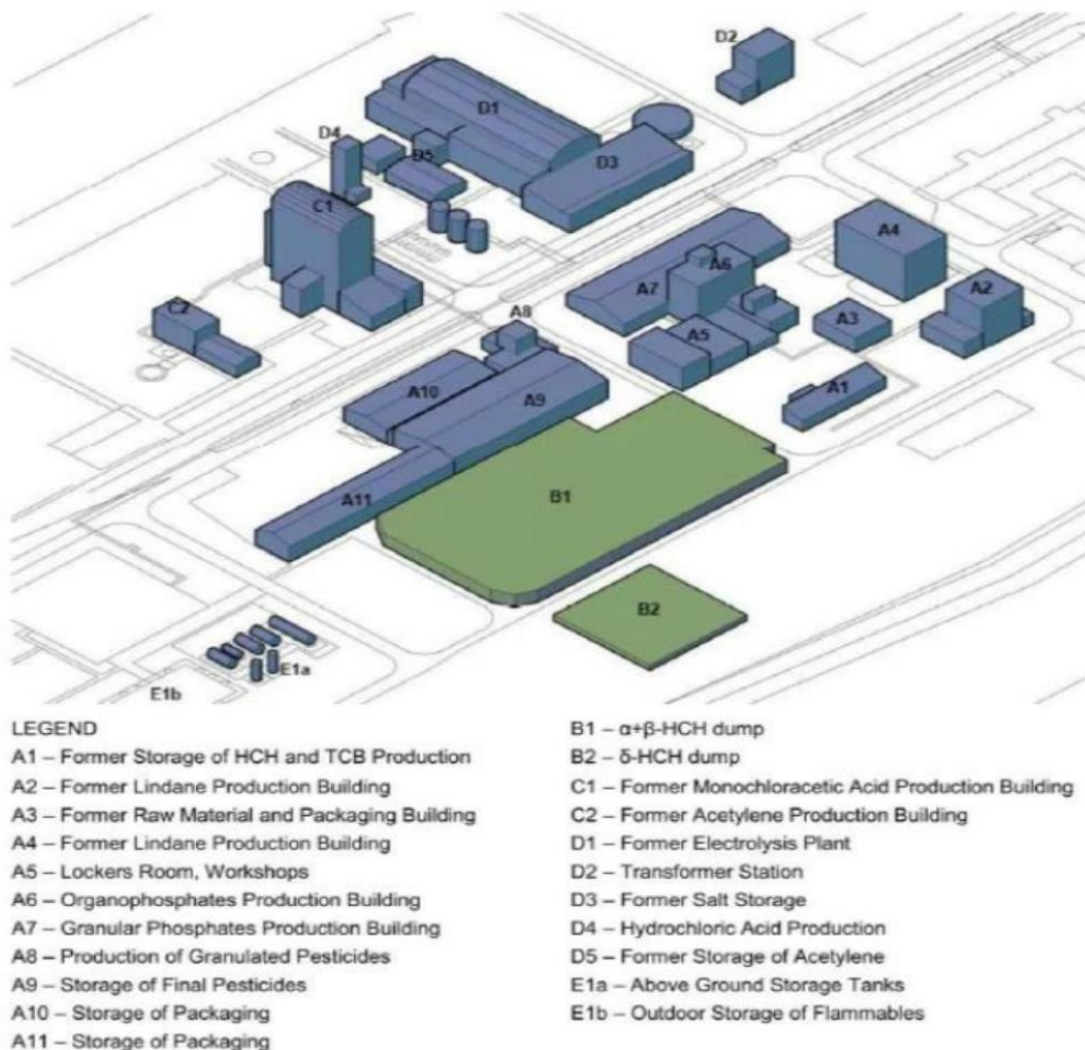
A number of barriers for sound POPs contaminated site management have been identified in Macedonia. These barriers can be roughly divided into legal, awareness and know-how related, institutional and technical capacity, economic and financial. The proposed FSP has been designed to address a variety of barriers in order to ensure its successful execution and achievement of project objectives. The GEF scenario will support the baseline project by providing a comprehensive environmentally sound management of POPs/HCH contaminated sites in Macedonia. Without this GEF funding, there is a great possibility that POPs/HCH from the contaminated sites will be continuously released to the environment with subsequent environmental and human exposure. In a business-as-usual scenario, Macedonia would be unable to comply with the Stockholm Convention in respect to the management of contaminated sites. As a consequence, those involved in current operations at the site, communities living close to the contaminated areas as well as the global environment will remain at risk from exposure to the HCH. Public awareness of the issues would continue to be low and the current analytical capacities for POPs monitoring of the environmental media and biological matrices will remain insufficient. The incremental activities proposed in the project are addressed to tackle the barriers identified by establishing environmentally sound management system for POPs/HCH contaminated sites that will be supported by law, and consequently by strengthening the local technical and institutional capacity.

Background

The industrial chemical plant OHIS AD is located at the south-eastern edge of the city of Skopje near the Vardar River. The lindane complex in OHIS AD – Skopje had the plants HCH, lindane and TCB, where HCH, lindane, trichlorobenzene and hydrochloric acid were produced, respectively. The lindane process was gradually developed into full operation since 1964 and was functioning until 1977, when it was abandoned and ceased to function due to ecological reasons and change in market conditions.

The total lindane production was around 2,800 tons resulting in a generation of around 25,000 tons of inactive isomers that were improperly dumped, causing secondary contamination of the soil and groundwater, and emissions to air as well. The wastes were dumped in two adjacent locations at the OHIS plant, the so called **δ -HCH dump** and the **α-HCH and β-HCH dump** and they still contain an estimated 50,000 tonnes of hazardous chemicals and highly contaminated soil including alpha-HCH, Beta-HCH, Gamma-HCH (lindane) and Delta HCH, posing a threat to Skopje and the local population.

In the last 14 years before project start several studies were conducted with the purpose to identify the real situation and find the most applicable solution for these dump sites. A number of feasibility studies were developed, separate on-site investigations and laboratory analysis were conducted, most of them with a substantial assistance from the international community - Czech and Italian Governments.



The project “Removal of Technical and Economic Barriers to Initiating the Clean-up Activities for α -HCH, β -HCH and Lindane Contaminated Sites at OHIS” was expected to enable the Republic of North Macedonia to handle and remediate contaminated sites.

Outside the scope of this project, the OHIS site also contains a former electrolysis area which is highly contaminated with mercury as well as 25 tonnes of hazardous chemicals, which are stored in a warehouse on site. In 2018-2019 90 tonnes of hazardous waste was exported (paid for by the bankruptcy proceeds). Furthermore, a dumpsite located away from the OHIS site has also been used to dispose of residues from the OHIS lindane production. This location is believed to contain approximately 8,000 tonnes of lindane and HCH waste, but due to the indiscriminate dumping with other wastes the total amount of hazardous waste that needs to be contained or treated is estimated to be about 40,000 tonnes.

Overall Ratings ⁴	FY23	FY22
Global Environmental Objectives (GEOs) / Development Objectives (DOs) Rating	<i>Satisfactory (S).</i>	<i>Satisfactory (S)</i>
Implementation Progress (IP) Rating	<i>Satisfactory (S).</i>	<i>Satisfactory (S)</i>
Overall Risk Rating	<i>Moderate Risk (M)</i>	<i>Moderate Risk (M)</i>

Summary of the project results

The overall objective of the project was to eliminate the barriers that had hindered the clean-up process for 40 years, with decontamination of a certain quantity of waste as a complementary target that would prove the effectiveness of the approach.

Despite a number of delays and somewhat limited political support initially, the project successfully achieved the planned outcomes and outputs that would enable the removal of barriers, though it had an impact through lower than planned decontamination quantities.

The project successfully initiated the remediation activities at the OHIS industrial hotspot site and created a legal framework with precise procedures to facilitate the cleaning of dumps and other hotspots in the future. Less than 10% of the initially projected 10,700 tonnes of contamination were removed and treated within the project's formal duration, but the project demonstrated the technical approach, facilitated the creation of the necessary legislation and mobilized funds in the Multi-partner Fund, currently amounting to 7.1 million Euros. Consequently, the activities on the ground continue to complete the decontamination.

The project's results will have a lasting impact beyond its completion. The established legal basis, developed procedures, technical know-how, institutional mechanisms, and improved capacities of Ministry employees serve as strong foundations for ensuring the sustainability of remediation activities. Financial sustainability will be crucial, necessitating the acquisition of additional funds through the multi-partner environmental fund or other funding mechanisms.

While a gender baseline study or needs assessment was not conducted, women and gender-focused groups were considered within the project.

II. Targeted results and progress to-date

Please describe the progress made in achieving the outputs against key performance indicator's targets in the project's **M&E Plan/Log-Frame at the time of CEO Endorsement/Approval**. Please expand the table as needed.

Project Strategy	KPIs/Indicators	Baseline	Target level	Progress to-date
Component 1 – Legal framework and institutional capacities				
Outcome 1: Legal framework and institutional capacities to support, justify and evaluate the clean-up of the OHIS site contaminated by alpha-HCH, beta-HCH and lindane established, enhanced and enforced				
All outputs under outcome 1 have been delivered. The outcome related the legal basis for contaminated areas has been achieved as it has been integrated in the amendments of the Law on Environment (Official Gazette of the RNM, no. 89/2022)				
Output 1.1: Legal acts and institutional and technical tools prepared to ensure the completion of the OHIS site clean up operations and building capacities towards contaminated sites management in general	• Environmental laws and regulations	0	• Environmental laws and regulations • Three legal acts prepared and approved • Three round table discussions held with stakeholders for identification of the legal, institutional and infrastructure gaps and for policy improvement	• Two Draft Rulebooks and three institutional and technical tools on contaminated site management has been prepared and delivered to the relevant stakeholders for their revision • Six round table discussions on policy improvement were held and the legal acts finalized • The Amendment to the Law on Environment comprising articles related to the contaminated sites management adopted in the Macedonian parliament on 11 th April 2022 (Official Gazette of the RNM, no. 89/2022).
Output 1.2: Technical tools (guidelines, procedures, instructions) for contaminated site management prepared and approved	• Guidelines, tools and procedures enabling contaminated site management (identification, prioritization, risk	0	• Guidelines, tools and procedures enabling contaminated site management prepared	• Guidelines, tools and procedures for contaminated site management have been prepared and delivered to the relevant stakeholders for their revision

	assessment and remediation)			<p>and shared publicly on the Ministry for Environment website and the POPs Unit website.</p> <p>Technical tools for contaminated site management were prepared by external consultants and have been heavily used during the clean-up activities. Examples of guidelines that were developed by the consultants Tauw and Dekons-Ema are: Practical information on assessment of contaminated site (Part 1), remediation of contaminated site (Part 2) and Standard Operational Procedures (Part 3).</p> <ul style="list-style-type: none"> • Technical tools for contaminated site management were used during the clean-up activities. • Workshop on presentation of the guidelines has been organized and the same finalized, printed and disseminated to the stakeholders
Output 1.3: Environmental officers, contaminated site owners and the potential contaminated site clean up operators trained on practical usage of the prepared guidelines, procedures and instructions	<ul style="list-style-type: none"> • Trainings on environmental officers and persons from the contaminated site owners and potential clean up operators 	0	<ul style="list-style-type: none"> • Fifty environmental officers and persons from the contaminated site owners and potential clean up operators trained 	<ul style="list-style-type: none"> • Trainings and site visit for management of contaminated sites has been organized for the relevant stakeholders (environmental officers from the respective Ministries, environmental inspectors, consulting agencies, specialists on waste management, potential contaminated site clean-up operators) • Twenty eight participants have been trained (15 female and 13 male) According to the interviewees, the trainings were conducted with high quality and were used throughout the clean-up activities.
Output 1.4: Laboratory personnel trained for sampling and analyses standards and protocols for POPs/HCH	<ul style="list-style-type: none"> • Trainings on laboratory personnel 	0	<ul style="list-style-type: none"> • Ten laboratory personnel trained 	<ul style="list-style-type: none"> • Training of the laboratory personnel on POPs monitoring has been organized • Ten laboratory personnel has been trained (6 female and 4 male) <ul style="list-style-type: none"> • Relevant equipment for sampling, analysing and monitoring HCH/POPs concentrations in soil, water and air and human blood has been provided (see also Output 4.7). • Workers possibly exposed to lindane and HCH waste were tested.
Component 2 –Characterization of the site and risk assessment				
Outcome 2: Characterization of the HCH contaminated site completed, risk assessed and risk management options defined				
All outputs under outcome 2 have been achieved.				
Output 2.1: Site characterization, i.e. detailed site investigation completed by sampling and analyses based on the	<ul style="list-style-type: none"> • HCH contaminated site investigation 	0	<ul style="list-style-type: none"> • HCH contaminated site characterized by drilling 50 boreholes and sampling and analysis of 130 samples 	Investigations were conducted at the OHIS site even before project start as well as during the project. After project start a detailed site investigation was conducted by

sampling plan developed during PPG				<p>Polyeco from Greece (between October 2017 and April 2018, report submitted in October 2018) and the level of contamination for the different environmental media (soil, groundwater and air), as well as the vegetables defined. Forty-eight boreholes were drilled; 146 soil/waste samples were collected, 10 vegetables samples, and 8 ambient air samples and all the samples analysed. Samples were sent to SGS in Germany. However, the concentration of HCH in soil seemed to be very high, as the soil was only from the top cover. Therefore, the samples were recalled and sent to ELS-Czech Republic. The results from this analysis were lower than the initial results. It is assumed that SGS Germany used an improper method for analysis, resulting in the very high concentrations. This caused a delay of around 5-6 months.</p> <p>The results achieved in the Czech Republic were deemed by all parties namely the PMU, UNIDO, NE and Polyeco to be proper and were accepted as the final analysis results.</p>
Output 2.2: Survey of groundwater for drinking and irrigation purposes conducted	<ul style="list-style-type: none"> Groundwater survey 	0	<ul style="list-style-type: none"> Groundwater surveyed by sampling of 20 monitoring/domestic wells 	<ul style="list-style-type: none"> Groundwater has been surveyed and the level of contamination of the groundwater at the contaminated site and at the nearby resident area defined. The survey of groundwater for drinking and irrigation purposes was conducted as part of Polyeco's efforts. 15 ground water monitoring wells were identified in the premises of OHIS. Collection of groundwater samples was carried out in two different time periods, October 2017 and April 2018. Samples were analysed by SGS Institute Fresenius GmbH. Concentration of 125 parameters was determined for 36 groundwater samples (2 sampling campaigns)⁴. 30 samples were collected from monitoring wells located within OHIS site and 6 samples from 3 domestic wells located in the surroundings of OHIS.
Output 2.3: Current risk assessment analyses updated and the risk management options defined	<ul style="list-style-type: none"> Risk assessment analysis 	0	<ul style="list-style-type: none"> Risk assessed and updated 	<ul style="list-style-type: none"> ToRs for the national consultant and the international subcontractor on updating of the risk assessment have been prepared The national consultant and the international subcontractor on updating of the risk assessment analysis have been selected and contracted <ul style="list-style-type: none"> Based on international bidding, EMGRISA

⁴ <http://pops.org.mk/wp-content/uploads/2020/09/UNIDO-Final-Investigation-Report-OHIS-rev2.pdf>

				<p>from Spain was selected as international sub-contractor. The contract time period was from November 2018 – March 2019.</p> <ul style="list-style-type: none"> • A meeting with the national consultant for the definition of the dynamics of work and the needed logistics has been organized • A meeting with the international subcontractor selected for the preparation of the risk assessment analysis organized • Draft Risk Assessment Analysis prepared • Stakeholder meeting on the presentation of the Draft Risk Assessment in January 2019. According to the Risk characterization, the on-site Receptors at risk are the Construction/remediation workers, shoe-factory workers, the site guards, and the off-site receptors at risk are the agricultural worker and nearby residents. Short-term mitigation measures are proposed as follows: <ul style="list-style-type: none"> • Inform stakeholders about the current risks. • Allocate alternative locations for industrial activities. • Limit exposure time for some receptors, for e.g., site security guards. • Remedial actions in HCH-dump sites • Air quality monitoring program • Groundwater risk management plan • Vegetable monitoring in agricultural plots • Health controls (blood and urine analysis) • Risk Assessment Analysis finalized and published on the POPs Unit web site
Component 3 –Clean up strategies and plan				
<p><i>Outcome 3: Contaminated site clean up operation/remediation plan and groundwater management plan prepared for prevention of further contamination and adverse human health impact</i></p> <p>All outputs under outcome 3 have been achieved.</p>				
Output 3.1: Contaminated site clean up operation/remediation plan and groundwater management plan prepared for prevention of further contamination and adverse human health impact	• Clean up operation/remediation plan and groundwater management plan	0	• A clean up operation/remediation plan and groundwater management plan (both for project and beyond project) prepared and ready for execution	• Clean up operation/remediation plan and groundwater management plan prepared by the Contractor Polyeco and approved by the MoEPP on 14 April 2021
Output 3.2: Consensus among the general public and major stakeholders built for the establishment/improvement of OHIS contaminated site	• Consensus of the general public	0	• Consensus of the general public obtained as legally required by publication of awareness raising materials and organization of two public hearings and awareness raising	• ToR for the national subcontractor on awareness raising campaign organization has been prepared • The national subcontractor on awareness raising campaign organization has been selected

		<p>meetings with the participation of 80 persons</p> <ul style="list-style-type: none"> • Cost-benefit analysis justifying the site clean-up prepared 	<p>and contracted; the Non-governmental Organisation (NGO), Macedonian Ecological Society, was selected and contracted from November 2018 – November 2019 and subsequently extended by December 2022.</p> <ul style="list-style-type: none"> • Questionnaires formulated and general survey among the local population conducted in the three municipalities, which were most affected by the OHIS HCH pollution • Three meetings with the national subcontractor on the preparatory works have been organized • Two workshops on awareness raising have been organized (48 female and 23 male) • Awareness raising materials prepared, printed and disseminated (60 posters and 500 leaflets) • Video material on the OHIS site clean-up prepared and disseminated to the relevant media • Consultation meeting with the national subcontractor and the MoEPP on progress of the work and the timeline of the remaining activities for the awareness raising organized • Awareness raising activities at five schools on the harmful impact of the Lindane on human health and the environment organized • General survey among the local population repeated • Clean-up activities promoted in printed and electronic media • Visibility event organized by the national sub-contractor on awareness raising activities to inform the public and other interested parties in initiation of the cleaning activities • Four meetings organized with the national sub-contractor on awareness raising activities on organization of the public debate at the time of the excavation works; preparation of the scenario for the video; media coverage of the activities in coordination with the MoEPP,- Department of Public Relations • Hybrid (On-line and in person)webinar organized and the media familiarized with the progress of the clean-up activities and the supervision of the remediation work • Media event organized at OHIS site for demonstration of the progress of the remediation activities (12 media presented at the site, statements on the progress of the remediation works given and the explanation on the technical aspects of the clean-up provided to journalists
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				<p>inside the tent</p> <ul style="list-style-type: none"> • Project progress towards the site clean-up activities regularly promoted in the media • Video material on the site clean-up activities prepared and promoted • ToR for the subcontractor on cost-benefit analysis has been prepared • The subcontractor on cost-benefit analysis has been selected and contracted • Three meetings with the subcontractor on cost-benefit analysis on preparatory works has been organized • Draft cost-benefit analysis has been prepared and the same presented to the relevant stakeholders in April 2019, amongst others, State Secretary MoEPP, Head of the Chemicals Department, Representative of UNOPS, Skopje • The cost-benefit analysis finalized in accordance with the comments received from the stakeholders and published on the POPs Unit web site
Output 3.3: City development plan and zoning of OHIS site reviewed and revised	• City development plan	0	• A city development plan and zoning with relevant operation permits revised and granted	• Written confirmation from the City Council has been obtained, confirming the land usage of the OHIS site for industrial purposes. i.e. for light industry and the concerned Municipality officials informed and involved in the process
Component 4 –Establishment of clean up mechanism and operations				
Outcome 4: Contaminated site clean up operation/remediation plan and groundwater management plan prepared for prevention of further contamination and adverse human health impact				
Output 4.1: ToR for the selection of the technology/service providers for the HCH contaminated site remediation prepared	• Remediation technology option	0	• Most suitable remediation option decided	<p>A Draft ToR for the remediation technology/service provider was prepared and revised based on input from stakeholders.</p> <p>A study visit to Novartis in Basel, Switzerland, from 27-29 January 2019, took place to obtain an understanding of the methodologies applied for the remediation of an HCH-contaminated site at STEIH. The draft ToR was adjusted based on the learnings of the study visit.</p> <p>Finally, the ToR was modified in accordance with the requirements from the UNIDO Procurement department.</p> <p>The ToR for the selection of the technology/service provider was subsequently approved by the Government and the Request for Proposal for the selection of the technology/service provider posted on UNIDO's web site and the link shared on MoEPP's web site on 15 November 2019.</p> <p>Evaluation of the bidders' technical proposals was finalised, and the technically acceptable bids identified.</p>

Output 4.2: Technology/service provider selected	• Technology/service provider	0	• Most suitable remediation technology/service provider selected	On 4 March 2020 the financial offers were opened and Polyeco identified as the lowest bidder. Unfortunately, as indicated earlier, there was not sufficient funding available, and the TOR had to be adjusted. Eventually, in September 2020 a contract could be signed with Polyeco for a reduced scope of work.
Output 4.3: Parties (private sectors, state owned companies or PPP contractual agreement form) interested as potential operators identified and investors, as potential clean up operators consulted	• Potential private operators and investors	0	• Three potential private operators and investors identified and the clean up operator selected	• No need for identification of parties as potential operators, since the technology is not going to be purchased, but the turn-key solution is to be required. ⁵
Output 4.4: Operating entity selected and established	• Operating entity	0	• Operating entity with sufficient technical, human and financial capacities for the clean up of the contaminated site selected	• No need for selection of the Operating Entity, since the technology is not going to be purchased, but the turn-key solution is to be required ⁶
Output 4.5: Clean up operation/remediation and business plan prepared by the selected operating entity in consultation with the technical providers and all stakeholders and approved by the PSC	• Clean up operation/remediation and business plan	0	• A clean up operation and business plan to secure safe and environmentally sound remediation and to reflect the business challenges and financial planning as well prepared	• Clean up operation/remediation plan prepared by the Contractor is approved by the working group established within the MoEPP upon consultations with all relevant institutions to secure safe and environmentally sound remediation This output is covered by output 3.1 A business plan was not developed. Please see comments to output 4.3 and 4.4.
Output 4.6: Needed permits for the technology treatment installation (EIA, IPPC) obtained	• Permits for the installation of the treatment technology	0	• Three types of permits for the technology treatment installation obtained	The PMU held meetings with the responsible departments within the MoEPP for the definition of the procedure for obtaining the needed permits for the on-site work. The clean-up activities were conducted based on the developed site remediation plan, reviewed and adopted by the working group established within Ministry of environment based on Governmental Decision for acceptance of the site remediation plan.
Output 4.7: A monitoring program, system established in the location	• Monitoring plan and system for the environmental media	0	• Environmental monitoring system/programme established	Environmental monitoring programme established prior to and during the site clean-up activities (2 air sampling points at the residential area in the vicinity of OHIS site; 3 air sampling points in the remediation area in OHIS; 1 air sampling point inside the environmental enclosure; 2 soil sampling points at the residential area in the vicinity of OHIS; workers' blood and rainwater collected from working area. • Technical capacities of the

⁵ The Project Document has attempted to add an unreasonable complication to an already quite complicated project. The context of this initial decision is that the option of involving local company to act as Operating Entity was envisaged in order to have local technical capacities built and to secure sustainability of the future remediation activities.

⁶ The same comment

				<p><i>Institute of Chemistry for POPs monitoring in the air and soil enhanced</i></p> <ul style="list-style-type: none"> • <i>Meetings with the Institute of Chemistry and the Institute of Public Health organized and the needed laboratory equipment for the environmental and human bio-monitoring defined</i> • <i>ToR for purchasing of the laboratory equipment and consumables for the environmental and human bio-monitoring needs prepared</i> • <i>Commercial evaluation of the technically acceptable Bidders performed and the contracts signed with the Bidders that offered the lowest price</i> • <i>Laboratory equipment delivered to the Institute of Chemistry and the Institute of Public Health</i> • <i>Technical capacities of the Institute of Public Health for POPs monitoring in the water and biological matrices enhanced</i> • <i>Contracts signed between the Ministry of Environment and the Institute of Chemistry and the Institute of Public Health for the formalization of the cooperation between the institutions regarding the air and soil monitoring at the residential area during the remediation works, as well as the water and workers blood</i> • <i>Technical capacities of the Institute of Public Health for POPs monitoring in the water and biological matrices enhanced</i> • <i>The Request for Proposal for the selection of the service provider on site supervision activities posted on UNIDO's web site</i> • <i>ToR for the supervision of the remediation process prepared and the company for site supervision and monitoring services selected and contracted</i> <p><i>The contractor</i></p> <ul style="list-style-type: none"> • <i>ensured adherence to the approved site remediation plan.</i> • <i>supervised the excavation and packing of 477 tons of HCH waste and 126 tons of HCH contaminated soil.</i> • <i>supervised transportation of the packed HCH waste and of the HCH contaminated soil</i> • <i>2 trainings of national counterparts on monitoring and supervision organized and guidance documents and instruction manuals provided</i> • <i>Forty participants have been trained (21 female and 19 male)</i>
Output 4.8: Clean up operation executed	• HCH waste and 0 contaminated soil		• 10.700 tons of HCH waste and contaminated	• Meetings with UNIDO, UNOPS

	<p><i>treatment</i></p> <ul style="list-style-type: none"> • Incremental investment by key stakeholders • New businesses creation • Companies adopting best practices 		<p><i>soil disposed of</i></p> <ul style="list-style-type: none"> • Alpha and beta HCH dump capped • Four new jobs created • Amount of incremental investment by key stakeholders for sound management of chemicals (TBD until the operating entity will be determined) • Two companies with the best practices adopted 	<p>and Polyeco on coordination of the preparatory activities for the initiation of the clean-up of the delta dump (lot 1) and for the continuation and finalization of the cleaning of the delta dump organized</p> <ul style="list-style-type: none"> • Meeting with the Financial Department within the MoEPP organized and the modalities for transfer of the finances allocated in the MoEPP budget to the MPEF defined -Meeting with the waste sector and the legal sector responsible officers to facilitate the administrative procedure for issuing necessary permits -Meetings with the State Environmental Inspectorate to agree on the dynamics of necessary onsite visits and inspections <p>Preparatory activities for the clean-up operation were initiated in 2020 (export permits, notification documents for transboundary movement of hazardous waste, purchasing of the needed equipment, site set-up, etc.)</p> <p>Site set-up activities finalized in March 2022 (fencing, zoning, marking of the site; erection of environmental enclosure; installation of compressors for negative pressure and the air purification system; delivery of the needed equipment and tools (UN approved drums and containers; PPE; waste water collection tanks and waste water filtration unit; decontamination units for the workers; air monitoring instruments; handheld instrument for soil analyses (XRF); machinery (conveyor belt with the mounted funnel; trucks, bulldozers, cranes, etc.)</p> <p>The contracted quantities of 477 tonnes of HCH waste and 126 tonnes of HCH contaminated soil excavated, packed temporarily stored, exported and disposed off.</p> <p>The notification consents for the transboundary shipment of the HCH waste from all concerned countries received in October 2021 and 477 tonnes of HCH waste exported to TREDI (French hazardous waste treatment company) for incineration in the period July-August 2022.</p> <p>The notification consents for the transboundary shipment of the HCH contaminated soil obtained in November 2022 and 126 tons of HCH contaminated soil exported to Indaver disposal facility HIM (hazardous waste incinerator company) in Germany in the period December 2022-May 2023.</p>
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Component 5 –Project monitoring and evaluation				
<i>Outcome 5: Project management structure established, and monitoring and evaluation conducted</i>				
Output 5.1: Project results monitored and reported	<ul style="list-style-type: none"> • Project progress reports • Work Plans 	0	<ul style="list-style-type: none"> • Bi-annually, i.e. two progress reports prepared and submitted • Annually, i.e. Work Plan for each year prepared 	<ul style="list-style-type: none"> • Monthly progress reports submitted • Work Plan prepared
Output 5.2: Project evaluated meeting the GEF's evaluation criteria	<ul style="list-style-type: none"> • Mid-term evaluation • Terminal evaluation 	0	<ul style="list-style-type: none"> • One Mid-term evaluation report prepared • One Terminal evaluation report prepared 	<ul style="list-style-type: none"> • Mid-term evaluation report, prepared, reviewed and finalized in September 2019 • Terminal evaluation report prepared, reviewed and finalized in May 2023

Project Strategy	KPIs/Indicators	Baseline	Target level	Progress to-date
Component 3 –Clean up strategies and plan				
<i>Outcome 3: Contaminated site clean up operation/remediation plan and groundwater management plan prepared for prevention of further contamination and adverse human health impact</i>				
All outputs under outcome 3 have been achieved.				
Output 3.2: Consensus among the general public and major stakeholders built for the establishment/improvement of OHIS contaminated site	<ul style="list-style-type: none"> • Consensus of the general public 	0	<ul style="list-style-type: none"> • Consensus of the general public obtained as legally required by publication of awareness raising materials and organization of two public hearings and awareness raising meetings with the participation of 80 persons • Cost-benefit analysis justifying the site clean-up prepared 	<ul style="list-style-type: none"> • Clean-up activities promoted in printed and electronic media • Project progress towards the site clean-up activities regularly promoted in the media • Video material on the site clean-up activities prepared, disseminated to the relevant media and promoted
Component 4 –Establishment of clean up mechanism and operations				
<i>Outcome 4: Contaminated site clean up operation/remediation plan and groundwater management plan prepared for prevention of further contamination and adverse human health impact</i>				
Output 4.8: Clean up operation executed	<ul style="list-style-type: none"> • HCH waste and contaminated soil treatment • Incremental investment by key stakeholders • New businesses creation • Companies adopting best practices 	0	<ul style="list-style-type: none"> • 10.700 tons of HCH waste and contaminated soil disposed of • Alpha and beta HCH dump capped • Four new jobs created • Amount of incremental investment by key stakeholders for sound management of chemicals (TBD until the operating entity will be determined) • Two companies with the best practices adopted 	<p>The contracted quantities of 477 tonnes of HCH waste and 126 tonnes of HCH contaminated soil excavated, packed temporarily stored, exported and disposed off.</p> <p>The notification consents for the transboundary shipment of the HCH waste from all concerned countries received in October 2021 and 477 tonnes of HCH waste exported to TREDI (French hazardous waste treatment company) for incineration in the period July-August 2022.</p> <p>The notification consents for the transboundary shipment of the HCH contaminated soil obtained in November 2022 and 126 tons of HCH contaminated soil exported to Indaver disposal facility HIM (hazardous waste incinerator company) in Germany in the period December 2022-May 2023.</p>
Component 5 –Project monitoring and evaluation				

Outcome 5: Project management structure established, and monitoring and evaluation conducted					
Output 5.1: Project results monitored and reported	<ul style="list-style-type: none"> Project progress reports Work Plans 	0	<ul style="list-style-type: none"> Bi-annually, i.e. two progress reports prepared and submitted Annually, i.e. Work Plan for each year prepared 	<ul style="list-style-type: none"> Monthly progress reports submitted Work Plan prepared 	
Output 5.2: Project evaluated meeting the GEF's evaluation criteria	<ul style="list-style-type: none"> Mid-term evaluation Terminal evaluation 	0	<ul style="list-style-type: none"> One Mid-term evaluation report prepared One Terminal evaluation report prepared 	<ul style="list-style-type: none"> Terminal evaluation report prepared, reviewed and finalized in May 2023 	

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III. Project Risk Management

1. Please indicate the overall project-level risks and the related risk management measures: (i) as identified in the CEO Endorsement document, and (ii) progress to-date. Please expand the table as needed.

This table presents the project accumulative data as final project termination reporting.

	(i) Risks	(i) Risk level FY 22	(ii) Risk level FY 23	(i) Mitigation measures	(ii) Progress to-date	New defined risk ⁷
1	Delays in adoption of legal framework, specific policy and technical guidance may hamper execution and cause delay in the project implementation	Low risk (L)	Low risk (L)	Government officials are closely involved in project planning to ensure the new regulations are practical, enforceable, meeting the needs at the national governments and municipalities; Project staff will monitor, review and enactment of legal and regulatory measures and technical tools and provide the relevant counterparts with technical support	Commitment from the high-level governmental structures and dedication for adoption of the legal acts prior to any on-site work	<input type="checkbox"/>
2	Risk management options inadequate for achieving human and environmental protection	Low risk (L)	Low risk (L)	Involvement of accredited, licensed and experienced institutions in the site characterization, risk assessment site management option definition	The environmental analysis method applied by the laboratory to trace the contaminant inadequate for pure chloro-organic matrices, resulting in re-analyses of the samples and delays in the delivery of the site characterization result	<input type="checkbox"/>
3	Lack of interest of the public towards the awareness raising campaigns, which might result in reluctance among the public audience and the local community for initiation of the clean up activities	Low risk (L)	Low risk (L)	Identification of potentially conflicting stakeholder interests through involvement of stakeholders in the project design process	Involvement of NGOs, Local Community, Civil Society in dissemination of the information regarding the benefits gained with the remediation of the contaminated site versus costs of non action	<input type="checkbox"/>
4	Lack of private sector's interest to invest in setting the clean up	Moderate risk (M)	Moderate risk (M)	Potential private sectors will be kept informed of the project updates and major decisions and the	Government of North Macedonia has established the Multi Partner Environment Fund	<input type="checkbox"/>

⁷ New risk added in reporting period. Check only if applicable.

	infrastructure due to insecure economic conditions to guarantee sustainable financial input			Government/local community will set conditions that attract private sector investment	for mobilization of resources for the clean-up of the contaminated site. The Ministry of Environment reallocated funds from its own budget in 2021 and 2022 to contribute to the MPEF for the cleanup purposes	
5	Opportunism, reluctance among the local community for establishing the eventual treatment facility	Low risk (L)	Low risk (L)	Round table discussions between the Government, local community authorities and NGOs with assurance that the facility will meet the highest safety standards and operate respecting the best working practices and procedures for protection of human health and the environment, supported by regular inspections and monitoring program	Environmental health and occupational safety issues were addressed in the terms of reference for the selection of the service provider for the clean-up of the contaminated sites.	<input type="checkbox"/>
6	Unavailability of the operating entity to continue with the remediation due to inconsistent financial input from the Government	Moderate risk (M)	Moderate risk (M)	Commitment letter from the Government secures cash flow for timely execution of the needed activities; Additional round table discussions with the Government/comunal authorities and their inclusion in plans development process and continuous information dissemination on project decisions and progress	<p>MoU for establishing and managing of a trust fund for remediation of the α, β and the delta HCH dump signed between the Government of the Republic of Macedonia, the Government of the Kingdom of Norway and UNOPS</p> <p>First Meeting of the Executive Board of the Multi-Partner Environmental Fund for defining the way forward in mobilization of the funds needed for the clean-up of the delta dump</p> <p>Meeting of the Sector Working Group for establishing better coordination of the EU support for inclusion of the OHIS clean-up in the IPA III programming</p> <p>Second Meeting of the Executive Board of the Multi-Partner Environmental Fund for the division of work between MPEF (UNOPS) and UNIDO for the cleaning of the small basin in OHIS</p> <p>Third Meeting of the Executive Board of the Multi-Partner Environmental Fund for the progress of the activities of MPEF (UNOPS) and UNIDO for the cleaning of the small basin in OHIS</p>	<input type="checkbox"/>
7	High environmental and human health	Low risk (L)	Low risk (L)	Evaluation of the fluctuating atmospheric	Environmental and climatic conditions are	<input type="checkbox"/>

	risk related to the climate change impact (temperature, rain, flood, wind, vulnerability to storms etc.)			conditions (atmospheric temperature, rainfall regime, storm frequency and attendant drought/flood cycles), along with historical cases of how the site is affected by these conditions and the natural geological and hydrological features of the area; If the flood risk is indeed higher, the project will evaluate the costeffectiveness of a project activity to secure the contaminated site from a possible flood occurrence	being closely and regularly monitored to identify risks	
8	High environmental risk during the treatment operations, i.e. accidents and environmental releases during clean up operations including excavation, treatment, handling, packaging and transportation of HCH wastes which will result in exposure of the operators and workers of the facilities and the community to the hazards of the contaminant	Moderate risk (M)	Moderate risk (M)	Frequent inspections ensure the Operating Entity to follow the best working practices in order to ensure safe handling and incident avoidance; Following the best working practices to ensure safe handling and incident avoidance and training on emergency preparedness and preparation of emergency prevention and response plans	The ToR for the selection of the remediation technology/service provider defines the highest safety criteria to be fulfilled by the Contractor ensuring no odor and dust emissins and other discharges	<input type="checkbox"/>
9	Due to insufficient political will, administrative support and financial commitment of the government to the project delays may occur in completing and achieving the outlined tasks in a timely manner	Moderate risk (M)	Moderate risk (M)	High-level consultations, as well as civil society and NGOs could play a major role in regaining political commitment. The signed endorsement letter confirms the commitment of the Government. Additional fund raising activities and funds/donors will be sought	The Working Group established by the Government enable all identified execution issues to be properly articulated and solved. Moreover, the adoption of the Rules and Procedures for the work of the Project Steering Committee contributed towards their more effective work	<input type="checkbox"/>
10	Inefficient and ineffective project executions as well as monitoring and evaluation may cause delays in holding regular project management and M&E meetings and issuing required reports	Low risk (L)	Low risk (L)	Carefully selected and well- trained project staff will be appointed, clear mandate and impact indicators will assure compliance to the work plan and budget	Project management were trained and undertook study visit to Basel, Switzerland for experience sharing and information	<input type="checkbox"/>

2. If the project received a **sub-optimal risk rating (H, S)** in the previous reporting period, please state the **actions taken** since then to mitigate the relevant risks and improve the related risk rating. Please also elaborate on reasons that may have impeded any of the sub-optimal risk ratings from improving in the current reporting cycle; please indicate actions planned for the next reporting cycle to remediate this.

Not applicable

3. Please indicate any implication of the **COVID-19** pandemic on the progress of the project.

The pandemic situation also influenced on the modalities for organization of the public hearing/debate, i.e. the first one was organized as an on-line event where the concept and methodology for the remediation of the site were presented to the concerned parties, while the second one was organized on the site where the journalists from different media were informed on the progress of the remediation works and on the technical aspects of the clean-up inside the tent.

Moreover, the situation with the corona virus pandemic improved and the same did not affect or prolong the contractor's on-site activities related to the clean-up of the contaminated site.

4. Please clarify if the project is facing delays and is expected to request an **extension**.

N/A as the project already finished. Extensions analysis is presented in chapter II of this report.

5. Please provide the **main findings and recommendations of completed MTR**, and elaborate on any actions taken towards the recommendations included in the report.

As the project already finished. Lessons learned are presented in chapter II of this report.

Recommendations of Mid- Term Evaluation:	Actions taken towards the recommendations:
Tendering procedure for the selection of technology provider to be initiated as soon as realistically possible	The RFP has been published by UNIDO on 15.10.2019, i.e. 2 weeks after the submission of the final MTE Report
Adoption of Rules of Procedure for the PSC / TOR for PSC for acceptance if no substantive objection within 7 days, in future projects	This recommendation refers to the future projects, since the Rules of Procedures for the PSC for this project have been adopted in January 2017
Remaining activities to be expedited without any further delays	A delay occurred when contracting of the bidder for provision of the remediation services, due to the negotiation process as a result of the lack of funds to perform the defined scope of work
Co-finance to be documented	Co-financing has been documented in a form of Governments decisions and UNOPS financial reports
The amended Law on Environment to be adopted as soon as practically possible	The Amendment to the Law on Environment comprising articles related to the contaminated sites management has been adopted in the Macedonian parliament on 11 th April 2022 (Official Gazette of the RNM, no. 89/2022)
Capacity building to be continued for all stakeholders	Capacity building for all stakeholders continued, i.e. trainings of national counterparts on site remediation monitoring and supervision organized and guidance documents and instruction manuals provided; and technical capacities of the Institute of Chemistry and the Institute of Public Health for POPs monitoring in environmental and human matrices improved by delivery of laboratory equipment
Environmental Inspectorate could consider cooperating with the University	Environmental Inspectorate cooperates with the University, especially during the site remediation inspection activities
Accreditation of the lab of the MOEPP	The laboratory of the MoEPP has been accredited in accordance with the standard ISO 17025

MOEPP should have a register/database for contaminated sites	There is a register of the contaminated sites, since in the frames of the Community Assistance for Reconstruction, Development and Stabilisation (CARDS) 2007 project for development of the National Waste Management Plan with Feasibility Studies, 16 Industrial Contaminated Sites - "hotspots" were identified and ranked according to environmental indicators
Awareness-raising activities to be continued	Awareness raising activities continued, resulting in preparation of awareness raising materials, organization of an visibility event on awareness raising activities to inform the public and other interested parties in initiation of the cleaning activities, preparation and promotion of video material on the site clean-up activities, regularly promotion in the media of the project progress towards the site clean-up activities, organization of a media event at OHIS site for demonstration of the progress of the remediation activities
Clean-up operation and corresponding activities to be expedited	The on-site clean-up operations have been performed in expeditious manner, by setting up appropriate excavation strategy
Committed co-finance made available in time	The committed co-finance has been provided in timely manner in order to secure continuation of the remediation activities
International bidding to be carried out	The international bidding has been carried out
Technology provider selected	The technology provider has been selected and contracted
Site remediation plan prepared	Site remediation plan has been prepared by the contractor and approved by the MoEPP
Clean-up operation carried out	Clean-up operation for the quantities defined to be remediated under the project finalized
Technology provider, if feasible, could use EN standard, if monitoring procedure also covered (the adequate standard to be considered in the TOR)	The service provider performed the environmental and human bio-monitoring as per relevant standards, including sampling and analyses
Continuation of remediation activities of contaminated sites	The intention is to continue with the remediation of the other POPs contaminated site upon finalization of the remediation of the current one
MOEPP should consider preparing a National Plan, including budget, for the years after project completion	The preparation of the National Plan will be taken into consideration by the MoEPP
Contaminated sites' projects could be prioritized under the GEF-7 cycle	Contaminated site project will be consider under the GEF-8 cycle

IV. Environmental and Social Safeguards (ESS)

1. As part of the requirements for **projects from GEF-6 onwards**, and based on the screening as per the UNIDO Environmental and Social Safeguards Policies and Procedures (ESSPP), which category is the project?

☐ Category A project

☐ Category B project

☐ Category C project

(By selecting Category C, I confirm that the E&S risks of the project have not escalated to Category A or B).

The project applied all reasonable environmental and social safeguards. The contractors and government inspectors have ensured that any foreseeable adverse effects have been prevented and no harm to the environment or to any stakeholders has occurred due to the project.

Please expand the table as needed.

	E&S risk	Mitigation measures undertaken during the reporting period	Monitoring methods and procedures used in the reporting period
(i) Risks identified in ESMP at time of CEO Endorsement	Not applicable	Not applicable	Not applicable
(ii) New risks identified during project implementation (if not applicable, please insert 'NA' in each box)	Rejection of the additionally submitted request for export of the HCH-contaminated soil to ATM facility, since the company is still under scrutiny, despite the fact that the company won the court case against the Dutch authorities	Initiation of the procedure for export of the HCH-contaminated soil to some alternative facility, i.e. the company Polyeco communicated a German companies Are Deutzen and Indaver for the definition of the cooperation agreement	Notification forms for the transboundary shipment of the HCH contaminated soil submitted to the concerned countries
	Stopping of the excavation work due to the adverse climate conditions or collapsing of the tent	The technical details of the enclosure, i.e. the design of the same is prepared by the supplier of the tent and the same was subjected to an audit from an authorized institution, i.e. the Faculty of Civil Engineering	A certificate of compliance is submitted by the company Fakom that was engaged for the erection of the tent
	Increased air emissions and odour above the acceptable levels as a result of the excavation/packing activities	The company Polyeco engaged for the remediation of the HCH contaminate site erected an environmental enclosure above the delta dump in order to avoid fugitive odour, vapour and dust emissions, with sufficient negative air pressure, with air ventilation and with installation of sluice systems to prevent fugitive emissions during haul truck (and other mechanical equipment) ingress and egress	The company Polyeco presented a statement/proof for maintenance of the permanent negative pressure in the tent. The reasons for the emissions/odour will be investigated and the appropriate corrective measures undertaken
	Mixing of the HCH-contaminated soil and the HCH waste, and also mixing the soil contaminated with mercury during the excavation work, resulting in generation of a waste soil fraction with the HCH concentrations of above the acceptance limit of the thermal desorption plant, thus increasing the quantities of the waste intended for incineration and consequently increasing the disposal costs or in non-acceptance due to the mercury concentrations higher than the acceptance limits	The soil separation procedures, i.e. the soil excavation strategy are established	The implementation of the soil excavation and separation is monitored by the supervisor and confirmed by report

V. Stakeholder Engagement

1. Using the previous reporting period as a basis, please provide information on **progress, challenges and outcomes** regarding engagement of stakeholders in the project (based on the Stakeholder Engagement Plan or equivalent document submitted at CEO Endorsement/Approval).

The project stakeholders have been regularly informed on the project progress and their support obtained. The PSC meeting was not held in the reporting period, but all the members of the PSC were informed on the progress of the project, the realized activities and the activities that are foreseen in the forthcoming period, with the emphasis on the Contractor's site preparatory activities, initiation of the notification procedure and initiation and the progress of the site clean-up activities (excavation, packing, temporary storage and transportation).

2. Please provide any feedback submitted by national counterparts, GEF OFP, co-financiers, and other partners/stakeholders of the project (e.g. private sector, CSOs, NGOs, etc.).

The planned activities generally are implemented in a timely manner, by inclusion of all relevant stakeholders and upon consultations with the respective contractors. Some delays were experienced as a result of the restrictive measures due to the corona virus pandemic.

The project progress has been regularly reported to the NGOs and the electronic and printed media. Cooperation with and assistance to the working group within the MoEPP provided on the issues related to approval of the site remediation plan submitted by the Contractor.

Moreover, technical assistance was provided to the Department of the EU (European Union) within the MoEPP on preparation of an action fiche for clean-up of the OHIS contaminated site and presented to EU delegation for funding under the IPA (Instrument for Pre-Accession Assistance) programme.

The cooperation and communication with UNOPS resulted in allocation of the available funds for building of the analytical capacities of the Institute of Chemistry for POPs monitoring. Moreover, the funds generated in the MPEF enable UNOPS to sign contract with Polyeco on continuation of the clean-up process

3. Please provide any **relevant stakeholder consultation** documents.

UNIDO is the GEF Implementing Agency (IA) for the project. A project focal point was established within UNIDO to assist with project execution. This focal point consisted of dedicated core staff, supplemented by support staff colleagues on a part-time as required basis, supervised by a senior professional staff engaged in the management and coordination of UNIDO's POPs and chemical management program. UNIDO made these services available as part of its in-kind contribution to the project.

Among the main stakeholders involved in the project implementation:

- Ministry of Environment and Physical Planning (MoEPP), lead Agency for the project with the role of coordinating, participating, facilitating and monitoring the execution at national level;*
- MoEPP's POPs unit, responsible for the preparation and implementation of NIPs at national level;*
- The State Environment Inspectorate (SEI), responsible for inspecting and supervising the enforcement of laws and regulations in the domain of environment;*
- Ministry of Health (MoH), responsible for creating the conditions of development of the industry, regulation of internal market, development of the energy sector and incentives to stimulate businesses;*
- Ministry of Finance (MoF), responsible to maintain stable public financing and stable macroeconomic framework.*

So, relevant stakeholder consultation documents include:

GEF4385_Meeting Agenda of the first supervision training workshop

GEF4385_List of participants of the first supervision training workshop

GEF4385_Meeting Agenda of the second supervision training workshop

GEF4385_List of participants of the second supervision training workshop

GEF4385_Meeting Agenda of the MPEF Executive Board

GEF4385_Meeting minutes of the MPEF Executive Board

VI. Gender Mainstreaming

1. Using the previous reporting period as a basis, please report on the **progress achieved on implementing gender-responsive measures and using gender-sensitive indicators**, as documented at CEO Endorsement/Approval (in the project results framework, gender action plan or equivalent),.

The project was conceptualized before UNIDO 2015 Gender Strategy was issued and GEF strengthened their policy and ambition on gender quality in 2017. As such, the project did meet the UNIDO's and GEF's (limited) gender mainstreaming requirements as they were in 2015.

However, the project did not develop a gender baseline study or a needs assessment, although the project's gender marker was assigned as 2a, meaning that the project would pay significant attention to gender and was expected to contribute gender equality⁸. Equally, no gender strategy was formulated to support project implementation. However, it is evident that women/gender-focused groups have been considered in the project and the project's performance indicators did gather sex-disaggregated data. It is not specified what is planned to be done in this context and how gender is going to be mainstreamed. Nevertheless, the PMU, and the interviewed stakeholder institutions were all gender balanced. Gender balance was also apparent at the project workshops. The project interventions will benefit women and men equally.

The PMU, and the stakeholder institutions are gender balanced. Gender balance is also demonstrated in the project workshops, as well as in the national and international consultants/subcontractors engaged in different aspects of the contaminated sites management. Two workshops on awareness raising have been organized, with more emphasis on women participation. The list of participants was gender-segregated and showed of a total of 48 females and 23 males. Moreover, 2 trainings of national counterparts on monitoring and supervision organized and guidance documents and instruction manuals provided, where forty participants have been trained (21 female and 19 male).

VII. Knowledge Management

1. Using the previous reporting period as a basis, please elaborate on any **knowledge management activities / products**, as documented at CEO Endorsement / Approval.

1. Awareness Raising Activities

- a) Two workshops on awareness raising have been organized (48 female and 23 male)
- b) Consultation meeting with the national subcontractor and the MoEPP on progress of the work and the timeline of the remaining activities for the awareness raising organized Macedonian Ecological Society/Second Progress Report
- c) Awareness raising activities at five schools on the harmful impact of the Lindane on human health and the environment organized by Macedonian Ecological Society/Second Progress Report
- d) General survey among the local population repeated
- e) Four meetings organized with the national sub-contractor on awareness raising activities on organization of the public debate at the time of the excavation works; preparation of the scenario for the video; media coverage of the activities in coordination with the MoEPP, - Department of Public Relations
- f) Clean-up activities promoted in printed and electronic media, <https://vidivaka.mk/>
- g) Two trainings of national counterparts on monitoring and supervision organized and guidance documents and instruction manuals provided (21 female and 19 male)
- h) Four meetings organized with the national sub-contractor on awareness raising activities on organization of the public debate at the time of the excavation works; preparation of the scenario for the video; media coverage of the activities in coordination with the MoEPP, - Department of Public Relations

2. Please list any **relevant knowledge management mechanisms / tools** that the project has generated.

- 1. GEF4385 Project website (<http://pops.org.mk/>)
- 2. GEF4385 Awareness Raising Activities
 - a) Awareness raising materials prepared, printed and disseminated (60 posters and 500 leaflets) Macedonian Ecological Society/Second Progress Report
 - b) Video material on the OHIS site clean-up prepared and disseminated to the relevant media

⁸ Since 2015 all UNIDO technical assistance projects have been assigned a gender marker and their design are screened based on a gender mainstreaming check-list before approval. UNIDO's gender marker is in line with UN System-wide action plan (SWAP) requirements, with four categories: 0 — no attention to gender, 1 — some/limited attention to gender, 2a — significant attention to gender, 2b — gender is the principal objective (<https://www.unido.org/sites/default/files/files/2019-11/UNIDO%20Gender%20Strategy%20ebook.pdf>)

<https://www.amazon.com/clouddrive/share/GSxJEKZ23SqGe5QdfYqwQ5v2pj0gfR8vHcMyyrYrUGF>
3. GEF4385_PA Poster, (http://mes.org.mk/wp-content/uploads/2019/08/poster_a3_lindanftw.pdf)
4. GEF4385_PA flyer (http://mes.org.mk/wp-content/uploads/2019/08/flyer_med_lindanftw_480x160mm_plus5mmobrez.pdf)
(Reported in the PIR 2019)
5. GEF4385_Media articles
(13.03.2021 <https://slobodna.tv/%d0%bc%d0%b8%d1%86%d0%ba%d0%be%d0%b2%d1%81%d0%ba%d0%b8-%d0%b8%d1%81%d0%ba%d0%bb%d1%83%d1%87%d1%83%d0%b2%d0%b0%d0%bc%d0%b5-%d0%bc%d0%be%d0%b6%d0%bd%d0%be%d1%81%d1%82-%d0%b7%d0%b0-%d0%be%d0%bf%d0%b0/>; 14.04.2021 <https://360stepeni.mk/do-pochetokot-na-narednata-godina-treba-da-se-otstrani-lindanot-od-malata-deponija-vo-ohis/>;
22.04.2021 <https://www.vecer.press/%D1%87%D0%B8%D1%81%D1%82%D0%B5%D1%9A%D0%B5%D1%82%D0%BE-%D0%BD%D0%B0-%D0%BB%D0%B8%D0%BD%D0%B4%D0%B0%D0%BD%D0%BE%D1%82-%D0%B2%D0%BE-%D0%BE%D1%85%D0%B8%D1%81-%D0%B2%D0%BE-%D0%B8%D0%BD%D1%82%D0%B5%D1%80/>
14.06.2021 <https://mk.tv21.tv/vo-juli-ke-se-chisti-lindanot-od-ohis-iljadnitsi-toni-kantserogeni-hemikalii-se-postojana-zakana/>
14.06.2021 <https://mia.mk/obezbedena-nova-oprema-za-slede-e-na-efektite-od-procesot-na-chiste-e-na-lindanot-vo-ohis/>
28.06.2021 <https://lokalno.mk/nuredini-za-dve-nedeli-ke-se-chisti-lindanot-od-ohis/>
MIA 28.06.2021 <https://mia.mk/na-13-uli-ofici-alno-zapochnuva-postapkata-za-chiste-e-na-malata-deponija-vo-ohis/>
Sloboden pecat 29.06.2021
<https://www.slobodenpecat.mk/lindanot-ke-patuva-vo-franczija-zagadenata-zemja-vo-holandija/>
16.03.2022 – media promotion of the initiation of the site clean-up activities
<https://sitel.com.mk/idnata-nedela-pochnuva-chistenjeto-na-lindanot-od-ohis>
<https://telma.com.mk/2022/03/16/%d0%b2%d0%be-%d0%b7%d0%b0%d0%b2%d1%80%d1%88%d0%bd%d0%b0-%d1%84%d0%b0%d0%b7%d0%b0-%d1%81%d0%b5-%d0%bf%d0%be%d0%b4%d0%b3%d0%be%d1%82%d0%be%d0%b2%d0%ba%d0%b8%d1%82%d0%b5-%d0%b7%d0%b0-%d0%b7%d0%b0%d0%bf/>
<https://www.youtube.com/watch?v=h0Jr6rRBnmq>
<https://vlada.mk/node/28110>
<https://nezavisen.mk/slednata-nedela-pochnuva-chistenjeto-na-lindanot-od-ohis/>
<https://makfax.com.mk/makedonija/%D0%BA%D0%BE%D0%B2%D0%B0%D1%87%D0%B5%D0%B2%D1%81%D0%BA%D0%B8-%D1%81%D0%BE-%D0%BE%D1%82%D1%81%D1%82%D1%80%D0%B0%D0%BD%D1%83%D0%B2%D0%B0%D1%9A%D0%B5%D1%82%D0%BE-%D0%BD%D0%B0-%D0%BB%D0%B8%D0%BD%D0%B4/%D0%BE%D1%82%D1%81%D1%82%D1%80%D0%B0%D0%BD%D0%B2%D0%B0%D1%82%D0%BE%D1%85%D0%B8%D1%81-%D1%9C%D0%B5-D%D0%BF%D0%B0%D1%82%D1%83%D0%B2%D0%B0-%D0%B2%D0%BE-%D1%84%D1%80%D0%B0%D0%BD%D1%86%D0%B8%D1%98%D0%B0-%D0%B0-%D0%BA%D0%BE%D0%BD%D1%82%D0%B0%D0%BC%D0%B8%D1%80%D0%B0%D0%BD%D0%B0%D1%82%D0%B0-%D0%B7%D0%B5%D0%BC%D1%98%D0%B0-%D0%B2%D0%BE-%D1%85%D0%BE%D0%BB%D0%B0%D0%BD%D0%B4%D0%B8%D1%98%D0%B0/a-58254653>
28.04.2022 – media presentation of the site clean-up progress
<https://www.24.mk/details/ischisteni-450-toni-lindan-od-malata-deponija-vo-okhis-do-krajot-na-godinata-celosno-otstranuvanje-na-otpadot>
<https://telma.com.mk/2022/04/28/peda-po-peda-se-chisti-lindanot-koj-so-decenii-tlee-vo-ohis-pronajdena-i-zhiva-vo-krugot-na-fabrikata/>
<https://sitel.com.mk/se-chisti-deponijata-vo-ohis-prvite-pratki-lindan-kje-patuvaat-kon-holandija-slednata-nedela>
<https://kanal5.com.mk/toksichniot-lindan-spakuvan-vo-burinja-slednata-nedela-kje-bide-prenesen-vo-francija-i-holandija/a527540>
<https://mk.tv21.tv/ischisteni-450-toni-lindan-od-malata-deponija-vo-ohis-do-krajot-na-godinata-se-planiratselosno-otstranuvane-na-otpadot/>
<https://novatv.mk/prvata-tura-dislokatsija-na-lindan-od-ohis-na-3-maj/>
<https://mrt.com.mk/node/72773>

<https://meta.mk/prvite-kolichini-opasen-lindan-od-ohis-kje-se-izvezat-vo-maj-foto/>
<https://nezavisen.mk/chistenjeto-na-lindanot-od-ohis-odi-pobrzo-od-ochekuvanoto/>
<https://emagazin.mk/ischisteni-450-toni-lindan-od-malata-deponi-a-vo-ohis-do-kra-ot-na-godinata-se-planira-celosno-otstranuva-e-na-otpadot/>
<https://mia.mk/%d0%b8%d1%81%d1%87%d0%b8%d1%81%d1%82%d0%b5%d0%bd%d0%b8-450-%d1%82%d0%be%d0%bd%d0%b8-%d0%bb%d0%b8%d0%bd%d0%b4%d0%b0%d0%bd-%d0%be%d0%b4-%d0%bc%d0%b0%d0%bb%d0%b0%d1%82%d0%b0-%d0%b4%d0%b5%d0%bf%d0%be/>
<https://www.mkd.mk/makedonija/skopje/ischisteni-450-toni-lindan-od-malata-deponija-vo-ohis-se-baraat-pari-za-golemata#1>
<https://kurir.mk/makedonija/vesti/ischisteni-450-toni-lindan-od-malata-deponija-vo-ohis-do-krajot-na-godinata-se-planira-celosno-otstranuvanje-na-otpadot/>
<https://portal.mk/makedonija/ischisteni-450-toni-lindan-od-malata-deponija-vo-ohis-krajot-na-godinata-se-planira-celosno-otstranuvanje-na-otpadot/>
<https://www.novamakedonija.com.mk/makedonija/skopje/ischisteni-450-toni-lindan-od-malata-deponija-vo-ohis/>
<https://www.dw.com/mk/%D0%BB%D0%B8%D0%BD%D0%B4%D0%B0%D0%BD%D0%BE%D1%82-%D0%BE%D0%B4-%D0%BE%D1%85%D0%B8%D1%81-%D1%9C%D0%B5-%D0%BF%D0%B0%D1%82%D1%83%D0%B2%D0%B0-%D0%B2%D0%BE-%D1%84%D1%80%D0%B0%D0%BD%D1%86%D0%B8%D1%98%D0%B0-%D0%B0-%D0%BA%D0%BE%D0%BD%D1%82%D0%B0%D0%BC%D0%B8%D1%80%D0%B0%D0%BD%D0%B0%D1%82%D0%B0-%D0%B7%D0%B5%D0%BC%D1%98%D0%B0-%D0%B2%D0%BE-%D1%85%D0%BE%D0%BB%D0%B0%D0%BD%D0%B4%D0%B8%D1%98%D0%B0/a-58254653>
 6. GEF4385_ Site Investigation Report
<http://pops.org.mk/wp-content/uploads/2020/03/UNIDO-Final-Investigation-Report-OHIS-rev2.pdf>
 7. GEF4385_ Technical tools, guidelines and procedures for contaminated sites management
 English version :
 a) <http://pops.org.mk/wp-content/uploads/2020/08/Part-1-Assessing-contaminated-sites.pdf>
 b) <http://pops.org.mk/wp-content/uploads/2020/08/Part-2-Remediation-of-contaminated-sites.pdf>
 c) <http://pops.org.mk/wp-content/uploads/2020/08/SOPs.pdf>
 Macedonian version:
 a) <http://pops.org.mk/wp-content/uploads/2020/08/Дел-1-Проценка-на-контаминирана-локација.pdf>
 Дел-2-Ремедијација-на-контаминирана-локација
<http://pops.org.mk/wp-content/uploads/2020/08/Дел-2-Ремедијација-на-контаминирана-локација.pdf>
 Дел-3-Стандардни-оперативни-процедури
<http://pops.org.mk/wp-content/uploads/2020/08/Дел-3-Стандардни-оперативни-процедури.pdf>
 8. GEF4385_ Risk Assessment Analysis Update report
<http://pops.org.mk/wp-content/uploads/2020/03/Risk-Assessment-Analysis-Update-final.pdf>
 9. GEF4385_ Cost Benefit Analysis report
http://pops.org.mk/wp-content/uploads/2020/08/Ohis-CBA_Final-Report.pdf

VIII. Implementation progress

1. Using the previous reporting period as a basis, please provide information on **progress, challenges and outcomes achieved/observed** with regards to project implementation.

The project has successfully started the process of remediation activities at the OHIS industrial hotspot site. It has created the legal framework that sets precise procedures for enabling relevant authorities to start and complete the cleaning of both dumps as well as other hotspots in the future. Capacities built at institutions and relevant authorities also lead towards significant changes that will contribute positively to the completion of the activities. The established environmental and health and safety protocols, developed guidelines and conducted training also contribute to a positive impact of the project.

Annex 1 to the project includes table of SCU Indicators

UNIDO has had five different HQ based project managers throughout the project in 8 years:

- Fukuya Iino
- Klaus Tyrkko (SCD Chief)
- Adegboyega Ajani
- Alessandro Amadio

- Vladimir Anastasov

There was no time during which the project was without a PM at UNIDO. The role of Mr Tyrkko as PM is not unusual in UNIDO, where Chiefs often (if not always) are involved in project implementation.

The first project manager (PM) left the project in December 2015. A new PM took over the project in May 2017. In the period without a PM the Chief of the Stockholm Convention Division looked after the project. A new PM was assigned in January 2022 and replaced in October 2022 with the current PM who is expected to continue until end of the project.

However, the UNIDO HQ-based management, coordination, monitoring, quality control and technical outputs appears to have been reasonably efficient, timely and effective. Regular and satisfactory communication was reported to take place between the PM and the PMU.

In general, the project has suffered from several delays (a total of 27 months),. The most important delays are discussed in the following:

- GEF/UNIDO approved the project late 2014 and UNIDO commenced the project in January 2015. The MoEPP signed the project document several months later and it was not possible to set up a steering committee (SC) meeting in a timely fashion resulting in that the first SC meeting was not held until September 2015, probably due to reluctance from the minister of MoEPP to get involved in the project (he was replaced in April 2016). The PMU was established in March 2015 and immediately started preparing ToRs for various activities. Obviously, with no SC, the work could not be approved.

At a SC meeting in March 2016 the PMU presented several ToR for preparatory work for approval but some of the members were not able/willing to approve/reject the work resulting in a delay, , while majority of the members did not reply at all. To avoid similar problems in the future the Rules of Procedure of the PSC were adapted in January 2017 so that the members of the PSC were given 7 days to decide upon received documents, otherwise it is considered that there are no objections to the same, i.e. the same are acceptable.

- Since the analyses of the samples from the site investigations (October 2017 to April 2018) needed to be re-analysed the final site investigation report was not finalised until November 2018.
- The first request for proposal for the clean-up work was published in October 2019, which is 11 months after the investigation report was issued. The reason given for this is that it took time to update the risk assessment analyses, prepared as part of previously developed feasibility studies, based on the detailed site investigation results.
- Evaluation of the proposals lasted until March 2020 where it was concluded that there was not sufficient funding to perform the defined scope of work. This resulted in a period of negotiations and eventually a reduced scope and a rebid (for the lowest bidder only). A contract was finally signed in September 2020, i.e. with a delay of 6 to 7 months.
- The winning contractor (Polyeco) submitted a remediation plan November 2020. The plan was not approved until April 2021, because it required several revisions.

The Covid pandemic has also contributed to the delays since it was difficult to organise meetings that required physical presence.

Lessons learned:

The implementation of the Project: "Removal of technical and economic barriers to initiating the clean-up activities for alpha-HCH, beta-HCH and lindane contaminated sites at OHIS - Project ID 100122", initiated number of activities that increased the responsibility and raised awareness among the responsible institutions, the scientific and research community and the general population in the country. The lessons learned under the Output 5.1 and 1.3 includes recommendations from the MTR

Output 5.1: Projects results monitored and reported

- Clear roles and responsibilities of the PSC should be defined: At the beginning of the project implementation there was low level of responsiveness of the PSC members trying to bureaucratize the decision making process as much as possible focusing on the formal and not on the substantial aspects. Moreover, frequent changes of the members of the PSC by the respective stakeholders required additional time for the nomination of the new ones, additionally slowing down the decision making process.

Therefore, the Rules of Procedures for functioning of the PSC should be prepared and adopted at the beginning of the formation of the PSC, clearly specifying the responsibilities of the PSC members, the procedures and deadlines for the decision making process.

Moreover, the PSC should consist of members from only those stakeholders directly involved and affected by the project activities. Otherwise, in attempt to achieve wider ownership of the project, some stakeholders might be involved in the PSC which members has low level of awareness, concern and responsibility for such specific projects and might not be motivated to participate in the PSC meetings in a constructive manner.

Output 1.2: Technical tools (guidelines, procedures, instructions) for contaminated site management prepared and approved

- Highly experienced consultants should be engaged for the preparation of quality technical guidelines specific to the country needs: Engagement of highly experienced consultants for the development of the technical guidelines is crucial for the developed guidelines to be implementable in the practice, addressing all specific issues related to the topic of concern, i.e. the contaminated site management;

Output 1.3: Environmental officers, contaminated site owners and the potential contaminated site clean-up operators trained on practical usage of the prepared guidelines, procedures and instructions

- The relevant national stakeholders should be trained on all aspects of the contaminated sites management: Organization of practical trainings is essential for building the capacities, i.e. substantial quantum of knowledge and expertise of the national stakeholders (e.g. environmental consulting companies, environmental inspectors, professionals from the responsible institutions, etc.) actively involved in the field of the contaminated sites management, waste management, Environmental Impact Assessment, etc. in order to enable provision of high quality consultancy services for the different phases of the contaminated sites management, including site remediation supervision/monitoring services;

Output 1.4: Laboratory personnel trained for POPs/HCH sampling and analyses standards and protocols

- Analytical capacities in the country should be enhanced: The project contributed to increase the expertise and knowledge of the professionals that are responsible for the monitoring of different contaminants in different media. The knowledge will be taken as a resource in upgrading the existing capacities of the National laboratories in the country. Moreover, analytical equipment is to be provided for the national laboratories in order to enable the same to detect the organochlorine contaminants in different matrices (serum, soil, air) and consequently to determine the chemical hazard in the environment.

Output 2.3: Current risk assessment analyses updated and the risk management options defined

- Appropriate project knowledge management approach should be established: Creation of appropriate knowledge management approach that will enable the results to be properly communicated and disseminated during the whole project lifecycle. The Risk Assessment analysis and its data were taken as a relevant source information for the research work of the researchers at the National Institute of Public Health that was published on the Research Gate web:

- (1) (PDF) *Systematic review and comparative analysis of current methodological approach for risk assessment of "Ohis Plant Skopje"*. Available from:

https://www.researchgate.net/publication/348044919_Systematic_review_and_comparative_analysis_of_current_methodological_approach_for_risk_assessment_of_Ohis_Plant_Skopje

Reference: Removal of technical and economic barriers to initiating the clean-up activities for alpha-HCH, beta-HCH and lindane contaminated sites at OHIS Project ID 100122 - Risk Assessment Analysis Update, 2019 – EMGRISA, <http://pops.org.mk/wp-content/uploads/2020/03/Risk-Assessment-Analysis-Update-final.pdf>

The project played more than significant role in providing relevant database, building the capacities and provided support to the scientific and researcher's community to identify and define the existing situation in the country with contaminated sites.

Output 3.2: Consensus among the general public and major stakeholders built for the establishment/improvement of OHIS contaminated site

- Clear framework for the preparation of the cost-benefit analysis should be established: Relevant factors for the preparation of the cost-benefit analysis should be defined in order for the proposed remediation activities to be relevant and in compliance with the country strategies and requirements of the Stockholm Convention;
- The quality of the input data is crucial for more accurate cost-benefit analysis: The lack of available and relevant information regarding the human exposure of the professional workers in OHIS prevented proper quantification of the health benefits. The analysis showed that there is no

continuous monitoring systems for gathering environmental data related to contaminated sites. The quality of such Cost benefit Analysis is directly depending on the existing relevant database related to continuous environmental and human bio monitoring. Therefore, more resources should be dedicated for establishment of systems for environmental and human bio monitoring in the country.

Output 4.1: ToR for the selection of the technology/ical service providers for the HCH contaminated site remediation prepared

- Highly experienced consultants should be engaged for the preparation of the ToR for the contaminated site remediation: Engagement of highly experienced consultants for the development of the ToR for the remediation technology selection is crucial in order for the selected technology to satisfy the highest safety standards and to be in accordance with the BAP/BEP principles. With this, the eventual incidents during the remedial activities will be prevented at larger scale, thus minimizing the risk for opportunism, reluctance of the local community for continuation of the clean-up activities.

2. Please briefly elaborate on any **minor amendments⁹ to the approved project that may have been introduced during the implementation period or indicate as not applicable (NA).**

Please tick each category for which a change has occurred and provide a description of the change in the related textbox. You may attach supporting documentation, as appropriate.

<input type="checkbox"/>	Results Framework	
<input type="checkbox"/>	Components and Cost	
<input type="checkbox"/>	Institutional and Implementation Arrangements	
<input type="checkbox"/>	Financial Management	
<input checked="" type="checkbox"/>	Implementation Schedule	<p>A delay occurred when contracting of the bidder for provision of the remediation services, due to the negotiation process as a result of the lack of funds to perform the defined scope of work.</p> <p>During the project implementation, it became clear that the costs of the clean-up were higher than what was reasonably expected during design, because of the long time lag between the project formulation in 2014 and the actual clean-up between 2020 and 2022, which obviously was exacerbated by the significant delays. Furthermore, as described in section IX of this report, having much larger amounts of highly concentrated wastes increased the treatment costs significantly.</p> <p>Despite a number of delays and somewhat limited political support initially, the project successfully achieved the planned outcomes and outputs that would enable the removal of barriers, though it had an impact through lower than planned decontamination quantities.</p>
<input type="checkbox"/>	Executing Entity	

⁹ As described in Annex 9 of the *GEF Project and Program Cycle Policy Guidelines*, **minor amendments** are changes to the project design or implementation that do not have significant impact on the project objectives or scope, or an increase of the GEF project financing up to 5%.

<input type="checkbox"/>	Executing Entity Category	
<input checked="" type="checkbox"/>	Minor Project Objective Change	Less than 10% of the initially projected 10,700 tonnes of contamination were removed and treated within the project's formal duration, but the project demonstrated the technical approach, facilitated the creation of the necessary legislation and mobilized funds in the Multi-partner Fund, currently amounting to 7.1 million Euros. Consequently, the activities on the ground continue to complete the decontamination.
<input type="checkbox"/>	Safeguards	
<input checked="" type="checkbox"/>	Risk Analysis	See the elaboration of the new risks identified during project implementation noted in the table on page 18
<input type="checkbox"/>	Increase of GEF Project Financing Up to 5%	
<input type="checkbox"/>	Co-Financing	
<input type="checkbox"/>	Location of Project Activities	
<input type="checkbox"/>	Others	

3. Please provide progress related to the **financial implementation** of the project.

The Project Document provides the budget as presented in the table below.

Financing plan summary - Outcome breakdown

<i>Project outcomes/components</i>	<i>Donor (GEF)(\$)</i>	<i>Co-Financing (\$)</i>	<i>Total (\$)</i>
<i>Outcome 1</i>	<i>123,500</i>	<i>24,150</i>	<i>147,650</i>
<i>Outcome 2</i>	<i>110,300</i>	<i>1,761,100</i>	<i>1,871,400</i>
<i>Outcome 3</i>	<i>73,300</i>	<i>1,003,900</i>	<i>1,077,200</i>
<i>Outcome 4</i>	<i>2,514,800</i>	<i>8,956,750</i>	<i>11,471,550</i>
<i>M&E</i>	<i>78,100</i>	<i>9,600</i>	<i>87,700</i>
<i>Total (\$)</i>	<i>2,900,000</i>	<i>11,755,500</i>	<i>14,655,500</i>

Source: Project document

The expenditures of the GEF grant as recorded in the UNIDO SAP system:

<i>Project outcomes/components</i>	<i>Donor (GEF)(\$)</i>
<i>Outcome 1</i>	<i>141,128.17</i>
<i>Outcome 2</i>	<i>117,041.40</i>
<i>Outcome 3</i>	<i>91,076.98</i>
<i>Outcome 4</i>	<i>2,453,204.28</i>
<i>M&E</i>	<i>268,982.17</i>
<i>Total (\$)</i>	<i>3,071,440.89</i>

Annex 2: Co-financing project expenditures

Actually, funding included:

<i>Donor funding</i>	<i>USD 3,071,440.89</i>
<i>UNIDO input (in kind, USD)</i>	<i>USD 50,000</i>
<i>Co-financing at CEO Endorsement, as applicable</i>	<i>USD 12,450,000</i>
<i>Total project cost (USD), excluding support costs</i>	<i>USD 15,571,440.89</i>

The utilization of the GEF funds demonstrates that the project activities centered on Subcontracts (budget line 2100) affected the budget the most with a cumulative expenditure of USD 2,471,114.35, followed by the recruitment of National (USD 299,784.07) and International Experts (USD 78,682.58).

During the reporting period activities centred on the awareness raising activities, increasing of the

laboratories analytical capacities on POPs monitoring, the preparatory activities for clean-up of the site (obtaining the export permits, purchasing and delivery of the needed equipment and materials, site set-up) have been finalized, the excavation and packing of the foreseen quantities of the HCH waste and the HCH contaminated soil finalized, as well as the transportation of a part of the packed HCH waste.

The services of the National Project Coordinator (NPC) and National Technical Specialist were also engaged under budget line 17-00) during the reporting period for monitoring and coordination of in-country activities and engagements. The NPC coordinated the day-to-day consultations and follow up with all the relevant stakeholders in the country and report to UNIDO on progress of project execution. The National Technical Specialist was involved in the daily communication with the contractor on site clean up and the site visits for the verification of the remediation work, then in regular communication with the State Environmental Inspectorate and communication with the responsible authorities for the exportation notification procedure. The specialist was also involved in the review and the evaluation of the contractor's site remediation progress reports and on the environmental monitoring results.

In 2018, the Secretary General of the Government, who was appointed by the Prime Minister to manage the fundraising for the lindane cleanup, has initiated the establishment of the multi-donor environment fund with the Government of Norway and UNOPS. The latter has been appointed as a Fund Management Agent.

The Government intention was to use the Fund for raising money from various donors in order to replace the national funds pledged in 2013 with donor money, and complement the GEF funds that were already available with UNIDO.

- In 2019 almost 1,500,000 euros was collected in the Fund (500,000 from the Norway Government and 970.000 euros from the national budget).
- In the MoEPP budget for 2021 there are around 720,000 euros available for the OHIS clean-up activities and the same have been transferred to the MPEF for continuation of the clean-up activities beyond the quantities contracted by UNIDO.
- In 2022 the Norway contribution has been increased for about 1,400,000 euros or in total 1,900,000 euros, while the contribution from the national budget has been increased for about 1,010,000 euros or in total 2,700,000 euros. Moreover, the availability of the Fund EU IPA funds, in amount of 2.5 million euros, under the IPA III program have been confirmed.

The total Fund volume is currently 7.1 million EUR.

IX. Work Plan and Budget

1. Please provide **an updated project work plan and budget** for the remaining duration of the project, as per last approved project extension. Please expand/modify the table as needed.

Please fill in the below table or make a reference to a file, in case it is submitted as an annex to the report.

Works plan is attached to this report.

At project design, around 82% of the project budget was dedicated to the clean-up in component 4 (see the table below). During the project implementation, it became clear that the costs of the clean-up were severely underestimated at design, because of the long time lag between the project formulation in 2014 and the actual clean-up between 2020 and 2022, which obviously was exacerbated by the significant delays. Furthermore, as described above, having much larger amounts of highly concentrated wastes increased the treatment costs significantly.

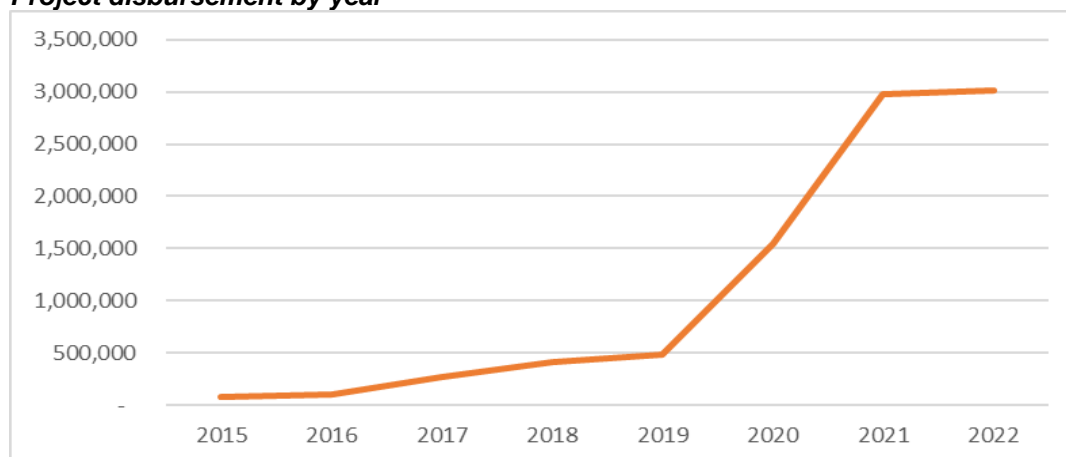
#	Project components	Total allocation (at approval)	
		USD	%
1	Legal framework and institutional capacities to support, justify and evaluate the clean-up of the OHIS site contaminated by alpha-HCH, beta-HCH and lindane established, enhanced and enforced	125,500	4%
2	Characterization of the HCH contaminated site completed, risk assessed and risk management options defined	110,300	3.3%
3	Contaminated site clean up plan and strategies established and key stakeholders including local communities ready to cooperate	73,300	2.1%

4	Clean up operation initiated and the execution mechanism in place to sustain the clean up operations beyond the project period	2,514,800	82%
5	M&E	78,100	2.3%
6	Project management	200,000	6.3%
	Total	3,100,000	100%

Source: Project document and UNIDO Project Management ERP database as of 20 September 2022

From the project expenditure it was clear that around 82% of the project budget was spent on the clean-up, as per the original plan, in spite of the project delays and necessary changes that the project management had to make to address the underestimated costs of the treatment. The disbursement figure below also clearly indicates that not much happened in the first five years of the project between 2015 and 2019, and that the clean-up took place mostly in the last three years. All other project results related to legal framework, capacity building and awareness raising among the local communities and the national counterparts were delivered with less than 10% of the project budget, which is efficient.

Project disbursement by year



Source: UNIDO Project Management ERP database as of 20 September 2022

X. Synergies

1. Synergies achieved:

Through the implementation of the project in the reported period a permanent communication was secured with the designated officers responsible for implementation of the relevant Chemicals and Waste multilateral agreements in the country (Stockholm Convention, Basel Convention, Rotterdam Convention, Minamata Convention and SAICM).

The communication with the designated officers /national focal points for all chemicals and waste conventions is aiming to provide an administrative/institutional support to the implementation of the project activities, particularly in the phase of sharing information with the public, as well as establishing the onsite clean-up process in a coordinated manner, such as obtaining the permits in accordance with the national legislation and with relevant Convention provisions.

Moreover, cooperation have been established between UNIDO and UNOPS, where UNIDO provides technical support to UNOPS which will enable the latter to continue with the remediation activities upon finalization of the clean-up demonstration project implemented by UNIDO.

3. Stories to be shared (Optional)

Not applicable

XI. GEO LOCATION INFORMATION

The Location Name, Latitude and Longitude are required fields insofar as an Agency chooses to enter a project location under the set format. The Geo Name ID is required in instances where the location is not exact, such as in the case of a city, as opposed to the exact site of a physical infrastructure. The Location & Activity Description fields are optional. Project longitude and latitude must follow the Decimal Degrees WGS84 format and Agencies are encouraged to use at least four decimal points for greater accuracy. Users may add as many locations as appropriate.

Web mapping applications such as [OpenStreetMap](#) or [GeoNames](#) use this format. Consider using a conversion tool as needed, such as: <https://coordinates-converter.com>
Please see the Geocoding User Guide by clicking [here](#)

Location Name	Latitude	Longitude	Geo Name ID	Location and Activity Description
<i>Republic of Macedonia - Skopje</i>	41.965935	21.474272	785842	Industrial hotspot site – OHIS former lindane production facility

Please provide any further geo-referenced information and map where the project interventions is taking place as appropriate.

N/A

Timing & duration: Each report covers a twelve-month period, i.e. 1 July 2021 – 30 June 2022.

- Responsibility:** The responsibility for preparing the report lies with the project manager in consultation with the Division Chief and Director.
- Evaluation:** For the report to be used effectively as a tool for annual self-evaluation, project counterparts need to be fully involved. The (main) counterpart can provide any additional information considered essential, including a simple rating of project progress.
- Results-based management:** The annual project/programme progress reports are required by the RBM programme component focal points to obtain information on outcomes observed.

Global Environmental Objectives (GEOs) / Development Objectives (DOs) ratings	
Highly Satisfactory (HS)	Project is expected to achieve or exceed <u>all</u> its major global environmental objectives, and yield substantial global environmental benefits, without major shortcomings. The project can be presented as “good practice”.
Satisfactory (S)	Project is expected to <u>achieve most</u> of its <u>major</u> global environmental objectives, and yields satisfactory global environmental benefits, with only minor shortcomings.
Moderately Satisfactory (MS)	Project is expected to <u>achieve most</u> of its major <u>relevant</u> objectives but with either significant shortcomings or modes overall relevance. Project is expected not to achieve some of its major global environmental objectives or yield some of the expected global environmental benefits.
Moderately Unsatisfactory (MU)	Project is expected to achieve <u>some</u> of its major global environmental objectives with major shortcomings or is expected to <u>achieve only some</u> of its major global environmental objectives.
Unsatisfactory (U)	Project is expected <u>not</u> to achieve <u>most</u> of its major global environmental objectives or to yield any satisfactory global environmental benefits.
Highly Unsatisfactory (HU)	The project has failed to achieve, and is not expected to achieve, <u>any</u> of its major global environmental objectives with no worthwhile benefits.

Implementation Progress (IP)	
Highly Satisfactory (HS)	Implementation of <u>all</u> components is in substantial compliance with the original/formally revised implementation plan for the project. The project can be presented as “good practice”.
Satisfactory (S)	Implementation of <u>most</u> components is in substantial compliance with the original/formally revised plan except for only few that are subject to remedial action.
Moderately Satisfactory (MS)	Implementation of <u>some</u> components is in substantial compliance with the original/formally revised plan with some components requiring remedial action.

Moderately Unsatisfactory (MU)	Implementation of <u>some</u> components is <u>not</u> in substantial compliance with the original/formally revised plan with most components requiring remedial action.
Unsatisfactory (U)	Implementation of <u>most</u> components is <u>not</u> in substantial compliance with the original/formally revised plan.
Highly Unsatisfactory (HU)	Implementation of <u>none</u> of the components is in substantial compliance with the original/formally revised plan.

Risk ratings	
Risk ratings will assess the overall risk of factors internal or external to the project which may affect implementation or prospects for achieving project objectives. Risk of projects should be rated on the following scale:	
High Risk (H)	There is a probability of greater than 75% that assumptions may fail to hold or materialize, and/or the project may face high risks.
Substantial Risk (S)	There is a probability of between 51% and 75% that assumptions may fail to hold or materialize, and/or the project may face substantial risks.
Moderate Risk (M)	There is a probability of between 26% and 50% that assumptions may fail to hold or materialize, and/or the project may face only moderate risk.
Low Risk (L)	There is a probability of up to 25% that assumptions may fail to hold or materialize, and/or the project may face only low risks.