



# **Project Implementation Report**

(1 July 2022 – 30 June 2023)

Project Title:	Development and Promotion of non-POPs alternatives of DDT
GEF ID:	4612
UNIDO ID:	150058
GEF Replenishment Cycle:	GEF-5
Country(ies):	India
Region:	SA - Southeast Asia
GEF Focal Area:	Chemicals and Waste (CW)
Integrated Approach Pilot (IAP) Programs <sup>1</sup> :	N/A
Stand-alone / Child Project:	N/A
Implementing Department/Division:	ENV/IPM
Co-Implementing Agency:	UNEP
Executing Agency(ies):	Ministry of Environment, Forest and Climate Change (MoEF&CC), Ministry of Chemicals and Fertilizers (MoC&F), and Ministry of Health & Family Welfare (MoH&FW)
Project Type:	Full-Sized Project (FSP)
Project Duration:	60 Months
Extension(s):	2
GEF Project Financing:	USD 10,000,000 (UNIDO USD 8,300,000, UNEP USD 1,700,000)
Agency Fee:	USD 1,000,000 (UNIDO USD 830,000, UNEP USD170,000)
Co-financing Amount:	USD 43,147,157
Date of CEO Endorsement/Approval:	04/10/2015

<sup>&</sup>lt;sup>1</sup> Only for **GEF-6 projects**, if applicable

UNIDO Approval Date:	6/30/2015
Actual Implementation Start:	7/9/2015
Cumulative disbursement as of 30 June 2023:	USD 7,972,046.19 (UNIDO)
Mid-term Review (MTR) Date:	5/23/2022
Original Project Completion Date:	8/1/2020
Project Completion Date as reported in FY22:	12/31/2022
Current SAP Completion Date:	12/31/2024
Expected Project Completion Date:	12/31/2024
Expected Terminal Evaluation (TE) Date:	11/1/2024
Expected Financial Closure Date:	12/31/2025
UNIDO Project Manager <sup>2</sup> :	Ms. Carmela Centeno

## I. Brief description of project and status overview

## **Project Objective**

The project aim to introduce bio- and botanical pesticides and other locally appropriate cost-effective and sustainable alternatives to DDT as first step for reduction and eventual elimination of dependency on DDT, ensuring food safety, enhancing livelihood and protecting human health and the environment. The transfer of environmentally sound technologies for manufacture of non-POPs alternatives to DDT will provide a financially comparable alternative to DDT use in the country that would eventually lead to the gradual phase out of 6,000 mt DDT produced and used in India and such discontinue its environmental burden.

#### **Baseline**

A large section of India's population suffers from a significant disease burden from vector borne diseases in the form of morbidity and mortality from malaria, kala-azar, dengue, chikungunya and other related diseases where about 95% of the population resides in malaria endemic areas. As early as 1950s, India has been addressing the control of vector borne diseases when the first plant of DDT manufacture has been set up by Hindustan Insecticide Limited (HIL). However, with the continued use of DDT in the country, some Anopheles mosquito species have developed resistance to DDT. The Government of India has established as a priority the phase out of DDT production and use in compliance with its obligations under the Stockholm Convention on POPs. Under the National Center for Vector Borne Diseases Control (NCBDC), all components of Integrated Vector Pest Management (IVPM) have been introduced to reduce the reliance of DDT in public health. Through the GEF grant, India will make the first step to reduce and ultimately eliminate the dependency on DDT by promoting the scaled up alternatives such as bio and botanical pesticides, thus will contribute to a global efforts to control toxic chemicals and to reduce uPOPs releases in particular. Large scale plantation of neem trees will have a beneficial effect on climate change and will bring additional income to a large segment of rural population and farming communities.

<sup>&</sup>lt;sup>2</sup> Person responsible for report content

Please refer to the explanatory note at the end of the document and select corresponding ratings for the current reporting period, i.e. FY23. Please also provide a short justification for the selected ratings for FY23.

In view of the GEF Secretariat's intent to start following the ability of projects to adopt the concept of adaptive management<sup>3</sup>, Agencies are expected to closely monitor changes that occur from year to year and demonstrate that they are not simply implementing plans but modifying them in response to developments and circumstances or understanding. In order to facilitate with this assessment, please introduce the ratings as reported in the previous reporting cycle, i.e. FY22, in the last column.

Overall Ratings <sup>4</sup>	FY23	FY22				
Global Environmental Objectives (GEOs) / Development Objectives (DOs) Rating	Satisfactory (S)	Satisfactory (S)				
	As with the previous reporting period, attainment of GEOs is considered Satisfactory as the project achieved the envisaged delivery of outputs.					
Implementation Progress (IP) Rating	Satisfactory (S)	Satisfactory (S)				
Despite challenges in the accreditation of alternatives, implementation rating is considered satisfactory for this reporting period.						
Overall <b>Risk</b> Rating	Low Risk (L)	Low Risk (L)				
Overall risk is still considered LOW.						

## 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.

Please fill in the below table or make a reference to any supporting documents that may be submitted as annexes to this report.

Project Strategy	KPIs/Indicators	Baseline	Target level	Progress in FY23		
Component 1 – Legislation, policy framework and institutional capacity (UNEP)						
Outcome 1.1 Efficient System for fulfilling legal requirements at the various stages of the life cycle pf the alternatives to DDT.						
Output 1.1: Regulatory mechanisms throughout the lifecycle of alternatives to DDT in place	•Work plan developed		•One working group established to put together and officially endorse the	Activity 1.1.1: - 1st TWG meeting organized on 6 July 2022 by MoEF&CC in consultation with stakeholders to discuss the technical aspects of the project.		

<sup>&</sup>lt;sup>3</sup> Adaptive management in the context of an intentional approach to decision-making and adjustments in response to new available information, evidence gathered from monitoring, evaluation or research, and experience acquired from implementation, to ensure that the goals of the activity are being reached efficiently

<sup>&</sup>lt;sup>4</sup> Please refer to the explanatory note at the end of the document and assure that the indicated ratings correspond to the narrative of the report

Activity 1.1.1: Establish an inter-ministerial working group to follow and guide the implementation of the activities  Activity 1.1.2: Identify the legal requirements at each stage of the lifecycle for the alternatives to DDT  Activity 1.1.3 Identify gaps in the legal framework throughout the lifecycle for the alternatives to DDT  Activity 1.1.4: Identify the potential for strengthening and streamlining the legal requirements at each of the stages of the lifecycle	for introducing regulatory mechanism  •Drafting of the mechanism, the official approval and adoption of the mechanism  •Regulatory mechanism is in effect		consolidated regulatory guidelines •Regulatory guidelines for alternatives in place	Activities 1.1.2 – 1.1.4:  -Gap Analysis report on legal framework throughout lifecycle of alternatives to DDT and a draft action plan "to recommend necessary changes in the legal and institutional framework to the alternatives to DDT" have been completed by expert legal consultant hired by UNEP Law Division. The documents have been shared by UNEP with MoEF&CC for inputs in October 2021 and reshared in April 2022 and presented in 1st TWG meeting in July 2022.  - UNEP Law Division hired a communications consultant until May 2023 to develop communication materials. Pending final outputs, the material already developed has been showcased during a side event during the Basel Rotterdam Stockholm Conventions COPs (1-5 May 2023, Geneva), organized by UNEP with the support of UNIDO and WHO.  - Achievements and lessons learnt from the project were presented at the abovementioned side event during the Basel Rotterdam Stockholm Conventions COPs (1-5 May 2023, Geneva).
Output 1.2: Guidance documents for producers registration holders and users on the legal requirements for alternatives to DDT  Activity 1.2.1 Develop guidance documents for producers registration holders and users on the legal requirements for alternatives to DDT  Activity 1.2.2 Testing by potential user of the guidance  Activity 1.2.3 Finalise the guidance documents for alternatives to DDT	•Guidance documents developed and tested  •Mechanisms to expedite registrations for: -neem coils -neem larvicide -neem-based IRS application -Bt cell self-spreading formulation for larvae -domestic LLIN manufacture and use as well as end-of-life handling of LLIN		3 guidance documents, 1 for neem, 1 for Bt and 1 for LLIN covering full lifecycle *Efficient and fast fulfilment of legal requirements for alternatives to DDT	Activity 1.2.1:  - Three (3) Guidance documents on LLINs, Bt-based pesticides and Neem based pesticides have been developed by Implementing Partner (Toxics Link) hired by UNEP Law Division.  Activity 1.2.2:  - Three (3) stakeholder consultations (Odisha, West Bengal and New Delhi) for feedback convened by Implementing Partner (Toxics Link)  Activity 1.2.3:  - Guidance documents finalised based on feedback received during stakeholder consultation.  - Translation of guidance documents completed into three (3) regional languages (Hindi, Bangla, Odia).  - A new small-scale funding agreement signed in June 2023 with Toxics Link for dissemination of the guidance documents.
Component 2 – Alternatives	s to vector control (UN	NIDO)		
Outcome 2: Gradually decrea botanical pesticides and LLIN				ffective and sustainable alternatives bio-and scale production.:
Output 2.1 Existing Neem sheds scaled up for production of Neem- based botanical pesticides through PPP model	Domestic large scale production of neem- based self-surface spreading, cream, suspension	production of DDT alterative at industrial	-One (1) facility scaled up for production of neem- based pesticides	Under the reporting period, the following are the progress as on date:  - Approached ICMR for generation of bioefficacy data on neem based products, which is a mandatory requirement for registration

botanical pesticides and LLIN as well as other alternatives to DDT ready for enhancement to large scale production.:					
Output 2.1 Existing Neem sheds scaled up for production of Neem- based botanical pesticides through PPP model	spreading, cream, suspension concentrate and	production of DDT alterative at industrial scale	-One (1) facility scaled up for production of neembased pesticides -Ten (10) pilot plants for neem based pesticides strengthened through technology transfer -Number of individuals employed -Training materials prepared -Number of individual trained	Under the reporting period, the following are the progress as on date:  - Approached ICMR for generation of bioefficacy data on neem based products, which is a mandatory requirement for registration with Central Insecticides Board.  - ICMR sought clarification and presentation on the project. Clarification submitted Work would start once agreement is signed between HIL and ICMR institute. HIL would start commercialisation of three formulations to begin with, namely neem cream, neem coil and neem SC. It is expected to be completed by July 2024.  - ICMR is analysing the details of the products to carry out Bio-efficacy study.  - Entrusted a consultant for registration of the product with CIB.	

				- Obtaining registration from CIB may take 6 months from submission of application Project site has been identified at HIL's Rasayani Unit and the plant area has been demarcated Lump Sum Turn Key (LSTK) contractor shall be identified for plant set-up/construction activity through floating of tenders. The activity is expected to be completed by January 2024 LSTK contractor shall carry out the civil construction work for plant building LSTK contractor shall procure equipment and machinery and install as per the Detailed Engineering Report The Commissioning of the plant is expected by July 2024.
Output 2.2 One (1) pilot Bt- based bio-pesticides production facility established in the governmental sector meeting international operational standard	production of Bt-	Lack of domestic manufacture of Bt based bio-pesticides formulations	-One (1) pilot plant for Bt-based bio-pesticides established and operational -Number of individual employed -Conformity with the international standards -Training materials prepared -Number of individuals trained	-Under the reporting period, the following are the progress as on date:  - MOU signed between HIL and VCRC on 21 December 2021 for the transfer of technology of local strain of Bt.  - Pilot scale technology and dossier for statutory registration with CIB have been transferred to HIL by VCRC on 25th June 2022  - Tender for hiring services of Consultant for preparation of Detailed Project Report (DPR) floated. Retendered two times. On second attempt one agency shown interest.  - Work awarded to the agency. After few days the agency back withdrew its bid. A new tender has been floated.  - A team of technical experts is visiting the Rasayani Unit on 25th July 2023 for discussion on preparation of DPR.  - It is expected to complete the DPR activity by December 2023.  - Land has been earmarked at Rasayani Unit of HIL for putting up the facility for <i>Bti</i> based pesticides.  - Project is expected to be fully commissioned by July 2024.
Output 2.3 : Domestic LLIN production potential scaled up and operational at one (1) site in the governmental sector	Synthetic pyrethroid based LLIN production established	No domestic production of LLIN	- One (1) LLIN pilot plant established - Terms of Reference for technology transfer - WHOPES approval obtained - Number of individuals employed - Training materials prepared - Number of individuals trained - Strategy on take back mechanism of end-of-life LLINs	Under the reporting period, the following are the progress as on date:  -Based on the satisfactory Phase I trial report of ICMR-NIMR, HIL approached NVBDCP, ICMR for giving approval for conducting Phase II trial.  - ICMR provided the protocol for Phase II trial and same were forwarded to Central Insecticides Board (CIB) for approval.  - CIB has approved the protocol of ICMR /VCRC to carry on the phase II trial in its RC meeting held in the Month of January 2022  - MOU has also been signed between HIL and VCRC during the month of February 2022 for undertaking the phase II trial of LLIN.  - Phase II trial is expected to complete by Oct/Nov-23.

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Component 3 – Promotion a Outcome 3: Promotion of ne Output 3.1: New cultivars with high yielding limonoids propagated using tissue culture technology and large scale clonal propagation.1:		Lack of neem plantation using improved cultivars  Lack of dissemination of new improved cultivars in different	gher limonoids yield for a four (4) sites for micro-propagation of neem cultivars - Number of seedlings prepared - Number of seedlings planted	The report shall be submitted to CIB for approval and initiation of Phase III trial of LLIN.  - HIL executed orders for supply of LLINs to the Ministry of Health and Family Welfare, GOI (1.2 million LLINs) and Indian Defence Establishments (120,000 nos. of LLINs), GOI.  - Order for the second stream of equipment is under process for the supply of equipment and machinery of LLIN plant for capacity enhancement to 10 million nets per annum.  - Technical evaluation of the bids is done. All parties have been found technically suitable. Price-bid shall be opened soon  - Job work shall be awarded within July 2023.  - Second stream of extruder shall be set up by December 2023  - CIBRC considered the application and the validity of provisional registration under section 9(3B) was extended till Dec-23  - HIL is in discussion with Government of India's Ministry of Health, State Governments and various other institutions for the supply of LLINs.  for large scale cultivation  Target was reached in previous reporting period and no additional outputs are envisaged.
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Component 4. Development				
Output 4.1: IVPM developed, promoted and pilot tested in selected sites  Activity 4.1.1: Prepared specific training modules for promoting IVPM at local level  Activity 4.1.2: Develop practical training courses for promoting IVPM in a train the trainer's course  Activity 4.1.3. Carry out pilot training (test the training materials and adapt where necessary)	Four (4) IVPM modules and materials available and tested		•Four (4) training modules developed •Four (4) training materials prepared •Number of trainers trained •At least ten (10) pilot tests undertaken	Activity 4.1.1: - Four (4) training modules on IVPM developed by CSIR-NEERI (sub-contracted by lead executing agency, Central Pollution Control Board (CPCB)) and approved by NCVBDC to initiate pilot testing & training of stakeholders Feedback from training participants and experts received, compiled & with updated modules submitted to NCVBDC for endorsement/approval.  Activity 4.1.2: - Practical training courses (presentations and short booklets) developed by CSIR-NEERI based on IVPM training modules Development of dedicated website is ongoing and being coordinated by CSIR-NEERI Awareness material undergoing finalization by communications consultant hired by UNEP Law DivisionOne IVPM training course is scheduled during 24-28 July 2023 at CSIR-NEERI, Nagpur. Total no. of participants: 25; Male: 15; Female: 9.

				<ul> <li>10 training programmes and pilot tests have been completed (online: 8; physical: 2)</li> <li>Total number of people participated: 339; Male: 244; Female: 95.</li> <li>Total No. of states covered: 19</li> </ul>
Component 5. Monitoring an	d evaluation of result	s (UNIDO/UNEP)		
Outcome 5 : Monitoring of pro	ject interventions and e	evaluation of results		
Output 5.1 Technical reporting prepared and made available at each stage of the project	- All project partners, donors and stakeholders informed about content and achievements of the project - All technical reporting		- Project implementation monitored and results assessed against the set of indicators - Terminal report submitted	- All stakeholders have been informed about the implementation monitoring procedures during the inception workshop Project Steering Committee meetings held in July 2021 and December 2022 - Quarterly financial reports submitted up to June 2023 Annual progress report submitted for the year 2022 PIR for 2022-23 has been submitted Quarterly progress of the project including physical and financial progress submitted to project stakeholders Content for Project information system (Website) has been prepared. Website development work is ongoing. Probable date of completion: 31/10/2023 Communication product undergoing finalization by a communication consultant hired to disseminate the project achievements
Output 5.2 Project implementation management and M& E mechanism in place	- Project implementation monitored and results assessed against set of indicators - M&E mechanism in place		- Inception workshop held - SC augmented - NPCU established and staffed - Detailed workplan prepared - Financial audit completed - Annual TPR meeting held - Bi-annual NSC meeting held - Final workshop held	<ul> <li>Inception workshop organised successfully.</li> <li>PSC augmented.</li> <li>NPCU established at MOEF&amp;CC</li> <li>Workplan prepared</li> <li>Regular financial audits carried out with EAs</li> <li>Review meeting at MOEFCC, GOI organised.</li> <li>Review meeting at UR office with stakeholders organised.</li> <li>Regular Review meetings at project sites organised to get updates on the project progress.</li> <li>UNIDO Project Manager also visited project sites and participated in the review meetings</li> <li>Plan of action to address the recommendations of the Review meeting prepared and undertaken</li> <li>On review the progress, MOEFFCC, GOI approved the extension of the project until December 2024.</li> <li>Revised workplan with new timelines finalised and budget has been re-phased accordingly.</li> </ul>
Output 5.3 Project Evaluation	Project implemented and evaluated		All outputs achieved and documented	MTE conducted and submitted in FY22.

# **III. Project Risk Management**

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

	(i) Risks at CEO stage	(i) Risk level FY 22	(i) Risk level FY 23	(i) Mitigation measures	(ii) Progress to-date	New defined risk <sup>5</sup>
1	Due to conflicting interests of the involved ministries, the adoption of policy and legislative framework is delayed	Modest Risk (M)	Modest Risk (M)	Establishment of a coordination committee including the relevant government institutions, private sector, academia and civil society	All relevant Ministries, Departments, Institutions, Academia and Civil society are involved in meetings, workshops organised for this project. This will help to understand each other and result in better coordination.	
2	Lack of multi- departmental commitment to support alternatives to DDT	Low Risk (L)	Low Risk (L)	Sensitization of policy makers is timely made and environmentally sound and socioeconomically acceptable alternatives will be provided	Ministry of Health & Family Welfare (MoH&FW) has endorsed the project for the alternatives to DDT. Central and state departments involved in vector control programs are sensitized on India's commitment made in National Implementation Plan and obligations to Stockholm Convention.	
3	Business model for scaling up production and marketing faces unforeseen obstacles due to inadequate interdepartmental coordination	Low Risk(L)	Low Risk(L)	Inter-departmental coordination is established and close coordination ensured throughout project life	National Steering Committee (NSC) is in place for coordination among different departments	
4	For propagating new cultivars at all agro- climatic zones of higher productivity are not prioritized	Low Risk (L)	Low Risk (L)	Propagation of new cultivars is assigned a high priority in the work program of relevant stakeholders. Special attention will be made to exploit domestic cultivars at state level	Contract has been signed with NBRI for establishing high yielding new cultivars. NBRI strengthen the activities with respect to in-house propagation of new cultivars of neem. Five (5) centres for multiplication of new cultivars are identified and designs have been laid down for transplantation. However, the work of second year (April - May 2021) season is also lost due to 2nd wave of COVID 19 pandemic.	
5	Regional and interregional outreach program does not receive adequate Government support	Low Risk (L)	Low Risk(L)	Government fully sensitized to provide support for the outreach program. The signed endorsement letter confirms the commitment of the Government. Fund raising activities carried out by all involved agencies will clearly minimize this risk.	Endorsement/ commitments of all stakeholders obtained. HIL and MoCF extended all support and ready to meet the requirements of LLIN and other alternatives locally as well as regional and global level. Outreach programs such webinars helps to engage stakeholders and keep them on board.	
6	Monitoring and results indicators are not agreed upon by stakeholders	Low Risk(L)	Low Risk (L)	Both environmental and socio- economic indicators are identified and agreed upon at the early planning (PPG) stage of project & taking into consideration those already adopted in the NVBDCP and other programmes.	Being discussed with different stakeholders	
7	Climate Change	Low Risk (L)	Low Risk(L)	Risk on climate change is negligible	Not applicable at this stage	
8	Delay in project implementation activities at project sites due to COVID- 19 pandemic	Low Risk (L)	Low Risk (L)	Revised timelines for implementation prepared	Stakeholders have been informed and agreed on the revised workplan considering the crisis of COVID 19 pandemic. The work further suffered due to surge of COVID 19 pandemic in 2021.	

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 $<sup>^{\</sup>rm 5}$  New risk added in reporting period. Check only if applicable.

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.

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

The major implication of the COVID – 19 pandemic were as follows:

- Complete halt of the activities at commissioning of the manufacturing plant at Rasayani unit of HIL;
- Delay of transfer of technology from Bt Institute, Wuhan, PR China for the commercialisation of the Bt
- Delay of trials of mass multiplication of the new cultivars at multi-vocational centres across different parts of the country;
- Inordinate delay due to complete lockdown in the country throughout 2020 resulting in no reporting for work at site by the engineers, technicians, labourers etc. as per the directions / orders of the State Government as well as Government of India
- Further delay resulted due to surge in COVID 19 pandemic as 2<sup>nd</sup> wave during 2021

As a result of this, unforeseen delays have impacted the implementation of project activities.

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

No	

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

#### Recommendations:

#### Outcome 1:

#### Project management team should:

- Clarify the next steps in the approval of the Gap Analysis and Action Plan and the preparation of the draft amendments, as well as whether the project can support the preparation of the draft amendments;
- ii. Ensure to highlight that the Guidance documents should ideally be updated at least once a year.

#### Outcome 2:

#### Output 2.1, Project management team should ensure that HIL:

- iii. Commences tender for manufacturing of required machinery as soon as realistic and feasible (taking COVID-19 restrictions into consideration);
- iv. Commences tender for civil construction of facility as soon as realistic and feasible (taking COVID-19 restrictions into consideration).

#### Output 2.2, Project management team should ensure that HIL and ICMR-VCRC:

Expedite the Activity/MOU to the extent realistic.

#### Output 2.3, Project management team should ensure that HIL:

vi. Prepares LLIN take-back and disposal strategy within the rest duration of the project.

#### Output 2.4, Project management team and HIL (and any other involved stakeholder institutions) should:

vii. Prepare the Business Plans and to be reviewed by the Terminal Evaluation.

#### Outcome 3:

#### Output 3.1, Project management team should ensure that CSIR-NBRI:

- viii. Transports the plants to the selected locations as soon as realistic (taking COVID-19 restrictions into consideration)
- ix. Carries out training for the existing neem sheds to enable them to carry out proper neem propagation, collection of seeds, etc.

#### Outcome 4:

# Output 4.1: Regarding the training modules prepared under **Output 4**, **project management team (together with relevant stakeholder institution/s) should:**

- x. Conduct further two trainings as planned, in order to achieve the foreseen 10 pilot trainings of the 4 draft training modules prepared;
- xi. Include Uttar Pradesh, Jharkhand, Odisha and West Bengal in the trainings;
- xii. Conduct additional trainings, with physical presence, as realistic, and including field trainings;
- xiii. Facilitate the approval of the training modules by the NVBDCP;
- xiv. Clarify and confirm ownership and status of training modules and facilitate integration of the training modules in existing training program of the NVBDCP;
- xv. Document gender-disaggregated data of training participants;
- xvi. For the translation of the training modules, ensure that the local languages of States currently using DDT for vector control and States with high number of malaria cases are taken into consideration;

### Regarding any potential project extension:

kvii. Beginning of 2022, **PSC** to consider COVID-19 and its impact, and existing situation on the ground, and if necessary to achieve project objective, to consider supporting project with additional time, to make up for the lost time due to COVID-19.

#### For UNIDO project management team, regarding other aspects:

- Prepare an updated workplan for 2021/22, taking COVID-19 restrictions into consideration (previous one 2020-2022 not actual anymore):
- xix. Total co-finance spent to be documented and provided to the TE;
- xx. Documentation of establishment of NPCU/PMU/PSC/TWG, at least in Minutes of Meeting (if no formal communication prepared);
- xxi. Facilitate strengthening of a collaborative approach between both Implementing Agencies, UNEP and UNIDO, to ensure realization of synergies and a streamlined approach in remaining activities;
- xxii. In view of the COVID-19 situation, as well as the strong commitment of the key stakeholders to accomplish all pending activities by December 2022,
  - key project stakeholders, especially MoEFCC and UNIDO, to closely monitor the situation, and
    - NPM to prepare a status report, including risks and challenges, and submit to MoEFCC and UNIDO, on a monthly basis till project completion.

#### **Recommendations to UNEP:**

xiii. For future projects, to discuss and decide upon a local executing agency/partner during the preparatory phase itself, so that there are no delays in project commencement.

Despite possibly being clear to all relevant stakeholders that the legal framework cannot be put into place by the project, and that this aspect needs to be dealt with at national level, such formulations of Outputs, for example, of Output 1.1, should be avoided.

## Action taken by agencies (UNIDO & UNEP)

Both UNIDO and UNEP are taking all necessary follow up actions on the recommendations made by the Independent evaluation expert team for achieving desired outputs. Updated status is as follows:

#### Output 1

Guidance document prepared and finalized. Document has been translated into three languages for wider dissemination.

## Output 2.1

HIL is in the process of identifying a competent vendor through tendering process to take up construction of civil facility and procurement and commissioning of the machinery for commercial production through a Lump sum turnkey project. The activities are expected to be completed by mid-2024.

## Output 2.2

MOU signed between HIL and VCRC for the transfer of technology of local strain of Bt.

Pilot scale technology and dossier for statutory registration with CIB have been transferred to HIL by VCRC on 25th June 2022

- Tender for hiring services of Consultant for preparation of Detailed Project Report (DPR) floated twice as there was poor response during the first tender process.

Existing civil facility has been identified to house the facility suitable refurbishing.

#### Output 3

LLIN take back and disposal strategy would be taken up soon by HIL.

#### Output 3.1

Saplings of new cultivars of neem transported to the selected locations for multi-location trials.

Training programme conducted on neem propagation, collection of seeds, etc. More training programmes are being planned.

Website with all project-relevant information for a wider reach out is in the development stage.

## 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

	IDO Environmental and Social Safeguards Policies and Procedures (ESSPP), which ject?	category	is the
	Category A project		
	Category B project		
	Category C project		
(Bv	selecting Category C. I confirm that the E&S risks of the project have not escalated to Car	tegory A d	or B).

#### Notes on new risks:

- If new risks have been identified during implementation due to changes in, i.e. project design or context, these should also be listed in (ii) below.
- If these new/additional risks are related to Operational Safeguards # 2, 3, 5, 6, or 8, please consult with UNIDO GEF Coordination to discuss next steps.
- Please refer to the UNIDO <u>Environmental and Social Safeguards Policies and Procedures</u> (ESSPP) on how to report on E&S issues.

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	NA	NA	NA
(ii) New risks identified during project implementation (if not applicable, please insert 'NA' in each box)	NA	NA	NA

## 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).

## UNIDO

Project activities are carried out by jointly by stakeholders such as the Hindustan India Limited (HIL), National Botanical Research Institute (NBRI) Institute of Pesticide Formulation Technology (IPFT), National Institute of Malaria Research (NIMR), National Vector Borne Disease Control Programme (NIVBDCP), Central Institute for Plastic and Engineering Technology (CIPET) and Vector Control Research Centre(VCRC) with sole aim to develop manufacture and promote non-POPs alternatives to DDT.

Negotiated with ICMR for the generation of bio-efficacy data of neem-based products for registration with CIB. Work would start once agreement is signed between HIL and ICMR institute. HIOL would start commercialisation of three formulations to begin with, namely neem cream, neem coil and neem SC. After DPR, installation and commissioning of plant after signing is done. It is expected to be completed by November 2023. Technologies of neem based pesticide and *Bt* based bio-pesticide developed by IPFT have been transferred to HIL for commercial level production. During the reporting period, HIL, the major stakeholder, experienced certain challenges that resulted in delays in executing the activities. There was a tender failure for the procurement of 2<sup>nd</sup> stream of LLI machinery and plant for enhancing the production capacity from 5 million to 10 million nets. Tender had to be floated for second time.

It is expected that after successful technical evaluation and commercial evaluation, job would be awarded to the winning party by HIL to commission the 2<sup>nd</sup> stream of LLIN plant. Similarly, another challenge was experienced by VCRC in the procurement of specialised propriety soap from France. For undertaking Phase II trial of LLIN.

#### UNEP

The project demands consultative work between different departments of Government of India, UNEP, UNIDO and the executing agencies. Some of the components implemented by UNEP required inputs from UNIDO. To address this, UNEP and UNIDO are in constant touch and exchange information as applicable. CPCB/CSIR-NEERI has constituted a working group of experts to support development of training materials and awareness material and is coordinating with other executing agencies such as Law Division. The project has also established a Technical Working Group (TWG) under the chairmanship of MoEF&CC to provide technical guidance during the project implementation. The project also has a Project Steering Committee (PSC) to review the project regularly and provide necessary guidance and suggestions along with decisions on important aspects. UNEP and its partners are also working closely with the State Governments as they will be the main recipients of the project work through training programmes.

CSIR-NEERI completed 10 pilot testing and training programmes of IVPM training modules in various states of India. Based on the feedback, IVPM modules have been updated and submitted to NCVBDC for final approval/endorsement. Currently, train the trainer programme on IVPM training is ongoing. Four training programs are envisaged during 2023.

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 beneficiary of training and pilot testing programmes have appreciated the efforts taken by the project in terms of IVPM training and development of non-POPs alternatives. Some states have requested for additional training programmes to be organized which is being undertaken by the project. Inputs were also received from various stakeholders to improve the quality of documents developed under Component 1 which were taken care of by the executing agency. The EA also collects feedback from participants after each training and pilot testing programme.

Please provide any relevant stakeholder consultation documents.

4612 Agenda TWG1

4612\_MoM TWG1 on 6 July 2022

4612\_ MOM project review meeting Nov 14 2022

4612\_MOM PSC Meeting Dec 13 2022

4612 DDT project extension letter till Dec 2024

4612\_GEF\_good\_practice\_brief\_POPs\_alternatives\_India\_2022

## 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),.

As a GEF-5 project the CEO Endorsement did not foresee main gender issues. However, it is worth mentioning here that gender participation has been observed in the project especially in the net manufacturing activity of LLIN production where most of the activities are handled by women (over 75% participation). Also, in the collection of the neem seed and processing involves women participation in large number. Application of alternatives in the field are also done by women. In the training programmes, relatively moderate gender balanced representation has been observed so encouraged women to participate and get trained.

## 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.

The new products (alternatives) such as LLIN, Neem based botanical pesticides and Bt based larvicides developed under the project have been demonstrated to the field staff, operators, technicians, others that are engaged and responsible for the judicious use of these alternatives to the existing strategy of the application of DDT against mosquitoes. Similar with previous reporting period, continuous promotional activities on the alternatives have been undertaken.

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

#### UNIDO:

4612\_Phase II trial of LLIN

4612\_ LLIN Phase II trial Drying stage

4612 Transfer of Technology Bti bio-pesticide to HIL

4612\_Powerloom warping machine for LLIN

4612\_LLIN stitching

4612\_Neem brochure NBRI

4612\_Agro forestry model of neem with different medicinal and aromatic plants

#### UNEP:

- Information, Education and Communication (IEC) materials such as Pamphlets/Brochures 112
- Door Stickers 2 Booklets-4, FAQs 14 have been prepared for distribution among training participants.
- Website development is under progress which will host the project related documents, IEC materials, training modules, etc.
- Communications product in the form of series of videos undergoing finalization by communications consultant.

## 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 made the following progress/outcomes:

## Output 1.1: Regulatory mechanisms throughout the lifecycle of alternatives to DDT in place

- Inter-ministerial Technical Working Group (TWG) constituted by Ministry of Environment Forest and Climate Change (MoEF&CC) on UNEP's request.
- 1st TWG meeting organized on 6 July 2022 by MoEF&CC in consultation with stakeholders to discuss the technical aspects
  of the project.
- UNEP Law Division hired an expert legal consultant to support the activity who worked in close coordination with other project partners including UNIDO.
- Gap Analysis report on legal framework throughout lifecycle of alternatives to DDT and a draft action plan "to recommend
  necessary changes in the legal and institutional framework to the alternatives to DDT" have been completed by expert legal
  consultant hired by UNEP Law Division. The documents have been shared by UNEP with MoEF&CC for inputs in October
  2021 and reshared in April 2022 and presented in 1st TWG meeting in July 2022.
- UNEP Law Division hired a communications consultant until May 2023 to develop communication materials. Pending final outputs, the material already developed has been showcased during a side event during the Basel Rotterdam Stockholm Conventions COPs (1-5 May 2023, Geneva), organized by UNEP with the support of UNIDO and WHO.
- Achievements and lessons learnt from the project were presented at the above-mentioned side event during the Basel Rotterdam Stockholm Conventions COPs (1-5 May 2023, Geneva).

# Output 1.2: Guidance documents for producers registration holders and users on the legal requirements for alternatives to DDT

- Three (3) Guidance documents on LLINs, Bt-based pesticides and Neem based pesticides have been developed by Implementing Partner (Toxics Link) hired by UNEP Law Division.
- Three (3) stakeholder consultations (Odisha, West Bengal and New Delhi) for feedback convened by Implementing Partner (Toxics Link).
- Guidance documents finalised based on feedback received during stakeholder consultation.
- Translation of guidance documents completed into three (3) regional languages (Hindi, Bangla, Odia).
- A new small-scale funding agreement signed in June 2023 with Toxics Link for dissemination of the guidance documents.

#### Output 2.1: Neem-based pesticides:

- Five (5) Neem based pesticide formulations developed, trialled and requisite process technology standardized and scaled up to pilot plant level by the Institute for Pesticides Formulation Technology (IPFT).
- In December 2019, UNIDO awarded the contract to HIL (India) Limited for the commercialization of the neem-based biopesticides through transfer of technology developed by IPFT.

- Market feasibility study and toxicity studies of the neem formulations completed during March to April 2021.
- Packaging and labelling studies as well as stability study in progress.
- Preparation of the commercial production facility for Neem based pesticides has been shifted from Bhatinda, Punjab to Rasayani unit in Maharashtra..
- Toxicity studies, packaging and labelling requirements of neem formulations undertook and completed in February 2022.
- Stability studies in progress at IPFT. Initiated in 2022 and would take 22 months to complete.
- Negotiated with Indian Council of Medical Research (ICMR) for generation of bio-efficacy data for registration with CIB.
   Data generation studies would start soon after the MOU is signed between HIL and ICMR
- DPR for scaling up from pilot to commercial scale level prepared.
- Production facility complete with installation and commissioning of plant machinery on Lump Sum Turn Key basis is expected by July 2024 for commercial production of neem based products.

#### Output 2.2: Bt-based bio-pesticides

- Three (3) Bt based bio-pesticides formulations developed, trialled and requisite process technologies standardized and scaled up to pilot plant level also by IPFT.
- Pilot scale technology transferred to HIL (India) Ltd. from IPFT for 3 formulations of Bt based bio-pesticide.
- · Technical specifications and feasibility report for pilot plant for Bt based bio-pesticide has been worked out.
- Due to COVID 19 pandemic, the proposed technology from Wuhan, P R China could not take place. Instead it was
  decided to procure the technology with Bt local strain from Vector Control Research Centre (ICMR-VCRC).
- The agreement in this regard is expected to be signed by July 2021 where VCRC will provide the technology along with dossier of data for registration of Bt products to Central Insecticide Board (CIB), India
- MOU signed between HIL and VCRC on 21 December 2021 for the transfer of technology of local strain of Bt.
- Pilot scale technology and dossier for statutory registration with CIB have been transferred to HIL by VCRC on 25 June 2022 through the Hon. Minister of Health and Family Welfare.
- Transport worthiness test (TWT) for packings completed by IIBAT and the same is being submitted to CIB as a requirement for registration of Bt based biopesticide.
- Detailed engineering project report DPR tenders floated for second time.
- Technical evaluation of the tender have been completed.
- Commercial bid would be opened for award of contract for preparation of DPR.
- Land has been earmarked at Rasayani Unit of HIL for putting up the facility for Bt based pesticides
- Project is expected to be fully commissioned and operationalised by July 2024.

#### Output 2.3: Long Lasting Insecticidal Net (LLIN) manufacturing

- HIL (India) Limited has arranged a co-financing of INR 16 Crores (equiv. to 2.4 USD) in cash to establish the LLIN production facility at Rasayani, Maharashtra.
- In June 2018, HIL and UNIDO signed the contract for production of LLIN at commercial level. Manufacturing facility constructed from April 2018 to December 2019 at HIL Rasayani Plant with their co-financing.
- A feasibility study on commercialisation of LLIN undertaken where LLIN technology developed by the Central Institute for Plastic Engineering and Technology (CIPET) identified and procured.
- Based on standardized parameters for LLIN manufacturing, procurement of required machineries and equipment completed in September 2019.
- Commercial level manufacturing plant for 5.0 million/year LLINs erected and commissioned at the Rasayani Plant of HIL (India) Limited in December 2019.
- Technical training of operators took place during December 2019 to January 2020.
- Commercial production of master batch commenced in January 2020.
- Downstream vendor empanelment for net making in March 2020.
- In December 2020, tender floated for setting up the second stream of LLIN Master batch plant at Rasayani. However, only one offer was received and retendering is in progress.
- Marketing of LLIN is being done through Central and State government institutions and the Defence establishments.
- LLIN registration under Section 9 (3b), commercialization permit and also export registration under Section 9(3) for Nepal granted by the competent authority (Central Insecticide Board) in December 2020 and June 2021 respectively.
- HIL applied for WHO PQT Listing in April 2021.
- CIB has approved the protocol of ICMR and VCRC to carry on the phase II trial in its RC meeting held in the Month of January 2022
- MOU has also been signed between HIL and VCRC during the month of February 2022 for undertaking the phase II trial of LLIN.
- Hut trials at field level in Odhisha state is in progress. Out come of the test is expected by Oct/Nov 2023.
- Multi-location storage stability trial spread over 42 months completed successfully.
- Provisional registration under Section 9(3B) extended until Dec 2023.
- Executed recent orders of 1.14 million LLINs to the Ministry of Health and Family Welfare, GOI and 80,000 pieces of LLINs to the Indian Airforce, GOI during April and May 2022.

- Order for the second stream of equipment is under process for the supply of equipment and machinery of LLIN plant for capacity enhancement to 10 million nets per annum
- Draft LLIN business plan is expected to be finalised soon.

#### Output 2.1: Propagation of neem cultivars

- Protocol has been standardised and established for micro propagation of neem cultivars using tissue culture technique for all new cultivars conserved at NBRI.
- Approx. 2500 plants of all cultivars are ready for further multi-location trials.
- The highest rate of clonal propagation was found in cultivar 4 and least in cultivar 2.
- All plants raised through tissue culture were damaged due to closure of institute (lockdown) during the COVID 19 period..
- Fresh plant material were collected and propagated both through micro and macro propagation.
- <u>Multi-location trials</u>: for evaluation of growth, yield and quality of four neem cultivars at five different agro climatic zo ns, multi location trials have been planned at i) north-east (NEHU) Shillong; North Central (CSIR-NBRI Lucknow), North CSIR-CSIO Chandigarh; South CSIR CIMAP Centre Bangalore and East (CSIR IIMT Bhubaneshwar)
- The HPLC analysis showed the highest content of Azadirachtin in cultivar 2 (cultivar hard to propagate through micro- and macro- propagation) followed by cultivar 3, 1 and 4.
- Different shade loving crops (medicinal and aromatic plants viz. Piper longum, Rauvolfia serpentina, Costus speciosus;
  Vetiveria zizanioides and Cymbopogon citratus and Curcuma longa) have been evaluated for Neem based agroforestry
  models to make neem plantation economically viable for farmers and general public.
   The models are as given below:
  - 1. Neem + Turmeric (Curcuma longa)
  - 2. Neem + Satavari (Asparagus racemosus)
  - 3. Neem + Sarpgandha (Rauvolfia serpentina)
  - 4. Neem + Pippli (Piper longum)
  - 5. Neem + Shalparni (Desmodium gangeticum)
  - 6. Neem + Anantmool (Hemidesmus indicus)
  - 7. Neem + Lemon grass (Cympopogon citratus)
  - 8. Neem + Vetivar (Chrysopogon zizanioides)
- For dissemination of basic information on Neem plantations (agroforestry models), a four-page brochure has been prepared in local language, Hindi. The brochure will be translated to English, which includes basic information about Neem, preliminary results of the project and possible entrepreneurship based on products developed through different parts (leaves, seed soil, oil cake, etc.) of neem.
- Training and awareness programme: One day training programme on "Neem for Sustainable Agriculture" was organized on 05 May 2022 at Banthra Research Station of CSIR-NBRI, Lucknow. Total 38 farmers from Uttar Pradesh, Karnataka and Odisha participated in the programme. The farmers showed special interest in Neem inter-cropping with turmeric. Neem sapling of new cultivars are provided to each of the participating farmers.
- Soil chemical properties and enzymatic activities of different MAPs based agro-forestry models: Soil analysis of these diverse models is also under study and out of these models some were studied for changing their chemical and enzymatic properties in the soil profile. The basic soil chemical properties like pH, EC and nutrient analysis along with enzymatic activity viz., Dehydrogenase, Phosphatase, β-glucosidase and Urease were studied.

## Output 4.1: IVPM developed, promoted and pilot tested in selected sites

- Four (4) training modules on IVPM developed by CSIR-NEERI (sub-contracted by lead executing agency, Central Pollution Control Board (CPCB)) and approved by NCVBDC to initiate pilot testing & training of stakeholders.
- Feedback from training participants and experts received, compiled & with updated modules submitted to NCVBDC for endorsement/approval.
- · Practical training courses (presentations and short booklets) developed by CSIR-NEERI based on IVPM training modules.
- Development of dedicated website is ongoing and being coordinated by CSIR-NEERI.
- Awareness material undergoing finalization by communications consultant hired by UNEP Law Division.
- One IVPM training course is scheduled during 24-28 July 2023 at CSIR-NEERI, Nagpur. Total no. of participants: 25; Male: 15; Female: 9.
- 10 training programmes and pilot tests have been completed (online: 8; physical: 2).
- Total number of people participated: 339; Male: 244; Female: 95.
- Total No. of states covered: 19.

#### Challenges:

- Further to the inherent challenges associated with development and commercialization of new pesticides, the project
  encountered as its critical challenge in securing the co-financing for putting up the facility (civil and associated works) for
  the commercial production of LLINs and the biopesticides. HIL (India) Limited has arranged loan from the government
  bank to finance the civil construction of the LLIN facility.
- Gap analysis report and action plan for legal framework of DDT alternatives have been prepared and need to be reviewed
  by the TWG for final endorsement. Also, the IVPM training modules and material need to be finalized after the approval of
  TWG. It is challenging to coordinate the organization of TWG meetings due to its inter-ministerial nature and ownership is
  not with the EA.
- Few activities/reports are dependent on UNIDO's progress. UNEP and UNIDO are coordinating on exchange of information and reports to complement the project activities.

• The major implication of the COVID-19 pandemic is the complete halt of the activities at the ground level. This has caused inordinate delay due to complete lockdown in the country twice from March 2020 to October 2020 and again from April 2021 to mid-June 2021 resulting in no reporting for work at site by the technicians, labours, etc. as per the directions/orders of the State Government as well as Central Government of India. As a result of this, the project has suffered badly resulting in unforeseen delays in the implementation of the activities.

#### Outcomes

- 1. NCVBDC has given no objection for conducting IVPM training in Bihar, Jharkhand, West Bengal and Odisha.
- State and central government departments actively participating in webinars and are keen to join the pilot testing/training programmes.
- 3. LLIN has been manufacturing at commercial level and supplied to the Health ministry and other organizations.
- **2.** Please briefly elaborate on any **minor amendments**<sup>6</sup> 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.

Results Framework	
Components and Cost	
Institutional and Implementation Arrangements	
Financial Management	
Implementation Schedule	The project was extended until December 31 2024
Executing Entity	
Executing Entity Category	
Minor Project Objective Change	
Safeguards	
Risk Analysis	
Increase of GEF Project Financing Up to 5%	
Co-Financing	
Location of Project Activities	
Others	

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

The financial implementation progress of the project as on June 30, 2023 is as follows:

## UNIDO:

Expenditure till 30 June 2023 : USD 7,972,046.19 Available funds as on 30 June 2023: USD 327.953.81

<sup>&</sup>lt;sup>6</sup> 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%.

UNEP Total disbursement: USD 1,052,958.24 Total expenditure: USD 822,353.65	
The UNIDO delivery report is given below:	

# IX. Work Plan and Budget

1. Please provide **an updated project work plan and budget** for <u>the remaining duration of the project</u>, 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.

	k and	al re			Q2 pacity (	Q3	Q4	Q1	Q2	Q3	Q4	Available (US\$)						
fulfilling	lega	al re			pacity (	TINED	_	-										
	<del></del>		quire	mants	omponent 1 – Legislation, policy framework and institutional capacity (UNEP )													
		1	Outcome 1: Efficient system for fulfilling legal requirements at the various stages of the lifecycle of alternatives to DDT															
		-										52,671.52						
]																		
	×	3		⊠		$\boxtimes$												
	×	3		⊠														
	×	3		⊠														
		]										57,409.45						
		]																
	×	3		⊠														

Outcome 2: Gradually decreased use of DDT on the basis of availability of locally appropriate cost-effective and sustainable alternatives bioand botanical pesticides and LLIN as well as other alternatives to DDT ready for enhancement to large scale production

Output 2.1: Existing Neem sheds scaled up for production of Neem- based botanical pesticides through PPP model		$\boxtimes$	⊠	$\boxtimes$	⊠	⊠	$\boxtimes$	⊠					27,793.69
A.2.1.1 Setting-up of manufacturing plant including civil construction of the facility for the commercial production of neembased pesticides													
A. 2.1.2 Installation and commissioning of manufacturing plant			⊠	⊠	⊠	⊠	⊠	⊠					
A.2.1.3. Generation of bio- efficacy and other related data for securing CIB registration of the neem-based pesticides			⊠	⊠	⊠	⊠							
Output 2.2: One (1) pilot Bt- based bio-pesticides production facility established in the governmental sector meeting international operational standard													
A.2.2.1 Civil construction of the Bt manufacturing facility					$\boxtimes$		$\boxtimes$	$\boxtimes$					
2.2.2 Setting up of plant (placing order, delivery, installation and commissioning) for commercial production of Bt based biopesticides			$\boxtimes$										
A2.2.3 Generation of bio-efficacy and other related data for securing CIB registration of the Bt based bio-pesticides				⊠	⊠	⊠	⊠	⊠					
Output 2.3: Domestic LLIN production potential scaled up and operational at one (1) site in the governmental sector		⊠	⊠	⊠	⊠	⊠	⊠	⊠					
A2.3.1 LLIN Plant commissioned and fully operational	$\boxtimes$												
A2.3.2 Generation of bio-efficacy and other related data for LLIN		$\boxtimes$			$\boxtimes$	$\boxtimes$	$\boxtimes$	$\boxtimes$	$\boxtimes$	$\boxtimes$			
A2.3.3 Erection and commissioning of 2 <sup>nd</sup> LLIN plant								$\boxtimes$	$\boxtimes$				
Output 2.4: Business model for alternatives developed, promoted and marketed							$\boxtimes$	$\boxtimes$					
Outcome 3: Promotion of new d	warf c	ultivar	s with	early n	naturity	and h	igher li	monoid	ds yield	d for la	rge sca	ale culti	vation (UNIDO)
Output 3.1:New cultivars with high yielding limonoids propagated using tissue culture technology and large scale clonal propagation													
A3.1.6 Optimize rooting, acclimatization of field transfer of <i>in vitro</i> regenerated shoots			⊠		⊠	⊠							
A3.1.8 Multiplication by clonal propagation of selected cultivars			$\boxtimes$										
A3.1.11 Set up multi-location trials for evaluation of growth, yield and quality at 5 different agroclimatic zones viz.,1. North East (Shillong);		⊠	⊠		⊠	⊠							

2. North Central (Lucknow); 3. North (Chandigarh); 4. South (Bangalore); 5. East (Bhubaneshwar)													
A3.1.12 Develop and demonstrate agro forestry models to make neem plantation economically viable for the farmers and general public	$\boxtimes$												
A3.1.13 Neem nutrient analysis			$\boxtimes$	$\boxtimes$		$\boxtimes$	$\boxtimes$						
A3.1.14 Evaluate degree of adaptation of different cultivars in 5 different agro-climatic zones.				$\boxtimes$	$\boxtimes$	$\boxtimes$	$\boxtimes$		$\boxtimes$	$\boxtimes$			
Component 4 - <b>Development and</b> l	Promo	tion of	Integr	ated V	ector P	est Ma	nagem	ent (UI	NEP)				
Output 4.1: IVPM developed, promoted and pilot tested in selected sites													
A4.1.1: Prepare specific training modules for promoting IVPM at local level													
A4.1.2: Develop practical training courses for promoting IVPM in a train the trainers course													
A4.1.3: Carry out pilot training (test the training materials and adapt where necessary)	$\boxtimes$												
Component 5 - Monitoring of proj	ect int	ervent	ions ar	ıd eval	uation	of resu	lts (UN	IDO/U	NEP)				
Output 5.1:Technical reporting prepared and made available at each stage of the project	$\boxtimes$				$\boxtimes$		53,383.75						
Output 5.2:Project implementation management and M& E mechanism in place					$\boxtimes$	$\boxtimes$	$\boxtimes$	$\boxtimes$	$\boxtimes$	$\boxtimes$			51,787,67
Output 5.3:Project Evaluation		$\boxtimes$	$\boxtimes$	$\boxtimes$			$\boxtimes$		$\boxtimes$		$\boxtimes$	$\boxtimes$	98,113.00

# X. Synergies

## 1. Synergies achieved:

The project is aimed to develop and promote non-POPs alternatives especially botanical pesticides and bio-pesticides which are biodegradable and environmentally friendly.

The project has achieved synergies with the following projects at country, regional and global level:

- 1. Capacity Strengthening and Technical Assistance to Least Developed Countries (LDCs) and Small Island Developing States (SIDS) in Africa for the Implementation of the Stockholm Convention National Implementation Plans (NIPs) in COMESA and SADC sub-regions -
- 2. Development of Production Capacity and Promotion of Neem derived Bio-pesticides as a Low cost and Environmentally Alternatives to Chemical Pesticides in West Africa –
- 3. Promotion of Neem derived Bio-pesticides in West Africa , South-South Cooperation funded by the Government of India
- 4. Technical Support for Development and Production of Neem products as Environment Friendly Pesticides

- 5. Regional Network on Pesticides for Asia and the Pacific (RENPAP)
- 6. Production and Promotion of Neem based Pesticides as Environment Friendly Biodegradable Alternatives to Chemical Pesticides

This project will also enhance synergies between the regional WHO/UNEP DDT projects under the Demonstrating and Scaling-up of Sustainable Alternatives to DDT in Vector Management Global Programme (Global DSSA Program) to facilitate sustainable reduction and ultimately elimination of global reliance on DDT.

## 3. Stories to be shared (Optional)

The project has been selected by GEF as the project for the next GEF Good Practice Brief 2022. Copy attached.

## 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 <a href="OpenStreetMap">OpenStreetMap</a> or <a href="GeoNames">GeoNames</a> use this format. Consider using a conversion tool as needed, such as: <a href="https://coordinates-converter.com">https://coordinates-converter.com</a>

Please see the Geocoding User Guide by clicking here

Location Name	Latitude	Longitude	Geo Name ID	Location and Activity Description
Rasayani	18.901457	73.176132	11858931	Maharashtra State- Manufacturing facility of HIL for DDT alternatives
Lucknow	26.850000	80.949997	1264733	Uttar Pradesh state - Neem germ plasm centre
Pondicherry	11.916064	79.812325	1259425	Pondicherry- Bt technology provider
Raipur	21.250000	81.629997	1258980	Chhattisgarh state- LLIN net making
Chennai	13.067439	80.237617	1264527	Tamil Nadu state- LLIN technology provider
Gurgaon	28.457523	77.026344	1270642	Haryana state- Formulation technology provider
Bengaluru	12.972442	77.580643	1277333	Karnataka state- Multilocation site for neem plantation
Chandigarh	30.738270	76.765144	1274746	Punjab state- Multilocation site

				for neem plantation
Bhubaneswar	20.296059	85.824539	1275817	Odisha state - Multilocation site for neem plantation
Shillong	25.612098	91.897713	1256523	Assam state- Multilocation site for neem plantation
Nagpur	21.14631	79.08491	1262180	Maharashtra state - IVPM module preparation
Shillong	25.5788°N	91.883°E	1256523	Shillong
Aizawl	23.7307°N	92.7173°E	1279186	Aizawl
Agartala	23.8315°N	91.2868°E	1279290	Agartala Pilot Testing 1
Dispur	26.1433°N	91.7898°E	1272508	Dispur
Chandigarh	30.7333°N	76.7794°E	1274746	Chandigarh Pilot Testing 2
Itanagar	27.0844°N	93.6053°E	1269655	Itanagar
Port Blair	11.6234°N	92.7265°E	1259385	Port Blair
Imphal	24.8170°N	93.9368°E	1269771	Imphal
Kohima	25.6751°N	94.1086°E	1266366	Kohima
Jaipur	26.9124°N	75.7873°E	1269515	Jaipur Pilot Testing 3
Amaravati	20.9320°N	77.7523°E	1278718	Amaravati
Hyderabad	17.3850°N	78.4867°E	1269843	Hyderabad Pilot Testing 4
Bengaluru	12.9716°N	77.5946°E	1277333	Bengaluru Pilot Testing 5
Mumbai	19.0760°N	72.8777°E	1275339	Mumbai Pilot Testing 6
Raipur	21.2514°N	81.6296°E	1258980	Raipur Pilot Testing 7
Gandhinagar	23.2156°N	72.6369°E	1271715	Gandhinagar Pilot Testing 8
Bhopal	23.2599°N	77.4126°E	1275841	Bhopal Pilot Testing 9 (Offline)
Lucknow	26.8467°N	80.9462°E	1264733	Lucknow Pilot Testing 10 (Offline)
Kolkata	21.1458°N	7.0882°E	1275004	Nagpur IVPM Training

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

L		

#### **EXPLANATORY NOTE**

- 1. **Timing & duration:** Each report covers a twelve-month period, i.e. 1 July 2022 30 June 2023.
- 2. Responsibility: The responsibility for preparing the report lies with the project manager in consultation with the Division Chief and Director.
- 3. 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.
- 4. **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 all 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 achieve most of its major global environmental objectives, and yields satisfactory global environmental benefits, with only minor shortcomings.

Moderately Satisfactory (MS) Project is expected to achieve most of its major relevant 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 some of its major global environmental objectives with major shortcomings or is expected to achieve only some of its major global environmental objectives.

**Unsatisfactory (U)** 

Project is expected not to achieve most 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, any of its major global environmental objectives with no worthwhile benefits.

## Implementation Progress (IP)

**Highly Satisfactory** (HS)

Implementation of all 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 most 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 some components is in substantial compliance with the original/formally revised plan with some components requiring remedial action.

Moderately **Unsatisfactory (MU)** 

Implementation of some components is not in substantial compliance with the original/formally revised plan with most components requiring remedial action.

Unsatisfactory (U)

Implementation of most components in not in substantial compliance with the original/formally revised

**Highly Unsatisfactory** 

Implementation of none of the components is in substantial compliance with the original/formally revised

(HU)

plan.

# Risk ratings

Risk ratings will access 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.