



KINGDOM OF CAMBODIA
NATIONAL RELIGION KING

NATIONAL GAP ANALYSIS

In Implementing Article 7 and 15 under
Stockholm Convention on POPs

Prepared by:
Department of Hazardous Substances Management
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This report was prepared based on the NIPs and National Reports of the Kingdom of Cambodia submitted to the Stockholm Convention which it was conducted on Persistent Organic Pollutants (POPs) inventory report from different sectors and undertaken by officers of Ministry of Agriculture, Forestry and Fishery; Ministry of Mines and Energy, Ministry of Industry Science Technology and Innovation, and Ministry of Public Works and Transport, and Ministry of Environment. The gap analysis was developed under the supervision provided by the NIP Updating Project's Coordination Unit. The report written by the National Consultant from Ministry of Environment, **Mr. Im Nara** and reviewed and commented by National Coordination Committee (NCC) and technical national reporters, Project Coordination Unit and UNEP through **Ms. Mihaela Claudia Paun**, international consultant.

This gap analysis report supports the testing of the SC integrated electronic toolkit (under development) and as well could contribute to the updating the NIP for the Stockholm Convention, highlighting the remaining legal, technical, economical and institutional challenges to achieve reduction and where possible the elimination of 12 initial POPs and 16 new listed POPs.

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ABBREVIATION

BAT	Best Available Techniques
BEP	Best Environmental Practices
CAS	Chemical Abstracts Service
COP	Conference of the Party
DDT	Dichlorodiphenyltrichloroethane
ELVs	End-of-life Vehicles
EPS	Expanded Polystyrene
EEE	Electronic and Electric Equipment
GEF	Global Environment Facility
g-TEQ	gram/Toxic Equivalent/Annum (Year)
HCBD	Hexachlorobutadiene
SC-ERS	Stockholm Convention-Electronic Report System
Kg	Kilogram
OCP	Official Contact Point
PFNs	Polychlorinated Biphenyls Elimination Network
PPM	Parts Per Million
PBDE	Poly-brominated diphenyl ethers
PCDD	Polychlorinated dibenzo-p-dioxins
PCDF	Polychlorinated dibenzofurans
PCN	Polychlorinated naphthalenes
PFOS	Perfluorooctanesulfonic Acid
PFOSF	Perfluorooctanesulfonyl fluoride
PFOA	Perfluorooctanoic acid
POPs	Persistent Organic Pollutants
NIP	National Implementation Plan
PCB	Polychlorinated biphenyls
PeCB	Pentachlorobenzene
SC	Stockholm Convention
TA	Technical Assistant
TEQ	Toxic Equivalent
TV	Television
UNEP	United National Environmental Programme
UPOPs	Unintentional Persistent Organic Pollutant
WEEE	Waste Electric and Electronic Equipment
XPS	Extruded Polystyrene

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EXECUTIVE SUMMARY

Cambodia ratified to become a Party to the Stockholm Convention (SC) on 25th of August 2006, and commits to fulfilling its obligations under this treaty by taking various measures in order to meet objectives of the Convention.

The Article 7 of the Convention requires Parties to update their National Implementation Plans (NIPs) to address old and new POPs as they are listed to the Convention annexes. While, Article 15 requires Parties to provide regular updates on progress in implementation of the SC through submission of National Reports every four years.

NIP and National Reports provided roadmap and key data sources used in evaluation of the effectiveness of the national implementation of the Stockholm Convention. Therefore, an adequate indicator of the successful implementation of the Convention is the reduction and/or elimination of overall releases with consequent benefits for human health and the environment across the nation, region and globe because the objective of the Convention is to protect human health and the environment from POPs.

Although national progress was made in implementation of Stockholm Convention, there are number of challenges facing the country in fulfilling its obligations under Article 7 and 15 due to limited data and quantitative information on the production of POPs available in the country as well as the difficulty in filling requested data and information under the Article 15 online reporting format to be submitted to the Secretariat of Stockholm Convention.

This report is to analyze the gap in implementing Article 7 and 15 under Stockholm Convention on POPs by Cambodia. To do so, the study need to assess the information included in the 1st, 2nd, 3rd and 4th national reports, other reporting under the SC, and initial and updating NIP of Cambodia submitted to the Stockholm Convention Secretariat for quality, quantity and completeness of information compare to the information requirements by guidance documents and questionnaires of information pursuant the other reporting obligations under the SC. The study also assess the correlation between information included in the national reports and the information included in the NIP to mark differences and define the gap in order to provide recommendations for future streamlining of the data revision/collection process under the national reports and the NIP of Kingdom of Cambodia.

Following the analysis the study found that Cambodia followed the guidance documents in developing its initial NIP and updating of it. However, limitations still exists in generating all information and data to complete and comply with the information required by the guidance documents. Hence, filling the reporting obligations to the SC Secretariate also faced some challenges.

The study also learnt that Cambodia reported the data and information generated during the development of its initial NIP in its national report. The first and second of national report cycles used the inventory results conducted for preparing the initial NIP in 2006, while the third

and fourth of national report cycles used the inventory results surveyed for developing the updating of NIP in 2015.

By comparing the data and information required by NIP and by reporting formats, it was identified that most of data and information requested to be reported under Article 15 and other reporting obligations under the Convention are correlated. However, the data and information needed to fill in the national reports is more detailed than the data and information generated and used for the preparation of NIP.

Besides, the study identified the gaps Cambodia still has in implementing Article 7 and Article 15 under the SC on POPs, and the main reasons behind this is lack of national reporting mechanisms, as well as technical capacities to prepare national reports. To improve these implementations of Article 7 and Article 15 of SC, the following recommendations should be taken into consideration:

- ✓ Additional efforts are needed for Cambodia to generate the information for complying with the reporting obligations under the Stockholm Convention.
- ✓ Once data and information is generated at the national level, in this case during the NIP development and/or update, it should serve for multiple purposes and in particular for reporting under the Convention.
- ✓ There is a need for harmonizing national mechanism for NIP development and/or update with the NIP implementation and with the national mechanism for reporting.
- ✓ There is a need for the Secretariat to work on streamlining format for Article 15 reporting requirements with the formats of the other reporting obligations under the Stockholm Convention.
- ✓ Also, there is a need for the Secretariat to work on harmonizing format of the NIP development and/or update with the Article 15 reporting format.
- ✓ Updating the information of the National Focal Point for Cambodia.
- ✓ Revitalizing the technical ministerial working group for on facilitating the country work and decision-making on international agreements on chemicals.

1. INTRODUCTION

Stockholm Convention on Persistent Organic Pollutants is a multilateral environmental agreement, adopted on 22nd of May 2001 and entered into force on 17th of May 2004, which aims at protecting human health and the environment from chemicals through implementing measures to eliminate or restrict the production and use of persistent organic pollutants, known as POPs. Currently, 152 countries are Signatories and 184 countries are Parties to the Convention.

Cambodia ratified to become a Party to this Convention on 25th of August 2006. POPs possess toxic properties, resist degradation, and bioaccumulate, and are transported, through air, water and migratory species, across international boundaries and deposited far from their place of release. Furthermore, Cambodia commits to fulfilling its obligations under this treaty by taking various measures in order to meet objectives of the Convention.

The Article 7 of the Convention requires Parties to update their National Implementation Plans (NIPs) to address new POPs as they are added to the Convention annexes. Article 15 requires Parties to provide regular updates on progress in implementation of the SC through submission of National Reports every four years. The fourth, fifth, sixth, seventh, eighth and ninth Conference of Parties (COP) of the Stockholm Convention (SC) listed an additional eighteen chemicals, generating the need for Parties to update their NIPs within the two years after the amendments entered into force for each Party.

Cambodia developed and updated its national implementation plan, addressing the COP4 and COP5 listed POPs, as well as provided its national reports on the progress in the implementation of the Convention, under the first, second, third and fourth reporting cycles.

NIP and National Reports provided roadmap and key data sources used in evaluation of the effectiveness of the national implementation of the Stockholm Convention. Therefore, an adequate indicator of the successful implementation of the Convention is the reduction and/or elimination of overall releases with consequent benefits for human health and the environment across the nation, region and globe because the objective of the Convention is to protect human health and the environment from POPs.

Although national progress was made in implementation of Stockholm Convention, there are number of challenges facing the country in fulfilling its obligations under Article 7 and 15 due to limited data and quantitative information on the production of POPs available in the country as well as the difficulty in filling requested data and information under the Article 15 in report format online to be submitted to the Secretariat of Stockholm Convention.

Thus this report will identify and present the overlaps and gaps between data and information requested under the reporting pursuant Article 15 and other reporting obligations under the Stockholm Convention and the data and information generated during the NIP development and/or update process, as well as conclusions and recommendations on modalities to correlate

the processes of reporting under Article 15 and other reporting obligations under the Stockholm Convention with the process of developing and updating the NIPs.

2. OBJECTIVES AND METHODOLOGY

2.1. Objectives

The main objectives of the analysis are:

- ✓ To assess the information included in the national reports submitted to the Stockholm Convention Secretariat by Kingdom of Cambodia, for quality and completeness, with focus on quantitative information and related gaps;
- ✓ To assess the information included in the National Implementation Plan(s) submitted to the Stockholm Convention Secretariat by Kingdom of Cambodia, for quality and completeness, with focus on quantitative information and related gaps;
- ✓ To assess the correlation between the information included in the national reports and the information included in the National Implementation Plan(s) submitted to the Stockholm Convention Secretariat by Kingdom of Cambodia, marking differences;
- ✓ To assess the information in other relevant national information systems;
- ✓ To provide recommendations for future streamlining of the data revision/collection process under the national reports and the National Implementation Plan(s) of Kingdom of Cambodia.

2.2. Methodology

2.2.1. Approach

The development of the report is being completed in three steps (details provided below):

- ✓ Data and information identification, collection and classification - initial screening of the key documents on the subject;
- ✓ Compilation and evaluation of data and information;
- ✓ Review of the analysis and consultations.

2.2.2. Data and information collection and classification

The first step was to review of the relevant resource documents as presented in **Table 1** below.

Table 1. Reference documents and stakeholder screened for the identification of qualitative information and quantitative data

Stockholm Convention Obligation	Reference Document screened	Stakeholder response
Article 15: National Reporting	Electronic Reporting System of the Stockholm Convention submitted by Cambodia: ✓ First reporting cycle,	Ministry of Environment

Stockholm Convention Obligation	Reference Document screened	Stakeholder response
	<ul style="list-style-type: none"> ✓ Second reporting cycle ✓ Third reporting cycle ✓ Fourth report cycle 	H.E Heng Nareth, National Focal Point Mr. Sophal Laska, Focal Point of Stockholm Convention
	Manual for national reports under Article 15 of the Stockholm Convention	
Article 7: National Implementation Plan	✓ First National Implementation Plan (MOE, 2006)	
	✓ Second National Implementation Plan (MOE, 2015)	
	✓ Guidance for Developing a National Implementation Plan (NIP) (UNEP, 2017)	
	✓ FAO Technical Guidelines: FAO Pesticide Disposal Series: Environmental Management Tool Kit for Obsolete Pesticides(EMTK) – Volumes 1-4 (FAO, 2011)	
	✓ Toolkit for the sound management of DDT for disease vector control (UNEP, 2016)	
	✓ Guidelines for the identification of PCBs and materials containing PCBs (UNEP, 1999)	
	✓ PCB inventory guidance (PCB Elimination Network) (PCB Elimination Network, 2016)	
	✓ Preparation of a National Environmentally Sound Management Plan for PCBs and PCB-Contaminated Equipment - Training Manual (UNEP, 2003)	
	✓ Updated technical guidelines for the environmentally sound management of wastes consisting of, containing or contaminated with polychlorinated biphenyls (PCBs), polychlorinated terphenyls (PCTs) or polybrominated biphenyls (PBBs) (UNEP, 2007)	
	✓ Updated general technical guidelines for the environmentally sound management of wastes consisting of, containing or contaminated with persistent organic pollutants (POPs) (UNEP, 2007)	
	✓ PCB management guidance - Maintenance, Handling, Transport and Interim Storage of Liquids Containing PCB and Equipment Contaminated with PCB (PCB Elimination Network, June 2016);	
	✓ Framework for the management of PCBs (IFCS, 2001)	

Stockholm Convention Obligation	Reference Document screened	Stakeholder response
	✓ PCB Transformers and Capacitors - From Management to Reclassification and Disposal (UNEP, 2002)	
	✓ Open system uses of PCBs;	
	✓ Factsheet on Open Applications: Machinery and Installations;	
	✓ Photo Booklet on Open Applications;	
	✓ Factsheet on Open Applications: Residential and Public Buildings;	
	✓ Draft guidance for the inventory of perfluorooctane sulfonic acid (PFOS) and related chemicals (UNEP, 2017);	
	✓ Draft guidance for the inventory of polybrominated diphenyl ethers (PBDEs) (UNEP, 2017);	
	✓ Guidance for the inventory, identification and substitution of Hexabromocyclododecane (HBCD) (UNEP, 2017);	
	✓ Draft guidance on preparing inventories of hexachlorobutadiene (HCBD) (UNEP, 2017);	
	✓ Draft guidance on preparing inventories of pentachlorophenol (PCP) and its salts (UNEP, 2017);	
	✓ Draft guidance on preparing inventories of polychlorinated naphthalene's (PCN) (UNEP, 2017);	
UPOPs	✓ Toolkit for Identification and Quantification of Releases of Dioxins, Furans and Other Unintentional POPs (Toolkit) (UNEP, 2013);	
PBDEs	✓ Format for the submission of information for the evaluation and review of brominated diphenyl ethers pursuant to paragraph 2 of parts IV and V of Annex A to the Stockholm Convention ;	
DDT	✓ Questionnaire for reporting by each Party on production and use of DDT for disease vector control and for reporting other information relevant to the evaluation of the continued need for DDT for disease vector control;	
PFOS	✓ Form for the collection of information on PFOS, its salts, PFOSF and their related chemicals to be used in the evaluation of the continued need for the various	

Stockholm Convention Obligation	Reference Document screened	Stakeholder response
	acceptable purposes and specific exemptions.	

2.2.3. Compilation and evaluation of data and information

Collected data and information were then classified into two main criteria:

- (i) Stockholm Convention obligations (Article 15 reporting, other reporting obligations, NIP development and/or update);
- (ii) Qualitative and quantitative data and information.

In order to identify overlapping and gaps the data and information submitted by Cambodia pursuant the Article 15 and other reporting obligations under the Stockholm Convention were compared against the data and information which have been generated and included in the NIP development and/or update documents submitted to the Secretariat.

The data and information collected considered the POPs substances listed up to 2015, inclusive.

2.2.4. Review of the analysis and consultations

An additional step in the data and information evaluation includes consultations on the preliminary results with national stakeholders. For this purpose, a draft has been circulated for comments and additional input, after the introduction of the analysis preliminary findings at the National Workshop organized within the project framework. The above-mentioned comments were addressed and, to the extent possible, incorporated in this version of the document.

2.2.5. Challenges and limitations

The report seeks to present identified existing overlapping and gaps data and information requested reported under Article 15 and other reporting obligations under the Stockholm Convention and the data and information generated and included in the NIP development and/or update process, as submitted by Cambodia to the Secretariat.

Challenges were encountered in compiling and analyzing this information, resulting in some noteworthy limitations to the report and its findings. These challenges are related to the process of correlation of the data and information generated during the NIP development and update with the reporting obligations.

The correlation was based on expert judgement and may have resulted in an oversight of information and data or on the contrary in an over appreciation of the coverage of information and data generated during NIP development and/or update over the reporting requirements.

3. GAPS RELATED TO THE DATA AND INFORMATION REQUESTED TO BE INCLUDED WITHIN THE ARTICLE 15 REPORT

3.1. General information

Pursuant to the provisions of Article 15 Cambodia as a Party to SC needs to report to the Conference of the Parties (COPs) on the measures it has taken to implement the provisions of this Convention and on the effectiveness of such measures in meeting the objectives of the Convention.

Cambodia shall provide to the Secretariat:

- ✓ Statistical data on its total quantities of production, import and export of each of the chemicals listed in Annex A and Annex B or a reasonable estimate of such data; and
- ✓ To the extent practicable, a list of the States from which it has imported each such substance and the States to which it has exported each such substance.

Such reporting shall be at periodic intervals and in a format to be decided by the Conference of the Parties at its first meeting.

The Conference of the Parties (COP) decided at its first meeting that, national reports shall be submitted every four years. In order to enable the interpretation and comparison of trends, it is important that Parties complete their national reports in a timely and accurate manner. Each Party designates an Official Contact Point (OCP) who has the authority to submit a national report to the Secretariat.

At its second meeting, the COP requested the Secretariat to develop an online electronic reporting system (SC-ERS). The Secretariat established the SC-ERS and it was made available to Parties for use during the first reporting period. At its sixth meeting, in decision SC-6/21, the COP requested the Secretariat to further improve the SC-ERS, taking into account possible synergies with the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, and in time for it to be used by parties for the submission of their third national reports due in 2014.

In response to the request from the COP, the Secretariat has updated and enhanced the SC-ERS in order to accommodate the updated format for the national report as adopted by the COP at its sixth meeting. In addition, the SC-ERS has been improved in order to make it more user-friendly and resourceful.

The updated SC-ERS is available and may be used by parties since 2014.

In 2018 the SC-ERS was updated with the changes required in the questionnaire for the 4th reporting cycle, with a deadline on 31 August 2018.

So far, Cambodia has transmitted its first, second, third and fourth national reports to Stockholm Convention Secretariat.

3.2. Qualitative and quantitative information gaps in Art. 15 reports submitted by Cambodia

For the identification of the qualitative and quantitative information reported by Cambodia pursuant Article 15 of the Stockholm Convention and the related gaps, the questionnaires submitted the Stockholm Convention Secretariat under the first, second, third and fourth reporting cycles were screened and the findings presented in the tables below.

Table 2. Analysis of qualitative and quantitative information submitted by Cambodia under the 1st reporting cycle under Article 15 in 2007

Part/Section	Question/Table	Comments/Feedback
Part B: Section I Implementation plans (Article 7)		All questions responded.
Part B: Section II Intentional production and use (Article 3) Annex A		All questions responded.
Part B: Section II Intentional production and use (Article 3) Annex B (DDT)		All questions responded.
Part B: Section III Register of specific exemptions (Article 4)		All questions responded.
Part B: Section IV Unintentional production (Article 5) PCDD/PCDF (current emissions)	14	Second question not responded. Information available within the initial NIP section 3.3.4 Objective 4: Maintaining of comprehensive inventories of unintentionally produced POPs (pag. 59).
Part B: Section IV Unintentional production (Article 5) PCDD/PCDF (projected emissions)	16	Not responded. Little information available within the initial NIP section 3.4.3 Future formation and releases of unintentionally produced POPs (pag. 39).
Part B: Section V Stockpiles and wastes (Article 6)		All questions responded.
Part B: Section VI Chemicals production, export, import, DDT (Article 15)	26	Responded Yes but no information provided. Information available within the initial NIP Sections 1.4.1 POPs-Pesticides (pag. 12).
Part B: Section VII Information exchange (Article 9)		All questions responded.
Part B: Section VII Public information, awareness and education (Article 10)		All questions responded.

Part/Section	Question/Table	Comments/Feedback
Part B: Section IX Research development and monitoring (Article 11)		All questions responded.
Part B: Section X Technical assistance (Article 12)		All questions responded.
Part B: Section XI Financial resources and mechanisms (Article 13)		All questions responded.
Part C: Section I PCB Stockpiles and wastes	1,2,3,4,5,6,7	Information available within the initial NIP section 3.2 Assessment for Annex A, Part II Chemicals (PCBs) (pg. 30)
Part C: Section II PCB Inventory	8,9,10,11,12,13,14,15,16	Information available within the initial NIP section 3.2 Assessment for Annex A, Part II Chemicals (PCBs) (pg. 30)
Part C: Section III PCB production, import, export and disposal	17,18,19,20	Information available within the initial NIP section 3.2 Assessment for Annex A, Part II Chemicals (PCBs) (pg. 30)

Table 3. Analysis of qualitative and quantitative information submitted by Cambodia under the 2nd reporting cycle pursuant Article 15 in 2012

Part/Section	Question/Table	Comments/Feedback
Part B: Section I. Implementation plans (Article 7)		All questions responded.
Part B: Section II. Intentional production and use (Article 3) Annex A		All questions responded.
Part B: Section III. Unintentional production (Article 5)		All questions responded.
Part B: Section IV. Stockpiles and wastes (Article 6)		All questions responded.
Part B: Section V. Chemicals production, export, import, DDT (Article 15)		All questions responded.
Part B: Section VI. Information exchange (Article 9)		All questions responded.
Part B: Section VII. Public information, awareness and education (Article 10)		All questions responded.

Part/Section	Question/Table	Comments/Feedback
Part B: Section VIII. Research development and monitoring (Article 11)		All questions responded.
Part B: Section IX. Technical assistance (Article 12)	31	Responded Yes but no information provided on the Party providing assistance and the amount in USD. No information in the initial NIP.
Part B: Section X. Financial resources and mechanisms (Article 13)	34,35,36,38	No responses provided. No information in the initial NIP.
Part C: Section I. PCB Stockpiles and wastes		All questions responded.
Part C: Section II. PCB Inventory		All questions responded.
Part C: Section III. PCB production, import, export and disposal		All questions responded.

Table 4. Analysis of qualitative and quantitative information submitted by Cambodia under the 3rd reporting cycle under Article 15 in 2017

Part/Section	Question/Table	Comments/Feedback
Part B: Section I. Implementation plans (Article 7)		All questions responded.
Part B: Section II. Intentional production and use (Article 3) Annex A	5	For PCB, "Prohibition on production" and "Prohibition on import", as well as "No legal/administrative measures taken." are selected. (Conflicting).
Part B: Section II. Intentional production and use (Article 3) Annex B (DDT/PFOS)		All questions responded.
Part B: Section III. Register of specific exemptions (Article 4)		All questions responded.
Part B: Section IV. Unintentional production (Article 5) PCDD/PCDF	9	According to Article 5 para a, Parties are required to develop an action plan or, where appropriate, a regional or subregional action plan within two years of the date of entry into force of the Convention, and subsequently implement it as part of its implementation plan specified in Article 7
Part B: Section IV. Unintentional production (Article 5) PCDD/PCDF	10	If answer to Q9 is 'no' then answer to Q10 cannot be 'yes'

Part/Section	Question/Table	Comments/Feedback
Part B: Section IV. Unintentional production (Article 5) PCB		No comment.
Part B: Section IV. Unintentional production (Article 5) Pentachlorobenzene		No comment.
Part B: Section IV. Unintentional production (Article 5) Hexachlorobenzene		No comment.
Part B: Section IV. Unintentional production (Article 5) BAT&BEP	13	According to Article 5 para a(ii) the action plan to be developed within two years from the entry into force of the Convention shall include an evaluation of the efficacy of the laws and policies related to the management of unintentional releases.
Part B: Section IV. Unintentional production (Article 5) BAT&BEP	14.1	According to paragraph (d) of Article 5 the requirement to use best available techniques for new sources in the categories listed in Part II of Annex C shall be phased in as soon as practicable but no later than four years after the entry into force of the Convention for a Party.
Part B: Section V. Stockpiles and wastes (Article 6)		All questions responded.
Part B: Section VI. Chemicals production, export, import, DDT (Article 15)		All questions responded.
Part B: Section VII. Information exchange (Article 9)	28	When the information exchange mechanism will be established, available online sources of information relevant to the Stockholm Convention should be identified with their name, URL, language(s) and brief description of the information contained.
Part B: Section VII. Public information, awareness and education (Article 10)		All questions responded.
Part B: Section IX. Research development and monitoring (Article 11)		All questions responded.

Part/Section	Question/Table	Comments/Feedback
Part B: Section X. Technical assistance (Article 12)		Not complete. Checked "yes" for having TA received but details not provided.
Part B: Section XI. Financial resources and mechanisms (Article 13)	Part B: 2, 2.1, 3, 4, 4.1, 35	Some information has been provided. The links to GEF implemented projects and information on grants received and in-kind contributions provided could be strengthened. This information was lacking for the assessment of funding needs for the GEF-7 period. Obtaining this information would significantly strengthen the upcoming assessment of funding needs for the GEF-8 period (to be undertaken in 2020).
Part C: Section I. PCB Stockpiles and wastes		All questions responded.
Part C: Section II. PCB Measures and management	10	Responded as "Information not available."; however, taking into account that the response to Q4 is "No", the response to Q10 should be "None".
Part C: Section III. PCB destructions		All questions responded.
Part D: PFOS		All questions responded.
Part D: PFOS	8.1	Not responded.

Table 5. Analysis of qualitative and quantitative information submitted by Cambodia under the 4th reporting cycle under Article 15 in 2019

Part/Section	Question/Table	Comments/Feedback
Part B: Section I. Implementation plans (Article 7)		All questions responded.
Part B: Section II. Intentional production and use (Article 3) Annex A	5	For PCB, "Prohibition on production" and "Prohibition on import", as well as "No legal/administrative measures taken." are selected. (Conflicting).
Part B: Section II. Intentional production and use (Article 3) Annex B (DDT/PFOS)		All questions responded.
Part B: Section III. Register of specific exemptions (Article 4)		All questions responded.

Part/Section	Question/Table	Comments/Feedback
Part B: Section IV. Unintentional production (Article 5) PCDD/PCDF	9	According to Article 5 para a, Parties are required to develop an action plan or, where appropriate, a regional or subregional action plan within two years of the date of entry into force of the Convention, and subsequently implement it as part of its implementation plan specified in Article 7
Part B: Section IV. Unintentional production (Article 5) PCDD/PCDF	10	If answer to Q9 is 'no' then answer to Q10 cannot be 'yes'
Part B: Section IV. Unintentional production (Article 5) PCB		No comment.
Part B: Section IV. Unintentional production (Article 5) Pentachlorobenzene		No comment.
Part B: Section IV. Unintentional production (Article 5) Hexachlorobenzene		No comment.
Part B: Section IV. Unintentional production (Article 5) Polychlorinated naphthalenes (PCN)		No comment.
Part B: Section IV. Unintentional production (Article 5) BAT&BEP	13	According to Article 5 para a(ii) the action plan to be developed within two years from the entry into force of the Convention shall include an evaluation of the efficacy of the laws and policies related to the management of unintentional releases.
Part B: Section IV. Unintentional production (Article 5) BAT&BEP	14.1 & 14.2	All questions responded, but the stating year were not specified
Part B: Section V. Stockpiles and wastes (Article 6)		All questions responded.
Part B: Section VI. Chemicals production, export, import, DDT (Article 15)	24	All questions responded, but there were no confirmation for Hexabromocyclododecane and Pentachlorophenol and its salts and esters
Part B: Section VII. Information exchange (Article 9)	28	When the information exchange mechanism will be established, available online sources of

Part/Section	Question/Table	Comments/Feedback
		information relevant to the Stockholm Convention should be identified with their name, URL, language(s) and brief description of the information contained.
Part B: Section VII. Public information, awareness and education (Article 10)		All questions responded.
Part B: Section IX. Research development and monitoring (Article 11)		All questions responded.
Part B: Section X. Technical assistance (Article 12)		Not complete. Checked "yes" for having TA received but details not provided.
Part B: Section XI. Financial resources and mechanisms (Article 13)	Part B: 2, 2.1, 3, 4, 4.1, 35	Some information has been provided. The links to GEF implemented projects and information on grants received and in-kind contributions provided could be strengthened. This information was lacking for the assessment of funding needs for the GEF-7 period. Obtaining this information would significantly strengthen the upcoming assessment of funding needs for the GEF-8 period (to be undertaken in 2020).
Part C: Section I. PCB Stockpiles and wastes		All questions responded.
Part C: Section II. PCB Measures and management		All questions responded.
Part C: Section III. PCB destructions		All questions responded.
Part D: PFOS	6.1	Cambodia is using Fire-fighting foam containing PFOS, but there was no statistical data provided.

3.3. Qualitative and quantitative data and information submitted by Cambodia under other reporting obligations

Regarding the submission of the response to the questionnaires pursuant the other reporting obligations under the Stockholm Convention, specifically reporting on DDT, POP-PBDEs and PFOS, Cambodia once reported the information for the evaluation and review of POP-PBDEs.

For DDT the information were provided in the initial NIP submitted to the Secretariate in 2006. From the initial NIP, it was found that Cambodia imported DDT for use in agricultural sector and vector disease control, malaria. However, from 1991 DDT was no longer used and stocked. Therefore the information reported about DDT was only available in Initial NIP.

For PFOS the information was provided in NIP updated in 2015.

The identification of the qualitative and quantitative information reported pursuant to the other reporting obligations under the Stockholm Convention and the related gaps were screened and presented in the tables below.

Table 6. Analysis of qualitative and quantitative information submitted by Cambodia on DDT

Section	Sub-section	Comments/feedback
Section A: Production and use of DDT	A.I. Sources of DDT	Information available in initial NIP, section 3.3 Assessment for Annex B Chemicals (DDT) (pg. 37 & 38). <i>“About 840 tons of DDT was imported by Khmer Rouge to Cambodia in 1976, and about 143 tons of DDT was imported by government of Cambodia from 1979 to 1991”.</i>
	A.II. Stock information	Information available in initial NIP section 3.3 Assessment for Annex B Chemicals (DDT) (pg. 37 & 38). <i>“Currently no stock of DDT (including obsolete stocks) have been found as the use of DDT has been suspended since 1991”</i>
	A.III. DDT use	Information available in initial NIP section 3.3 Assessment for Annex B Chemicals (DDT) (pg. 37 & 38). <i>“Cambodia stopped using DDT for vector born disease control in 1991”</i>
	A.IV. Regulation and control	Information available in initial NIP section 3.3 Assessment for Annex B Chemicals (DDT) (pg. 37 & 38).
Section B: DDT alternatives (insecticides, methods and strategies)	B.I. Disease management strategies	Information available in initial NIP section 3.3 Assessment for Annex B Chemicals (DDT) (pg. 37 & 38).
	B.II. Alternatives to DDT	Information available in initial NIP section 3.3 Assessment for Annex B Chemicals (DDT) (pg. 37 & 38).
Section C: General human and environmental safety issues		No information on assessment on human and environmental safety issue related to DDT in Cambodia reported in this initial NIP.
Section D: Systems strengthening in disease vector control		Alternative to DDT was introduced and used for control vector diseases. This information was reported in initial NIP (pg. 38)

Table 7. Analysis of qualitative and quantitative information submitted by Cambodia on PFOS

Section	Sub-section	Question	Comments/feedback
I. Information on PFOS, its salts and PFOSF	Production of PFOS, its salts and PFOSF	<ul style="list-style-type: none"> - Please provide the chemical names/CAS numbers of the chemicals produced. - Please specify the purpose of the production and the years in which the chemicals were produced. - Please provide the quantities in kg/year. 	No production of PFOS in Cambodia was reported in updating of NIP in 2015, section 2.2.5 PFOS (pg. 34).
	Import of PFOS, its salts and PFOSF	<ul style="list-style-type: none"> - Please provide the chemical names/CAS numbers of the chemicals imported. - Please specify the purpose of the import, the countries from which the chemicals were imported and the years in which the chemicals were imported. - Please provide the quantities in kg/year. 	<u>No clear information about the present and the amount of PFOS in firefighting foam imported in Cambodia</u> as reporting in updating of NIP in 2015, section 2.2.5 PFOS (pg. 34).
	Export of PFOS, its salts and PFOSF	<ul style="list-style-type: none"> - Please provide the chemical names/CAS numbers of the chemicals exported. - Please specify the purpose of the export, countries to which the chemicals were exported and the years in which the chemicals were exported. - Please provide the quantities in kg/year 	No export of PFOS from Cambodia was reported in updating of NIP in 2015, section 2.2.5 PFOS (pg. 34).
	Use of PFOS, its salts and PFOSF	<ul style="list-style-type: none"> - Please provide the chemical names/CAS numbers of the chemicals used. - Please specify the purpose of the use and the years in which the chemicals were used. - Please provide the quantities in kg/year. 	<u>It was assumed that amount of 34,485 liters of firefighting foam might contained PFOS and used in Cambodia</u> as reporting in updating of NIP in 2015, section 2.2.5 PFOS (pg. 34). However, that was no clear information.
	Continued need for acceptable purposes	<ul style="list-style-type: none"> - If your country is currently registered for any of the acceptable purposes or specific 	Notification to the Secretariate for continuing use of PFOS

Section	Sub-section	Question	Comments/feedback
	and specific exemptions	exemptions for PFOS, its salts and PFOSF, please provide information on the review of the continued need for those acceptable purposes or specific exemptions.	was suggested in updating of NIP in 2015, section 5.5 Actions to reduce or eliminate the release of PFOS in Firefighting (pg. 65).
	Progress in eliminating PFOS, its salts and PFOSF	- Please provide information on the progress in eliminating PFOS, its salts and PFOSF.	No information was reported; however, there was action plan to safely dispose of firefighting foam containing PFOS mentioned in updating of NIP in 2015, section 5.5 Actions to reduce or eliminate the release of PFOS in Firefighting (pg. 65).
	Progress in building the capacity of countries to transfer safely to reliance on alternatives	- Please provide information on the progress in building the capacity of countries to transfer safely to reliance on alternatives.	No information was reported.
	Research/development of safe alternatives	- Please provide information on research on and development of safe alternatives to PFOS, its salts and PFOSF as stipulated in paragraph 4 (c) of part III of Annex B to the Convention.	No information was reported; however, there was action plan to get technical support for analytical determination of PFOS
II. Information on sulfluramid	Production of sulfluramid	- Please specify the purpose of the production and the years in which the chemicals were produced. - Please provide the quantities in kg/year.	No information was reported.
	Import of sulfluramid	- Please specify the purpose of the import, the countries from which the chemicals were imported and the years in which the chemicals were imported. - Please provide the quantities in kg/year.	No information was reported.

Section	Sub-section	Question	Comments/feedback
	Export of sulfluramid	<ul style="list-style-type: none"> - Please specify the purpose of the export, countries to which the chemicals were exported and the years in which the chemicals were exported. - Please provide the quantities in kg/year. 	No information was reported.
	Use of sulfluramid	<ul style="list-style-type: none"> - Please specify the purpose of the use and the years in which the chemicals were used. - Please provide the quantities in kg/year. 	No information was reported.
	Local monitoring of releases of PFOS from the use of sulfluramid	<ul style="list-style-type: none"> - Please provide information if such local monitoring is conducted. 	No information was reported.
III. Information on alternatives to PFOS, its salts, PFOSF and their related chemicals (chemical/non-chemical alternatives or processes)	Application	<ul style="list-style-type: none"> - Please select the relevant application of the alternative. 	No information was reported.
	Description of alternative	<ul style="list-style-type: none"> - Please provide the chemical name, CAS number and trade names of the alternative. - Please specify the name of the chemical substituted. - Please provide quantities of production and use of the alternative in kg/year, where relevant. - For non-chemical alternatives or processes, please describe the characteristics of the alternative. 	No information was reported.
	Alternative economic viability	<ul style="list-style-type: none"> - Please provide information as to whether the alternative is economically viable. - Please provide information on cost-effectiveness, including environmental, health and socio-economic costs. - Please provide information on the general price of the alternative (e.g. USD/kg). 	No information was reported.
	Alternative technical feasibility and efficacy	<ul style="list-style-type: none"> - Please provide information as to whether the alternative has demonstrated equivalent 	No information was reported.

Section	Sub-section	Question	Comments/feedback
		<p>function and provides similar product performance characteristics.</p> <ul style="list-style-type: none"> - Please provide information on efficacy, including performance, benefits and limitations of the alternative. - Please specify whether the alternative has actually been implemented or is at the trial or proposal stage. 	
	Alternative availability on the market and accessibility	<ul style="list-style-type: none"> - Please specify whether the alternative is on the market and ready for immediate use. - Are there geographic, legal or other limiting factors affecting whether the alternative can be used? 	No information was reported.
	Health/environmental effects including POPs characteristics and other hazards	<ul style="list-style-type: none"> - Please specify the classification according to the Global Harmonization System or other systems, if relevant. - Please provide data used for assessing POPs characteristics (persistence, bioaccumulation, potential for long-range environmental transport, adverse effects) or other hazards. - Please provide information on exposure (e.g. monitoring data) and environmental fate of the chemical. 	No information was reported.
	Risks, taking into account the criteria in Annex D for POPs characteristics and other hazard indicators	<ul style="list-style-type: none"> - Please provide information on whether the alternative has been thoroughly tested or evaluated to avoid inadvertently increasing risks to human health/environment. 	No information was reported.
	Socio-economic considerations	<ul style="list-style-type: none"> - Please provide information on socio-economic impacts associated with the alternative. 	No information was reported.

Table 8. Analysis of qualitative and quantitative information submitted by Cambodia on POP-PBDEs

Question	Information reported in Questionnaire	Comments/feedback
<p>I. Please indicate whether your country is registered for a specific exemption related to brominated diphenyl ethers in accordance with part IV and/or part V of Annex A to the Stockholm Convention.</p> <p>1.1. If you answered "Yes" to 1(a) and/or 1(b), please provide information on whether your country has undertaken any review of its continuing need for registration of the continued need for a specific exemption for hexabromodiphenyl ether and heptabromodiphenyl ether and/or tetrabromodiphenyl ether and pentabromodiphenyl ether.</p>	<ul style="list-style-type: none"> - Yes for (a) hexaBDE and heptaBDE and (b) tetraBDE and pentaBDE. - Casings of TVs and monitors contaminated with HexaBDE and HeptaBDE (c- OBDE) remain in use within the country and to notify the secretariat the continued use of C-PentaBDE - Requested for exemption for recycling articles CRT casings of TV and monitor of PC containing POP PBDEs, and - As there is continued use of cars with car seats contaminated with c-PentaBDE in the country it is necessary to notify the Secretariat of the Convention that PUR foam in car seats contaminated with TetraBDE and PentaBDE (c-PentaBDE) remain in use within the country. 	<p>The information was reported.</p>
<p>II. Has your country taken any actions or control measures to eliminate brominated diphenyl ethers contained in articles?</p> <p>2.1. "No" answer (Please select all that apply):</p>	<ul style="list-style-type: none"> - No. - Lack of financial resources; lack of technical capacity. 	<p>The information was reported.</p>
<p>III. Has your country identified articles in use that contain or may contain brominated diphenyl ethers?</p> <p>3.1. "No" answer (Please select all that apply):</p>	<ul style="list-style-type: none"> - No. - Lack of legal, institutional or policy framework; lack of financial resources; lack of human resources; lack of technical capacity. 	<p>The information was reported.</p>
<p>IV. Has your country taken measures to dispose of articles that contain or may</p>	<ul style="list-style-type: none"> - No. - Lack of financial resources; lack of technical capacity. 	<p>The information was reported.</p>

Question	Information reported in Questionnaire	Comments/feedback
<p>contain brominated diphenyl ethers in an environmentally sound manner, in accordance with paragraph 1 (d) (ii) of Article 6 of the Convention?</p> <p>4.1. "No" Answer (Please select all that apply):</p>		
<p>V. Has your country recycled articles that contain or may contain brominated diphenyl ethers?</p> <p>5.1. When possible, please provide information on any actions or control measures taken by your country to ensure that recycling is carried out in an environmentally sound manner.</p> <p>5.2. Please provide information available on articles that have been recycled .</p>	<ul style="list-style-type: none"> - Yes. - POP-PBDEs is a new concept for Cambodia and there are some activities occurring in the country for recycle article that may containing such chemicals such as used of TV cast for recycled as new TV cast products but it is within family scale (small scale). 	<p>Question 5.1 was not clearly answered especially the measures or actions taken to ensure environmentally sound manner recycling.</p>
<p>VI. Has your country been able to put in place measures to separate articles containing brominated diphenyl ethers before recycling?</p> <p>6.1. "No" answer (Please select all that apply):</p>	<ul style="list-style-type: none"> - No. - Lack of financial resources; lack of technical capacity. 	<p>The information was reported.</p>
<p>VII. Has your country used articles manufactured from recycled materials that contain or may contain brominated diphenyl ethers?</p> <p>7.1. Please provide information available on the articles.</p>	<ul style="list-style-type: none"> - Yes. - There are some activities occurring in the country for recycle article and used recycled products (used of TV cast for recycled as new TV cast products), however no information are kept as record related to activities. 	<p>The answer to question 7 and sub-question 7.1 was not relevant to the question.</p>

Question	Information reported in Questionnaire	Comments/feedback
VIII. Has your country disposed of articles manufactured from recycled materials that contain or may contain brominated diphenyl ethers?	- No.	The answer "NO" did not show the fact and relevant to the above questions concerning article containing or may containing POP-PBDEs recycling.
IX. Has your country taken any steps to prevent the export of articles manufactured from recycled materials that contain levels or concentrations of brominated diphenyl ethers exceeding those permitted for the sale, use, import or manufacture of those articles within its territory, in accordance with paragraph 1 (b) of Part IV and/or Part V of Annex A? 9.1. "No" Answer (Please select all that apply):	- No. - Lack of legal, institutional or policy framework.	The information was reported.

4. GAPS RELATED TO THE DATA AND INFORMATION REQUESTED TO BE INCLUDED WITHIN THE NIP

4.1. General information

Being a Party to the Stockholm Convention, Cambodia is required to prepare a implementation plan explaining how they are going to implement the obligations under the Convention and make efforts to put such a plan into operation (Article 7). The NIP is not a standalone plan for the management of POPs, but should be closely tied to the national sustainable development strategy of the Country preparing and implementing such a plan.

A series of COP decisions have given directions to the Secretariat on how to assist Parties in the development of their NIP, essentially through the development of guidance documents.

Various guidance documents have been developed to support Parties in developing, reviewing, updating and implementing their NIPs. These documents range from providing general guidance on how to develop, review or update a NIP to more focused assistance such as on

how to build inventories for certain POPs or to use best available techniques or best environmental practices (BAT/BEP) during the implementation phase of the NIP.

Parties are encouraged to use the available guidance and invited every two years to provide comments based on their experience to improve the usefulness of these guidance documents. The revised and updated guidance documents addressing the comments received from the Parties and other stakeholders have been reflected and were presented to the meeting of the Conference of the Parties held in April 2017.

Cambodia developed the first NIP and endorsed by council minister in 2006 which cover 12 POPs; and second NIP was updated and submitted to the secretariat of the Stockholm Convention in 2015.

4.2. Qualitative and quantitative information gaps in the NIPs submitted by Cambodia

The findings of the analysis of qualitative information included by Cambodia in its first and second NIP development and/or update are presented in the table below, while highlighting the gaps.

Table 9. Qualitative information included in the NIPs development and/or updated by Cambodia

Chapter/sub-chapter	Sub-chapter	Qualitative information requested to be included in the NIP	Status as per first NIP	Status as per second NIP
1. Introduction		<ul style="list-style-type: none"> ✓ the status of development, update and transmission of NIP; ✓ financial assistance received, as well as the GEF Agency providing the assistance; ✓ NIP review and update triggers; 	The information was provided.	The information was provided section 1. Introduction.
2. Country baseline	2.1 Country profile	<ul style="list-style-type: none"> ✓ summary information on geography and population, membership in regional and sub-regional organizations, the country's political and economic profile, profiles of potentially important economic sectors in the context of the POPs issue, and overall environmental conditions and priorities in the country; 	The information was provided.	The information was provided in section 2. Current status of Cambodia, sub-title 1. Country profile
	2.2. Institutional, policy, and regulatory framework	<ul style="list-style-type: none"> ✓ description of institutional, policy and regulatory frameworks; ✓ legal and institutional framework for control of the production, use, import, export and environmentally sound management and disposal of the pesticides, listed in Annexes A and B of the Convention, including for contaminated sites; 	The information was provided.	The information was provided.
	2.3. Assessment of the POPs issue in the country			
	2.3.1. Assessment of	<ul style="list-style-type: none"> ✓ suitable alternative products, methods and strategies to the POPs pesticides; ✓ necessity to register for the allowed specific exemptions for POPs pesticides; 	The information was provided. Specifically report described the assessment on:	The information was provided in section 2 subtitle 2.2.1 POP pesticides, subtitle 3.1.1.

Chapter/sub-chapter	Sub-chapter	Qualitative information requested to be included in the NIP	Status as per first NIP	Status as per second NIP
	POPs pesticides (Annex A, Part I)	<ul style="list-style-type: none"> ✓ data gaps and deficiencies in the knowledge on POPs pesticides; ✓ disposal and destruction options for POPs pesticides stockpiles and wastes; ✓ sites potentially contaminated with POPs pesticides; 	<ul style="list-style-type: none"> ✓ production, import-export and use; ✓ stockpiles, contaminated sites and wastes; ✓ requirements for exemptions; ✓ monitoring of releases; ✓ awareness, education and mechanism for information exchange; ✓ technical infrastructure for assessment, measurement, analysis, management and research of POP-pesticides; and ✓ identification of impact on public health and the environment. 	<p>summary POP pesticides impact on the environment, 3.2.1. summary POPs pesticides in impact on human health.</p> <p>The provided information only focused on the production, import, export and use, stockpiles, waste and disposal, monitoring program, possible present the environment, and possible impact on human health.</p>
	2.3.2. Assessment of PCBs (Annex A, Part II)	<ul style="list-style-type: none"> ✓ legal, institutional, regulatory, and enforcement systems for PCBs management, including for contaminated sites; ✓ possibilities for integration of the management of PCB-containing articles in the overall waste management; ✓ condition and operation of PCB-containing equipment; ✓ suitable controls on the movement, maintenance, and handling of any equipment containing PCBs; ✓ availability of appropriate waste management systems; ✓ appropriate and effective monitoring and reporting of PCB equipment use, movement, sale, and disposal; 	<p>The assessment of PCBs was conducted focusing on:</p> <ul style="list-style-type: none"> ✓ production, import-export and use; ✓ stockpiles, contaminated sites and waste management; ✓ requirements for exemptions; ✓ monitoring of releases and environmental and human health impacts; ✓ awareness, education and mechanism for information exchange; ✓ technical infrastructure for assessment, measurement, 	<p>The information was provided in section 2, subtitle 2.2.2. PCBs, subtitle 3.1.2. summary PCBs impact on the environment, 3.2.2. summary PCBs in impact on human health.</p> <p>To provided information only focused on import, production, export and use, stockpiles, monitoring program, possible present the environment, and possible impact on human health.</p>

Chapter/sub-chapter	Sub-chapter	Qualitative information requested to be included in the NIP	Status as per first NIP	Status as per second NIP
		<ul style="list-style-type: none"> ✓ data gaps and deficiencies in the knowledge on for PCBs management; ✓ disposal and destruction options for PCBs stockpiles and wastes; ✓ sites potentially contaminated with PCBs; 	<ul style="list-style-type: none"> analysis, management, and research of PCBs; ✓ identification of impacts on public health and the environment. 	
	2.3.3 Assessment of POP-PBDEs (Annex A, Part IV and Part V), HBB (Annex A, Part I) and HBCD (Annex A, Part I and Part VII)	<ul style="list-style-type: none"> ✓ legal, institutional, regulatory, and enforcement systems for management, recycling and end-of-life treatment of POP-PBDE-containing materials (in particular electric and electronic equipment and the transport sector and related wastes), including for contaminated sites; ✓ articles in use that contain or may contain brominated diphenyl ethers (information on types of articles or difficulties encountered); ✓ availability of appropriate recycling facilities and a labelling system marking the presence of POPPBDEs; ✓ availability of appropriate waste management systems; and end-of-life treatment; ✓ appropriate and effective monitoring and reporting of POP-PBDE-containing materials, equipment use, movement, sale, and disposal; ✓ BAT/BEP implementation for the recycling and waste disposal of articles containing POP-PBDEs; ✓ products and articles containing POP-PBDEs in the recycling streams (information on types of articles); 	The first NIP was covered only on the old 12 POPs. Therefore, there was no assessment being conducted in this NIP.	<p>Only information related to POP-PBDEs was provided in section 2 subtitle 3.1.3 and 3.1.4 summary POP PBDEs in e-waste and in transportation impact on the environment, 3.2.3 and 3.2.4 summary PO PBDEs in e-waste and in transport in impact on human health.</p> <p>To provided information only focused on import, production, export and use, stockpiles, monitoring program, possible present the environment, and possible impact on human health.</p>

Chapter/sub-chapter	Sub-chapter	Qualitative information requested to be included in the NIP	Status as per first NIP	Status as per second NIP
		<ul style="list-style-type: none"> ✓ types of used articles that are manufactured from POP-PBDEs-containing materials; ✓ types of disposed articles that are manufactured from POP-PBDEs-containing materials; 		
	2.3.4 Assessment of HCBD (Annex A, Part I)	✓	The first NIP was covered only on the old 12 POPs. Therefore, there was no assessment being conducted in this NIP.	No information was provided because the inventory on HCBD was not conducted.
	2.3.5 Assessment of PCNs	✓	The first NIP was covered only on the old 12 POPs. Therefore, there was no assessment being conducted in this NIP.	No information was provided because the inventory on PCNs was not conducted.
	2.3.6 Assessment with respect to DDT (Annex B, Part II)	<ul style="list-style-type: none"> ✓ production facility and location; ✓ DDT repackaged/reformulated in the country; ✓ DDT exported/ imported; ✓ DDT stocks in use ✓ DDT use for disease vector control ✓ DDT use for any other purpose besides disease vector control; 	The assessment of DDT was conducted, and mainly focused on import, use for malaria control and agricultural purpose. The specific exemption for use to control and outbreak of malaria if need.	Information was provided in section 2, subtitle 3.1.1. summary POP pesticides impact on the environment which informed about the no presence of DDT/DDE in Cambodia.
	2.3.7 Assessment of PFOS, its salts and PFOSF (Annex B, Part III)	<ul style="list-style-type: none"> ✓ types of the chemicals produced exported, imported, exported and used; ✓ purpose of the production, import, export and use; ✓ experiences of using PFOS alternatives in the areas of the allowed acceptable purposes and specific exemptions; ✓ legal, institutional, regulatory, and enforcement systems for PFOS and related 	The first NIP was covered only on the old 12 POPs. Therefore, there was no assessment being conducted in this NIP.	The information was provided in section 2, subtitle 2.2.5 PFOS subtitle 3.1.5. summary PFOS in firefighting impact on the environment, 3.2.5. summary PFOS in firefighting impact on human health.

Chapter/sub-chapter	Sub-chapter	Qualitative information requested to be included in the NIP	Status as per first NIP	Status as per second NIP
		chemicals and articles and materials containing PFOS and related chemicals, including for contaminated sites;		To provided information only focused on import, production, export and use, stockpiles, monitoring program, possible present the environment, and possible impact on human health.
	2.3.8 Assessment of releases of unintentional produced chemicals (Annex C)	<ul style="list-style-type: none"> ✓ information on the development of source inventories and release estimates status and difficulties encountered; ✓ existing laws and policies relating to the management of releases of unintentionally produced persistent organic pollutants and their effectiveness and deficiencies; ✓ situation regarding BAT/BEP implementation within industries and facilities listed in Annex C; 	<p>The assessment of release from unintentional production of Annex C chemicals was conducted focusing on</p> <ul style="list-style-type: none"> ✓ production, import-export and use which also included the source inventories, release estimates, challenges in data generating for the calculation of release owing to limitation of the data on emission sources, challenges to the management of emission due to lack of regulation, limitation of technical knowledge of competent authorities, lack of law and policies enforcement to manage the emission, lack of implementation of BAT/BEP at the emission sources; ✓ Contaminated sites and the management of the formation 	<p>The information was provided in section 2, subtitle 2.2.6. unintentionally produced POPs, subtitle 3.1.6. assessment of unintentionally released POPs impact on the environment, 3.2.6. assessment of unintentionally released POPs impact on human health.</p> <p>To provided information only focus on legislation on u-POPs, inventory on u-POPs release into environment, exposure group of population, and monitoring program,</p>

Chapter/sub-chapter	Sub-chapter	Qualitative information requested to be included in the NIP	Status as per first NIP	Status as per second NIP
			and release of unintentionally produced POPs; ✓ releases of unintentionally produced POPs; ✓ monitoring of releases and environmental and human health impacts; ✓ Awareness, education and information exchange; ✓ Technical infrastructure for assessment, measurement, analysis, management, and research of unintentionally produced POPs; and ✓ Identification of impact on public health and the environment.	
	2.3.9 Information on the state of knowledge on stockpiles, contaminated sites and wastes, identification, likely numbers, relevant regulations, guidance,	✓ sites potentially contaminated / contaminated by PCBs; ✓ measures to identify and label, where appropriate, POP-containing products and articles in use; ✓ measures to identify and label, where appropriate, waste containing POPs; ✓ measures to identify and label, where appropriate, POPs in open applications; ✓ progress in eliminating the POPs listed in Annexes A and/or B; ✓ existent strategies for identifying stockpiles consisting of, or containing, chemicals listed in either Annex A or Annex B to the Convention;	The information was briefly describe in the assessment of each specific POPs, but majority of items in the guidance documents were not addressed.	The information was briefly describe in the assessment of each specific POPs, but majority of items in the guidance documents were not addressed.

Chapter/sub-chapter	Sub-chapter	Qualitative information requested to be included in the NIP	Status as per first NIP	Status as per second NIP
	remediation measures, and data on releases from sites	<ul style="list-style-type: none"> ✓ stockpiles consisting of, or containing, chemicals listed in Annex A or Annex B to the Convention; ✓ measures to manage stockpiles in a safe, efficient and environmentally sound manner; ✓ measures to identify and label, where appropriate, POP-containing products and articles in use; ✓ measures to identify and label, where appropriate, waste containing POPs; ✓ measures to manage wastes, including products and articles upon becoming wastes; ✓ sites potentially contaminated with POPs pesticides, PCBs, POP-PBDEs, HBCD, PFOS, HCB, PCNs and UPOPs; ✓ steps taken to remediate the sites contaminated by chemicals listed in Annex A, B or C; 		
	2.3.10 Summary of future production, use, and releases of POPs – requirements for exemptions	<ul style="list-style-type: none"> ✓ projections on production, use, and releases of POPs; ✓ need for specific exemptions and/or acceptable purposes; ✓ necessity to register for the allowed specific exemptions for POPs pesticides; ✓ necessity to register for the specific exemption on recycling of articles that contain or may contain POP-PBDEs and use of articles manufactured from recycled materials that contain or may contain POP-PBDEs; 	The information was briefly describe in the assessment of each specific POPs, specifically in the requirements for exemptions section, but majority of items in the guidance documents were not addressed.	The information was briefly describe in the assessment of each specific POPs, but majority of items in the guidance documents were not addressed.

Chapter/sub-chapter	Sub-chapter	Qualitative information requested to be included in the NIP	Status as per first NIP	Status as per second NIP
		<ul style="list-style-type: none"> ✓ necessity to register for the specific exemption on production and use of HBCD in expanded polystyrene and extruded polystyrene in buildings; ✓ necessity to register for the allowed PFOS and related chemicals specific exemptions and acceptable purposes; ✓ necessity to register for the specific exemption on production and use of PCNs in the production of polyfluorinated naphthalenes, including octafluoronaphthalene; 		
	2.3.11 Existing programs for monitoring releases and environmental and human health impacts, including findings	<ul style="list-style-type: none"> ✓ existent programs for monitoring releases and environmental and human health impacts; ✓ POPs monitoring findings; ✓ technical infrastructure for POPs assessment; ✓ description of POPs measurement, analysis, alternatives and prevention measures; ✓ POPs research and development activities; ✓ overview on impacted populations or environments, estimated scale and magnitude of threats to public health and environmental quality, and social implications for workers and local communities; 	The information was briefly describe in the assessment of each specific POPs, specifically in the existing program for monitoring of releases and environmental and human health impacts, and technical infrastructure for assessment, measurement, analysis, management, and research, but majority of items in the guidance documents were not addressed.	This information was described in section 2 subtitle 2.2.8. technical infrastructure for POPs assessment, measurements, analyses, and research and development
	2.3.12 Current level of information, awareness, and	<ul style="list-style-type: none"> ✓ awareness raising among communities and households on safety issues relating to DDT use in disease vector control; ✓ level of information, awareness, and education among target groups on POPs 	The information was described in the assessment of each POPs, specifically in the awareness,	This information was not available in the document.

Chapter/sub-chapter	Sub-chapter	Qualitative information requested to be included in the NIP	Status as per first NIP	Status as per second NIP
	education among target groups; existing systems to communicate such information to the various groups;	negative effects on human health and environment; ✓ existing systems to communicate the negative effects of POPs on human health and environment to the various groups;	education and mechanism for information exchange.	
	2.3.13 Mechanism to report under Article 15 on measures taken to implement the provisions of the Convention and for information exchange with other Parties to the Convention	✓ description of the mechanism for information exchange with other Parties to the Convention;	This information was not available in the document.	This information was not available in the document.
	2.3.14 Relevant activities of non-governmental stakeholder	✓ activities of non-governmental stakeholders on POPs	The information was described in the assessment of each POPs, specifically in awareness, education and mechanism for information exchange.	This information was described in section 2 subtitle 2.2.7. activities by NGOs for managing POPs

Chapter/sub-chapter	Sub-chapter	Qualitative information requested to be included in the NIP	Status as per first NIP	Status as per second NIP
	2.3.15 Overview of technical infrastructure for POPs assessment, measurement, analysis, alternatives and prevention measures, research and development – linkage to international programs and projects	<ul style="list-style-type: none"> ✓ description of POPs measurement, analysis, alternatives and prevention measures; ✓ POPs research and development activities; 	The information was briefly describe in the assessment of each specific POPs, specifically in the technical infrastructure for assessment, measurement, analysis, management, and research, but majority of items in the guidance documents were not addressed.	This information was described in section 2 subtitle 2.2.8. technical infrastructure for POPs assessment, measurements, analyses, and research and development
	2.3.16 Overview of technical infrastructure for POPs management and destruction	<ul style="list-style-type: none"> ✓ disposal and destruction options for POPs pesticides and PCBs stockpiles and wastes, POP-PBDE containing articles and materials, HBCD containing products and articles, PFOS-containing articles, HCBd containing products and articles, PCN containing products and articles; 	The information was briefly describe in the assessment of each specific POPs, specifically in the stockpiles, contaminated sites and waste management. However, the information related to POP-PBDE, HBCD, HCBd, PFOS and PCN was not available in this initial NIP.	The information was briefly describe in the assessment of each specific POPs. However, the information related to HBCD, HCBd and PCN was not available in this initial NIP.
	2.3.17 Identification of impacted		The information was briefly describe in the assessment of each specific POPs, specifically in the	This information was described in section 2 subtitle 2.2.9.

Chapter/sub-chapter	Sub-chapter	Qualitative information requested to be included in the NIP	Status as per first NIP	Status as per second NIP
	populations or environments, estimated scale and magnitude of threats to public health and environmental quality, and social implications for workers and local communities		identification of impact on public health and the environment.	particularly exposed population groups
	2.3.18 Details of any relevant system for the assessment and listing of new chemicals	✓ description of the system for the assessment and listing of new chemicals;	No information was described.	This information was described in section 2 subtitle 2.2.10. systems for assessment and inclusion of new substances under the convention, and subtitle 2.2.11. existing chemical management system and inclusion of POPs
	2.3.19 Details of any relevant system for the assessment and regulation of chemicals	✓ description of the system for the assessment and regulation of chemicals already in the market	No information was described.	This information was described in section 2 subtitle 2.2.11. existing chemical management system and inclusion of POPs, and subtitle 2.2.12. review results in

Chapter/sub-chapter	Sub-chapter	Qualitative information requested to be included in the NIP	Status as per first NIP	Status as per second NIP
	already in the market			financing of POPs management infrastructure.
	2.4 Implementation status	✓ status of the previous NIP(s) implementation at the national level	No information was described.	The implementation status of action plans on POPs in the first NIP was informed in section 2, subtitle 2. Implementation status of Cambodia's action plan on POPs (old POPs and newly listed POP including POPs pesticides, PCBs, POP-PBDEs, PFOS, and U-POPs)

The findings of the analysis of quantitative information included by Cambodia in its first and second NIP development and/or update are presented in the table below, while highlighting the gaps.

Table 10. Quantitative information included in the NIPs development and/or updated by Cambodia

NIP Chapter/Sub-chapter	POPs group	Life-cycle step	Quantitative data requested to be included in the NIP	Status as per first NIP	Status as per second NIP
2.3.1 Assessment of POPs pesticides (Annex A, Part I)	POPs pesticides, including DDT	Production	✓ Quantity of POPs pesticides produced (tonnes);	The data was not available because Cambodia is not a producing country.	Information was described in section 2, subtitle 2.2.1. POPs pesticides.
2.3.6 Assessment with respect to DDT (Annex B, Part II)		Import/Export	✓ Quantity of POPs pesticides imported/exported (tonnes);	The data was provided.	Information was described in section 2, subtitle 2.2.1. POPs pesticides.

NIP Chapter/ Sub-chapter	POPs group	Life-cycle step	Quantitative data requested to be included in the NIP	Status as per first NIP	Status as per second NIP
2.3.9 Information on the state of knowledge on stockpiles, contaminated sites and wastes, identification, likely numbers, relevant regulations, guidance, remediation measures, and data on releases from sites		Use	✓ Quantity of POPs pesticides used (tonnes);	The data was provided.	Information was described in section 2, subtitle 2.2.1. POPs pesticides.
		Stockpiles stored	✓ Quantity of POPs pesticides stockpiles stored (tonnes);	The data was provided.	Information was described in section 2, subtitle 2.2.1. POPs pesticides.
		Waste stockpiles	✓ Quantity of POPs pesticides waste stockpiles (tonnes);	The data was provided.	Information was described in section 2, subtitle 2.2.1. POPs pesticides.
		Contaminated sites	✓ Number of potentially contaminated/contaminated sites;	The data was provided.	No information was provided.
	PCP, its salts and esters	Production (historical/current)	✓ Quantity of PCP, its salts and esters produced (tonnes);	This initial NIP addressed only the old 12 POPs. So this data was not available.	This document did not address this POPs.
		Import/export (historical/current)	✓ Quantity of PCP, its salts and esters imported/exported (tonnes) ✓ Quantity of PCP, its salts and esters treated timber imported/exported (for utility poles and cross-arms) (tonnes);	This initial NIP addressed only the old 12 POPs. So this data was not available.	This document did not address this POPs.
		Use (historical/current)	✓ Quantity of PCP, its salts and esters used, especially for timber treatment (for utility poles and cross-arms) (tonnes); ✓ Quantity of PCP, its salts and esters treated timber in use (for utility poles and cross-arms) (tonnes);	This initial NIP addressed only the old 12 POPs. So this data was not available.	This document did not address this POPs.

NIP Chapter/ Sub-chapter	POPs group	Life-cycle step	Quantitative data requested to be included in the NIP	Status as per first NIP	Status as per second NIP
		Waste stockpiles	✓ Quantity of PCP contaminated waste, especially from timber treatment (for utility poles and cross-arms) (tonnes);	This initial NIP addressed only the old 12 POPs. So this data was not available.	This document did not address this POPs.
		Contaminated sites	✓ Number of potentially contaminated/contaminated sites;		This document did not address this POPs.
2.3.2 Assessment of PCBs (Annex A, Part II)	PCBs	Production (historical)	✓ Quantity of PCBs produced (tonnes);	The data was not available because Cambodia is not a producing country.	Information was described in section 2, subtitle 2.2.2. PCBs
2.3.9 Information on the state of knowledge on stockpiles, contaminated sites and wastes, identification, likely numbers, relevant regulations, guidance, remediation measures, and data on releases from sites		Import/export for environmentally sound disposal	✓ Quantity of PCBs imported/exported for environmentally sound disposal (tonnes);	No import for environmentally sound disposal was allowed into Cambodia. So no such data was provided in the report.	Information was described in section 2, subtitle 2.2.2. PCBs
		Use/ Stockpiles stored/ Waste stockpiles	✓ Number of equipment in service/ out of service; ✓ Total mass of equipment in service/out of service [Kg]; ✓ Mass of liquids (oil) of equipment in service/out of service [Kg]; ✓ PCB content in oil of equipment in service/out of service (%).	The data was provided.	Information was described in section 2, subtitle 2.2.2. PCBs
		Waste disposal	✓ Quantity of PCBs locally destroyed (tonnes); ✓ Quantity of PCBs destroyed abroad (tonnes);	No data was provided.	No information was provided.
		Contaminated sites	✓ Number of potentially contaminated/contaminated sites;	The data was provided.	No information was provided.

NIP Chapter/ Sub-chapter	POPs group	Life-cycle step	Quantitative data requested to be included in the NIP	Status as per first NIP	Status as per second NIP
2.3.3 Assessment of POP-PBDEs (Annex A, Part IV and Part V), HBB (Annex A, Part I) and HBCD (Annex A, Part I and Part VII) 2.3.9 Information on the state of knowledge on stockpiles, contaminated sites and wastes, identification, likely numbers, relevant regulations, guidance, remediation measures, and data on releases from sites	POP-PBDEs	Production (historical)	✓ Quantity of POP-PBDEs produced (tonnes);	This initial NIP addressed only the old 12 POPs. So this data was not available.	Information was described in section 2, subtitle 2.2.3. POP PBDEs in e-waste and subtitle 2.2.4. POP PBDEs in transport
		Import/export	✓ Quantity of POP-PBDEs imported/exported (historical, tonnes); ✓ Quantity of POP-PBDEs in articles/products imported / exported (tonnes);	This initial NIP addressed only the old 12 POPs. So this data was not available.	Information was described in section 2, subtitle 2.2.3. POP PBDEs in e-waste and subtitle 2.2.4. POP PBDEs in transport
		Use	✓ Quantity of POP-PBDEs used to manufacture article/products (historical, tonnes); ✓ Quantity of POP-PBDEs in article/products in use, especially EEE and vehicles (tonnes); ✓ Quantity of polymeric fraction containing POP-PBDEs (especially contained in EEE and vehicles)(tonnes);	This initial NIP addressed only the old 12 POPs. So this data was not available.	Information was described in section 2, subtitle 2.2.3. POP PBDEs in e-waste and subtitle 2.2.4. POP PBDEs in transport
		Stockpiles	✓ Quantity of POP-PBDEs in stockpiled article/products (especially EEE and vehicles) (tonnes); ✓ Quantity of polymeric fraction containing POP-PBDEs (especially contained in EEE and vehicles) (tonnes);	This initial NIP addressed only the old 12 POPs. So this data was not available.	Information was described in section 2, subtitle 2.2.3. POP PBDEs in e-waste and subtitle 2.2.4. POP PBDEs in transport

NIP Chapter/ Sub-chapter	POPs group	Life-cycle step	Quantitative data requested to be included in the NIP	Status as per first NIP	Status as per second NIP
		Recycling	<ul style="list-style-type: none"> ✓ Quantity of recycled POP-PBDEs containing articles/products (tonnes); ✓ Quantity of articles/products produced from recycled articles/products containing POP-PBDEs (tonnes); 	This initial NIP addressed only the old 12 POPs. So this data was not available.	No information was provided.
		Waste stockpiles	<ul style="list-style-type: none"> ✓ Quantity of POP-PBDEs in article/products wastes stockpiles (especially wastes of electric and electronics equipment (WEEE) and end-of-life vehicles (ELVs)) (tonnes); ✓ Quantity of polymeric fraction containing POP-PBDEs, especially contained in WEEE and ELVs (tonnes); 	This initial NIP addressed only the old 12 POPs. So this data was not available.	Information was described in section 2, subtitle 2.2.3. POP PBDEs in e-waste and subtitle 2.2.4. POP PBDEs in transport
		Contaminated sites	<ul style="list-style-type: none"> ✓ Number of potentially contaminated/contaminated sites; 	This initial NIP addressed only the old 12 POPs. So this data was not available.	Information was described in section 2, subtitle 2.2.3. POP PBDEs in e-waste and subtitle 2.2.4. POP PBDEs in transport
2.3.3 Assessment of POP-PBDEs (Annex A, Part IV and Part V), HBB (Annex A, Part I)	HBCD	Production (historical/current)	<ul style="list-style-type: none"> ✓ Quantity of HBCD produced (tonnes); 	This initial NIP addressed only the old 12 POPs. So this data was not available.	This document did not address this POPs.
2.3.3 HBCD (Annex A, Part I and Part VII)		Import/export	<ul style="list-style-type: none"> ✓ Quantity of HBCD imported/exported as powder or pellets, as masterbatches, as HBCD containing EPS beads and high 	This initial NIP addressed only the old 12 POPs. So this data was not available.	This document did not address this POPs.

NIP Chapter/ Sub-chapter	POPs group	Life-cycle step	Quantitative data requested to be included in the NIP	Status as per first NIP	Status as per second NIP
2.3.9 Information on the state of knowledge on stockpiles, contaminated sites and wastes, identification, likely numbers, relevant regulations, guidance, remediation measures, and data on releases from sites			<ul style="list-style-type: none"> impact polystyrene (HIPS) pellets (tonnes); ✓ Quantity of HBCD in articles/products imported/exported (especially EPS and XPS in construction sector and flame retarded textile applications) (tonnes); 		
		Use	<ul style="list-style-type: none"> ✓ Quantity of HBCD used to manufacture article/products (historical/current, especially EPS and XPS in construction sector and flame retarded textile applications) (tonnes); ✓ Quantity of HBCD in article/products in use (especially EPS and XPS in construction sector and flame retarded textile applications) (tonnes); 	This initial NIP addressed only the old 12 POPs. So this data was not available.	This document did not address this POPs.
		Recycling	<ul style="list-style-type: none"> ✓ Quantity of EPS/XPS materials containing HBCD recycled (tonnes); ✓ Quantity of articles/products made from recycled HBCD containing materials (tonnes); ✓ Content of HBCD in articles/products made from recycled materials (mg/kg); 	This initial NIP addressed only the old 12 POPs. So this data was not available.	This document did not address this POPs.
		Waste stockpiles ((a) HBCD as chemical; (b) HBCD containing	<ul style="list-style-type: none"> ✓ Quantity of HBCD containing waste generated (tonnes); ✓ Related HBCD content (%); 	This initial NIP addressed only the old 12 POPs. So this data was not available.	This document did not address this POPs.

NIP Chapter/ Sub-chapter	POPs group	Life-cycle step	Quantitative data requested to be included in the NIP	Status as per first NIP	Status as per second NIP
		mixtures and articles; (c) HBCD-containing waste from demolition; d) HBCD-containing other wastes; (e) waste generated during recycling.			
		Contaminated sites	✓ Number of potentially contaminated/contaminated sites;	This initial NIP addressed only the old 12 POPs. So this data was not available.	This document did not address this POPs.
2.3.4 Assessment of HCBD (Annex A, Part I)	HCBD	Production as by-product from chlorinated hydrocarbons production (historical/current)	✓ Quantity of HCBD by-product (tonnes); ✓ Related HCBD content (%);	This initial NIP addressed only the old 12 POPs. So this data was not available.	This document did not address this POPs.
2.3.9 Information on the state of knowledge on stockpiles, contaminated sites and wastes, identification, likely numbers, relevant regulations, guidance, remediation measures, and data on releases from sites		Import/export (historical/current)	✓ Quantity of HCBD imported/exported as by-product (especially for use in agricultural sector, industrial manufacture, purification of gas streams and electrical equipment) (tonnes); ✓ Quantity of imported/exported products and articles containing HCBD (tonnes);	This initial NIP addressed only the old 12 POPs. So this data was not available.	This document did not address this POPs.
		Use (historical/current)	✓ Quantity of HCBD used as by-product (especially for use in agricultural sector, industrial	This initial NIP addressed only the old	This document did not address this POPs.

NIP Chapter/ Sub-chapter	POPs group	Life-cycle step	Quantitative data requested to be included in the NIP	Status as per first NIP	Status as per second NIP
			<p>manufacture, purification of gas streams, electrical equipment and re-distillation and reutilization in the production process (only in case of closed applications)) (tonnes);</p> <p>✓ Quantity of HCBD used to manufacture article/products (especially transformers, heat exchange and hydraulic fluids) (tonnes);</p> <p>✓ Quantity of in use products and articles containing HCBD (especially transformers, heat exchange and hydraulic fluids) (tonnes);</p>	12 POPs. So this data was not available.	
		Waste stockpiles	<p>✓ Quantity of HCBD containing waste (tonnes);</p> <p>✓ Related HCBD content (%);</p>	This initial NIP addressed only the old 12 POPs. So this data was not available.	This document did not address this POPs.
		Contaminated sites	<p>✓ Number of potentially contaminated/contaminated sites;</p>	This initial NIP addressed only the old 12 POPs. So this data was not available.	
2.3.5 Assessment of PCNs (Annex A, part I) 2.3.9 Information on the state of knowledge on stockpiles,	PCNs	Production (historical/current)	<p>✓ Quantity of PCNs produced (tonnes) (for using as intermediate for the production of polyfluorinated naphthalenes (PFNs) or for other purposes);</p>	This initial NIP addressed only the old 12 POPs. So this data was not available.	This document did not address this POPs.
		Import/export (historical/current)	<p>✓ Quantity of PCNs imported/exported (tonnes);</p>	This initial NIP addressed only the old	This document did not address this POPs.

NIP Chapter/ Sub-chapter	POPs group	Life-cycle step	Quantitative data requested to be included in the NIP	Status as per first NIP	Status as per second NIP
contaminated sites and wastes, identification, likely numbers, relevant regulations, guidance, remediation measures, and data on releases from sites				12 POPs. So this data was not available.	
		Use (historical/current)	✓ Quantity of PCNs used (tonnes) (as intermediate for the production of polyfluorinated naphthalenes (PFNs) or for other purposes like electrical cables, leather jacket, cable sheaths);	This initial NIP addressed only the old 12 POPs. So this data was not available.	This document did not address this POPs.
		Waste stockpiles	✓ Quantity of PCN containing waste generated (tonnes) (especially cables containing PCNs, including POP-PBDEs and PCBs); ✓ Related PCNs content, including POP-PBDEs and PCBs (ppm);	This initial NIP addressed only the old 12 POPs. So this data was not available.	This document did not address this POPs.
		Contaminated sites	✓ Number of potentially contaminated/contaminated sites;	This initial NIP addressed only the old 12 POPs. So this data was not available.	This document did not address this POPs.
2.3.7 Assessment of PFOS, its salts and PFOSF (Annex B, Part III)	PFOS, its salts and PFOS-F	Production (historical/current)	✓ Quantity of PFOS, its salts and PFOS-F produced as allowed by the specific exemptions/acceptable purposes (tonnes);	This initial NIP addressed only the old 12 POPs. So this data was not available.	Information was described in section 2, subtitle 2.2.5. PFOS
2.3.9 Information on the state of knowledge on stockpiles, contaminated sites and wastes, identification, likely		Import/export (historical/current)	✓ Quantity of PFOS, its salts and PFOS-F imported/exported (tonnes); ✓ Quantity of PFOS, its salts and PFOS-F in articles/products imported/exported (especially firefighting foams and hydraulic fluids) (tonnes);	This initial NIP addressed only the old 12 POPs. So this data was not available.	Information was described in section 2, subtitle 2.2.5. PFOS

NIP Chapter/ Sub-chapter	POPs group	Life-cycle step	Quantitative data requested to be included in the NIP	Status as per first NIP	Status as per second NIP
numbers, relevant regulations, guidance, remediation measures, and data on releases from sites		Use (historical/current)	<ul style="list-style-type: none"> ✓ Quantity of PFOS, its salts and PFOS-F used to manufacture article/products (tonnes) as allowed by the specific exemptions/acceptable purposes; ✓ Quantity of PFOS, its salts and PFOS-F in article/products in use (tonnes) as allowed by the specific exemptions/acceptable purposes; 	This initial NIP addressed only the old 12 POPs. So this data was not available.	Information was described in section 2, subtitle 2.2.5. PFOS
		Waste stockpiles	<ul style="list-style-type: none"> ✓ Quantity of PFOS, its salts and PFOS-F in article/products wastes stockpiles (especially firefighting foams and hydraulic fluids wastes) (tonnes); 	This initial NIP addressed only the old 12 POPs. So this data was not available.	Information was described in section 2, subtitle 2.2.5. PFOS
		Contaminated sites	<ul style="list-style-type: none"> ✓ Number of potentially contaminated/contaminated sites; 	This initial NIP addressed only the old 12 POPs. So this data was not available.	Information was described in section 2, subtitle 2.2.5. PFOS
2.3.8 Assessment of releases of unintentional produced chemicals (Annex C) 2.3.9 Information on the state of knowledge on stockpiles, contaminated sites and wastes, identification, likely	UPOPs	Unintentional production	<ul style="list-style-type: none"> ✓ source inventories and release estimates of PCDD/PCDF in air, water, land, product and residue (g-TEQ/year); ✓ source inventories and release estimates of PCBs air, water, land, product and residue (g-TEQ/year); ✓ source inventories and release estimates of PeCBz air, water, land, product and residue (g-TEQ/year); ✓ source inventories and release estimates of HCB air, water, land, product and residue (g-TEQ/year); 	The data was provided.	Information was described in section 2, subtitle 2.2.6. Unintentionally produced POPs.

NIP Chapter/ Sub-chapter	POPs group	Life-cycle step	Quantitative data requested to be included in the NIP	Status as per first NIP	Status as per second NIP
numbers, relevant regulations, guidance, remediation measures, and data on releases from sites			✓ source inventories and release estimates of PCN air, water, land, product and residue (g-TEQ/year);		
		Contaminated sites	✓ Number of potentially contaminated/contaminated sites;	The data was provided.	

5. COMPARATION THE INFORMATION AND DATA IN NIP AND THE INFORMATION AND DATA NEED TO INCLUDE IN NATIONAL REPORT

The comparison of information and data needed to reported by Article 15 reporting requirements and the other reporting obligations under the Stockholm Convention (UPOPs, PCBs, POP-PBDEs, DDT and PFOS) and the information and data generated during the NIP development and/or update showed that most of data and information requested to be reported under Article 15 and other reporting obligations under the Convention are correlated. However, the data and information needed to fill in the national report is more details than the data and information generated and used for the preparation of NIP.

Cambodia normally reported the data and information generated during the development of its NIP in its national report. The first and second of national report cycles used the inventory results conducted for preparing the initial NIP in 2006, while the third and fourth of national report cycles used the inventory results surveyed for developing the updating of NIP in 2015. By doing so, most of information and data were not available for completing in the national report required by Article 15 of the convention.

The limited level of detail and the lack of information and data within the NIP were identified for the reporting obligations. The following section will only describe the information which is required by Article 15 reporting and other reporting obligation under SC on POP and related to PCBs, POP-PBDEs and PFOS which was addressed in updating of NIP of Cambodia. These below description is also highlighted in the study by UNEP (2018).

5.1. More detailed information and data on PCBs required by Article 15 reporting over information and data generated in the NIP

The Article 15 reporting requests to present the following information and data at greater level of detail than information and data generated in NIP:

- 1) describing the strategies for identifying stockpiles consisting of or containing PCBs by ppm concentration;
- 2) describing the strategies for identifying products and articles in use and wastes consisting of, containing or contaminated with PCBs by ppm concentration;
- 3) describing the strategies for identifying sites contaminated with PCBs by ppm concentration;
- 4) describing the measures to identify and label, where appropriate, equipment in use, wastes and articles containing PCBs by ppm concentration;
- 5) quantitative data on articles and materials, proportion of waste and equipment containing PCBs by ppm concentration;
- 6) statistical data of locally destroyed, in an environmentally sound manner, of equipment, liquids, or other wastes containing PCBs by ppm concentration;
- 7) statistical data of imported and exported equipment, liquids, or other wastes containing PCBs by ppm concentration.

5.2. More detailed information and data on PFOS required by the evaluation of the continued need for PFOS, its salts and PFOSF for the various acceptable purposes and specific exemptions over information and data generated in the NIP

Some information on PFOS are not generated in the NIP development:

- i. Data on quantities of production and use of the alternatives to PFOS, its salts, PFOSF and their related chemicals per year (kg);
- ii. Data on general price of the alternative (e.g. USD/kg);
- iii. Data used for assessing POPs characteristics (persistence, bioaccumulation, potential for long-range environmental transport, adverse effects) or other hazards.

5.3. More detailed information and data on POP-PBDEs generated in NIP compared with the information and data required by Article 15 reporting

In respect to POP-PBDEs, currently the Article 15 reporting requires to report on:

- i. Producing any of the chemicals listed in Annex A or Annex B to the Convention (information on type of chemical, year in which the production started/ended and estimated total production [kg]);
- ii. Exporting any of the chemicals listed in Annex A or Annex B to the Convention (information on year, type of chemical, purpose, destination country and total annual export (kg/year));
- iii. Importing any of the chemicals listed in Annex A or Annex B to the Convention (information on year, type of chemical, purpose, country of origin and total annual import (kg/year));

However, during the NIP development and/or update process, besides the current quantitative data requested by the Article 15 reporting, the following quantitative data is generated:

- iv. Quantity of POP-PBDEs produced (tonnes);
- v. Quantity of POP-PBDEs imported/exported (historical, tonnes);
- vi. Quantity of POP-PBDEs in articles/products imported / exported (tonnes);
- vii. Quantity of POP-PBDEs used to manufacture article/products (historical, tonnes);
- viii. Quantity of POP-PBDEs in article/products in use, especially EEE and vehicles (tonnes);
- ix. Quantity of polymeric fraction containing POP-PBDEs (especially contained in EEE and vehicles) (tonnes);
- x. Quantity of POP-PBDEs in stockpiled article/products (especially EEE and vehicles) (tonnes);
- xi. Quantity of polymeric fraction containing POP-PBDEs (especially contained in EEE and vehicles) (tonnes);
- xii. Quantity of recycled POP-PBDEs containing articles/products (tonnes);

- xiii. Quantity of articles/products produced from recycled articles/products containing POP-PBDEs (tonnes);
- xiv. Quantity of POP-PBDEs in article/products wastes stockpiles (especially wastes of electric and electronic equipment (WEEE) and end-of-life vehicles (ELVs)) (tonnes);
- xv. Quantity of polymeric fraction containing POP-PBDEs, especially contained in WEEE and ELVs (tonnes);
- xvi. Number of potentially contaminated/contaminated sites;

5.4. More detailed information and data on PFOS, its salts and PFOS-F required by Article 15 reporting over information and data generated in the NIP

In respect to PFOS, its salts and PFOS-F, currently the Article 15 reporting requires to report on:

- i. statistical data on production of PFOS for the acceptable purposes listed in Annex B of the Convention (status, year, type of acceptable purpose and estimated total production (kg));
- ii. statistical data on your country's production of PFOS for the specific exemptions listed in Annex B of the Convention (status, year, type of specific exemption and estimated total production (kg));
- iii. statistical data on use of PFOS for the acceptable purposes listed in Annex B of the Convention (status, year, type of acceptable purpose and estimated total production (kg));
- iv. statistical data on your country's use of PFOS for the specific exemptions listed in Annex B of the Convention (status, year, type of specific exemption and estimated total production (kg)).

However, during the NIP development and/or update process, besides the current quantitative data requested by the Article 15 reporting, the following quantitative data is generated:

- v. quantity of PFOS, its salts and PFOS-F in articles/products imported/exported (especially firefighting foams and hydraulic fluids) (tonnes);
- vi. quantity of PFOS, its salts and PFOS-F in article/products in use (tonnes) as allowed by the specific exemptions/acceptable purposes;
- vii. quantity of PFOS, its salts and PFOS-F in article/products wastes stockpiles (especially firefighting foams and hydraulic fluids wastes) (tonnes);
- viii. number of potentially contaminated/contaminated sites.

6. CONCLUSIONS AND RECOMMENDATIONS

Following this analysis, the below conclusions and recommendations emerged:

- ✓ NIP development and/or update relevant information are generated to enable Cambodia fulfilling also the reporting obligations under the Stockholm Convention.

Although, guidance documents for NIP development and/or update are used by the country, a few limitations still exist in generating all information and data for complying with the reporting obligations under the Stockholm Convention.

- ✓ Lack of national reporting mechanisms, as well as financial and technical capacities to prepare national reports.
- ✓ No streamlined formats for reporting under Article 15 and other reporting obligations under the Stockholm Convention with the NIP development and/or update format.
- ✓ Additional efforts are needed for Cambodia to generate the information for complying with the reporting obligations under the Stockholm Convention.
- ✓ Once data and information is generated at the national level, in this case during the NIP development and/or update, it should serve for multiple purposes and in particular for reporting under the Convention.
- ✓ There is a need for harmonizing national mechanism for NIP development and/or update with the NIP implementation and with the national mechanism for reporting.
- ✓ There is a need for the Secretariat to work on streamlining format for Article 15 reporting requirements with the formats of the other reporting obligations under the Stockholm Convention.
- ✓ Also, there is a need for the Secretariat to work on harmonizing format of the NIP development and/or update with the Article 15 reporting format.
- ✓ Updating the information of the National Focal Point for Cambodia.
- ✓ Revitalizing the technical ministerial working group for on facilitating the country work and decision-making on international agreements on chemicals.

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