



27-م/2024/19/ع

مہاجرین کی تاریخ نویسی

تاریخ نویسی پرستیوں کے ساتھ

"دوسرے تاریخ نویسوں کے ساتھ دیکھیں" اور "مہاجرین کی تاریخ نویسی پرستیوں کے ساتھ" مہاجرین کی تاریخ نویسی پرستیوں کے ساتھ تاریخ نویسی پرستیوں کے ساتھ

مہاجرین کی تاریخ نویسی پرستیوں کے ساتھ: M19/KG/2024/06

6 مارچ 2024



تاجی و شریکین

ڈائریکٹرز

ڈائریکٹر جنرل
ٹیکنالوجی اور سروسز



ڈائریکٹر جنرل
ٹیکنالوجی اور سروسز



ڈائریکٹرز

ڈائریکٹر جنرل
ٹیکنالوجی اور سروسز



ڈائریکٹر جنرل
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ڈائریکٹرز

ڈائریکٹر جنرل
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ٹیکنالوجی اور سروسز



ڈائریکٹرز

ڈائریکٹر جنرل
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ڈائریکٹر جنرل
ٹیکنالوجی اور سروسز



ڈائریکٹر جنرل
ٹیکنالوجی اور سروسز



ڈائریکٹرز

ڈائریکٹر جنرل
ٹیکنالوجی اور سروسز



تاجی و شریکین

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5 ١٩١٩

5 ١٩١٩

17 ١٩١٩

١ - ١٩١٩ ١٩١٩
١٩١٩ ١٩١٩

٢ - ١٩١٩ ١٩١٩



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زنگنه، ۹۳ قس قوقی (ا) رزم مه گه و نه، ز گه مه مه گه

جور زنگنه، ز جور زنگنه و نه زنگنه و نه، ز جور زنگنه و نه

4. مه زنگنه

"جور زنگنه مه زنگنه و نه" ز جور زنگنه و نه، مه زنگنه و نه ز جور زنگنه و نه
مه زنگنه و نه مه زنگنه و نه، 6 ز 2024 قس قوقی مه زنگنه و نه، مه زنگنه و نه
زنگنه و نه 11 قس مه زنگنه و نه مه زنگنه و نه، مه زنگنه و نه مه زنگنه و نه، مه زنگنه و نه
مه زنگنه و نه مه زنگنه و نه مه زنگنه و نه مه زنگنه و نه مه زنگنه و نه مه زنگنه و نه
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6 ز 2024

مه زنگنه و نه مه زنگنه و نه مه زنگنه و نه مه زنگنه و نه
مه زنگنه و نه مه زنگنه و نه

* مه زنگنه و نه مه زنگنه و نه 9 ق 2024 ق.



بج فرورڈ-1

دائرسو ڈیپارٹمنٹ ڈائریکٹوریٹ آف ایجوکیشن ڈیپارٹمنٹ ڈائریکٹوریٹ آف ایجوکیشن ڈائریکٹوریٹ آف ایجوکیشن
ڈائریکٹوریٹ آف ایجوکیشن ڈائریکٹوریٹ آف ایجوکیشن ڈائریکٹوریٹ آف ایجوکیشن



"ادبیات کے ساتھ ساتھ ہمیں دیکھنا ہے" کی طرف سے تیار کیے گئے ہیں اور موجودہ وقت میں ہمیں
 اپنی طرف سے تمام ضروریات کو پورا کرنے اور کتب خانوں کو جاری رکھنے کے لیے
 ادبیات کے ساتھ ساتھ ہمیں دیکھنا ہے اور ہمیں اس کے ساتھ ساتھ ہی اپنے اپنے شعبے میں کام کرنے
 کے لیے

✓	-	N	@	J	O	S
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06.05.2024	11	0:30	✓	✓	✓	-	✓	-	✓	✓	✓	✓	✓	✓
30.04.2024	10	0:47	-	✓	✓	@	✓	✓	✓	✓	✓	✓	✓	✓
ادبیات	ادبیات	ادبیات	ادبیات	ادبیات	ادبیات	ادبیات	ادبیات	ادبیات	ادبیات	ادبیات	ادبیات	ادبیات	ادبیات	ادبیات
2	2	1:17	1	2	2	0	2	1	2	2	2	2	2	2



بج ترقو 2-

تاریخ میں جمعہ کے لئے ترقی دیا گیا ہے اور اس کے لئے ترقی دیا گیا ہے



تاریخ میں جمعہ کے لئے ترقی دیا گیا ہے اور اس کے لئے ترقی دیا گیا ہے
M19/KG/2024/06

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ

مركز ايجازي و تعليمي و تربوي	
رقم الترخيص: 4662	مقر العمل: الرياض
وقت: 10:35	تاريخ: 26.12.23
مركز ايجازي و تعليمي و تربوي	
D	
سنة الترخيص: 26.12.23	



Handwritten signature and date: 26/12/2023

مركز ايجازي و تعليمي و تربوي

مركز ايجازي و تعليمي و تربوي

و تربوي و تعليمي و تربوي

"دستور التعليم و التربية" في مركز ايجازي و تعليمي و تربوي
 في 10 ديسمبر 2023، في الساعة 10:35، في مركز ايجازي و تعليمي و تربوي
 في الرياض، في الساعة 10:35، في مركز ايجازي و تعليمي و تربوي
 في الرياض، في الساعة 10:35، في مركز ايجازي و تعليمي و تربوي

مركز ايجازي و تعليمي و تربوي، في الرياض، في الساعة 10:35، في مركز ايجازي و تعليمي و تربوي
 في الرياض، في الساعة 10:35، في مركز ايجازي و تعليمي و تربوي
 في الرياض، في الساعة 10:35، في مركز ايجازي و تعليمي و تربوي
 في الرياض، في الساعة 10:35، في مركز ايجازي و تعليمي و تربوي
 في الرياض، في الساعة 10:35، في مركز ايجازي و تعليمي و تربوي
 في الرياض، في الساعة 10:35، في مركز ايجازي و تعليمي و تربوي
 في الرياض، في الساعة 10:35، في مركز ايجازي و تعليمي و تربوي

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-2-

"جسارتاً" سے سوسائٹی کے ذمہ دار "کی فریڈم آف اسٹیٹ" کے تحت
 دی گئی ہے جس سے اس کی نوازش کی گئی ہے، اس سے اس کی اسٹیٹس
 کو برقرار رکھنا اور اس کی نوازش کی گئی ہے۔
 اس سے اس کی نوازش کی گئی ہے۔

11 دسمبر 1445

24 ستمبر 2023

ذمہ دار

ذمہ دار کی فریڈم

سربراہ ایجوکیشن ڈیپارٹمنٹ

دہلی

فریڈم آف اسٹیٹ



مركز ايجوسى دىجىٲىزى زىزىزى لىمىٲىزى

اىسٲىزى لىمىٲىزى لىمىٲىزى لىمىٲىزى لىمىٲىزى لىمىٲىزى

للىمىٲىزى لىمىٲىزى لىمىٲىزى لىمىٲىزى لىمىٲىزى



بج ترفوحو 1

بج ترفوحو 1 بج ترفوحو 1 بج ترفوحو 1



بجاء تفریق 2

ہجرت کے سبب سے پہلے سے تفریق



3 جُزُؤُ

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بج تروخو 4

دفعه ٤٠٠٠ بج تروخو ٤٠٠٠ بج تروخو





අත්පිටපතක් සහිතව පත් කිරීමේ කාර්යය සම්බන්ධයෙන් ප්‍රධාන අධ්‍යක්ෂවරයා විසින් ප්‍රකාශ කරනු ලබන බවට තීරණය කරනු ලැබේ.

4. දැරුණු අවස්ථා 5 සහ 2 වන පරිදි, දැරුණු අවස්ථා 6 සහ 1 වන පරිදි ප්‍රධාන අධ්‍යක්ෂවරයා විසින් ප්‍රකාශ කරනු ලබන බවට තීරණය කරනු ලැබේ. B සහ 1 වන පරිදි ප්‍රධාන අධ්‍යක්ෂවරයා විසින් ප්‍රකාශ කරනු ලබන බවට තීරණය කරනු ලැබේ. B සහ 2 වන පරිදි ප්‍රධාන අධ්‍යක්ෂවරයා විසින් ප්‍රකාශ කරනු ලබන බවට තීරණය කරනු ලැබේ. 3 වන පරිදි ප්‍රධාන අධ්‍යක්ෂවරයා විසින් ප්‍රකාශ කරනු ලබන බවට තීරණය කරනු ලැබේ.

5. දැරුණු අවස්ථා 5 සහ 5 වන පරිදි (c) වන, දැරුණු අවස්ථා 5 සහ 5 වන පරිදි ප්‍රධාන අධ්‍යක්ෂවරයා විසින් ප්‍රකාශ කරනු ලබන බවට තීරණය කරනු ලැබේ. B සහ 5 වන පරිදි ප්‍රධාන අධ්‍යක්ෂවරයා විසින් ප්‍රකාශ කරනු ලබන බවට තීරණය කරනු ලැබේ. B සහ 5 වන පරිදි ප්‍රධාන අධ්‍යක්ෂවරයා විසින් ප්‍රකාශ කරනු ලබන බවට තීරණය කරනු ලැබේ.

6. දැරුණු අවස්ථා 5 සහ 6 වන පරිදි ප්‍රධාන අධ්‍යක්ෂවරයා විසින් ප්‍රකාශ කරනු ලබන බවට තීරණය කරනු ලැබේ. B සහ 6 වන පරිදි ප්‍රධාන අධ්‍යක්ෂවරයා විසින් ප්‍රකාශ කරනු ලබන බවට තීරණය කරනු ලැබේ. B සහ 6 වන පරිදි ප්‍රධාන අධ්‍යක්ෂවරයා විසින් ප්‍රකාශ කරනු ලබන බවට තීරණය කරනු ලැබේ.

7. දැරුණු අවස්ථා A හි සහ B හි ප්‍රධාන අධ්‍යක්ෂවරයා විසින් ප්‍රකාශ කරනු ලබන බවට තීරණය කරනු ලැබේ. A සහ B වන පරිදි ප්‍රධාන අධ්‍යක්ෂවරයා විසින් ප්‍රකාශ කරනු ලබන බවට තීරණය කරනු ලැබේ.

8. දැරුණු අවස්ථා 8 සහ 9 වන පරිදි ප්‍රධාන අධ්‍යක්ෂවරයා විසින් ප්‍රකාශ කරනු ලබන බවට තීරණය කරනු ලැබේ. 8 සහ 9 වන පරිදි ප්‍රධාන අධ්‍යක්ෂවරයා විසින් ප්‍රකාශ කරනු ලබන බවට තීරණය කරනු ලැබේ.

9. අවස්ථා 10 සහ 11 වන පරිදි ප්‍රධාන අධ්‍යක්ෂවරයා විසින් ප්‍රකාශ කරනු ලබන බවට තීරණය කරනු ලැබේ. 10 සහ 11 වන පරිදි ප්‍රධාන අධ්‍යක්ෂවරයා විසින් ප්‍රකාශ කරනු ලබන බවට තීරණය කරනු ලැබේ.





ආරක්ෂණ සේවාවලට යොමුවන පුහුණුව, (සුරැකුම් ක්‍රම) 4/93 (සුරැකුම් ක්‍රම) සම්බන්ධ කරන නියෝග

10. ජෛව විවිධත්ව පරිහරණ ක්‍රම, ජෛව විවිධත්ව පරිහරණ ක්‍රම, ජෛව විවිධත්ව පරිහරණ ක්‍රම, ජෛව විවිධත්ව පරිහරණ ක්‍රම, ජෛව විවිධත්ව පරිහරණ ක්‍රම

11. ජෛව විවිධත්ව පරිහරණ ක්‍රම, ජෛව විවිධත්ව පරිහරණ ක්‍රම, ජෛව විවිධත්ව පරිහරණ ක්‍රම, ජෛව විවිධත්ව පරිහරණ ක්‍රම, ජෛව විවිධත්ව පරිහරණ ක්‍රම

12. ජෛව විවිධත්ව පරිහරණ ක්‍රම, ජෛව විවිධත්ව පරිහරණ ක්‍රම, ජෛව විවිධත්ව පරිහරණ ක්‍රම, ජෛව විවිධත්ව පරිහරණ ක්‍රම, ජෛව විවිධත්ව පරිහරණ ක්‍රම

13. ජෛව විවිධත්ව පරිහරණ ක්‍රම, ජෛව විවිධත්ව පරිහරණ ක්‍රම, ජෛව විවිධත්ව පරිහරණ ක්‍රම, ජෛව විවිධත්ව පරිහරණ ක්‍රම, ජෛව විවිධත්ව පරිහරණ ක්‍රම

14. ජෛව විවිධත්ව පරිහරණ ක්‍රම, ජෛව විවිධත්ව පරිහරණ ක්‍රම, ජෛව විවිධත්ව පරිහරණ ක්‍රම, ජෛව විවිධත්ව පරිහරණ ක්‍රම, ජෛව විවිධත්ව පරිහරණ ක්‍රම

15. ජෛව විවිධත්ව පරිහරණ ක්‍රම, ජෛව විවිධත්ව පරිහරණ ක්‍රම, ජෛව විවිධත්ව පරිහරණ ක්‍රම, ජෛව විවිධත්ව පරිහරණ ක්‍රම, ජෛව විවිධත්ව පරිහරණ ක්‍රම





نسخة اصداره في ايامه الاولى، و قد تم اصداره في ايامه الاولى، و قد تم اصداره في ايامه الاولى، و قد تم اصداره في ايامه الاولى.

ان هذا القانون يهدف الى تنظيم العمل في القطاع الخاص، و قد تم اصداره في ايامه الاولى، و قد تم اصداره في ايامه الاولى، و قد تم اصداره في ايامه الاولى.

في هذا القانون، تم اصداره في ايامه الاولى، و قد تم اصداره في ايامه الاولى، و قد تم اصداره في ايامه الاولى، و قد تم اصداره في ايامه الاولى.

ان هذا القانون يهدف الى تنظيم العمل في القطاع الخاص.

10 كانون الثاني 1442

23 ورجو

Handwritten signature

اسم الشخص

اسم الشخص

دولة

موقع



بَیِّنَاتُ 5

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



بج ترفوتو 6

د سړو سړو پر اتر اتر، اتر د اتر اتر اتر اتر اتر اتر
د اتر اتر اتر اتر اتر اتر اتر اتر اتر اتر اتر اتر
اتر اتر اتر اتر اتر اتر اتر اتر اتر اتر اتر اتر





අධ්‍යක්ෂවරයාණනු ලබන අයුරින් දැනුම් සැපයීමට සූදානම්ව පවතින බවට ප්‍රකාශ කරමිනි. මෙහිදී සඳහන් කර ඇති කරුණු සම්බන්ධව වැඩිදුරටත් විමසා බලා ගැනීමට මහලේකම්වරයාණනු ලබන බවට ප්‍රකාශ කරමිනි.

- 2018 වසරේ මාර්තු මාසයේ දී කෙරුණු රජයේ සේවයේ පවතින සියලුම සේවකවරුන් සඳහා වර්ග 1 සේවකවරුන් සඳහා වැඩිදුරටත් විමසා බලා ගැනීමට මහලේකම්වරයාණනු ලබන බවට ප්‍රකාශ කරමිනි.

- වැඩිදුරටත් විමසා බලා ගැනීමට මහලේකම්වරයාණනු ලබන බවට ප්‍රකාශ කරමිනි.

- අධ්‍යක්ෂවරයාණනු ලබන අයුරින් දැනුම් සැපයීමට සූදානම්ව පවතින බවට ප්‍රකාශ කරමිනි. මෙහිදී සඳහන් කර ඇති කරුණු සම්බන්ධව වැඩිදුරටත් විමසා බලා ගැනීමට මහලේකම්වරයාණනු ලබන බවට ප්‍රකාශ කරමිනි.

- වැඩිදුරටත් විමසා බලා ගැනීමට මහලේකම්වරයාණනු ලබන බවට ප්‍රකාශ කරමිනි.

- වැඩිදුරටත් විමසා බලා ගැනීමට මහලේකම්වරයාණනු ලබන බවට ප්‍රකාශ කරමිනි.

- වැඩිදුරටත් විමසා බලා ගැනීමට මහලේකම්වරයාණනු ලබන බවට ප්‍රකාශ කරමිනි.

සංකීර්ණ කාර්ය මණ්ඩලයේ සේවකවරුන්:

- වැඩිදුරටත් විමසා බලා ගැනීමට මහලේකම්වරයාණනු ලබන බවට ප්‍රකාශ කරමිනි.

- වැඩිදුරටත් විමසා බලා ගැනීමට මහලේකම්වරයාණනු ලබන බවට ප්‍රකාශ කරමිනි.



بَیِّنَاتٌ ۷

رَأَى كَلْبًا سَرَّكَ يَدْرِي لِمَ سَرَّكَ زَيْتُونًا مَدِينَةً



Becoming a party to the Minamata Convention on Mercury

Background

The Minamata Convention was adopted on **10 October 2013** and opened for signature for one year, until 9 October 2014. During this period, 127 states and one regional economic integration organization signed the Convention, bringing to 128 the total number of its signatories. The Convention entered into force on **16 August 2017**, which was, as specified in its Article 31, the ninetieth day after the date of deposit of the fiftieth instrument of ratification, acceptance, approval or accession.

The signature is the formal expression of intent to be bound and become a party but it does not prejudice ratification. The signature does not bear legal obligation as such; however, a State is expected to refrain from acts that would defeat the object and purpose of a treaty it has signed.

Ratification, acceptance, approval, and accession are similar means by which a State establishes its consent to be bound by a treaty, depending on domestic legal or policy requirements.

Accession has the same legal effect as ratification, acceptance or approval and was opened from the day the Convention was closed for signature – on 10 October 2014. Unlike ratification, acceptance or approval, which are preceded by signature to create binding legal obligations under international law, accession requires only one step, namely, the deposit of an instrument of accession.

The **text of the Minamata Convention** is available in Arabic, Chinese, English, French, Russian and Spanish.

The six language versions of the Convention text are equally authentic. Certified true copies of the Convention in all official languages **can be found here**.

How does a country become a party to the Minamata Convention?

In order to become a party to the Minamata Convention, a State or a regional economic integration organization must demonstrate its willingness to undertake the legal rights and obligations contained in the Convention. In other words, it must express its consent to be bound by the Convention. In practical terms, under the Minamata Convention, a State must lodge with the depositary – the Secretary-General of the United Nations – its instrument of ratification, acceptance, approval or accession.

Usually ratification, acceptance, approval or accession involves two distinct procedural acts:

- The first act relates to the constitutional (internal) laws of a State and to the procedure that must be fulfilled before the State can assume the international obligations enshrined in the Minamata Convention. While the required process is defined by laws of each State and therefore unique to that State, this often involves approval by the national parliament.

- The second act deals with the external (international) level, which is the process through which the State indicates its consent to be bound by the Convention.

The usual main steps to be undertaken for becoming a party to an international treaty, including the Minamata Convention, may be summarized as follows:

1. **Carry out a national situation analysis and collect information:** The lead ministry/authority responsible for the Convention (such as the national authority or ministry involved in negotiating or implementing the Convention) prepares an analysis of the domestic situation of becoming a party to the Convention, of the steps to be taken, including any legislative or administrative actions that will be necessary for its implementation, and collects all relevant documentation. This information would be shared with other relevant authorities (e.g., other ministries) as part of the process of carrying out



Becoming a party to the Minamata Convention on Mercury

the steps listed below. If the country has undertaken a Minamata Initial Assessment (MIA), the MIA report would contain useful information for this step of the process.

2. **Make necessary national arrangements:** The lead ministry/authority should prepare the necessary arrangements at the national level to allow for policy coordination among the different concerned bodies and stakeholders to be involved in the process as well as the necessary legislative, administrative and institutional arrangements.
3. **Contact the authority responsible for issuing the instrument of ratification (or acceptance, approval or accession) and identify the signatory of the instrument:** The lead ministry/authority should consult with the government authority responsible for drafting ratification instruments and related documents (the "ratification package") for international agreements. This is usually a legal unit within the Ministry of Foreign Affairs. The authority responsible for preparing the ratification package would identify who, at the national level, can take a decision on or approve ratification/accession of the Convention, recognizing that this decision might involve more than one part of the national governmental structure.

The decision or approval would provide the basis for the issuance of an instrument of ratification, acceptance, approval or accession for the Convention. The instrument must be signed by the Head of State, Head of Government or Minister for Foreign Affairs. **Templates are available** at UN Office of Legal Affairs, Treaties Section.

4. **Identify and undertake the processes leading to domestic approval of the ratification (or acceptance, approval or accession):** The office of the authority or authorities vested with the power to decide on ratification (or acceptance, approval or accession) can advise on the

steps that would lead to such domestic approval.

Provided that there is the political will to proceed, the office of such authority or authorities can indicate the necessary documentation and decision-making processes that have to be completed before the instrument can be signed and deposited with the Depositary.

In addition to obtaining necessary approvals of the authority or authorities (such as the administration of the head of State or head of Government, and the parliament or other bodies as may be relevant), such processes might include, if so required by relevant national laws and depending upon the specific circumstances of that State, passing new legislation, regulations and/or policies or revising the existing ones, a review by judicial bodies, and/or engagement of civil society.

Early consultation and cooperation among the responsible and interested entities is encouraged to enhance and facilitate the decision-making process.

5. **Determine the declarations or statements that may be necessary:** As part of the above decision-making process, the Government will need to determine the declarations and/or notifications it needs and wishes to make at the time of deposit of its instrument of ratification, acceptance, approval or accession.

Some declarations maybe included in the instrument of ratification itself (or acceptance, approval or accession), such as the declaration regarding the means of dispute settlement as per Article 25, paragraphs 2 and 3 and the declaration on the entry into force of any amendment to an annex as per Article 30, paragraph 5.

Optional and mandatory declarations impose legal obligations on the declarant and therefore must be signed by the Head of State, Head of Government or Minister for Foreign Affairs or by a person having full powers for that purpose issued by one of the above authorities.



Becoming a party to the Minamata Convention on Mercury

Under the Minamata Convention, notifications to be transmitted in writing to the Secretariat include:

- Notifications under Article 3, paragraphs 6, 7 and 9. The general notification of consent to import as per Article 3, paragraphs 6 and 7, may be done at any time. The time frame for notification of application of Article 3, paragraph 9 was until the end of the second meeting of the Conference of the Parties.
- Notification regarding the implementation of different measures or strategies to address products listed in Part I of Annex A, as per Article 4, paragraph 2. If the party wishes to notify the implementation of different measures or strategies, the declaration must be done at the time of ratification or upon entry into force of an amendment to Annex A for it.
- Notification to register exemptions from the phase out dates in Annexes A and B as per Article 6, paragraph 1. If an exemption is desired, such notification must be submitted on becoming a party to the Convention, or for products or processes that are added by an amendment to Annexes A or B, no later than the date upon which the applicable amendment enters into force for the party.
- Information on the number and types of facilities within its territory that use mercury or mercury compounds for processes listed in Annex B and the estimated annual amount of mercury or mercury compounds used in those facilities as per Article 5, paragraph 5. Parties shall endeavour to identify these facilities and shall submit the above information to the Secretariat no later than three years after the date of entry into force of the Convention for it.
- Notification that artisanal and small-scale gold mining and processing is more than insignificant, as per Article 7, paragraph 3. Such notification must be done at any time the party determines such activity is more than insignificant in its territory. A model letter that could be used by the party for such a notification is [available here](#).
- Information on measures to implement the Convention as per Article 30, paragraph 4. States are encouraged to transmit such information at the time of ratification (acceptance, approval or accession).
- Each party is to designate a national focal point for the exchange of information, including with regard to the consent of importing parties under Article 3, as per Article 17, paragraph 4. In order to make such national focal point known to other parties, the party should notify the Secretariat about the designated national focal point. If at any time the national focal point changes, the Secretariat should be notified. The form and sample letter to notify

the designation of a national focal point is [available here](#). The Secretariat posts there the contact information for national focal points.

Since a notification does not have the same legal effect as a declaration, it does not need to be signed by the Head of State, Head of Government or Minister for Foreign Affairs or by a person having full powers. It should be noted that some of the above notifications are made following a particular choice by the State while others are obligations on any party with a particular national situation (such as facilities present in the territory which use processes listed in Annex B, or parties which have artisanal and small-scale gold mining and processing that is more than insignificant). The Secretariat posts [notifications here](#).



Becoming a party to the Minamata Convention on Mercury

- 6. Prepare and sign the instrument:** Following the completion of the domestic legislative procedures, where necessary for the approval of the Convention, and following the completion of the necessary national decision-making processes, the government office responsible for doing so will prepare the instrument of ratification, acceptance, approval or accession and any instruments of declaration. Model instruments of ratification, acceptance or approval in the six official UN languages are [available here](#). In the practice of many countries, this responsibility belongs to the Ministry of Foreign Affairs. The authority entitled to do so will then sign the instrument. The instrument must be signed by the Head of State, Head of Government or Minister for Foreign Affairs.
- 7. Lodge the instrument with the Depositary:** An instrument of ratification, acceptance, approval or accession to the Convention becomes effective only after it is deposited with the Secretary-General of the United Nations at UN Headquarters in New York. This is customarily done through the Permanent Mission of the relevant State to the UN in New York. Note that the instrument is not to be sent to the Minamata Convention Secretariat. The date of deposit is normally recorded as that on which the instrument is received at UN Headquarters. States are advised to deliver such instrument to the Treaty Section, Office of Legal Affairs of the UN directly to ensure that the action is promptly processed.

The usual steps for depositing the instrument include:

- Prepare the instrument of ratification, acceptance, approval or accession, as applicable, in the language as required by the laws and procedures of that State;
- E-mail or fax a copy to the UN Treaty Section for review (if the instrument is written in a language other than one of the six UN languages, a courtesy translation into one of the six UN languages could be included to facilitate its review);
- Deliver the original instrument by hand or mail to the Treaty Section;
- Full Powers are not required for the person delivering the instrument;
- If the instrument is e-mailed or faxed for immediate deposit, deliver the original instrument to the Treaty Section as soon as possible thereafter.

Treaty Section

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Becoming a party to the Minamata Convention on Mercury

Summary of the key steps of becoming a party

The UN Treaty Handbook, [available in the 6 UN languages](#) on the UN Treaty section website, contains further information on these issues, including model instruments.

[Templates are available](#) at UN Office of Legal Affairs, Treaties Section.



When does the Minamata Convention enters into force for a party?

For each State or regional economic integration organization that ratifies, accepts or approves the Convention or accedes thereto after that date, the Convention will enter into force on the 90th day after the date of deposit of its instrument of ratification, acceptance, approval or accession.

The updated list of signatories and of States having deposited their instrument of ratification, acceptance, approval or accession is [available here](#).

Are there financial obligations resulting from becoming a party to the Minamata Convention?

Parties to the Minamata Convention are obliged to adhere to its obligations, which include in Article 13 a requirement for each party to provide, within its capabilities, resources in respect of those national activities that are intended to implement the Convention, in accordance with its national policies, priorities, plans and programmes. Article 13 also defines a financial mechanism to support developing country parties and parties with economies in transition in implementing their obligations.

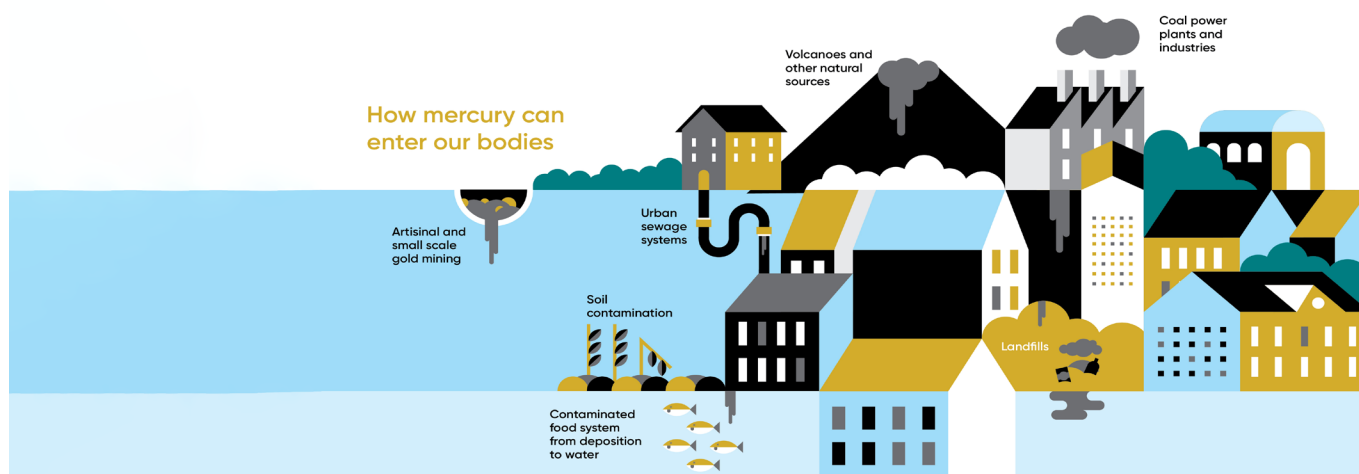
The parties also have financial commitments to support the operation of the Convention, its Conference of the Parties (COP), and the Secretariat through the General Trust Fund. Parties make contributions each year on the basis of an indicative scale of assessments of the United Nations, against the budget approved by the COP per biennium, and as stipulated by the Financial Rules of the Convention. The contributions are

adjusted so as to ensure that no party contributes less than 0.01 per cent of the total, that no one contribution exceeds 22 per cent of the total and that no contribution from a least developed country party exceeds 0.01 per cent of the total.

In addition, parties can make voluntary contributions to two trust funds: the Special Trust Fund, to support capacity building and technical assistance activities of the Secretariat, participation of developing-country parties in meetings of the Conference of the Parties and its subsidiary bodies, as well as other appropriate purposes consistent with the objectives of the Convention; and the Specific Trust Fund to support the Specific International Programme (SIP) for direct assistance to eligible parties in support of capacity-building and technical assistance.



Becoming a party to the Minamata Convention on Mercury



What are the benefits of becoming a party to the Minamata Convention?

Becoming a party to the Minamata Convention carries the requirement for compliance with a number of obligations, and creates certain benefits, including for eligible parties in terms of technical and financial assistance. Among the main advantages, joining the Convention allows a party to:

- Protect its own people's health and environment from the harmful effects of mercury from anthropogenic sources.
- Benefit from global efforts to protect human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds.
- Influence the development and implementation of the Convention through participation in the decision-making process of the Conference of the Parties.
- Participate in trade regimes to manage mercury responsibly.
- Contribute to achieving its commitment to Sustainable Development Goals.
- Access capacity-building and technical assistance support for eligible parties through the Convention's financial mechanism and through capacity building and technical assistance activities provided by the Secretariat.
- Improve information, awareness-raising and public education, especially through regular exchange of information and expertise and drawing also on the Secretariat and the UNEP Global Mercury Partnership.
- Improve research and development on mercury.
- Facilitate cooperation among parties and other stakeholders to support the implementation of Convention obligations.



FINANCIAL RULES

FOR THE **MINAMATA CONVENTION**
ON MERCURY



MINAMATA
CONVENTION
ON MERCURY

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UNITED NATIONS PUBLICATION

Financial rules for the Conference of the Parties to the Minamata Convention on Mercury, its subsidiary bodies and the secretariat of the Convention

As adopted at the first meeting of the Conference of the Parties in Geneva,
24–29 September 2017 ([annex to decision MC-1/10](#))



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Scope

Rule 1

The present rules shall govern the financial administration of the Conference of the Parties to the Minamata Convention on Mercury, its subsidiary bodies and the Convention secretariat. In respect of matters not specifically provided for by the present rules, the Financial Regulations and Rules of the United Nations shall apply.

Financial period

Rule 2

The financial period shall be a calendar year. The biennial programme of work and budget of the Minamata Convention shall normally consist of two consecutive calendar years, the first of which shall be an even year.

Budget

Rule 3

1. The head of the secretariat of the Minamata Convention on Mercury shall prepare budget estimates for the following biennium in United States dollars showing projected income and expenditures for each year. The budget should be presented in a programmatic format consistent with the format used by the secretariats of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade and the Stockholm Convention on Persistent Organic Pollutants.¹ The head of the secretariat shall dispatch the estimates, as well as the actual income and expenditure for each year of the previous biennium and estimates of actual expenditure in the current biennium, to all parties to the Convention at least 90 days before the opening of the meeting of the Conference of the Parties at which the budget is to be adopted.
2. The Conference of the Parties shall, prior to the commencement of the financial period that the budget covers, consider the budget estimates and adopt an operational budget by consensus authorizing expenditures, other than those referred to in rule 4, paragraphs 3, 4 and 5.
3. The head of the secretariat shall provide the Conference of the Parties with cost estimates for actions that have budgetary implications that are not foreseen in the draft programme of work but are included in proposed draft decisions prior to the adoption of those decisions by the Conference of the Parties.
4. The adoption of the operational budget by the Conference of the Parties shall constitute the authority of the head of the secretariat to incur commitments and make payments for the purposes for which the appropriations were approved and up to the amounts so approved, provided always that, unless specifically authorized by the Conference of the Parties, commitments shall be covered by related received funds.
5. The head of the secretariat may make transfers within each of the main appropriation lines of the approved operational budget. The head of the secretariat may also make transfers between such appropriation lines up to 20 per cent of the main appropriation line from which the transfer is made unless another limit is set by the Conference of the Parties.

¹ Linked to the decision on hosting arrangements for the secretariat.



Funds

Rule 4

1. A general trust fund for the Convention shall be established by the Executive Director of the United Nations Environment Programme and managed by the head of the secretariat. The fund is to provide financial support for the work of the Convention secretariat. Contributions made pursuant to rule 5, paragraph 1 (a) and (b), shall be credited to this fund. Contributions made pursuant to rule 5, paragraph 1 (e), by the United Nations Environment Programme shall be credited to this fund. All budget expenditures that are made pursuant to rule 3, paragraph 4, shall be charged to the General Trust Fund.
2. Within the General Trust Fund there shall be maintained a working capital reserve at a level to be determined from time to time by the Conference of the Parties by consensus. The purpose of the working capital reserve shall be to ensure continuity of operations in the event of a temporary shortfall of cash. Following any drawdown of the working capital reserve, it shall be restored to its established level as soon as possible and no later than the end of the following year.
3. A special trust fund shall be established by the Executive Director of the United Nations Environment Programme and managed by the head of the secretariat. This fund shall receive contributions pursuant to rule 5, paragraph 1 (c) to (e), to support, in particular:
 - a. The activities of the Minamata Convention secretariat in accordance with article 14;
 - b. The participation of representatives of developing-country parties, in particular the least developed country parties and small island developing States among them, and of parties with economies in transition, in the meetings of the Conference of the Parties and its subsidiary bodies pursuant to the procedure set out in the annex to the financial rules;
 - c. Other appropriate purposes consistent with the objectives of the Convention.
4. A specific trust fund shall be established by the Executive Director of the United Nations Environment Programme for the specific international programme to support capacity-building and technical assistance in accordance with article 13.
5. Subject to the approval of the Conference of the Parties, the Executive Director of the United Nations Environment Programme may establish other trust funds, provided that they are consistent with the objectives of the Convention.
6. In the event that the Conference of the Parties decides to terminate a trust fund established pursuant to the present rules, it shall so advise the Executive Director of the United Nations Environment Programme at least six months before the date of termination so decided. The Conference of the Parties shall decide, in consultation with the Executive Director of the United Nations Environment Programme, on the distribution of any uncommitted balances after all liquidation expenses have been met.

Contributions

Rule 5

1. The resources of the Conference of the Parties shall comprise:
 - a. Contributions made each year by Parties on the basis of an indicative scale adopted by consensus by the Conference of the Parties and based on such a scale of assessments of the United Nations as may be adopted from time to time by the General Assembly, adjusted so as to ensure that no party contributes less than 0.01 per cent of the total, that no one contribution exceeds 22 per cent of the total and that no contribution from a least developed country party exceeds 0.01 per cent of the total;



- b. The 60 per cent of the unearmarked contributions made each year by the Government hosting the Convention secretariat;
 - c. The remaining 40 per cent of the unearmarked contributions made each year by the Government hosting the Convention secretariat, which will be prioritized for the purposes set out in rule 4, paragraph 3 (b);
 - d. Contributions made each year by parties in addition to those made pursuant to paragraphs (a)–(c);
 - e. Contributions from States not parties to the Convention, as well as governmental, intergovernmental and non-governmental organizations and other sources;
 - f. The uncommitted balance of income received from previous financial periods;
 - g. Miscellaneous income.
2. The Conference of the Parties shall, in adopting the indicative scale of contributions referred to in rule 5, paragraph 1 (a), make adjustments to take account of contributions of parties that are not members of the United Nations, as well as those of regional economic integration organizations that are parties.
 3. In respect of contributions made pursuant to rule 5, paragraph 1 (a):
 - a. Contributions for each calendar year are expected by 1 January of that year and should be paid promptly and in full. Parties should be notified of the amount of their contributions for a given year by 15 October of the previous year;
 - b. Each party shall, as far in advance as possible of the date due for the contribution, inform the head of the secretariat of the contribution it intends to make and of the projected timing of that contribution;
 - c. If the contributions of any parties have not been received by 31 December of the relevant year, the head of the secretariat shall write to those parties to impress upon them the importance of paying their respective outstanding contributions for prior periods and shall report to the Conference of the Parties at its next meeting on the consultations with such parties;
 - d. If the contributions of any party have not been received after two or more years, the head of the secretariat shall jointly decide with any party who has outstanding contributions to develop a payment schedule to permit such party to pay all outstanding contributions within six years, depending on the financial circumstances of the party, and to pay future contributions promptly. The head of the secretariat shall report to the Bureau and to the Conference of the Parties at their next meetings on progress under any such schedule;
 - e. If a payment schedule is not jointly decided or respected, the Conference of the Parties will decide on appropriate measures, taking into account the specific needs and the special circumstances of [developing countries, particularly] least developed countries or small island developing States;
 - f. Given the importance of the full and effective participation of developing country parties, in particular least developed countries and small island developing States, and parties with economies in transition, the head of the secretariat shall remind parties of the need for contributions to the Special Trust Fund at least six months prior to each ordinary meeting of the Conference of the Parties, reflecting on the financial need, and urge parties in a position to do so to ensure that any contributions are paid at least three months before the meeting.
 4. Contributions made pursuant to rule 5, paragraph 1 (d) and (e), shall be used in accordance with such terms and conditions, consistent with the objectives of the Convention and the Financial Regulations and Rules of the United Nations, as may be agreed between the head of the secretariat and the contributors.
 5. Contributions made pursuant to rule 5, paragraph 1 (a), from States and regional economic integration organizations that become parties to the Convention after the beginning of a



financial period shall be made pro rata temporis for the balance of that financial period. Consequent adjustments shall be made at the end of each financial period for other parties.

6. Notwithstanding rule 4, paragraph 3, the specific trust fund shall be open to contributions from signatories, parties and non-parties to the Convention with capacity to do so, as well as from the private sector, including industry, foundations, other non-governmental organizations and other stakeholders.
7. All contributions shall be paid in United States dollars or the equivalent in a convertible currency. They shall be paid into a bank account to be designated by the Executive Director of the United Nations Environment Programme in consultation with the head of the secretariat. In conversion into United States dollars, the United Nations operational rate of exchange shall be used.
8. The head of the secretariat shall acknowledge promptly the receipt of all pledges and contributions and shall inform the parties by publishing on the Convention website up-to-date information on the status of pledges and payments of contributions.
9. Contributions not immediately required shall be invested in accordance with applicable United Nations rules at the discretion of the Executive Director of the United Nations Environment Programme, in consultation with the head of the secretariat. In case both are not in agreement the Executive Director shall decide the further course of action. The resulting income shall be credited to the relevant Convention trust fund.

Accounts and audit

Rule 6

1. The accounts and financial management of all funds governed by the present rules shall be subject to the internal and external audit process of the United Nations.
2. An interim statement of accounts for the financial period shall be provided to the Conference of the Parties, and a final audited statement of accounts for the full financial period shall be provided to the Conference of the Parties as soon as possible after the accounts for the financial period are closed.
3. The Conference of the Parties shall be informed of any relevant remarks in the reports of the United Nations Board of Auditors on financial statements of the United Nations Environment Programme and remarks in reports resulting from external audits.

Administrative support costs

Rule 7

The Conference of the Parties shall reimburse the United Nations Environment Programme for the services provided to the Conference of the Parties, its subsidiary bodies and the Convention secretariat from the funds referred to in rule 4, paragraphs 1, 3 and 5, on such terms as may from time to time be agreed upon between the Conference of the Parties and the United Nations Environment Programme or, in the absence of such agreement, in accordance with the general policy of the United Nations.

Amendments

Rule 8

Any amendment to the present rules shall be adopted by the Conference of the Parties by consensus.



Annex to the financial rules

Procedure for the allocation of funding from the Special Trust Fund for facilitating the participation of parties in meetings of the Conference of the Parties

1. The procedure for facilitating the participation of eligible delegates in meetings under the Convention should aim at the full and active participation of developing country parties, in particular least developed countries and small island developing States, and parties with economies in transition in the activities of the Convention to broaden the scope of experiences and information available to Convention parties and encourage the implementation of the Convention at the local, national, regional and international levels.
2. [The procedure should give [priority][special] attention to least developed countries and small island developing States and thereafter aim at ensuring adequate representation of all eligible parties. It should continue to be guided by established United Nations practice.]
3. The secretariat should notify parties as soon as possible, and preferably six months in advance, of the dates and venues of meetings of the Conference of the Parties.
4. Following the dispatch of a notification that a meeting will take place, eligible parties should be invited to inform the secretariat, through official channels of communication, as soon as possible and no later than three months before the meeting, whether funding is requested.
5. Based on the availability of financial resources and the number of requests received, the head of the secretariat shall prepare a list of sponsored delegates. The list shall be established in accordance with paragraphs 1 and 2 above with a view to ensuring adequate geographical representation of eligible regions, [with [priority][special] attention given to least developed countries and small island developing States].
6. The secretariat should, four weeks in advance of the meeting, notify eligible countries that will not be sponsored, inviting them to seek other alternative sources of funding.
7. The head of the secretariat is invited to liaise with the Executive Director of the United Nations Environment Programme with a view to ensuring a waiver of the programme support costs on contributions to the Special Trust Fund for the participation of representatives from developing countries and countries with economies in transition, with the understanding that the additional money secured will be used to enhance the representation of eligible parties.



**Financial rules for the Conference of the Parties to the
Minamata Convention on Mercury, its subsidiary bodies
and the secretariat of the Convention**
www.mercuryconvention.org



بجاء ترميز 8

دستورالعمل ریسپونز و ریسپوندر





MINISTRY OF ENVIRONMENT

MINAMATA INITIAL ASSESSMENT REPORT 2019

Maldives Mercury Assessment



Document Name	Minamata Initial Assessment Report 2019, Republic of Maldives
Document Short Title	Maldives MIA Report
Date	22nd October 2019
Consultant	Dr. Mahmood Riyaz and Ms Amy Sauer

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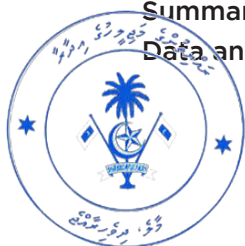
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This document does not necessarily represent the official views of the Government of Maldives, the UNEP, the Global Environment Facility, or the Secretariat of the Minamata Convention on Mercury.



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Acronyms

ASGM	Artisanal and small scale gold mining
DPH	Department of Public Health
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
EPPA	Environmental Protection and Preservation Act
FDA	Food and Drug Authority
GW	Giga Watt
GWh	Giga Watt hour
HCW	Health Care Waste
HCWM	Health Care Waste Management
HPA	Health Protection Agency
HCFC	Hydrochlorofluorocarbons
IGMH	Indhira Gandhi Memorial Hospital
IOMC	Inter-Organization Programme for the Sound Management of Chemicals
ITE	International Technical Experts
Lpg	Liquid petroleum gas
MCS	Maldives Customs Services
ME	Ministry of Environment
MFDA	Maldives Food and Drug Authority
MIA	Minamata Initial Assessment
MoD	Ministry of Defence
MoH	Ministry of Health
MoFMRA	Ministry of Fisheries Marine Resources and Agriculture
MVR	Maldivian Rufiyaa
MW	Mega Watt
MWSC	Maldives Water and Sewerage Company
ODS	Ozone Depleting Substances
UNEP	United Nations Environment Programme
WAMCO	Waste Management Cooperation
WHO	World Health Organisation





Foreword

The Maldives recognises the threat that mercury and mercury compounds pose to human health and the environment. We are currently working towards becoming a Party to the Minamata Convention.

The Minamata Initial Assessment (MIA) has been conducted to identify the current status and existing challenges to mercury management, and the regulatory frameworks that need to be developed to fully comply with our obligations and realise the objectives under the Convention.

There is no mining, manufacturing or production of mercury or mercury-added products in the Maldives. Our only source of mercury is through the import of mercury compounds and mercury-containing products. However, we are exposed and remain vulnerable to the risks of the anthropogenic release of mercury.

The largest local sources of emissions to the air include open-burning of waste. While, the second-largest contributor to local mercury releases in the Maldives is from use and disposal of products with mercury such as batteries, paints and other laboratory and medical equipment containing mercury.

To phase out mercury-containing products and reduce mercury emissions, policies and strategies need to be developed and strengthened. We also need to develop partnerships with relevant sectors, including the health sector and private sector, to strengthen our efforts to regulate the use of mercury in the country. Given that safe disposal of mercury-containing products presents some of the greatest challenges for us, international collaboration for their transfer and safe disposal is crucial.

To transit to a mercury-free society, there is a pressing need for education and awareness on the risks of mercury, and its uses. We also need to focus on the uptake of mercury-free alternatives and strengthening our capacity to better monitor and manage the use of mercury. The government of Maldives is fully committed towards this goal and will work towards the ratification and implementation of the Minamata Convention.

Dr Hussain Rasheed Hassan

Minister





Executive Summary

The Minamata Initial Assessment (MIA) is intended to facilitate countries to ratify and implement the Minamata Convention on Mercury. The primary objective of the Initial Assessment Report is to provide a basis for further activities relevant to the implementation of the Convention. In this regard, the MIA report will assist Maldives in notifying the Convention in accordance with Article 7, and with respect to the development of its National Implementation Plan in accordance with Article 20. MIA will enable the preparation of a National Plan to reduce mercury emissions as set out in Article 8 of the Convention.

The report gives an overview of the initial inventory of stocks of mercury and/or mercury compounds; supply of mercury, including relevant sources of mercury emissions and release sectors that use mercury or mercury compounds; and the amount of Hg per year based on the data collection exercises conducted for the MIA in the Maldives.

Maldives is a country that depends on import. There is no mining, manufacturing or production of mercury or mercury added products in the country. The only source of mercury in the Maldives is estimated to be through the import of mercury and mercury containing products.

Results of the national mercury inventory

The inventory for mercury in Maldives is presented through four different output pathways: 1) emissions to air, 2) direct releases to water, 3) direct releases to land, and 4) others. The “others” category includes output pathways for “products”, “general waste” and “sector-specific waste treatment”. Mercury identified in Maldives comes from mercury containing products/ devices, such as batteries, compact fluorescent lamps (CFL), sphygmomanometers, thermometers and dental amalgam. Major source groups that contribute mercury inputs in the Maldives are: waste incineration and open waste burning; use and disposal of other products; application, use and disposal of dental amalgam fillings; other fossil fuel and biomass, combustion and: cemeteries. These are released mostly through air, water and general waste.

National strategy to identify mercury contaminated sites in the Maldives

Developing a national strategy to identify mercury-contaminated sites is a specific requirement of the Article 12 of the Minamata Convention. The strategy will be integrated into the “National Waste Management Policy” and “Waste Management Strategic Action Plan” adopted by the Ministry of Environment. These envisage the establishment of Waste Management Centres on each inhabited island and the construction of Regional Waste Management Facilities.



Contaminated sites

Large waste landfill/disposal sites and large cemeteries in the country, particularly Malé are the only sites that are potentially contaminated with mercury. Waste dumpsites in urban islands with large population can also be considered as potential contaminated sites. Thilafushi is the largest operational waste disposal site in the Maldives, where the whole reef has been reclaimed, and it is most likely the largest contaminated site in the Maldives. Waste dumpsites in urban islands such as Hithadhoo, and Kulhudhufushi are also presumably contaminated with mercury waste.

Mercury input

The largest inputs of mercury in the Maldives are from the source categories 'Use and Disposal of Other Products', and 'Waste Incineration and Open Waste Burning'. Total mercury input from the 'Use and Disposal of Other Products' is estimated to be 202 kg Hg/y and the amount from 'Waste Incineration and Open Waste Burning' is estimated to be 110 kg Hg/y.

Emission to air

'Waste Incineration and Open Waste Burning' contributed the highest mercury releases to air at approximately 1090 kg Hg/y, which is about 96% of the total amount of Hg released to the air. Hg released to air from 'Use and Disposal of other Products' is estimated to be 37.2 kg Hg/y, which is 3% of the total releases to the atmosphere. Mercury can be released to air due to combustion of mercury-containing products or due to diffusion of mercury vapour such as small scale fuel burning, electric lamp breakage, laboratory use dental preparation, landfills etc.

Release to water

Two main sectors responsible for releases of mercury to water are the 'Waste water Treatment Systems' (22.6 kg Hg /y), 'Use, and Disposal of Other Products' (19.6 kg Hg/y), with a minute amount of Hg released to water from 'Use, and Disposal of Dental Amalgam Fillings' (1.6 kg Hg/y).

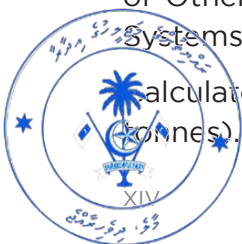
Release to land

In the Maldives the estimated mercury release to land is 10 kg Hg/y from three main sources. The highest release to land is from 'Use and Disposal of Other Products' (5.5 kg Hg/year), followed by 'Cemeteries' (3 kg Hg/year approximately), and 'Use and Disposal of Dental Amalgam Fillings' (0.3 kg Hg/year) and 1.2 kg Hg/year from other sources.

Others

A total of 140 kg Hg/y is estimated to be released to general waste. Approximately 96% (134.7 kg Hg/y) of the Hg released to general waste is contributed from the 'Use and Disposal of Other Products'. Approximately 2.5 kg Hg/y is released from 'Waste Water Treatment Systems'.

Calculated annual releases of mercury for Maldives is estimated to be 1310 kg Hg/year (1.3 tonnes).



Policy, regulatory and institutional assessment

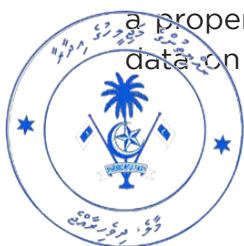
As ratification (or acceptance, approval or accession) by the Maldives of the Minamata Convention on Mercury legally binds the country to the Convention's obligations, the ratification process involves carrying out a national situation analysis, identifying existing relevant legislation and identifying legal or administrative actions that may be needed. A summary of policy, regulatory and institutional assessment of existing national policies and regulatory measures (in place and under development), and their scope with special focus on the extent they already meet the requirements as stipulated in the provisions of the Minamata Convention is provided in this report. In this regard, the report provides an analysis of existing policy and regulatory measures in place and remaining gaps in relation to implementation of each article of Minamata Convention on Mercury in the Maldives and gives recommendations to meet the obligations of the Convention.

Data gaps and recommendations

The biggest challenge in completing the inventory was acquiring adequate data in a very short timeframe. Maldives depends entirely on imports, and therefore to collect the information required, questionnaires on instruments, products and laboratory chemicals used in hospitals and the health sector that may contain mercury were formulated and distributed to the relevant institutions.

The data collection heavily relied on the import data obtained from the Maldives Customs Services (MCS). MCS data are sorted with HS codes, but the HS codes are not given based on the presence of mercury in the products. Therefore, in all categories, it was difficult to distinguish between the products that contain mercury and mercury-free products. With the limited information in MCS data, obtaining product-specific information is extremely difficult and time-consuming. Often the product's information sheet does not provide the full list and quantities of ingredients in the product, which makes the identification and quantification of mercury present difficult. With the increasing number of mercury-free products and replacing of mercury-based products to mercury-free products, distinguishing between such products brands is difficult.

Significant challenges were encountered in identifying and obtaining the data necessary to complete Step 5 regarding 'waste handling and recycling'. It is compulsory to have waste incinerators in tourist resorts, but the quantities of waste incinerated in the resorts are not available due to a lack of recording this data. In terms of medical waste, there are no proper management or incineration facilities in any hospital. In most of the regional hospitals, including the largest hospital, Indhira Gandhi Memorial Hospital (IGMH), medical waste is dumped into the municipal waste dumpsites to be burned with the municipal waste without adequate treatment. In some hospitals, medical waste is burned in closed burners, but there were only broad estimates available on the amount of waste incinerated per year due to lack of record-keeping. Medical waste is an area that needs to be addressed to establish a proper mechanism for waste disposal. Therefore, the amount of waste generation and data on the sub-categories 'Waste incineration', 'Incineration/burning of Medical Waste',



'Open fire waste burning' (on landfills and informally), and 'Waste water system/treatment' were estimated based on published values for waste generation/person/day (SOE, 2016) and assumptions were made on the amount of incineration, open burning/landfill and waste water.

Step 6 of the inventory focuses on data collection and inventory of the consumption of mercury-added products. In the sub-categories 'Batteries with mercury', 'Paints with mercury', and 'Skin lightening cream', the Customs data collected did not specify or it was difficult to distinguish the types of products with mercury and mercury-free products imported in Maldives. The data for batteries only specified quantities imported and a limited number of types/brands imported such as AA, AAA, C, D alkaline, atomic, lithium-ion batteries, mercury-zinc cells, etc. Identifying the type is of significant importance because not all types of batteries, paints and skin lightening creams contain mercury.

Recommendations

The following recommendations aims to strengthen subsequent reporting on mercury.

1. Improve imports data collection by having more detailed entries to the various products listed. A sub classification within the HS code could be introduced to capture sub-categories containing Hg products.
2. WAMCO/ME should improve data collection on municipal waste that is collected in all waste management centres in the country.
3. ME and the Ministry of Health can develop a system to properly manage medical waste and record quantities of medical wastes that are generated, incinerated or burned in the country.
4. Cosmetics sector need to be better regulated in terms of imports and targeting products that may contain harmful substances, including mercury
5. Establish appropriate testing capacity for mercury in relevant government authorities (eg: MFDA, HPA, EPA)
6. Review and revise relevant laws, regulations and other legislative tools to address the use and management of mercury – there is a need for a comprehensive law on mercury management, defining obligations and rights of different institutions and their responsibilities in controlling and monitoring of mercury and mercury-containing products, addressing occupational and public health issues related to the disposal of mercury containing waste and all other aspects of mercury management.
7. Review and revise relevant laws, regulations and other legislative tools to address the use and management. Until specific legislative measures can be developed, these issues can be incorporated into relevant existing legal and regulatory instruments.
8. Create awareness among government institutions on the extensiveness of mercury flow and its impact on human health and environment
9. Strengthen policy and regulatory structures for HCWM



Introduction

Minamata Convention on Mercury

The harmful impacts on human health due to mercury exposure are now well documented and accepted within the scientific community. Many countries have already initiated actions to mitigate emissions and exposure to mercury. However, considering that mercury is both a local, as well as a global pollutant, actions by national governments alone would not suffice in addressing the issue of pollution due to mercury and its harmful impacts on the environment and human health.

In view of the risks that mercury poses to human health and the environment, the global community agreed in 2009 to start intergovernmental negotiations with the objective of developing a legally binding treaty to limit global mercury emissions. The treaty known as the Minamata Convention was opened for signature on 10th October 2013 and entered into force on 16 August 2017. Maldives is in the ratification process of this Convention. This assessment is a partial requirement to fulfill the ratification process. As of November 2019, there are 128 signatories and 114 ratifications¹.

The primary objective of the Convention is “to protect human health and the environment from anthropogenic releases of mercury and mercury compounds”. The Convention’s main thrust is for countries to ban new mercury mines and carry out a systematic phase-out of existing ones. It also provides for the phase-out of mercury containing products and reducing mercury supply and trade, and to make a significant reduction in mercury releases to air, water and land. The Convention also addresses: interim storage of mercury and its disposal once it becomes waste; sites contaminated by mercury and: human and environmental health issues related to exposure to mercury.

Mercury in Maldives

Maldives is a country that depends on imports. The only source of mercury in the Maldives is through the import of mercury and mercury containing products. Mercury identified in Maldives comes from mercury containing products and devices, such as batteries, compact fluorescent lamps (CFL), sphygmomanometers, thermometers and dental amalgam. Major source groups that contribute mercury inputs in the Maldives are: waste incineration and open waste burning; use and disposal of other products; application, use and disposal of dental amalgam fillings; other fossil fuel and biomass combustion; and cemeteries.

Mercury is not a regulated substance in the Maldives. However, permission from HPA and MoD is required to import mercury into the country. There are no specific legal instruments for managing mercury in the Maldives. Existing general laws and regulations on chemicals



¹ <http://www.mercuryconvention.org/Countries/Parties/tabid/3428/language/en-US/Default.aspx>

and environmental management are used to address issues related to the management of mercury in the absence of specific legal framework in the Maldives.

Maldives is a country that depends on imports. The only source of mercury in the Maldives is through the import of mercury and mercury containing products.

Table 1-1 Summary of mercury inventory results

Source category	Estimated Hg input, kg Hg/y	Estimated Hg releases, standard estimates, kg Hg/y							Percent of total releases *3*4
		Air	Water	Land	By-products and impurities	General waste	Sector specific waste treatment / disposal	Total releases *3*4*5	
Coal combustion and other coal use	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0%
Other fossil fuel and biomass combustion	3.1	3.1	0.0	0.0	0.0	0.0	0.0	3	0%
Oil and gas production	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0%
Primary metal production (excl. gold production by amalgamation)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0%
Gold extraction with mercury amalgamation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0%
Other materials production ¹	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0%
Chlor-alkali production with mercury-cells	-	-	-	-	-	-	-	0	0%
Other production of chemicals and polymers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0%
Production of products with mercury content*1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0%
Application, use and disposal of dental amalgam fillings	3.6	0.1	1.6	0.3	0.2	0.7	0.7	4	0%
Use and disposal of other products	202.3	37.2	19.6	5.5	0.0	134.0	6.0	202	15%
Production of recycled metals	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0%
Waste incineration and open waste burning*2	1,096.9	1,090.5	0.0	0.0	0.0	0.0	6.4	1,097	84%
Waste deposition*2	-	-	-	-	-	-	-	0	0%
Informal dumping of general waste *2*3	-	-	-	-	-	-	-	0	0%
Waste water system/treatment *4	25.2	0.0	22.6	0.0	0.0	2.5	0.0	3	0%
Crematoria and cemeteries	2.8	0.0	0.0	2.8	0.0	0.0	0.0	3	0%
TOTALS (rounded) *1*2*3*4*5*6	320	1,130	20	10	0	140	10	1,310	100%

¹ To avoid double counting, fossil fuel mercury contributions to cement production was subtracted automatically in the TOTALS.



Notes to table above: *1 To avoid double counting of mercury in products produced domestically and sold on the domestic market (including oil and gas), only the part of mercury inputs released from production are included in the input TOTAL. *2: To avoid double counting of mercury inputs from waste and products in the input TOTAL, only 10% of the mercury input to waste incineration, waste deposition and informal dumping is included in the total for mercury inputs. These 10% represent approximately the mercury input to waste from materials which were not quantified individually in Inventory Level 1 of the Toolkit. *3: The estimated quantities include mercury in products which has also been accounted for under each product category. To avoid double counting, the release to land from informal dumping of general waste has been subtracted automatically in the TOTALS. *4: The estimated input and release to water include mercury amounts which have also been accounted for under each source category. To avoid double counting, input to, and release to water from, waste water system/treatment have been subtracted automatically in the TOTALS. *5: Total inputs do not necessarily equal total outputs due to corrections for double counting (see notes*1-*3) and because some mercury follows products/metal mercury which are not sold in the same country or in the same year. *6: To avoid double counting, fossil fuel mercury contributions to cement production was subtracted automatically in the TOTALS

Key priority sectors for implementation of the Convention

The key priority areas that needs to be focused in implementation of Minamata Convention on Mercury in the Maldives includes the following:

1. Strengthening the legal framework
2. Interim storage and disposal of mercury waste
3. Education awareness and capacity building
4. Research, monitoring and reporting

Strengthening the legal framework

There are no specific legal instruments for managing mercury in the Maldives. Existing general laws and regulations on chemicals and environmental management are currently used to address issues related to the management of mercury in the absence of specific legal framework in the Maldives. Key recommendations from the policy and regulatory report are:

- Develop a comprehensive law on mercury management, defining obligations and rights of different institutions and their responsibilities in controlling and monitoring of mercury and mercury-containing products, addressing occupational and public health issues related to the disposal of mercury containing waste and all other aspects of mercury management.
- Review and revise relevant laws, regulations and other legislative tools to address the use and management of mercury.
- Incorporate mercury management issues into relevant existing legal and regulatory instruments until specific instruments can be developed

Interim storage and disposal of mercury waste

The major source of mercury in the country is in mercury-containing equipment. Replacement of these items with non-mercury containing alternatives will generate a waste stream that would need to be managed. There are two main waste streams to consider, namely: 1) waste equipment from the medical sector including dental amalgams, thermometers and sphygmomanometers, etc. and 2) from other products such as compact fluorescent lights, paint and batteries etc.

Mercury containing waste should not be dumped in municipal waste yards, but rather sent to specialized facilities abroad for safe disposal. Maldives would not be able to produce sufficient amounts for viable export. Therefore, interim storage will be required to enable



the stock to accumulate over months and years. Integrated interim storage facility for chemicals and mercury can be constructed to safely contain these until export for processing at specialized facilities. Mercury waste management is therefore cross-linked with similar action under POPs and SAICM as storage facilities can be shared.

Education, awareness, training and capacity building

There is a need for education, awareness and capacity building particularly among the key technical ministries and institutions, which lack specialists with chemistry knowledge, and decision makers that have limited background knowledge of the subject. The same is true for the public.

Training of primary national stakeholders for mercury including ME (the Convention focal point and main implementing agency) and other front line agencies, such as MCS, MFDA, HPA, MoH, MoFMRA, MoD, hospitals, media personnel, fish processing, and export facilities etc. Awareness activities should focus on:

- Creating awareness among government institutions on the extensiveness of mercury flow and its impact on human health and environment
- Creating awareness among government institutions on the need for separate laws to manage mercury
- Strengthening policy and regulatory structures for Healthcare Waste Management (HCWM)

Research, monitoring and reporting

The Health Protection Agency currently has the technical and physical capacity to undertake testing of mercury. In addition, some laboratories in fish processing plants have the capacity to test for mercury in fish and the environment. However, the scientific and personnel resources are limited within the national laboratories. Therefore, a dedicated programme for monitoring of mercury nationwide is required to be established that would build capacity within existing institutions (FDA, MFDA, EPA, MoFMRA) that are actively involved in monitoring and research. Research, monitoring and reporting should include collaboration and information sharing between regional and international scientific institutions.

Monitoring and reporting will also allow for the update of the baseline mercury inventory to facilitate reporting to the Convention.







Country Profile

Geography and Population

The Maldives is an island nation consisting of approximately 1,190 low-lying coral reef islands that form a chain of 26 natural atolls that stretches over an area of 90,000 sq kms on the Laccadive-Chargos submarine ridge at the central part of the Indian Ocean. Ninety-nine percent of the Maldivian territory is ocean.

The total population is approximately 400,000 people dispersed across 187 inhabited islands. The country's GDP per capita reached \$11,151 in 2017, compared to \$3,630 in 2004. The Human Development Index ranking of Maldives is 103rd, out of 187 countries in 2013, which places Maldives at the top of the 'medium human development' category and above the average for South Asia.

Average life expectancy at birth is 75.15 years (2014) with females having a slightly longer life expectancy at 77.55 years and males at 72.86 years. Infant mortality rate is 6 infants per 1000 live births in 2010 and the unemployment rate is 11.7% in 2010, calculated from the population 15 years and above. The overall poverty ratio is 8.2 percent in 2016 (6.6 percent under the poverty line of \$5.50 per person per day in 2011 purchasing power parity terms).

Main development challenges are geographic dispersion, environmental sustainability, risk from climate change and disaster resilience. Increased frequency and intensity of natural disasters are expected to be aggravated through the effects of climate change on weather patterns. This compounds trends of increasing coastal erosion and pressure on scarce land resources, and increases the physical vulnerability of island populations, infrastructure and livelihood assets. Almost half of all settlements and over two thirds of critical infrastructure are located within 100 meters of the shoreline and are under immediate threat from rising sea levels. Geographic dispersion of the population across many small islands makes service delivery difficult and can limit opportunities for economic growth and development.

Climate

Maldives experiences tropical monsoonal climate due to its proximity to the equator. The Southwest monsoon (rainy season) extends from May to December, while Northeast monsoon (dry season) begins from January and continues up to April. The average annual temperature in Maldives is 28°C and relative humidity ranges from 71% to 84%. The mean daily maximum temperature is 30.4 °C and the mean daily minimum temperature is 25.7 °C. Rainfall is higher on the southern region of the country than the northern region with an annual average of 2,277 mm for south and 1,786 mm for the north.

Profiles of economic sectors

The Maldivian economy has grown relatively quickly with the advent of the tourism industry in the 1970s. The Maldives has surpassed all South Asian countries to achieve the highest income per capita. However, it is important to note that while the GDP per capita is high, the



country's economy is still very small. The Maldivian economy maintained its robust growth trajectory during 2018 with real GDP growth accelerating to 7.6% according to estimates of October 2018. This was driven by the exceptional performance of the tourism sector on the back of strong global demand and increased air connectivity. In 2018, growth was also bolstered by strong activity in wholesale and retail trade, and construction investment led by the mega infrastructure projects of the government and strong bank credit growth to the private sector.

Tourism

Tourism is the main player in the local economy, which accounts for 28% of GDP and more than 60 percent of foreign exchange earnings to the country. Over 90 percent of government tax revenue comes from import duties and tourism-related taxes.

The resilient growth of the tourism sector in 2018 was driven by vigorous promotional activities undertaken by the industry, favourable global economic conditions and strong demand from major source markets. Tourist arrivals grew annually by 7%, after increasing to 8% in 2017, and reached 1,484,274 in 2018. While bed nights grew by 10%, average stay increased from 6.2 days in 2017 to 6.4 days in 2018. Tourism receipts are estimated at US\$3.0 billion in 2018, a growth of 10% compared with the US\$2.7 billion estimated in 2017 (MMA 2018).

Fisheries and Agriculture

The contribution of fisheries to the economy is declining. The fisheries sector continued to be affected by the persistent decline in fish catch, owing to both environmental factors and higher fuel prices. Fish purchases grew marginally by 2% in annual terms and amounted to 78.3 thousand metric tons in 2018. This was a significant deceleration in growth compared with the 42% annual growth recorded in 2017. Yellowfin tuna purchases declined by 4% in 2018 following a 19% growth in 2017, while skipjack tuna purchases grew by 6% after a 64% growth in 2017. In addition, purchases of bigeye tuna decreased significantly during the year and as a result, the share of bigeye tuna reached its lowest (0.4% of total fish purchases) for the past five years. The volume of fish exports declined by 9% compared with 2017 and totalled 65.8 thousand metric tons in 2018 (MMA 2018).

The agriculture sector is prominent in the livelihoods of the rural population of Maldives and plays an important role in food and nutrition security, especially for those who are residing in the rural areas. Agriculture provides food for consumption and constitutes an important primary source of livelihood for over 7,000 farmers and their families (MoFMRA 2012). The contribution of the agriculture sector to GDP is significantly low yet from a livelihood and employment perspective, agriculture is vital to the economy in terms of its economic and social welfare value.

Agricultural production in the country is limited by the poor soil conditions and availability of land, which restricts farming on a larger scale. For every 1,000 people, there is only 0.3 square kilometres of land used for agricultural purposes. Commonly grown field crops for domestic use includes sweet potatoes, taro, cassava, chilies, watermelons, papaya, eggplant, green leaves cabbage, gourds, and pumpkins. Seasonal crops such as mango, breadfruit and



drumstick contributes significantly to the farmers' income. Growth in the agriculture sector is critical for the country's economy in the face of global climate change and its likely impact on the economy.

Construction

The construction sector is the second largest contributor to the economy after tourism. Past few years have seen a progressive growth in the construction sector and the trend continued into 2018. In 2018, the annual growth in construction sector-related imports accelerated to 35% from 24% in 2017. Commercial banks' credit to the construction sector recorded an annual growth of 21% in 2018 and accounted for 52% of total private sector credit, up from the 47% recorded in 2017 (MMA 2018).

Environmental overview

Maldives is known globally for its pro-environmental stance, making commitments to global efforts in environmental protection and sustainable development. Maldives has played a key role in highlighting the special vulnerability of low-lying small islands developing states to climate change and getting the attention on this issue in international forums.

Table 2-1 A list of multilateral and regional environmental agreements Maldives is party to

Multilateral/ Regional agreement	Signed/joined
Vienna Convention for the Protection of Ozone layer	1988
Montreal Protocol	1989
United Nations Framework Convention on Climate Change (UNFCCC)	1992
Basel Convention	1992
Convention on Biological Diversity	1993
Malé Declaration on Control and Prevention of air pollution and its likely transboundary effect for South Asia	1998
United Nations Convention to Combat Desertification (UNCCD)	2002
Cartagena Protocol on Biosafety	2003
Rotterdam Convention	2006
Stockholm Convention	2006
International Plant Protection Convention (IPPC)	2006
Indian Ocean Tuna Commission	2011
Climate and Clean Air Coalition (CCAC)	2012
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)	2013





Mercury Inventory

This chapter presents the results of the mercury inventory for Maldives developed in 2019. Data for the year 2017 have been used in the inventory, when available. In cases where data for both 2016 and 2017 is available, the average of the two years was used. The year for all data given is noted with the data in question in the relevant sections of this report.

Methodology

This mercury release inventory was made with the use of the ‘Toolkit for identification and quantification of mercury releases’ made available by the Chemicals Branch of the United Nations Environment Programme. The Toolkit is available at ‘UNEP’ website:

<http://web.unep.org/chemicalsandwaste/what-we-do/technology-and-metals/mercury/toolkit-identification-and-quantification-mercury-releases>

This inventory was developed on the Toolkit’s Inventory Level 1. The Toolkit is based on mass balances for each mercury release source type. Inventory Level 1 works with pre-determined factors used in the calculation of mercury inputs to society and releases, the so-called default input factors and default output distribution factors. These factors were derived from data on mercury inputs and releases from the relevant mercury source types from available literature and other relevant data sources.

For the mercury source sub-categories, data was collected for the following sectors relevant to the Maldives:

- Energy consumption and fuel production
 - * Combustion/use of gasoline, petroleum, kerosene, LPG and jet fuel
 - * Charcoal combustion
- Waste handling and recycling
 - * Waste incineration
 - * Incineration/burning of medical waste
 - * Open fire waste burning (on landfills and informally)
 - * Waste water system/treatment
- General consumption of mercury in products
 - * Dental amalgam
 - * Thermometers
 - * Electric switches and relays
 - * Light source with mercury
 - * Batteries with mercury
 - * Polyurethane
 - * Paints with mercury
 - * Skin lighting creams
 - * Medical blood pressure gauges (mercury sphygmomanometers)



- * Other manometers and gauges with mercury
- * Laboratory chemicals
- Cemeteries

See further description of these estimations in the relevant source type sections.

The inventory involved a four-step process¹:

Step 1: A coarse screening matrix is used to identify the main mercury source categories present in the country,

Step 2: The main categories were further classified into sub-categories in order to identify the individual activities that potentially release mercury,

Step 3: Quantitative inventory was developed,

Step 4: Compilation of the standardized mercury inventory using results generated in steps 1-3. A standardized presentation format is provided to ensure that all known sources are considered (even if they cannot be quantified), data gaps are apparent, and inventories are comparable and transparent.

Mercury release source types present

Table 3-1 shows which mercury release sources were identified as present or absent in the Maldives. Only source types positively identified as present are included in the quantitative assessment.

It should be noted, however, that the presumably minor mercury release source types shown in Table 3-1 were not included in the detailed source identification and quantification work

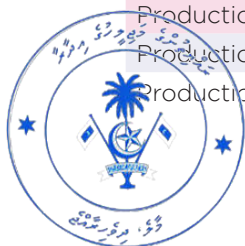
Table 3-1 . Identification of mercury release sources in the country; sources present (Y), absent (N).

Source category	Source present? Y/N
Energy consumption	
Coal combustion in large power plants	N
Coal combustion in coal fired industrial boilers	N
Other coal uses	N
Combustion/use of petroleum coke and heavy oil	N
Combustion/use of diesel, gasoil, petroleum, kerosene, LPG and other light to medium distillates	Y
Use of raw or pre-cleaned natural gas	N
Use of pipeline gas (consumer quality)	N
Biomass fired power and heat production	N
Charcoal combustion	Y
Fuel production	

¹ <http://wedocs.unep.org/bitstream/handle/20.500.11822/14777/Hg-Toolkit-Guideline-IL1-January2017.pdf?sequence=1&isAllowed=y>



Oil extraction	N
Oil refining	N
Extraction and processing of natural gas	N
Primary metal production	
Mercury (primary) extraction and initial processing	N
Production of zinc from concentrates	N
Production of copper from concentrates	N
Production of lead from concentrates	N
Gold extraction by methods other than mercury amalgamation	N
Alumina production from bauxite (aluminium production)	N
Primary ferrous metal production (pig iron production)	N
Gold extraction with mercury amalgamation - from whole ore	N
Gold extraction with mercury amalgamation - from concentrate	N
Other materials production	
Cement production	N
Pulp and paper production	N
Production of chemicals	
Chlor-alkali production with mercury-cells	N
VCM production with mercury catalyst	N
Acetaldehyde production with mercury catalyst	N
Production of products with mercury content	
Hg thermometers (medical, air, lab, industrial etc.)	N
Electrical switches and relays with mercury	N
Light sources with mercury (fluorescent, compact, others: see guideline)	N
Batteries with mercury	N
Manometers and gauges with mercury	N
Biocides and pesticides with mercury	N
Paints with mercury	N
Skin lightening creams and soaps with mercury chemicals	N
Use and disposal of products with mercury content	
Dental amalgam fillings (“silver” fillings)	Y
Thermometers	Y
Electrical switches and relays with mercury	Y
Light sources with mercury	Y
Batteries with mercury	Y
Polyurethane (PU, PUR) produced with mercury catalyst	Y
Paints with mercury preservatives	Y
Skin lightening creams and soaps with mercury chemicals	Y
Medical blood pressure gauges (mercury sphygmomanometers)	Y
Other manometers and gauges with mercury	Y
Laboratory chemicals	Y
Other laboratory and medical equipment with mercury	Y
Production of recycled of metals	
Production of recycled mercury (“secondary production”)	N
Production of recycled ferrous metals (iron and steel)	N



Waste incineration	
Incineration of municipal/general waste	Y
Incineration of hazardous waste	N
Incineration / burning of medical waste	Y
Sewage sludge incineration	N
Open fire waste burning (on landfills and informally)	Y
Waste deposition/landfilling and waste water treatment	
Controlled landfills/deposits	N
Informal dumping of general waste *1	N
Waste water system/treatment	Y
Crematoria and cemeteries	
Crematoria	N
Cemeteries	Y

Table 3-2 . Miscellaneous potential mercury sources not included in the quantitative inventory; with preliminary indication of possible presence in the country.

Source category	Source present? Y/N/?
Combustion of oil shale	N
Combustion of peat	N
Geothermal power production	N
Production of other recycled metals	N
Production of lime	N
Production of light weight aggregates (burnt clay nuts for building purposes)	N
Production of other chemicals (than chlorine and sodium hydroxide) in Chlor-alkali facilities with mercury-cell technology	N
Polyurethane production with mercury catalysts	N
Seed dressing with mercury chemicals	N
Infra red detection semiconductors	N
Bougie tubes and Cantor tubes (medical)	Y
Educational uses	Y
Gyroscopes with mercury	N
Vacuum pumps with mercury	N
Mercury used in religious rituals (amulets and other uses)	Y
Mercury used in traditional medicines (ayurvedic and others) and homeopathic medicine	N
Use of mercury as a refrigerant in certain cooling systems	N
Light houses (levelling bearings in marine navigation lights)	N
Mercury in large bearings of rotating mechanic parts in for example older waste water treatment plants	N
Tanning	N
Pigments	N
Products for browning and etching steel	N
Certain colour photograph paper types	N



Recoil softeners in rifles	N
Explosives (mercury-fulminate a.o.)	N
Fireworks	N
Executive toys	N

Summary of mercury inputs to society

Mercury inputs to society should be understood here as the mercury amounts made available for potential releases through economic activity in the country. This includes mercury intentionally used in products such as thermometers, blood pressure gauges, fluorescent light bulbs, etc. It also includes mercury mobilised via extraction and use of raw materials that contain mercury in trace concentrations.

Note that the following source sub-categories made the largest contributions to mercury inputs to society:

- Open fire waste burning (on landfills and informally) (1,030 kg Hg/y)
- Incineration of municipal/general waste (64 kg Hg/y)
- Batteries with mercury (57 kg Hg/y)
- Electrical switches and relays with mercury (49 kg Hg/y)

Table 3-3. Summary of mercury inputs to society

Source category	Source present? Y/N/?	Activity rate	Unit	Estimated Hg input, kg Hg/y
				Standard Estimate
Energy consumption				
Coal combustion in large power plants	N	0	Coal combusted, t/y	-
Coal combustion in coal fired industrial boilers	N	0	Coal combusted, t/y	-
Other coal uses	N	0	Coal used, t/y	-
Combustion/use of petroleum coke and heavy oil	N	0	Oil product combusted, t/y	-
Combustion/use of diesel, gasoil, petroleum, kerosene, LPG and other light to medium distillates	Y	549,247	Oil product combusted, t/y	3
Use of raw or pre-cleaned natural gas	N	0	Gas used, Nm ³ /y	-
Use of pipeline gas (consumer quality)	N	0	Gas used, Nm ³ /y	-
Biomass fired power and heat production	N	0	Biomass combusted, t/y	-
Charcoal combustion	Y	430	Charcoal combusted, t/y	0
Fuel production				
Oil extraction	N	0	Crude oil produced, t/y	-
Oil refining	N	0	Crude oil refined, t/y	-
Extraction and processing of natural gas	N	0	Gas produced, Nm ³ /y	-



Primary metal production				
Mercury (primary) extraction and initial processing	N	0	Mercury produced, t/y	-
Production of zinc from concentrates	N	0	Concentrate used, t/y	-
Production of copper from concentrates	N	0	Concentrate used, t/y	-
Production of lead from concentrates	N	0	Concentrate used, t/y	-
Gold extraction by methods other than mercury amalgamation	N	0	Gold ore used, t/y	-
Alumina production from bauxite aluminium production	N	0	Bauxit processed, t/y	-
Primary ferrous metal production (pig iron production)	N	0	Pig iron produced, t/y	-
Gold extraction with mercury amalgamation - from whole ore	N	0	Gold produced, kg/y	-
Gold extraction with mercury amalgamation - from concentrate	N	0	Gold produced, kg/y	-
Other materials production				
Cement production*4	N	0	Cement produced, t/y	-
Pulp and paper production	N	0	Biomass used for production, t/y	-
Production of chemicals				
Chlor-alkali production with mercury- cells	N	0	Cl2 produced, t/y	-
VCM production with mercury catalyst	N	0	VCM produced, t/y	-
Acetaldehyde production with mercury catalyst	N	0	Acetaldehyde produced, t/y	-
Production of products with mercury content				
Hg thermometers (medical, air, lab, industrial etc.)	N	0	Mercury used for Production, kg/y	-
Electrical switches and relays with mercury	N	0	Mercury used for production t, kg/y	-
Light sources with mercury (fluorescent, compact, others: see guideline)	N	0	Mercury used for production, kg/y	-
Batteries with mercury	N	0	Mercury used for production, kg/y	-
Manometers and gauges with mercury	N	0	Mercury used for production, kg/y	-
Biocides and pesticides with mercury	N	0	Mercury used for production, kg/y	-
Paints with mercury	N	0	Mercury used for production, kg/y	-
Skin lightening creams and soaps with mercury chemicals	N	0	Mercury used for production, kg/y	-
Use and disposal of products with mercury content				
Dental amalgam fillings ("silver" fillings)	Y	352,795	Number of inhabitants	4
Thermometers	Y	182	Items sold/y	1
Electrical switches and relays with mercury	Y	352,795	Number of inhabitants	49
Light sources with mercury	Y	1,749,79	Items sold/y	21
Batteries with mercury	Y	7	t batteries sold/y	57



Polyurethane (PU, PUR) produced with mercury catalyst	Y	352,795	Number of inhabitants	11
Paints with mercury preservatives	Y	13	Paint sold, t/y	33
Skin lightening creams and soaps with mercury chemicals	Y	0	Cream or soap sold, t/y	11
Medical blood pressure gauges (mercury sphygmomanometers)	Y	1	Items sold/y	0
Other manometers and gauges with mercury	Y	352,795	Number of inhabitants	2
Laboratory chemicals	Y	352,795	Number of inhabitants	4
Other laboratory and medical equipment with mercury	Y	352,795	Number of inhabitants	14
Production of recycled of metals				
Production of recycled mercury (“secondary production”)	N	0	Mercury produced, kg/y	-
Production of recycled ferrous metals (iron and steel)	N	0	Number of vehicles recycled/y	-
Waste incineration				
Incineration of municipal/general waste	Y	12,813	Waste incinerated, t/y	64
Incineration of hazardous waste	N	0	Waste incinerated, t/y	-
Incineration / burning of medical waste	Y	119	Waste incinerated, t/y	3
Sewage sludge incineration	N	0	Waste incinerated, t/y	-
Open fire waste burning (on landfills and informally)	Y	205,989	Waste burned, t/y	1,030
Waste deposition/landfilling and waste water treatment				
Controlled landfills/deposits	N	0	Waste landfilled, t/y	-
Informal dumping of general waste *1	N	0	Waste dumped, t/y	-
Waste water system/treatment	Y	4,790,62	Waste water, m ³ /y	25
Crematoria and cemeteries				
Crematoria	N	0	Corpses cremated/y	-
Cemeteries	Y	1,110	Corpses buried/y	3
TOTAL of quantified inputs*1*2*3*4				320



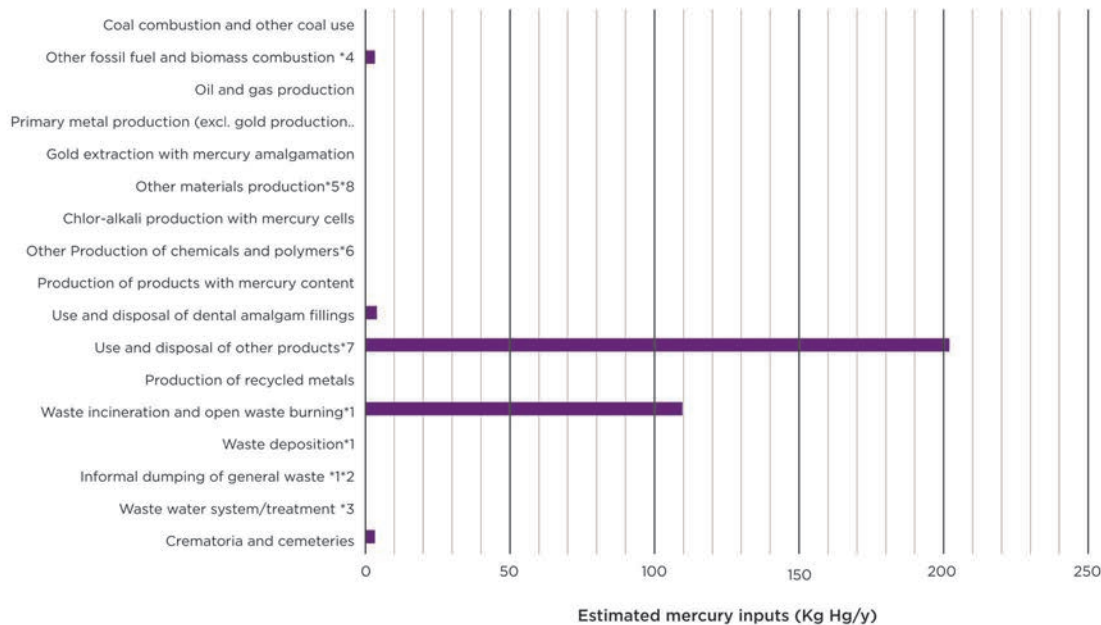


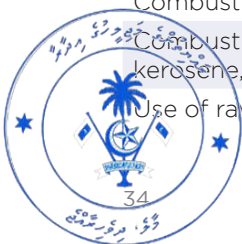
Figure 3-1 Estimating Hg Input (kg Hg/y)

Summary of mercury releases

In the *Table 3-4* below, a summary of mercury releases from all source categories present is given. The key mercury releases here are releases to air (the atmosphere), to water (marine and ground water, including via waste water systems), to land, to general waste, and to sectors specific waste treatment. An additional output pathway is “by-products and impurities” which designate mercury flows back into the market with by-products and products where mercury does not play an intentional role. See *Table 3-4* below for a more detailed description and definition of the output pathways.

Table 3-4 . Summary of mercury releases

Source category	Estimated Hg releases, standard estimates, kg Hg/y					
	Air	Water	Land	By-products and impurities	General	Sector specific waste treatment / disposal
Energy consumption						
Coal combustion in large power plants	-	-	-	-	-	-
Coal combustion in coal fired industrial boilers	-	-	-	-	-	-
Other coal uses	-	-	-	-	-	-
Combustion/use of petroleum coke and heavy oil	-	-	-	-	-	-
Combustion/use of diesel, gasoil, petroleum, kerosene, LPG and other light to medium distillates	3.0	0.0	0.0	0.0	0.0	0.0
Use of raw or pre-cleaned natural gas	-	-	-	-	-	-



Use of pipeline gas (consumer quality)	-	-	-	-	-	-
Biomass fired power and heat production	-	-	-	-	-	-
Charcoal combustion	0.1	0.0	0.0	0.0	0.0	0.0
Fuel production						
Oil extraction	-	-	-	-	-	-
Oil refining	-	-	-	-	-	-
Extraction and processing of natural gas	-	-	-	-	-	-
Primary metal production						
Mercury (primary) extraction and initial processing	-	-	-	-	-	-
Production of zinc from concentrates	-	-	-	-	-	-
Production of copper from concentrates	-	-	-	-	-	-
Production of lead from concentrates	-	-	-	-	-	-
Gold extraction by methods other than mercury amalgamation	-	-	-	-	-	-
Alumina production from bauxite (aluminium production)	-	-	-	-	-	-
Primary ferrous metal production (pig iron production)	-	-	-	-	-	-
Gold extraction with mercury amalgamation - from whole ore	-	-	-	-	-	-
Gold extraction with mercury amalgamation - from concentrate	-	-	-	-	-	-
Other materials production						
Cement production*3	-	-	-	-	-	-
Pulp and paper production	-	-	-	-	-	-
Production of chemicals						
Chlor-alkali production with mercury-cells	-	-	-	-	-	-
VCM production with mercury catalyst	-	-	-	-	-	-
Acetaldehyde production with mercury catalyst	-	-	-	-	-	-
Production of products with mercury content						
Hg thermometers (medical, air, lab, industrial etc.)	-	-	-	-	-	-
Electrical switches and relays with mercury	-	-	-	-	-	-
Light sources with mercury (fluorescent, compact, others: see guideline)	-	-	-	-	-	-
Batteries with mercury	-	-	-	-	-	-
Manometers and gauges with mercury	-	-	-	-	-	-
Biocides and pesticides with mercury	-	-	-	-	-	-
Paints with mercury	-	-	-	-	-	-
Skin lightening creams and soaps with mercury chemicals	-	-	-	-	-	-
Use and disposal of products with mercury content						
Dental amalgam fillings ("silver" fillings)	0.1	1.6	0.3	0.2	0.7	0.7
Thermometers	0.1	0.3	0.0	0.0	0.5	0.0
Electrical switches and relays with mercury	4.9	0.0	4.9	0.0	39.4	0.0
Light sources with mercury	1.1	0.0	0.0	0.0	20.1	0.0
Batteries with mercury	0.0	0.0	0.0	0.0	57.0	0.0



Polyurethane (PU, PUR) produced with mercury catalyst	1.1	0.5	0.0	0.0	9.0	0.0
Paints with mercury preservatives	29.9	1.6	0.0	0.0	1.0	0.0
Skin lightening creams and soaps with mercury chemicals	0.0	10.8	0.6	0.0	0.0	0.0
Medical blood pressure gauges (mercury sphygmomanometers)	0.0	0.0	0.0	0.0	0.0	0.0
Other manometers and gauges with mercury	0.2	0.5	0.0	0.0	1.1	0.0
Laboratory chemicals	0.0	1.2	0.0	0.0	1.2	1.2
Other laboratory and medical equipment with mercury	0.0	4.6	0.0	0.0	4.6	4.8
Production of recycled of metals						
Production of recycled mercury ("secondary production")	-	-	-	-	-	-
Production of recycled ferrous metals (iron and steel)	-	-	-	-	-	-
Waste incineration						
Incineration of municipal/general waste	57.7	0.0	0.0	0.0	0.0	6.4
Incineration of hazardous waste	-	-	-	-	-	-
Incineration / burning of medical waste	2.9	0.0	0.0	0.0	0.0	0.0
Sewage sludge incineration	-	-	-	-	-	-
Open fire waste burning (on landfills and informally)	1,029.9	0.0	0.0	0.0	0.0	0.0
Waste deposition/landfilling and waste water treatment						
Controlled landfills/deposits	-	-	-	-	-	-
Informal dumping of general waste *1	-	-	-	-	-	-
Waste water system/treatment *2	0.0	22.6	0.0	0.0	2.5	0.0
Crematoria and cemeteries						
Crematoria	-	-	-	-	-	-
Cemeteries	0.0	0.0	2.8	-	0.0	0.0
TOTAL of quantified releases*1*2*3	1,130.0	20.0	10.0	0.0	140.0	10.0

Notes to table above: *1 To avoid double counting of mercury in products produced domestically and sold on the domestic market (including oil and gas), only the part of mercury inputs released from production are included in the input TOTAL. *2: To avoid double counting of mercury inputs from waste and products in the input TOTAL, only 10% of the mercury input to waste incineration, waste deposition and informal dumping is included in the total for mercury inputs. These 10% represent approximately the mercury input to waste from materials which were not quantified individually in Inventory Level 1 of the Toolkit. *3: The estimated quantities include mercury in products which has also been accounted for under each product category. To avoid double counting, the release to land from informal dumping of general waste has been subtracted automatically in the TOTALS. *4: The estimated input and release to water include mercury amounts which have also been accounted for under each source category. To avoid double counting, input to, and release to water from, waste water system/ treatment have been subtracted automatically in the TOTALS. *5: Total inputs do not necessarily equal total outputs due to corrections for double counting (see notes*1-*3) and because some mercury follows products/metal mercury which are not sold in the same country or in the same year.



Note that the following source sub-categories made the largest contributions to mercury releases to the atmosphere:

- Open fire waste burning (on landfills and informally) (1,030 kg Hg/y)
- Incineration of municipal/general waste (57.7 kg Hg/y)
- Paints with mercury preservatives (29.9 kg Hg/y)
- Electrical switches and relays with mercury (4.9 kg Hg/y)

Table 3-5. Below provides general descriptions and definitions of the output pathways.

Calculation result type	Description
Estimated Hg input, kg Hg/y	The standard estimate of the amount of mercury entering this source category with input materials, for example calculated mercury amount in coal used annually in the country for combustion in large power plants.
Air	Mercury emissions to the atmosphere from point sources and diffuse sources from which mercury may be spread locally or over long distances with air masses; for example from: <ul style="list-style-type: none"> • Point sources such as coal fired power plants, metal smelter, waste incineration; • Diffuse sources such as small-scale gold mining, informal burning of waste with fluorescent lamps, batteries, thermometers.
Water	Mercury releases to aquatic environments and to waste water systems; point sources and diffuse sources from which mercury will be spread to marine environments (oceans), and freshwaters (rivers, lakes, etc.). for example releases from: <ul style="list-style-type: none"> • Wet flue gas cleaning systems on coal fired power plants; • Industry, households, etc. to aquatic environments • Surface run-off and leachate from mercury contaminated soil and waste dumps
Land	Mercury releases to the terrestrial environment: general soil and ground water. For example releases from: <ul style="list-style-type: none"> • Solid residues from flue gas cleaning on coal fired power plants used for gravel road construction. • Uncollected waste products dumped or buried informally • Local un-confined releases from industry such as on site hazardous waste storage/burial • Spreading of sewage sludge with mercury content on agricultural land (sludge used as fertilizer) • Application on land, seeds or seedlings of pesticides with mercury compound
By-products and impurities	By-products that contain mercury, which are sent back into the market and cannot be directly allocated to environmental releases, for example: <ul style="list-style-type: none"> • Gypsum wallboard produced from solid residues from flue gas cleaning on coal fired power plants. • Sulphuric acid produced from desulphurization of flue gas (flue gas cleaning) in non-ferrous metal plants with mercury trace concentrations • Chlorine and sodium hydroxide produced with mercury-based chlor-alkali technology; with mercury trace concentrations • Metal mercury or calomel as by-product from non-ferrous metal mining (high mercury concentrations)



General waste	General waste: Also called municipal waste in some countries. Typically household and institution waste where the waste undergoes a general treatment, such as incineration, landfilling or informal dumping. The mercury sources to waste are consumer products with intentional mercury content (batteries, thermometers, fluorescent tubes, etc.) as well as high volume waste like printed paper, plastic, etc., with small trace concentrations of mercury.
Sector specific waste treatment / disposal	<p>Waste from industry and consumers which is collected and treated in separate systems, and in some cases recycled; for example:</p> <ul style="list-style-type: none"> • Confined deposition of solid residues from flue gas cleaning on coal fired power plants on dedicated sites. • Hazardous industrial waste with high mercury content which is deposited in dedicated, safe sites • Hazardous consumer waste with mercury content, mainly separately collected and safely treated batteries, thermometers, mercury switches, lost teeth with amalgam fillings, etc. • Confined deposition of tailings and high volume rock/waste from extraction of non-ferrous metals

An aggregated presentation of the results for main groups of mercury release sources is presented in *Figure 3-1, Figure 3-6 and Table 3-4.*

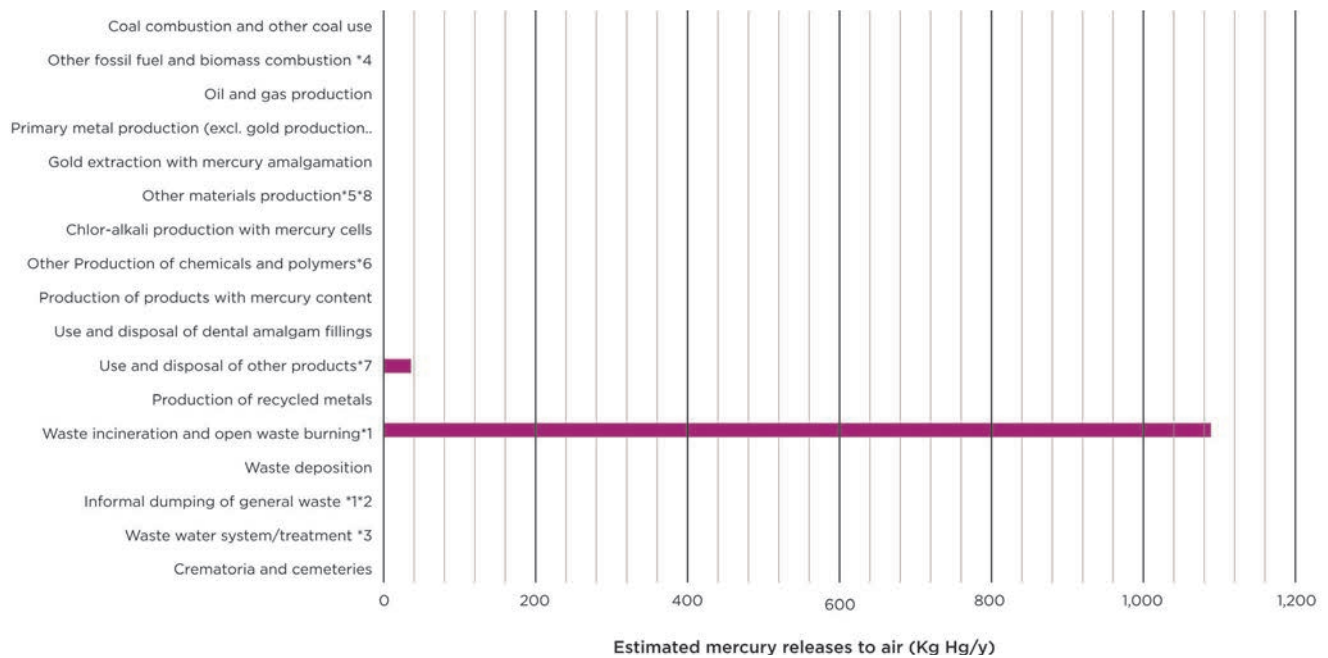


Figure 3-2 Estimating Hg release to air (kg Hg/y)



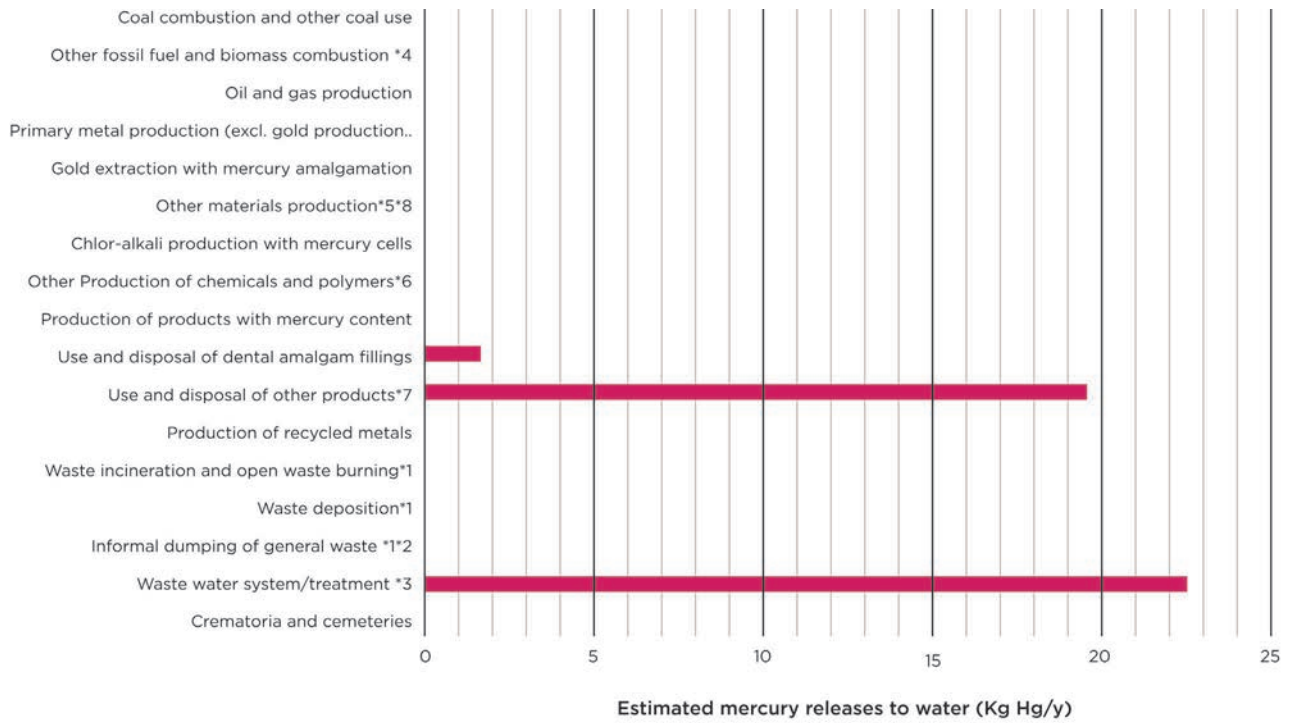


Figure 3-3 .Estimating Hg release to water (kg Hg/y)

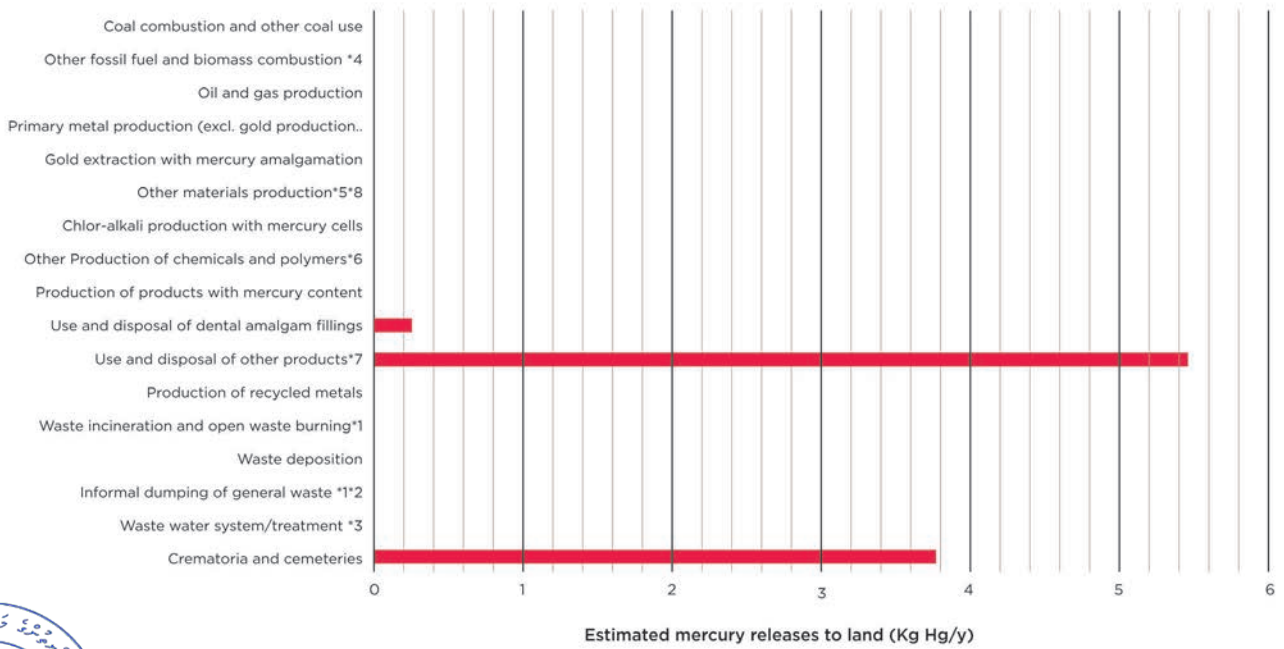


Figure 3-4 Estimating Hg release to land (kg Hg/y)



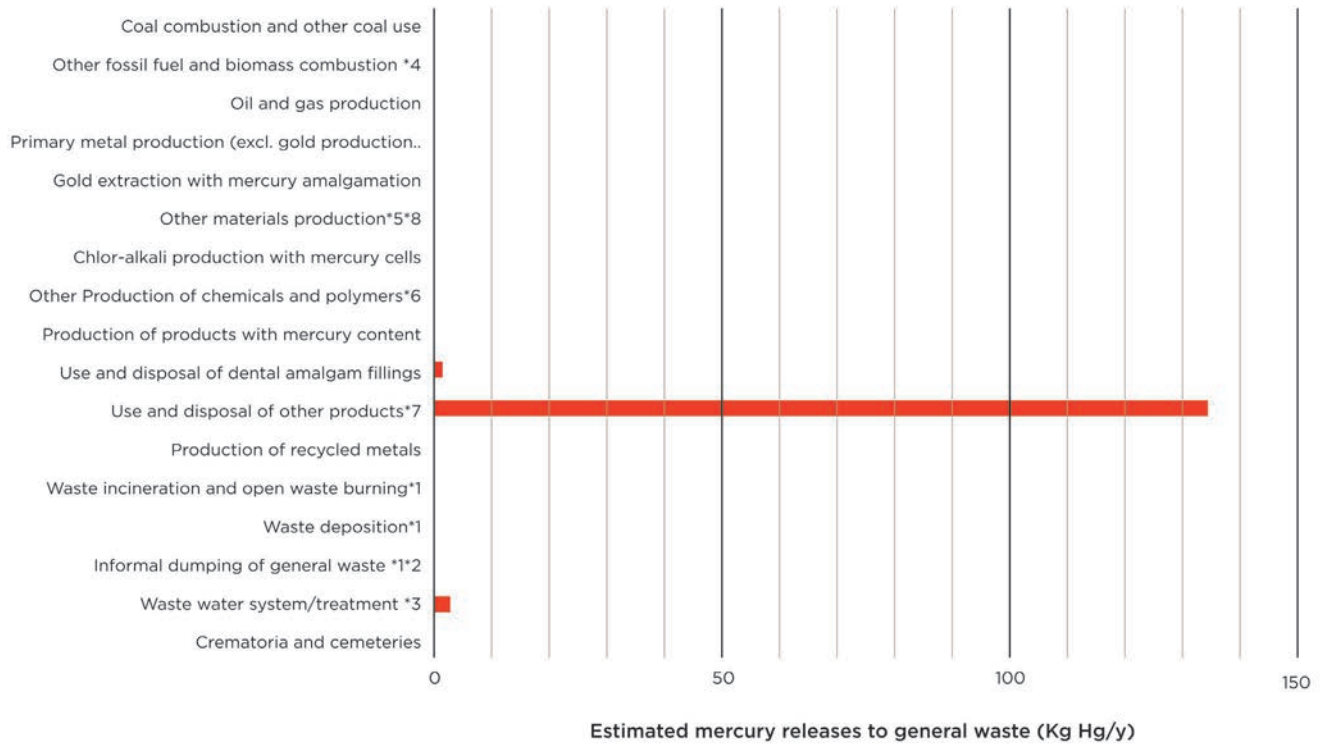


Figure 3-5 Estimated Hg release to general waste (kg Hg/y)

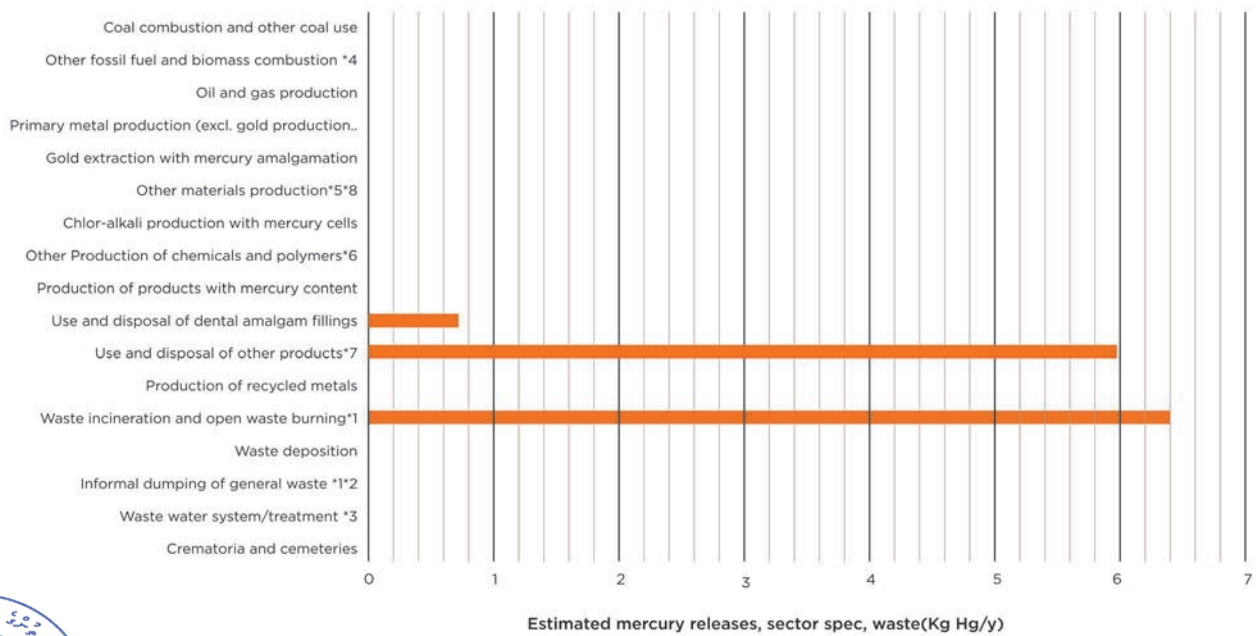


Figure 3-6 Estimated Hg releases sector specific waste (kg Hg/y)



Data and inventory on energy consumption and fuel production

Combustion/use of Diesel, gasoil, Petroleum, Kerosene, LPG and other light to medium distillates

The Maldives achieved universal access to electricity in 2008. Electricity in Maldives is produced by diesel generators and through renewable energy sources. There are a total of 186 powerhouses in inhabited islands. The inhabited islands of the Maldives have a total installed capacity of 240 MW of diesel generators to cater to the electricity demand. Electricity generation for the greater Malé region (Malé, Villingili and Hulhumale') accounts for 56.9% of the total electricity generation of all the inhabited islands. This is the largest electricity-consuming region with consumption of about 400 GWh/year and having an installed capacity of 101 MW. Total power generation from renewable energy in the Maldives is 11 MW (Source: Island Electricity Data Book 2018).²

The inventory data is based on the customs imports published and the Island Electricity Data Book 2018, published by ME. The activity rate entered into the toolkit is an average of the both 2016 and 2017 (*Table 3-6*). The total input from combustion/use of diesel, gasoil, petroleum, kerosene, LPG and other light to medium distillates was determined to be 3 kg Hg/year.

Table 3-6 . Use of fuel (Diesel, Petrol aviation gas and cooking gas) in Maldives 2016-2017 (Source: Island Electricity Data Book, 2018).

Fuel Type	Quantity (mt)		Activity rate (mt)
	2016	2017	
Diesel	445,036	447,555	446,295.5
Aviation gas	30,611	41,666	36,138.5
Petrol	47,794	57,730	52,762
Cooking gas	13,619	14,483	14,051
Total	537,060	561,434	549,247

Charcoal Combustion

Charcoal is not produced in Maldives, but is imported mainly for cooking and barbecuing purposes in some resorts, restaurants and hotels. The average annual import of charcoal is 430 mt. based on the imports of charcoal in 2016 and 2017 (Maldives Customs Service 2017).

Biomass Fired Power and Heat Production

There is no structured use of biomass in Maldives. The only form of biomass which can be considered to be used on a broader scale is firewood used for cooking in the rural islands. Heating facilities in households are not used in Maldives due to its tropical temperatures.

² <http://www.environment.gov.mv/v2/en/download/8106>.



Data gaps and priorities for potential follow up

Major data gap in this category is biomass fired power and heat production, which is widely used in the outer islands. There is no systematic data collection on the use of firewood for cooking in rural islands.

Data and inventory on waste handling and recycling

General waste management setup

The overall questions about the overall waste treatment setup in the country were answered as follows:

Table 3-7. Waste treatment setup in the Maldives (UNEP's Toolkit (Inventory Level 1, Version 2 January 2017))

Please answer questions about the current waste treatment set-up in your country:	Y/N		Y/N
a) Is more than 2/3 (two thirds = 67%) of the general waste collected and deposited on lined landfills or incinerated in closed incinerators?	Y	b) Is more than 1/3 (one third = 33%) of the mercury-added products waste safely collected and treated separately?	N

Waste handling and recycling

The following sub-categories on waste handling and recycling do not apply for Maldives:

- Production of recycled mercury (“Secondary Production”)
- Production of recycled ferrous metal (iron and steel)
- Incineration of hazardous waste
- Sewage sludge incineration

Waste management in Maldives is in a developmental stage, and existing systems are struggling to cope with the waste generated, particularly in outer islands. Solid waste management is widely recognized as a pressing environmental issue in the Maldives. There is a national waste management policy and a Waste Management Regulation (R-58-2013) which addresses: hazardous waste (e.g. explosives, flammable liquid/solids, corrosives, toxic/poisonous substances/organic peroxides, etc.) and special waste (e.g. combustible/reactive/corrosive/poisonous waste). Details of Waste Management Regulation are given in the section on Regulatory and Institutional Setup on this report.

Details of the estimates for Municipal Waste, Biomedical Waste and Waste Water calculation are given in *Table 3-8*. Each subcategory is explained in the relevant sections.

Over the last decade, waste generation in Malé increased 155% and 57.6% in the outer atolls. Waste generation per capita per day is estimated to be 1.7 kg for Malé, 0.8 kg for islands and 3.5 kg for resorts (State of the Environment 2016). The total number of resort beds and



waste generation per capita in the resort sector (3.5 kg/day) was used for the estimation of waste generation in the tourism sector.

Waste generation rate multiplied by the total population is used for the estimation of total amount of waste generated (waste kg/day) in the country. These values were subsequently converted to waste tons/day and waste tons/year (*Table 3-8*).

Table 3-8 . Details of Municipal Waste, Biomedical Waste and Waste Water calculation

	Malé	Atolls	Resort	Total
Waste generation rate ³	1.7 kg/day	0.8 kg/day	3.5 kg/day	
Population	157,935 ⁴	249,725	37,482 ⁵	
Waste kg/day	268,489.5	199,780	131,187	
Waste t/day	268.4	199.7	131.1	599.2
Waste t/year	97,998.6	72,919.7	47,883.2	218,801.5
Incineration of municipal/general waste (t/year)	4,900	729	7,182.48	12,813.48
Open Fire Waste Burning (t/year)	58,799.16	10,937.85	19,153.28	88,890.29
Landfill Dumpster (t/year)	34299.51	61251.96	21547.5	117099.06

Incineration of municipal waste

Installation of waste incinerators is compulsory mandated in all resorts. At present, there are no functional waste incinerators of municipal waste in the country. An ongoing Regional Waste Management project in R. Vandhoo has installed an incinerator, but it is yet to be in operation. Even though resort facilities have installed incinerators, most of the resorts don't have records for the amount of incinerated waste. Usually most of the waste generated in the resort is transported to be disposed of at Thilafushi waste disposal area. Therefore, it was assumed that incinerated waste accounts for 15% of waste generated in the resorts (7,182 t/y), 5% of the municipal waste in the Malé region (4,900 t/y), and 1% in the atolls (729 t/y) (EPA, 2010). To calculate the activity rate for Incineration of Municipal Waste (t/y), the waste (t/y) for each general location was multiplied by the estimated percentage of waste incinerated, for a total of 12,813 t/y of waste incinerated (*Table 3-8*). The total input from the Incineration of Municipal/General Waste was determined to be 64 kg Hg/year.

Incineration of hazardous waste

At present, Maldives does not have a dedicated facility to store or dispose of hazardous waste. Small quantities of hazardous waste are often transported to Thilafushi waste disposal site and burned in an open fire at the site. Records on the quantities of hazardous waste generated in the country is not available.

³ State of the Environment Report 2016

⁴ Census 2014 (including expatriates in the country)

⁵ Tourism yearbook 2017



Incineration and open burning of medical waste

The survey of medical waste management in hospitals and clinics has revealed that hospitals treat their medical waste differently. In some hospitals, eg: Kulhudhufushi regional hospital and ADK, medical waste are separately collected, autoclaved, and sent to the municipal waste dumpsite where it is burned with the municipal waste. In other regional hospitals, eg: L Gan, R. Ungoofaaru and Gn. Fuvahmulah, biomedical waste is separately collected and burned daily in a closed furnace within the hospital premises. In most of the hospitals, including the largest hospital IGMH and S. Hithadhoo Regional Hospital, biomedical waste is separately collected and taken to a municipal waste management area for final disposal and open burning as indicated in the filed survey report (*Table 3-9*).

Medical waste generated in hospitals are estimated using the bed capacity and 0.2kg/day (WHO fact Sheet 253).

Table 3-9 Medical waste generation

	Malé	Atolls	Resorts	Total
Bed Capacity	810	700	125	1635
Incineration/burning of medical waste (t/y)	162 kg/day	140 kg/day	25 kg/day	119 t/year

Sewage sludge incineration

Sewage sludge incineration is not practiced in Maldives.

Open fire waste burning (on landfills and informally)

In the Malé region and some outer islands, waste is collected on a daily or weekly basis by WAMCO and disposed of at designated waste management areas. In most of the islands, waste collection does not occur regularly or at all, and residents carry waste to the designated waste management areas. In most of the waste disposal sites, including Thilafushi, waste is burned with open fires.

To estimate the amount of municipal waste burned in open fires it was assumed that 60% (58,799.16 t/year) in the Malé region, 15% (10,937.85 t/year) in atolls and 45% (19,153.28 t/year) in resorts of total waste is burned in open fires (SOE 2016). A simple calculation was made with the given numbers (88,890.29 t/year) as waste burned in the open fire and this accounts for about 40% of the total waste generated in the country (*Table 3-8*). To calculate the activity rate of ‘open fire waste’, the amount of landfill dumpsites and the open fire waste were combined and entered to the toolkit as inputs. Therefore, the total input from the Open fire waste burning (on landfills and informally) was determined to be 1030 kg Hg/year.



Controlled landfills /deposits

Maldives does not have a controlled landfill and most garbage is deposited in an open dumpsite in Thilafushi and waste management sites in outer island. A proper controlled landfill site has been constructed in R. Vandhoo Island, but the facility is not fully operational yet. Most of the waste generated in the Malé region and resorts in the area is disposed in the open dumpsite at Thilafushi, about 8 km from the Capital, Malé. Thilafushi dumpsite operates at a low level of efficiency and poses health and environmental risks to persons entering and operating within the facility and surrounding environment.

Wastewater treatment

Waste water treatment facilities in the Maldives are mostly found in tourist resort islands. It is mandatory to have treatment plants in the upcoming new resort facilities. Generally, resorts have waste water treatment plants within the capacity ranging between 150-200 m³/day. Based on this, the amount of waste water treatment is calculated to be (4,790,625 m³/year) assuming 60 % of the resorts already have waste water treatment plants (Ministry of Tourism 2017). The total input from wastewater treatment was determined to be 25 kg Hg/year.

Test of waste and wastewater default factors

In this inventory, default input factors were used for the estimation of mercury releases from general waste treatment and wastewater treatment. The following test of the results was performed to qualify the results for these sources.

The test made for general waste compares the calculated inputs to all four general waste sub-categories with the sum of general waste outputs from intentional mercury uses in products plus processes as follows, using data from the Inventory Level 1 spreadsheet:

In the IL1 spreadsheet, the test was done as follows: Tab “Level 1-total summary”:

$$(E60+E64+E66+E67) > 2*(J25+J26+\sum(J31 \text{ to } J55)). \text{ The result gives } 89 < 271.2$$

We found the inequality $(E60+E64+E66+E67) > 2*(J25+J26+\sum(J31 \text{ to } J55))$ to be found false

The test made for wastewater compares the calculated inputs to wastewater treatment with the sum of outputs to water from intentional mercury uses in products plus processes as follows, using data from the Inventory level 1 spreadsheet:

In the IL1 spreadsheet the test was done as follows: Tab “Level 1-ExecSummary”:

$$B19 > 2*(D8+D10+D11+D12+D13+D14+D15) \text{ The result gives } 25.2 < 62.7$$

$$B19 > 2*(D8+D10+D11+D12+D13+D14+D15)$$

Therefore, the second inequality was false.

The calculations made indicate that the default input factors for general waste and wastewater treatment does not necessarily over-estimate the mercury releases from these sub-categories. Therefore, it was determined that the default input factors represent the best available estimates and associated calculation of mercury releases for general waste and wastewater treatment in Maldives.



Data gaps and priorities for potential follow up

Proper assessments of quantities and types of municipal waste (waste audits) needs to be carried out nationwide (Malé, atolls, industrial islands, resorts etc).

Appropriate assessments on management and disposal of biomedical waste and hazardous waste should be established throughout the country.

It is difficult to distinguish between the informal dumping of general waste and landfill dumpsites. Since all the islands have designated dumpsites, it is difficult to quantify informal dumping (illegal dumping).

Data and inventory on general consumption of mercury in products, as metal mercury and as mercury containing substances

General background data

Background calculations for the product groups listed below were based on the data on population, electrification rate and dental personnel density shown in *Table 3-11*.

Table 3-10 Sub-categories with their data type

Sub-category	Data types used as activity rates
Dental amalgam fillings (“silver” fillings)	Population, density of dental personnel
Electrical switches and relays with mercury	Population, electrification rate (percent of population with access to electricity)
Polyurethane (PU, PUR) produced with mercury catalyst	Population, electrification rate (percent of population with access to electricity)
Other manometers and gauges with mercury	Population, electrification rate (percent of population with access to electricity)
Laboratory chemicals	Population, electrification rate (percent of population with access to electricity)
Other laboratory equipment with mercury	Population, electrification rate (percent of population with access to electricity)

Table 3-11 Background data for default calculations for dental amalgam and certain other product types.

Country	Population in 2014 (Census 2014)	Dental personnel per 1000 inhabitants	Electrification rate, % of population with access to electricity
Maldives	352,795	0.043	100



Dental amalgam fillings (“silver” fillings)

The total population of the Maldives is 352,795 inhabitants. With an estimate of 0.043 as the number of dental personnel/1000 inhabitants, it is estimated that input of 4 kg Hg/year from dental amalgam waste is generated in the Maldives.

Dental restoration is a standard technique used to treat cavities. If left untreated, cavities often lead to severe pain or discomfort, requiring the removal of affected teeth. Dental amalgam is a broadly used restorative material that contains roughly 50% mercury (UNEP, 2016).⁶ The Global Mercury Assessment of 2013 revealed that mercury in dental use accounted world-wide for 270-341 tonnes of mercury releases in 2010, 10% of the mercury consumption overall. One of the requirements of the Minamata Convention is for countries to reduce their use of dental amalgam (UNEP, 2016). Other mercury-free materials can also be used to fill cavities caused by dental decay. The primary alternatives to dental amalgam are as follows (FDA, 2015)⁷

- **Composite Resin Fillings:** the most common alternative to dental amalgam. They are made of a type of plastic (an acrylic resin) reinforced with powdered glass filler. The colour (shade) of composite resins can be customized to closely match surrounding teeth. Composite resin fillings are often light cured by a “blue light” in layers to build up the final restoration. Some advantages of these fillings are that they blend with surrounding teeth; they are very strong and; require minimal removal of healthy tooth structure for placement. The disadvantages are that they are less durable than dental amalgam, more difficult to place and are higher in cost.
- **Glass Ionomer Cement Fillings:** contain organic acids, such as eugenol, and bases, such as zinc oxide, and may include acrylic resins. Like some composite resins, glass ionomer cements include a component of glass filler that releases fluoride over time. Also, like composite fillings, glass ionomer cements are toothcoloured. The composition and properties of glass ionomer cements are best suited for very small restorations. Unlike compo-site resin fillings, glass ionomer cements are self-curing and usually do not need a “blue light” to harden. The advantages of glass ionomer cements are ease of use and appearance. Their chief disadvantage is that they are limited to use in small restorations.

Thermometers

Medical mercury thermometers

Import data on medical thermometers with or without mercury was obtained from Maldives Customs and *Table 3-12* shows the imported quantity in numbers. These data were entered into the Toolkit.

6 UNEP. (2016). Lessons from Countries Phasing Down Dental Amalgam Use.

7 FDA. (2015, january 27). U.S. Department of Health and Human Services. Retrieved from U.S. Food and Drug Administration: <http://www.fda.gov/MedicalDevices/ProductsandMedicalProcedures/DentalProducts/DentalAmalgam/ucm171108.htm#1>



Table 3-12 Thermometers with or without mercury imported 2016-2017

Item	Relevant HS Customs Code1	Units imported in 2016	Units imported in 2017	Average
Clinical thermometer containing mercury (Nmb)	9025111000	149	-	74.5
Clinical thermometer mercury free (Nmb)	9025111000	27	234	130
Thermometer (liquid filled not Hg) (Nmb)	9025119010	346	166	
Thermometer (medical use) containing Hg (Nmb)	9025191000	10	78	44
Thermometer (medical use) non Hg (Nmb)	9025191000	4369	4671	4520
Thermometer others containing (Hg) (Nmb)	9025199010	2		1
Thermometer others (non Hg) (Nmb)	9025199010	12302		12302
Glass thermometers Hg free for laboratories (Nmb)	9025199010	38		19
Barometers/manometers containing mercury (Nmb)	9025 8020	30	96	63
Barometers/manometers mercury free (Nmb)	9025 8020	269	371	320
Hydrometers, pyrometers, hygrometers, etc, containing mercury and combinations (excluding 9025 1120 and 9025 1180) (Nmb)	9025 8080	63		31.5
Hydrometers, pyrometers, hygrometers, etc, mercury free and combinations (excluding 9025 1920) (Nmb)	9025 8040	174	15	94
sphygmomanometers mercury free (medical blood pressure gauges) (Nmb)	9025 8020	198		99
sphygmomanometers containing mercury (medical blood pressure gauges) (Nmb)	9025 8020	1		0.5
Thermostats mercury free (Nmb)	9032 1000	1031	1913	1472

Further verification of import data on Hg based thermometers reveal that most of the imports are for school laboratories and not for use in hospitals or clinics. The average of units imported in 2016 and 2017 (highlighted in green) in *Table 3-12* was used to determine the estimate of 118 items sold/year that was entered into the Toolkit.

Other glass Hg thermometers (air, laboratory, dairy, etc.)

Import data on glass thermometers obtained from MCS shows that Hg-based glass thermometers were not imported in 2016-2017. However, 38 Hg-free glass thermometers were imported in 2016 for laboratory use. The average of units imported in 2016 and 2017 (highlighted in yellow) in *Table 3-12* was used to determine the estimate of 64 items sold/year that was entered into the Toolkit. The total input from all thermometers was determined to be 1 kg Hg/year.

Engine control Hg thermometers and other large industrial/specialty Hg thermometers

Import data on Hg thermometers obtained from Maldives Customs shows that Hg based thermometers and other large industrial Hg thermometers were not imported in 2016-2017.



Electrical switches and relays with mercury

This estimate is automatically calculated in the Toolkit based on the population and electrification rate (percent of population with access to electricity). The total input from 'Electrical Switches and Relays' with mercury was determined to be 49 kg Hg/year.

Light sources with Mercury

Six different types of light sources can be recognized from the MCS data (*Table 3-13*). More sub categories can be found in Customs HS codes. Based on HS codes, the number of light sources with mercury imported during the year 2016 and 2017 were estimated and divided into three broad categories:

1. Fluorescent tubes (double end)

This sub category includes discharge lamps, fluorescent, hot cathode with/without double ended cap imported in 2016 and 2017. The average import of 2016-2017 (203,515 items) was used to determine the activity rate from this sub category, with an estimated mercury input of 5 kg Hg/year.

2. Compact Fluorescent lamps (CFL single end)

This sub category includes various types of low energy consumption lamps/light bulb that have been imported under 5 different HS codes. The average import of 2016-2017 (1,494,563.5 items) was used to determine the activity rate from this sub category, with an estimated mercury input of 15 kg Hg/year.

3. Other Hg containing light sources

This sub-category includes: Arc Lamps (901 items); Mercury or sodium vapour lamps, metal halide lamps (22 items); discharge lamps, other than ultra-violet, low energy and fluorescent lamps (50,484.5 items); and Ultra-violet or infra-red lamps, excluding arc-lamps (309 items). The average import of 2016-2017 (51,717 items) was used to determine the activity rate from this sub category, with an estimated mercury input of kg Hg/year.

Table 3-13 Types of light source with mercury imported in 2016 and 2017 into Maldives

tem	HS Code	Units imported in 2016	Units imported in 2017	Average 2016-2017
Discharge lamps, fluorescent, hot cathode with/without double ended cap (Nmb)	8539 31000	386,260	20,770	203,515
Arc- Lamps (Nmb)	8539410000	1,155	647	901
Mercury or sodium vapour lamps; metal halide lamps (Nmb)	8539 3200	31	13	22
Low energy consumption lamps/light bulb (Nmb)	8539 3910	2,203,133	785,994	1,494,563.5
	8506800010			
	8539210000			
	8539220000			
	8539291000			



Discharge lamps, other than ultra-violet, low energy and fluorescent lamps(Nmb)	8539 3900	7,748	93,221	50,484.5
Ultra-violet or infra-red lamps (excluding arc-lamps) (Nmb)	8539 49000	353	265	309

The average of 2016 and 2017 (1,749,795 items) was used in the Toolkit to calculate an estimated mercury input of 21 kg/yr from light sources. Major mercury-added lamp categories and the amount of mercury content per lamp is shown in *Table 3-14* (UN Environment, 2017).

Table 3-14 Major mercury-added lamp categories (UN Environment 2017)

Description	Mercury content per lamp (mg)
Discharge lamps, fluorescent, hot cathode, with double ended cap	10-40
Discharge lamps, fluorescent, hot cathode (excl. with double ended cap)	5-15
Mercury and sodium vapour lamps	10-30
Discharge lamps (excl. fluorescent, hot cathode lamps, mercury/sodium vapour lamps, metal halide lamps and ultraviolet lamps)	25

Batteries with Mercury

There are different types of batteries containing mercury that were inventoried in the Toolkit (*Table 3-15*), such as:

- Mercury oxide (button cells and other sizes); also called mercury-zinc cells, button cell batteries and miniature batteries. They are used in small portable electronic devices such as watches, cameras, digital thermometers, calculators and toys. These batteries do not pose a health risk when in use since the chances of the mercury leaking out are minimal (EPA 2016).
- Other button cells (zinc-air, alkaline button cells, silver-oxide)
- Other batteries with mercury (plain cylindrical alkaline, permanganate, etc.)

Table 3-15 Types of batteries that may contain mercury (UN Environment, 2017)⁸

Mercury-added batteries	Mercury content (kg Hg/tonne batteries)
Mercury oxide (also called mercury-zinc cells), all sizes	320

⁸ UN Environment, 2017. Global mercury supply, trade and demand. United Nations Environment Programme, Chemicals and Health Branch. Geneva, Switzerland



Zinc-air button cells	12
Silver oxide button cells	4
Alkaline button cells	5
Alkaline, other than button cell shapes	0.25

The following include various types of batteries that may contain mercury imported to Maldives in 2016-2017 (*Table 3-16*):

Table 3-16 Batteries imported to Maldives that may contain mercury (MCS)

Item	HS Code	Units imported in 2016	Units imported in 2017	Unit Weight (grams)	Average weight 2016-2017) (Tons)	Activity rate (Tons/y)	Input kg Hg/y
Silver oxide primary cells or batteries	8506 4000	77,868		1.3	0.05	0.025	8
Other primary cells/batteries	8506 8000	2,582,818	3,239,791	5	14	7	49
Button cell Watch Battery	8506800010	28,895	34,028	0.89	0.027	0.013	0

In the past decade, the battery manufacturing industry has reduced its use of mercury significantly. Therefore, mercury is not contained in all types of batteries that are produced. Now, only button batteries, such as those used in hearing aids, watches and other items requiring a small battery, contain mercury. Battery weights are obtained from product specification and the calculated total weight of imported batteries and the activity rate calculated for each type is shown in *Table 3-16*. The total input from batteries with mercury was determined to be 57 kg Hg/year.

Polyurethane (PU, PUR) produced with mercury catalyst

This is automatically calculated in the Toolkit based on the population and electrification rate (percent of population with access to electricity). The total input from polyurethane (PU, PUR) produced with mercury catalyst was determined to be 11 kg Hg/year

Paints with mercury preservatives

Paints are not produced in Maldives. All the types of paint are imported. The Customs data shows 6 different categories of paints are imported into the Maldives (*Table 3-17*). From the various types of paints imported, it is difficult to distinguish which type of paint contains mercury. According to UNEP (2017), 20- 30% of the paint factories, particularly in Asia (eg: Thailand), still use mercury as an additive in the process and in quantities of not more than 0.5 % of total weight. Based on this, it is assumed that 0.1 % of the paints imported contain mercury and 0.1 % of the average total weight of paints imported into Maldives in 2016 and 2017 was entered (13 tons/year) into the Toolkit. The total input from paints with mercury



preservatives was determined to be 33 kg Hg/year.

Table 3-17 Customs data showing the imports of various types of paints into Maldives 2016-2017

Item	Units imported in 2016 (ltr)	Units imported in 2017 (ltr)	Average 2016- 2017 (ltr)	Mercury containing paint 20% (mt)
Antifouling paint	0	32,836.23	16,418.1	3.28
Paint (based on acrylic or vinyl polymers in a non- aqueous medium)	156,116.31	174,096.16	165,106.2	33.02
Paint (based on polyester in a non-aqueous medium)	19,489.65	72,844.83	46,167.2	9.23
Paint (in a non-aqueous medium)	3,387,596.15	6,937,406.43	5,162,501	1,032.50
Paints and varnishes, in an aqueous medium,	1,008,031.20	386,958.73	697,495	139.50
Paints... Based on acrylic or vinyl polymers, in an aqueous medium	395,837.86	0	197,918.9	39.58
Totals	4,967,071.17	7,604,142.37	6,285,607	1,257.12

Skin lightening creams and soaps with mercury chemicals

Skin-lightening products may be in the form of creams, milks, oils, ointments or soaps. Hundreds, if not thousands, of them are available in the global market. Those that use mercury as an active ingredient often contain from 2 to 10 percent mercury by weight.

In Maldives, all the cosmetic products are imported and the imports are broadly regulated by the MFDA, HPA, and Ministry of Economic Development. There are neither legislations nor standards in place to limit or prohibit mercury content in cosmetics. Therefore, no record of mercury content in cosmetics exists in the country.

For this study, cosmetic products import data from Maldives Customs was obtained. A literature study on mercury content in cosmetics was conducted and more than 213 brands of cosmetics used in Asia, Africa, Latin America and USA⁹ were checked to confirm if the same brands of cosmetics that contain mercury were imported into the Maldives. *Table 3-18* shows the compiled list of various brands of cosmetics imported into the Maldives between 2016-2017 that contain mercury content as reported in the study.

⁹ <https://patch.com/us/across-america/cosmetics-may-contain-dangerous-levels-mercury-fda> (accessed Dec 2018)



Table 3-18 Compiled list of various brands of cosmetics imported into the Maldives that have been reported to contain mercury

Product Brand Name	Import 2016 (ltr)	Import 2017 (ltr)	Reporting country & Reference
FAIR & LOVELY	2.4	1.3	Nepal, Sri Lanka, Bangladesh, Pakistan ¹⁰
TOP	0.8		Spain
OLAY	153.4	43.8	Bangladesh, Pakistan, Sri Lanka
KELLY	0.6		Saudi Arabia
CUSSON	10.8	697.68	Not Identified(NI) ¹¹
VASELINE	27.9	467.03	Sri Lanka
LOREAL	9.6		Sri Lanka, Pakistan
Pond kg		1,935	Pakistan, Bangladesh
ASEPSO		14.9	Kenya ¹²
LOTUS		5	Nepal
Garnier		9.22	Sri Lanka, Nepal, Pakistan
PALMER'S		295.37	Saudi Arabia, Cote
d'Voire1			
Loreal		216.2	Pakistan
Civic		54	Saudi Arabia
Dove		96	Nigeria
Revlon		62.4	Sri Lanka
Total	205.5	3897.9	

The assessment shows that 16 different brands of skin-lighting products in the form of creams, milks, oils, ointments or soaps with records of mercury content are available in the market in the Maldives. Seven brands were imported in 2016 and 13 were imported in 2017. It is difficult to determine if the different brands of skin-lighting product imported into Maldives contain mercury as no proper testing is carried out. Therefore, based on the literature and source of cosmetics imports into the Maldives it is assumed that 10% of the skin-lightening products imported contain mercury and 10 % of the total weight of 2017 imports was entered (0.38 tonnes) into the Toolkit. The total input from skin lightening creams and soaps with mercury chemicals was determined to be 11 kg Hg/year.

10 Ali. S.W., and Khwaja M.A., (2016) Assessment of Prevalence of Health Complication and skin disease due to Mercury Containing Skin Whitening Creams (SWCs) Use among the population at selected Cities of Pakistan, Sustainable Development Policy Institute (SDPI), Islamabad Pakistan October 2016, 73PP

11 Haradaa M., Nakachib S.,Tasakac K.,Sakashitad S., Mutae K., Yanagidaf K., Doig R., Kizakih T., Ohnoh H., (2001) Wide use of skin-lightening soap may cause mercury poisoning in Kenya, Short Communication, The Science of the Total Environment 269 Ž2001. 183 187, 2001 Elsevier Science B.V. All rights reserved. PII: S 0 0 4 8 - 9 6 9 7 Ž 0 0. 0 0 8 1 2 - 3

12 Oyelakin O., Saigykhan J, Secka P; Adjivon A and Acquaye H.B.(2010) Assessment of the Level of Mercury Present in Soaps by the Use of Cold Vapour Atomic Fluorescence Spectrometric Analysis - A Gambian Case Study, Ethiopian Journal of Environmental Studies and Management Vol.3 No.1 2010.



Medical blood pressure gauges (mercury sphygmomanometers)

The import data shows that only one sphygmomanometer with mercury was imported in 2016 and 198 mercury-free sphygmomanometers were imported in the same year (*Table 3-19*). Field surveys on hospitals have found 19 sphygmomanometers with mercury, including 6 in Kulhudhufushi, 5 in Ungoofaaru, and 8 in ADK Hospital. All these sphygmomanometers are taken from the service. It is estimated that nationwide 50-75 mercury-containing sphygmomanometers may exist in the Maldives.

Other manometers and gauges with mercury

This is automatically calculated in the Toolkit based on the population and electrification rate (percent of population with access to electricity). The default values are used because it seems to be the standards followed in the Toolkit for countries with a population size of Maldives. Import data on manometers and other various types of gauges were collected for the inventory (*Table 3-19*). The total input from other manometers and gauges with mercury was determined to be 2 kg Hg/year.

Table 3-19 Import data on manometers and gauges (2016-2017)

Product Brand Name	HS Code	Import 2016 (Nmb)	Import 2017 (Nmb)
Barometers/manometers containing mercury	9025 8020	30	96
Barometers/manometers mercury free	9025 8020	269	371
Hydrometers, pyrometers, hygrometers, etc, containing mercury and combinations (excluding 9025 1120 and 9025 1180)	9025 8080	63	
Hydrometers, pyrometers, hygrometers, etc, mercury free and combinations (excluding 9025 1920)	9025 8040	174	15
sphygmomanometers mercury free (medical blood pressure gauges)	9025 8020	198	
sphygmomanometers containing mercury (medical blood pressure gauges)	9025 8020	1	
Thermostats mercury free	9032 1000	1031	1913

Laboratory chemicals

This estimate is automatically calculated in the Toolkit based on the population and electrification rate. The default values are used for the inventory for two reasons. First, it seems to be the standards followed in the Toolkit for countries with a population size of Maldives. Second, there are discrepancies between the compiled data from various sources, including MoD, MFDA and Maldives Customs Services. However, a compiled list of chemicals that may contain mercury imported in 2016 and 2017 for laboratory and analytical use is given in *Table 7-11*. The import of chemicals is administered by various government authorities, particularly MoD and MFDA. The total input from other manometers and gauges with mercury was determined to be 4 kg Hg/year.



Table 3-20 Compiled list of chemicals that may contain Mercury, Imported in 2016 and 2017

Chemical name	Country origin	Relevant HS Customs Code	Imported in 2016	Imported in 2017
Mercury liquid	India/Turkey	2805400000		1502 (kg)
Mercury (II) Oxide-red	India	2852100000		1 (kg)
Mercury (I) Chloride Mercurous	India	2852100000		1 (kg)
Mercury metal	India	2852900000		3 (kg)
Mercury (II) nitrate	India			100 (g)
Mercury ICP Standard	India	2852100000	400 (ml)	100 (ml)
Mercury (II) acetate	India			100 (g)
Mercury (II) Chloride	India			20 (g)
Mercury reagent	India		13.7 (kg)	
Mercury (III) Chloride	India			20 (g)

Other Laboratory and medical equipment with mercury

This is automatically calculated in the Toolkit based on the population and electrification rate. The default values are used because it seems to be the standards followed in the Toolkit for countries with a population size of Maldives. The total input from other manometers and gauges with mercury was determined to be 14 kg Hg/year.

Data gaps and priorities for potential follow up

The data collection heavily relied on the import data obtained from MCS. The following were identified as potential areas for improved estimation with an Inventory Level 2:

- It is difficult to distinguish between the products that contain mercury and mercury-free products from HS codes
- Inaccurate coding of some commodities and errors encountered in transferring information from manual documents to digital
- Product-specific information is extremely difficult to obtain and time-consuming.
- Often the products information sheet does not provide the full list and quantities of ingredients in the product, which makes the identification and quantification of mercury difficult (eg: paints, cosmetics, battery etc).
- With the increasing number of mercury-free products and conversion of mercury-based products to mercury-free products, distinguishing between such products brands is difficult.



Data and inventory on crematoria and cemeteries

Cemeteries

The annual number of deaths was obtained from the census where the average number of deaths per year from 2006-2014 was calculated. The value of 1,110 corpses buried/year was entered into the Toolkit to represent the number of burials that takes place annually and resulted in a total input of 3 kg Hg/year of mercury released to the environment.



Policy, Regulatory and Institutional Framework Assessment

Legal framework for Management of Mercury

There are no specific legal instruments for managing mercury in the Maldives. Existing laws and regulations on general chemicals and environmental management can be considered as relevant and used to address issues related to the management of mercury in the absence of specific legal framework in the Maldives.

This section presents an overview of key legal instruments which address the management of chemicals in the Maldives. The following table (*Table 4-1*) presents existing/draft legal instruments (laws, regulations, standards etc.) that address various aspects of environmental and chemical management, which is also considered to be appropriate to address mercury management in the country. The table provides names of the existing/draft legal instrument, year of enactment, government agency responsible for implementation and enforcement, and the main objectives of the legal instrument. Additional details of the legal instruments are given in each subsection following *Table 4-1*.

Table 4-1 Existing/draft Legal Instruments to Manage Chemicals Relevant to Mercury Management in the Maldives

Laws, Regulations, Standards and Guidelines	Year of Enactment	Relevant Agency	Objective of the Legal Instrument
Environment Protection and Preservation Act – Law No. 4/93	1993	Ministry of Environment Environmental Protection Agency	Environmental Protection and Preservation Act of the Maldives, EPPA (Law No. 4/93) provides the framework law for environmental management, including Environmental Impact Assessment (EIA)
Law on importation of prohibited items to the Maldives Act No. 4/75	1975	Maldives Customs Service Ministry of Defence	Regulating imports/exports of prohibited substances (eg:- chemicals, acid, poisons, toxic substances, explosives)
Waste Management Regulation – 2013/R-58	2014	Ministry of Environment Environmental Protection Agency	Waste management including: hazardous waste (e.g. explosives, flammable liquid/solids, corrosives, toxic/ poisonous substances/organic peroxides, etc); Special waste (e.g. combustible/ reactive/ corrosive/ poisonous waste)
Ozone Layer Protection Act 14/2015	2015	Ministry of Environment	Banned import of HCFC-based equipment starting on 31st May 2016



Regulation on Management, Use and Control of HCFC Substances, and HCFC based equipment 2010 (2010/R-19)	2010	Ministry of Environment	Control, import/export use and sale of HCFC and HCFC blends ODS-containing equipment starting in 2011 and complete phase-out of HCFCs by 2020.
Regulation on Protection and Conservation of Environment in the Tourism Industry	1998	Ministry of Tourism	The purpose of this regulation is to protect the environment in the tourism industry and to encourage and facilitate sustainable development of tourism. Covers disposal of toxic and hazardous waste
Regulation on Fuel Storage, Handling and Use (2015/R-160)	2015	Ministry of Defence	To regulate the storage, handling, transport and sale of petroleum products.
Regulation on Environmental Damage and Liabilities (2011/R-9)	2011	Ministry of Environment	The purpose of this regulation is to stop unlawful activities and adequately implement a fining procedure for violations, as well as implement a compensation mechanism on environmental damages.
The first National Standard for Clinical Laboratories in Maldives	2013	Ministry of Health	Waste management standards that are followed at all clinical and medical laboratories, regional hospitals, and atoll hospitals in Maldives.
National Healthcare waste management Policy	2016	Ministry of Health	The “National Policy on Healthcare Waste Management” is a framework of strategies, legal regulations, guidelines and operational procedures.
National health care waste management strategic plan 2016-2021	2016	Ministry of Health	Strategic plan is developed to enforce the “National Health Care Waste Management Policy” by establishing a countrywide integrated healthcare waste system, which is managed without adverse effects on human health and environment, and that is environmentally and economically sustainable
Draft Mercury free policy for healthcare	2018	Ministry of Health (pending political endorsement)	To support health care facilities to create a mercury- free environment and to mitigate the effects of mercury exposure on human health and environment with contribution to achieve the global objectives of the Minamata Convention to protect human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds. This policy applies to all health care facilities; public and private including companies importing and selling health care products and agencies responsible for environmental protection and waste management in the Maldives.



Pesticides Act (year 2019)	Draft	Ministry of Fisheries, Marine Resources and Agriculture	To regulate the management, import/export, use and distribution of pesticides with the objective of protecting human, animal and plant health and the marine and terrestrial environment.
Chemical Regulation	2019	Ministry of Defence	To regulate the import, sale, use permits, safe handling, storage, and disposal of hazardous chemicals.

The Environment Protection and Preservation Act of Maldives (Act No. 4/93)

The Environmental Protection and Preservation Act of the Maldives, EPPA (Law No. 4/93), provides the basic framework for environmental management, including the Environmental Impact Assessment (EIA) process in the Maldives, which is currently being implemented by the Environmental Protection Agency (EPA)

The EPPA gives provisions to the Ministry of Environment to formulate policies, rules and regulations regarding the protection of the environment and makes environmental impact assessments a mandatory requirement for all development projects. The EPPA also gives provisions to terminate any project that has an undesirable impact on the environment and levying fines up to one hundred million Rufiya for offenses in breach of this law. The EPPA gives the government of the Maldives the right to claim compensation for all damages caused by activities that are detrimental to the environment.

Clause 7 of the EPPA refers to the disposal of oil, wastes and poisonous substances in the Maldivian territory. According to this clause, any type of waste, oil, toxic gas or any substance that may have harmful effects on the environment should not be disposed of within the Maldivian territory. If, however, the disposals of such substances become absolutely necessary, the clause states that they should be disposed only within the areas designated for that purpose and if incinerated, appropriate precautions should be taken to avoid harm to the health of the population.

The EPPA is the single most important legal instrument with regards to environmental management and it gives very high prominence towards safeguarding the environment with regard to all development activities. Under this Act, the Ministry of Environment have developed regulations and guidelines concerning environmental protection through implementation of EIA procedures.

If a specific focused regulatory measure is necessary for the management of mercury in the Maldives, EPPA is the appropriate tool for such an intervention.

Law on importation of prohibited items to the Maldives (Act No. 4/75)

The objective of this Act is to define, control and manage substances that are prohibited from importation or only to be imported with special permission from the relevant authorities and agencies specified. The Act also provides a list of materials which are completely banned from import and a list of chemicals (*Table 4-2*) that can be imported under special permission from relevant government authorities.



Generally, chemical substances are under import, use and manufacture controls unless accompanied with a special permission from the Ministry of Defence and other related ministries, such as the Ministry of Health, Ministry of Fisheries, Marine Resources and Agriculture, and Ministry of Environment. These include hazardous chemicals and chemical-based substances that do not fall under the category of explosives, but can be used as substances for chemical weapons.

The Ministry of Defence is the custodian of this Act, in coordination with other relevant government agencies, including: Ministry of Health, Ministry of Fisheries, Marine Resources and Agriculture, Ministry of Environment, and the Maldives Customs Service.

Under the provisions of this Act, prior written consent is required from the Ministry of Defence to import hazardous chemical substances.

Table 4-2 List of Class A chemicals banned from import into the Maldives

Common Name	Trade Name
Insecticides/Acaricides	
Aldrin	Aldrex, Aldrite
Chlrodane	Chlorotox, Octachlor, Pentichlor
Endvin	Hexadrin
DDT (dicholoro diphenyl trichloroethane)	Neocide, Pentachlorin, Chlorophenothate
Heptachlore	Dromex, Heptamol, Heptox
Mirex	
HCH (<99% gamma isomer)	Hexachlorohexane
Hexachlorobenzene	
Camphechlor	Toxaphene, Polychloro camphene
Nitrofew	
1,2 Dibromoethane	
1,2 Dichloroethane	
Monocrotophos	
Bromocholoromethane (CH ₂ BrCl)	
Methylbromide (CH ₂ Br)	
Fungicides	

Source: Ministry of Defence

Waste Management Regulation (2013/R-58)

The Waste Management Regulation drawn under the EPPA provides a set of comprehensive guidelines on collection, storage, transportation and management of wastes, including management of hazardous waste. The purpose of this Regulation is to implement national policies regarding waste management and to conserve the environment. The Environmental Protection Agency is given the main responsibility to enforce the Waste Management Regulation.



Two main categories of chemical use are covered in the Waste Management Regulation. The Regulation addresses aspects of import, storage, transport, use, handling, export and disposal of specified waste products that falls into Category 1 and 2.

Special waste that has any of the following characteristics is considered as Category 1 waste in the Regulation:

- Waste generated from products having fire combustible sign;
- Reactive waste;
- Corrosive waste; and
- Poisonous waste.

Special waste generated from the following is considered as Category 2 waste in the Regulation:

- Engine oil;
- Batteries;
- Fibre resin;
- Pesticides;
- Rat poison;
- Paint and chemical solvents;
- Substances containing mercury;
- Electronics;
- Laboratory chemicals;
- Lead; and
- Asbestos.

Mercury is covered and can be addressed in both of these chemical waste Categories 1 and 2 as defined in the Waste Management Regulation.

Ozone Layer Protection (Act No. 14/2015)

Under the Ozone Layer Protection Act 14/2015, the government has banned the import of HCFC-based equipment. The Act also has provisions for establishing annual import quota, registration of importers and for levying fines for importing Ozone Depleting Substances listed in Schedule 1 and 2 of the Act. This also includes the use of HCFC and HCFC blends without registration, exceeding the annual quota and unauthorized importation.

Regulation on Management, Use and Control of HCFC Substances, and HCFC based equipment (Act No. 2010/R-19)

The HCFC Regulation is developed under the Environmental Protection and Preservation Act (4/93) to regulate HCFCs through the control of imports, use, and sale of HCFC substances.

The complete phasing out and elimination of HCFC substances in the Maldives is scheduled by 2020.



Under this Regulation, designed to meet obligations under the Montreal Protocol, the Regulation will manage and control the importation and establish a system to monitor the sale and usage of HCFC, HCFC-blends and HCFC-containing equipment.

The Ministry of Environment is responsible for the implementation and enforcement of both the Ozone Layer Protection Act 14/2015 and Regulation on Management, Use and Control of HCFC Substances, and HCFC based equipment (2010/R-19).

Regulation on Protection and Conservation of Environment in the Tourism Industry

This Regulation stipulates the standards for the protection and conservation of the environment in the tourism industry. The purpose of this Regulation is to protect the natural and physical environment from activities within the tourism industry and to encourage and facilitate sustainable development of tourism. It is strictly enforced on islands and land areas leased for the development of tourist resorts and facilities by the Ministry of Tourism. The key attributes of the Regulation relevant to chemicals and chemical management are given below:

1. All chemicals used as pesticides and fertilizers imported for use in a tourist resort, picnic islands, marina or such a place shall be imported after obtaining written permission from the relevant government authority (Ministry of Defence, Ministry of Fisheries, Marine Resources and Agriculture, and Ministry of Environment).
2. Waste disposal in tourist resorts, picnic islands, and marinas operating in the Maldives shall be carried out in a manner that would have the least impact on the environment, and in accordance with the laws and regulations and in accordance with the rules prescribed by the Ministry of Tourism. Hence, toxic or hazardous waste (such as battery and waste oil) must be separated and has to be properly labeled prior to disposal. This Regulation requires certain types of equipment such as bottle crushers, can crushers, and incinerators to be installed and functional in the islands as part of a condition of the license to operate the resort.
3. Sewage shall be disposed in a manner that is least harmful to the environment

If any provision of this regulation is contravened by any tourist resort, picnic island, marina, hotel, guesthouse, or tourist vessel, they shall be guilty of an offence, and shall be liable to a fine, taking into consideration the seriousness of the non-compliance, between MVR 1,000.00 and MVR 10,000.00 in the first instance. Parties repeatedly in non-compliance shall be liable to a fine between MVR 50,000.00 and MVR 100,000.00. If non-compliance of a provision occurs more than once, the Ministry reserves the right to revoke the operating license of the resort.

Regulation on Fuel Storage, Handling and Use (2015/R-160)

The Regulation on Fuel Storage, Handling and Usage (2015/R-160) came into effect on 12 August 2015. The Regulation deals with the installation, registration, security, safety and inspection of fuel storage facilities, design requirements for fuel/petrol storage tanks/



containers, specifics of filling points, and prohibits keeping wet cells, acids and pressurized containers in petrol sheds or petrol storage area. The Regulation also sets the requirements for fuel delivery lines.

Regulation on Environmental Damage and Liabilities (Act No. 2011/R-9)

The Regulation on Environmental Damage and Liabilities is drawn under the EPPA. The main purpose of this Regulation is to deter and prevent unlawful activities detrimental to the environment and adequately implement penalties in the form of fines for violations, as well as implement a compensation mechanism on environmental damages. The Schedules under the Regulation form the basis for levying fines on various environmental damages, components and activities. The Ministry of Environment is the custodian for the implementation of this Regulation.

Damages and detrimental effects resulting from the use of mercury and compensations arising from the effects of mercury may be covered under this Regulation with relevant amendments.

National Standard for Clinical Laboratories in Maldives

The first National Standard for Clinical Laboratories in Maldives was published by the Ministry of Health in February 2013. This Standard applies to ‘all medical laboratories both public and private which shall include laboratories at the central level, regional hospitals and atoll hospitals’.

According to the national Standard, clinical laboratories are responsible for proper management of the waste that are generated. The Manager of the facilities should understand and comply with all relevant regulations and shall reduce the amount of wastes to be incinerated by proper segregation, collection, treatment and disposal. Additionally, clinical waste should be segregated from municipal solid waste or other waste streams.

Waste generated from clinics and laboratories are categorized into the following five categories that are defined in the national Standards:

1. Non-contaminated (non-infectious) waste that can be reused, recycled or disposed of as general “household” waste
2. Contaminated (infectious) “sharps” – hypodermic needles, scalpels, knives and broken glass should be collected in puncture-proof containers that are fitted with covers and treated as infectious
3. Contaminated material for decontamination by autoclaving and thereafter washing and reuse or recycling
4. Contaminated material for autoclaving and disposal
5. Contaminated material for direct incineration

The Standards provide guidelines for handling, storage, transportation and disposal of infectious waste to avoid environmental contamination and to minimize potential human exposure.



National Healthcare Waste Management Policy

The purpose of the National Healthcare Waste Management Policy is to ensure that all waste generated within the health sector is managed safely without adverse effects on human health and environment in an integrated manner that is environmentally and economically sustainable. The policy encompasses both hazardous healthcare waste as well as the non-hazardous waste along the complete logistic chain: procurement, generation, segregation, collection, storage, transport, treatment and disposal. The policy does not specifically address mercury waste generated from healthcare facilities. Main objectives of the Policy are:

- To manage healthcare waste through healthcare waste management policies and strategies
- To integrate healthcare waste with the national waste management policy and strategy;
- To minimize the quantities and risks associated with healthcare waste.
- To protect health of patients, health workers, and public from hazards related to healthcare waste.
- To protect the environment from the hazardous materials of healthcare waste.
- To promote economically sustainable practices for healthcare waste management
- To promote the proper management of healthcare waste by institute training programs and raising awareness of health workers, patients and public.
- To ensure the proper management of healthcare waste through availability and accessibility of required tools and equipment.
- To adopt healthcare waste management practices that support the international treaties such as Stockholm Convention on Persistent Organic Pollutants and the Basel Convention on the Control of Trans boundary Movements of Hazardous Wastes and their disposal.

The policy also identifies the following as the priorities of action towards healthcare waste management:

- Governance and legal framework
- Public health, occupational safety and environmental protection
- Waste Handling
- Education, Training and Research
- Resource Mobilization
- Monitoring and Evaluation
- Contracting

National strategy and implementation plan that has been developed under this policy is discussed in following section.



National Healthcare Waste Management Strategic Plan 2016-2021

This strategic plan was developed in line with the “National Waste Management Policy” and “Waste Management Strategic Action Plan” endorsed by the Ministry of Environment, which envisages the establishment of waste management centres on each inhabited island and the construction of Regional Waste Management Facilities.

Priorities identified in the strategic plan and the objectives of each priority is summarised in the following table.

Table 4-3 Priorities identified in the national healthcare waste management strategic plan

Strategic Priority	Objective
Strategic Priority 1: Improving the legal framework for healthcare waste management	<ul style="list-style-type: none"> • Review and revise existing legal documents • Strengthen policy and regulatory structures for HCWM
Strategic Priority 2: Improving knowledge management and capacity building healthcare waste management	<ul style="list-style-type: none"> • Develop national training packages on healthcare waste management • Implementation of developed HCWM training programs • Promote research, new technologies and innovative methods for sound management of HCW
Strategic Priority 3: Implementing of an integrated healthcare waste management	<ul style="list-style-type: none"> • Assessment of the current waste management situation • Set up of an integrated system in a pilot atoll • HCWM planning • Promote green procurement and minimizing wastes • Improvement of Infectious Waste and Sharp Waste Management
Strategic Priority 4: Improving and adapting of national and local monitoring	<ul style="list-style-type: none"> • Assessment of current monitoring situation • Strengthen reporting, monitoring, and evaluation mechanism on HCWM • Regular monitoring and evaluation of the HCWM system and performance of the equipment
Strategic Priority 5: Resource Mobilization	<ul style="list-style-type: none"> • Establish sustainable sources of funding • Budget completion

Mercury Free Policy for Healthcare Facilities

Mercury Free Policy For Healthcare Facilities is a policy developed by the Ministry of Health to support healthcare facilities to create a mercury- free environment and to mitigate the effects of mercury exposure on human health and environment with contribution to achieve the global objectives of the Minamata Convention to protect the human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds.

The policy was developed in September 2018 and it is pending political endorsement from the Government.



When the policy is endorsed it will apply to all healthcare facilities operating in the Maldives; public and private including companies importing and selling healthcare products and agencies responsible for environmental protection and waste management in the Maldives.

Objectives specified in the policy are:

- To evaluate and monitor the situation of mercury use in healthcare facilities.
- To phase out and ban mercury thermometers and sphygmomanometers and other mercury containing healthcare products used in healthcare facilities.
- To link management of mercury waste at healthcare facilities with healthcare waste management policy.
- To strengthen capacity of health service providers to prevent, detect, treat and care for populations affected by mercury exposure.
- To conduct policy advocacy and public education regarding the health and environmental effects of mercury and mercury compounds

The policy also identifies a number of policy interventions with very specific targets to phase-out/phase-down mercury from healthcare facilities. The following policy interventions are identified in the document with a proposal to be reviewed by Ministry of Health in consultation with stakeholders in 3-5 years.

1. A stakeholder engagement strategy shall be developed to achieve goals and objectives cited under this policy to phase out mercury in healthcare facilities
2. Baseline survey shall be carried out in collaboration with relevant organizations to identify mercury containing products, knowledge practices and belief of healthcare providers towards mercury product use and its impact.
3. An assessment shall be carried out to identify availability of reliable and economically feasible alternatives for mercury containing equipment and devices in the health sector.
4. A plan shall be developed to substitute and eliminate use of mercury containing equipment and devices in the healthcare facilities. The plan shall prioritize list of targets with measurable goals for all levels of healthcare facilities
5. Mercury phase out guideline shall be developed which provides direction for procurement, use, safe handling, storage, collection and environmentally sound disposal of mercury-containing products.
6. An inventory shall be developed for items that contain mercury in the healthcare facilities detailing use, storage and other relevant information.
7. Inventory for mercury containing equipment in healthcare facilities shall be maintained at central level linked with National Waste Management System.
8. Sensitization and capacity development programs shall be carried out for policy makers, managers and health care professionals to enhance substitution of mercury containing products, management of mercury and mercury-containing wastes in healthcare facilities, practical procedures for handling of broken devices and use of new mercury-free equipment.
9. Strengthen health sector and institutional capacity to prevent, diagnose, treat, monitor and manage health risks that occur due to exposure to mercury and mercury compounds.



10. Inform public through health promotion and public education programs; strategize these interventions through existing public health plans and awareness programs of relevant sectors.
11. Develop and implement strategies and programs with stakeholders to identify and protect populations at risk including healthcare providers. Annual budgeting of all public and private healthcare facilities shall facilitate procurement of safer alternatives to mercury and health promotion programs
12. Mechanism for safe collection, disposal of mercury wastes shall be established in line with the National Waste Management Regulation (2013/R-58).
13. Mercury containing thermometers and sphygmomanometers shall be phased out by 2020 to achieve the target as per the Minamata Convention on Mercury (Article 4; mercury manometers shall be replaced with Aneroid – mercury free alternatives.)
14. Dental service providers shall develop a plan and implement to phase down the use of dental amalgam by 2020.
15. Evaluation and monitoring mechanism shall be established to monitor and assess the progress of the implementation of relevant policy and guidelines.
16. Conduct safer mercury safety audits.

Pesticides Act (21/2019)

The Act serves as the primary legal instrument to regulate the import, handling, transport, management, use and distribution of pesticides during all stages of their life cycle, including the disposal of pesticide wastes. The objective of this Act is to protect human, animal and plant health, the marine and terrestrial environment, and promote sustainable agricultural production in the Maldives.

Ministry of Fisheries and Agriculture is mandated to issue permits on the use of pesticides and manage both direct and indirect effects of pesticides. The enforcement of this legislation will enable the country to more effectively meet its international obligations and further collaboration with international partners.

Chemical Regulation (R-1057-2019)

This Regulation is vested from the Law No. 4/75, under Article No. 5a(3) enforced by the Ministry of Defence. It was drafted in 2005 and has been enacted in 2019. The Regulation covers different aspects of hazardous chemical management such as its import, sale, use permits, safe handling, storage, and disposal. The Regulation will be implemented and enforced by the Ministry of Defence

Institutional capacities on Mercury Management

There is no designated government institution or agency that is responsible for the specific management of mercury in the Maldives. Furthermore, an analysis of the existing legislation, within the scope of mercury management, shows a lack of special legislation and standards for mercury management. The existing institutional capacity to control and monitor chemicals can be considered as the existing legislative system for mercury management in the Maldives as well.



The purpose of this chapter is to provide a description of roles and responsibilities of relevant ministries, agencies and other governmental institutions relating to chemical management in the Maldives. The control and regulation of chemicals are divided between various government institutions and the role and responsibilities of each institution is briefly described in the following subsections.

Ministry of Defence (MoD)

The Ministry of Defence is the main institution mandated with regulating the monitoring and import control of dangerous chemicals into the country in coordination with other government relevant authorities. All dangerous chemicals (except for fireworks), including acids and other poisonous items produced using these chemicals can only be imported into the country with prior written permission from the MoD. The Ministry also implements decisions and provides coordination of activities by relevant ministries, departments and institutions dealing with imports, usage and distribution of chemical and chemical compounds.

Ministry of Environment (ME) and MoD has recently launched a national chemical management database, MAKUDI. This is a harmonized database that shows the most common types of chemicals imported to Maldives, which will strengthen the monitoring and surveillance of imported chemicals.

Although, Mod is the overarching agency dealing with the disposal of chemicals, the Ministry lacks capacity, appropriate means and Standard Operating Procedures (SOPs) required to safely dispose of various types of chemicals.

Maldives Customs Service

The Maldives Customs Service (MCS) ensures that the regulations on import of chemicals into the country are fully enforced and the records are well kept and maintained. The MCS maintains a database for the imports of chemicals that shows a broad category of chemicals that are imported into the country. The database maintained by Customs is very comprehensive and is based on internationally recognized HS cores. MCS also verifies that the necessary permissions from the relevant government authorities on chemicals imported are obtained prior to importation and withholds any attempt to import chemicals brought into the country without proper documentation, and necessary permissions required from the Government authorities.

Ministry of Fisheries, Marine Resources and Agriculture (MoFMRA)

The main responsibility of MoFMRA, regarding chemicals is related to pesticides and fertilizers and includes the following:

- Developing standards and regulations related to the import and handling of pesticides and fertilizers;
- Storing and treatment of pesticides;
- Determination of alternative methods for control of pests, plant diseases and weeds;
- Elaboration of effective measures on safe use of plant protection chemicals;



- Official control of observation rules on use and treatment of pesticides;
- Regulation of import and distribution of pesticides;
- Establish and maintain a pesticides and chemical database; and
- Issuing licenses for the import of pesticides and chemical fertilizers.

MoFMRA also provides advice on the control of pests and proper treatment of pesticides. The Ministry also provides information to farmers and other consumers on the recommended pesticides and effective use, which give instructions and precautions in handling and application of pesticides.

Since some older pesticides contain mercury and may still be in use or have stockpiles, it is important that safe use and mercury-free pesticides be controlled within the framework of the new pesticide regulation to be implemented in the agriculture sector.

Ministry of Environment (ME)

The Ministry of Environment (ME), is mandated to set appropriate policies and formulate the required laws and regulations on waste management, including chemical and hazardous wastes. ME is responsible for the management and guidance of control of environmental hazards caused by chemicals. ME also issues quota, and controls and manages the import, use, sales and distribution of Ozone Depleting Substances (ODS), such as HCFCs and HCFC blends, as per obligations under the Montreal Protocol.

Environmental Protection Agency (EPA)

EPA is the regulatory body, affiliated with the ME, assigned to implement the environmental laws and regulations. The Agency is also responsible for implementation of the Environmental Impact Assessment Regulation (EIA).

Ministry of Health (MoH)

Ministry of Health is mandated with overseeing the country's health and social protection sectors. The Health Ministry is also responsible for development of health policies, related standards overseeing and implementing national standards in hospitals, clinics laboratories and other health facilities in the sector. Hospitals, clinics and laboratories can be considered as the main consumers of mercury and mercury-containing products. Previously, the Ministry has taken an initiative to manage mercury in hospitals and developed Mercury Free Policy for HealthCare in Maldives. The policy is pending political endorsement from the Government. This initiative is anticipated to contributed to a reduction in the use of mercury containing equipment in hospitals. Also, the use of mercury based dental amalgam is almost completely phased out except in rare cases where it is kept for use in emergency cases in some hospitals. This has been verified and confirmed during the survey conducted to assess the mercury in hospitals.

The Health Protection Agency and the Maldives Food and Drug Authority are both institutions operating under the umbrella of Ministry of Health.



Health Protection Agency (HPA)

Health Protection Agency operates under the MoH with a mandate to undertake the responsibilities assigned in the Public Health Protection Act (Law No. 7/2012) and to take the lead to protect public health, maintain public well-being and improve health awareness among Maldivians and all people living in Maldives. HPA does not have specific responsibilities towards mercury management, but HPA's main responsibilities in relation to chemicals management is to identify hazards or the possibility of health hazards, measure the extent of possible public health risks, and to establish a monitoring system to protect people working or living in surrounding areas from any gas, chemicals, radiation or vibrations emanating from a residential or non-residential building. Furthermore, HPA also regulates chemicals that are used for controlling mosquitoes that cause vector borne diseases, such as dengue fever and chikungunya. Some of the responsibilities of the Agency include the following:

- Establish policies to protect public health in Maldives;
- Identify communicable, dangerous and notifiable diseases and develop policies on how such diseases can be classified;
- Identify lifestyle related diseases and non-communicable diseases, increase public awareness on such diseases and establish policies to protect the public from such diseases;
- Establish policies to respond to public health emergencies;
- Classify situations which may be harmful to health and establish methods to act in such a situation;
- Establish roles and responsibilities of the island, atoll and city councils in the protection of public health; and
- Make each Maldivian citizen a responsible and accountable person with regard to public health protection.

Maldives Food and Drug Authority (MFDA)

Maldives Food and Drug Authority (MFDA) is an institution under the Ministry of Health responsible for standardization, certification monitoring and quality control of the import and export of food and drug items. The main responsibilities of MFDA, with regard to general chemicals, includes developing guidelines and monitoring the storage, production, and sales and distribution of items for food, water, medicine, chemicals, medical gas, vaccine, and other biological medical devices and diagnostics and radiation emitting devices.

Prior approval from MFDA is required for the import of chemicals, including mercury, pesticides and drugs that are not included in the approved list drug published by the Ministry of Health on a yearly basis. The importer is required to complete a special application form to import chemicals and the request form includes brand name, chemical name, quantity, and intended use of the product. However, information on the formulation or the concentration is not included in these requests. The requests are approved based on public health considerations.

The National Health Laboratory operates under MFDA and is used for conducting a range of tests including, water quality tests, histamine and mercury in fish, and alcohol traces



in beverages. As part of EU compliance standard, fish exporters are required to regularly check mercury levels in exported fish and MFDA will ensure that all the fish exports meet EU standards prior to shipping.

There are no specific guidelines and national standards established in the Maldives for mercury-containing products, such as soaps and skin lightening creams and other cosmetic products which are harmful for human health.

Policy and regulatory measures in place and remaining gaps

This section presents policy and regulatory measures in place and remaining gaps in relation to implementation of each article of Minamata Convention on Mercury in the Maldives. The following Tables (from *Table 4-4*) will give a brief description of each article, succinct summary of provisions relevant to the Maldives, relevant institutions, policy and regulatory measures in place and outstanding regulatory or policy aspects that would need to be addressed/developed to ensure compliance with the Convention's provisions.

Article 3 - Mercury supply sources and trade

Table 4-4 Policy and Regulatory Measures in Place and Remaining Gaps related to Article 3 : Mercury supply sources and trade.

Article 3 - Mercury supply sources and trade

Description of Article:	Contains control measures aimed at limiting the global supply of mercury to complement and reinforce the demand reduction control measures in Articles 4-7. The Article 3 provisions limit the sources of mercury available for use and trade, and specify procedures to follow where such trade is still allowed.
Succinct summary of provisions relevant to the Maldives	<ul style="list-style-type: none"> • Not allow new primary mercury mining • Prevent the import and use of mercury from primary mercury mining for artisanal and small-scale gold mining (ASGM) • Obtain information on stocks of mercury or mercury compounds exceeding 50 metric tons (MT), and mercury supply generating stocks exceeding 10 MT/yr • Not allow the export of mercury • Not allow the import of mercury without government consent, • Not allow the import of mercury from a non-Party
Policy and regulatory measures in place that enable the country to comply with the above listed provisions:	
Title and reference/ number of relevant regulatory measure,	There is no specific national regulation on mercury but the provisions are being addressed by the following regulatory measure: <ul style="list-style-type: none"> • Environment Protection and Preservation Act – Law No.4/93 • Law on importation of prohibited items to the Maldives Act No. 4/75 • Mercury Free Policy for HealthCare Maldives, 2018
Relevant institutions	MNDS, ME, MCS, MoT, and MOH
Outstanding regulatory or policy aspects that would need to be addressed/developed to ensure compliance with the Convention's provisions (only in relation to binding provisions):	
<ul style="list-style-type: none"> • Law on mercury management, • Defining obligations and rights of different institutions and their responsibilities in controlling and monitoring of mercury and mercury-containing products • Include provisions in Customs law on import/export of mercury to not allow the import of mercury without government consent, and not allow the import of mercury from a non-Party 	



Article 4 - Mercury-added products

Table 4-5 Policy and Regulatory Measures in Place and Remaining Gaps related to Article 4: Mercury-added products.

Article 4 - Mercury-added products	
Description of Article:	The aim of the article is to reduce mercury demand in products through a combination of measures which phase out mercury uses in many key products, phase down mercury use in another, require the review of remaining products for possible restrictions within five years, and discourage the manufacture of new products using mercury.
Succinct summary of provisions relevant to the Maldives	Not allow, by taking appropriate measures, the manufacture, import or export of mercury-added products listed in Part I of Annex A after the phase-out date specified for those products, Take measures for the mercury-added products listed in Part II of Annex A in accordance with the provisions set out therein. Discourage the manufacture and the distribution in commerce of mercury-added products not
Policy and regulatory measures in place that enable the country to comply with the above listed provisions:	
Title and reference/ number of relevant regulatory measure,	<ul style="list-style-type: none"> • Environment Protection and Preservation Act – Law No.4/93 • The first National Standard for Clinical Laboratories in Maldives 2013 • Law on importation of prohibited items to the Maldives Act No. 4/75 • Mercury Free Policy for HealthCare Maldives, 2018
Relevant institutions	MCS, ME, MoH and MoT
Outstanding regulatory or policy aspects that would need to be addressed/developed to ensure compliance with the Convention’s provisions (only in relation to binding provisions):	
<ul style="list-style-type: none"> • Include provisions in Customs law on import of mercuryadded products • Encourage importation of non Hg products through waiver of customs duties 	



Article 5 - Manufacturing processes in which mercury or mercury compounds are used

Table 4-6 Policy and Regulatory Measures in Place and Remaining Gaps related to Article 5: Manufacturing processes in which mercury or mercury compounds are used.

Article 5 - Manufacturing processes in which mercury or mercury compounds are used

Description of Article:	Control measures to prohibit or restrict mercury use in manufacturing processes to reduce global mercury demand
Succinct summary of provisions relevant to the Maldives	Discourage the development of any facility using any other manufacturing process in which mercury or mercury compounds are intentionally used that did not exist prior to the date of entry into force of the Convention, Encouraged to exchange information on relevant new technological developments, economically and technically feasible mercury-free alternatives, and possible measures and techniques to reduce, eliminate the use of mercury and mercury compounds in manufacturing processes listed in Annex B.
Policy and regulatory measures in place that enable the country to comply with the above listed provisions:	
Title and reference/ number of relevant regulatory measure,	As there aren't any manufacturing in the Maldives this provision is not relevant to Maldives • Environment Protection and Preservation Act – Law No.4/93
Relevant institutions	ME, MoH, MoT, MoFMRA
Outstanding regulatory or policy aspects that would need to be addressed/developed to ensure compliance with the Convention's provisions (only in relation to binding provisions):	
<ul style="list-style-type: none"> • To amend the EIA regulation to discourage the development of any facility using mercury; and • To encourage to exchange information on relevant new technological developments 	

Article 6 - Exemptions available to a Party upon request

Table 4-7 Policy and Regulatory Measures in Place and Remaining Gaps related to Article 6: on exemptions available to a Party upon request.

Article 6 - Exemptions available to a Party upon request

Description of Article:	Seeking additional time to comply with the deadlines for the phase out of mercury use in products (Article 4) or industrial processes (Article 5) must use the procedures specified in Article 6.
Succinct summary of provisions relevant to the Maldives	May register for one or more exemptions from the phase-out dates listed in Annex A and Annex B on becoming a Party to this Convention; (this means a Party should determine whether it can meet the Article 4 and 5 deadlines before it ratifies the Convention)
Policy and regulatory measures in place that enable the country to comply with the above listed provisions:	
Title and reference/ number of relevant regulatory measure,	Not relevant to Maldives
Relevant institutions	ME
Outstanding regulatory or policy aspects that would need to be addressed/developed to ensure compliance with the Convention's provisions (only in relation to binding provisions):	
Depending on the preparedness of the country ME will develop a policy on becoming a Party to this Convention or request for exemption	



Article 7 - Artisanal and small-scale gold mining

Table 4-8 Policy and Regulatory Measures in Place and Remaining Gaps related to Article 7: Artisanal and small-scale gold mining.

Article 7 - Artisanal and small-scale gold mining	
Description of Article:	Article 7 applies to artisanal and small-scale gold mining (ASGM), in which mercury is used to extract gold.
Succinct summary of provisions relevant to the Maldives	Not relevant to Maldives
Policy and regulatory measures in place that enable the country to comply with the above listed provisions:	
Title and reference/ number of relevant regulatory measure,	Not relevant to Maldives



Article 8- Emissions

Table 4-9 Policy and Regulatory Measures in Place and Remaining Gaps related to Article 8: Emissions.

Article 8 - Emissions	
Description of Article:	To reduce mercury emissions to air from five of the most significant source categories identified during the Convention negotiations. Man-made sources are responsible for about 30% of annual emissions of mercury to air and contribute to mercury re-released into the environment annually from surface soils and oceans, now accounting for about 60% of the global air pollution pool. Progress in reducing mercury global pollution cannot be achieved without significant reductions in atmospheric emissions leading to corresponding direct and re-release declines over time.
Succinct summary of provisions relevant to the Maldives	Emission from waste incineration facilities include incinerators burning hazardous waste, municipal waste, medical waste, and/or sewage sludge
Policy and regulatory measures in place that enable the country to comply with the above listed provisions:	
Title and reference/ number of relevant regulatory measure,	<ul style="list-style-type: none"> • Waste Management Regulation (2013/R-58) 2014 • Environment Protection and Preservation Act - Law No.4/93 • Regulation on Protection and Conservation of Environment in the Tourism Industry, 1998 • Regulation on Fuel Storage, Handling and Use (2015/R-160), 2011 • National Standard for Clinical Laboratories in Maldives, 2013 • Mercury Free Policy for HealthCare Maldives, 2018
Relevant institutions	ME, MoD, MoH, MoT, WAMCO
Outstanding regulatory or policy aspects that would need to be addressed/developed to ensure compliance with the Convention's provisions (only in relation to binding provisions):	
<ul style="list-style-type: none"> • Standards for the management of mercury in hospitals, health facilities and laboratories • Regulations on mercury containing waste, biomedical hospital waste and no current Regulations address mercury management • Define obligations and rights of different institutions and their responsibilities in controlling and monitoring of mercury and mercury-containing products, addressing occupational and public health issues related to the disposal of mercury containing waste and all other aspects of mercury management. • Review and amend Waste Management Regulation to include control measure on emission from mercury wastes 	



Article 9 - Releases

Table 4-10 : Policy and Regulatory Measures in Place and Remaining Gaps related to Article 9: Releases

Article 9 - Releases	
Description of Article:	To reduce mercury releases to land and water from sources not addressed by other provisions of the Convention.
Succinct summary of provisions relevant to the Maldives	<p>Countries need to identify these “relevant point sources” no later than 3 years after the Convention enters into force</p> <ul style="list-style-type: none"> • Release limit values; • The use of BAT and BEP; • A multi-pollutant control strategy that will deliver co-benefits for control of mercury releases; and • Alternative measures to reduce releases from relevant sources (Article 9.5). • Establish and maintain an inventory of emissions from the relevant sources, as soon as practicable, but no later than 5 years after entry into force of the Convention for that Party (Article 9.6)
Policy and regulatory measures in place that enable the country to comply with the above listed provisions:	
Title and reference/ number of relevant regulatory measure,	<ul style="list-style-type: none"> • Waste Management Regulation (2013/R-58) 2014 • Environment Protection and Preservation Act - Law No.4/93 • Regulation on Protection and Conservation of Environment in the Tourism Industry, 1998 • Mercury Free Policy for Health Care Maldives, 2018
Relevant institutions	ME, MoH, MoT, and MoD
Outstanding regulatory or policy aspects that would need to be addressed/developed to ensure compliance with the Convention’s provisions (only in relation to binding provisions):	
<ul style="list-style-type: none"> • Comprehensive law on chemicals, and mercury defining obligations, roles and responsibilities of different parties and their authority for control of mercury, addressing occupational and public health, disposal and all other aspects of mercury management. • Law on mercury management, • Defining obligations and rights of different institutions and their responsibilities in controlling and monitoring of mercury and mercury-containing products 	



Article 10 - Environmentally sound interim storage of mercury, other than waste mercury

Table 4-11 Policy and Regulatory Measures in Place and Remaining Gaps related to Article 10: Environmentally sound interim storage of mercury, other than waste mercury.

Article 10 - Environmentally sound interim storage of mercury, other than waste mercury

Description of Article:	Improper or inadequate care in the collection, handling, transport and storage of mercury and mercury compounds can result in emissions and releases of the toxic material that can eventually harm humans and the environment. To prevent the possible adverse effects of mercury as it is held in various locations prior to its intended use, the Convention requires countries to take measures to ensure the environmentally sound storage of mercury
Succinct summary of provisions relevant to the Maldives	Measures to ensure the interim storage of mercury and mercury compounds, other than wastes. The storage obligation also does not apply to mercury-added products. Assess the types of facilities which may need to store mercury, Prepare the appropriate industry or sector for environmentally sound interim storage compliance such as facility identification, data gathering, and developing guidance or regulations outlining handling and storage procedures,
Policy and regulatory measures in place that enable the country to comply with the above listed provisions:	
Title and reference/ number of relevant regulatory measure,	<ul style="list-style-type: none"> • Waste Management Regulation (2013/R-58) 2014 • Environment Protection and Preservation Act – Law No.4/93 • Basel Convention has developed draft technical guidelines on the environmentally sound management of mercury wastes
Relevant institutions	ME, WAMCO, MoD, MoH
Outstanding regulatory or policy aspects that would need to be addressed/developed to ensure compliance with the Convention's provisions (only in relation to binding provisions):	
<ul style="list-style-type: none"> • Law on mercury management, • Defining obligations and rights of different institutions and their responsibilities in controlling and monitoring of mercury and mercury-containing products 	



Article 11 - Mercury wastes

Table 4-12 Policy and Regulatory Measures in Place and Remaining Gaps related to Article 11: Mercury wastes.

Article 11 - Mercury wastes	
Description of Article:	<p>Mercury wastes can come in a variety of forms, depending upon the source. Industrial processes using mercury will create wastes from both the manufacturing process and pollution control operations, such as sludges and spent catalysts. Mercury-added products become wastes when discarded, typically at the end of their useful life. Products also become wastes if the product cannot be sold legally or lacks a market due to consumer preference. The cleanup of contaminated sites may generate mercury wastes, such as treatment residuals and contaminated soil. Finally, mercury and mercury compounds can and will become wastes when they are destined for disposal instead of an allowed use.</p>
Succinct summary of provisions relevant to the Maldives	<ul style="list-style-type: none"> • Parties should manage mercury waste in an environmentally sound manner, taking into account the guidelines developed under the Basel Convention and in accordance with requirements that the Conference of the Parties shall adopt in an additional annex in accordance with Article 27. • Only recovered, recycled, reclaimed or directly re-used for a use allowed to a Party under this Convention or for environmentally sound disposal pursuant to paragraph 3 (a) • Parties to the Basel Convention, not transported across international boundaries except for the purpose of environmentally sound disposal in conformity with this Article and with that Convention cooperate with each other and with relevant intergovernmental organizations and other entities, to develop and maintain global, regional and national capacity for the management of mercury wastes in an environmentally sound manner,
Policy and regulatory measures in place that enable the country to comply with the above listed provisions:	
Title and reference/ number of relevant regulatory measure,	<ul style="list-style-type: none"> • Waste Management Regulation (2013/R-58) 2014 • Environment Protection and Preservation Act - Law No.4/93 • draft technical guidelines on the environmentally sound management of mercury wastes • Mercury Free Policy for Health Care Maldives, 2018
Relevant institutions	ME, WAMCO, MoT
Outstanding regulatory or policy aspects that would need to be addressed/developed to ensure compliance with the Convention's provisions (only in relation to binding provisions):	
<ul style="list-style-type: none"> • Law on mercury management, • Defining obligations and rights of different institutions and their responsibilities in controlling and monitoring of mercury and mercury-containing products • Amend waste regulation to include provisions on transport, storage and disposal of mercury waste 	



Article 12 - Contaminated Sites

Table 4-13 Policy and Regulatory Measures in Place and Remaining Gaps related to Article 12: Contaminated Sites.

Article 12 - Contaminated Sites	
Description of Article:	Contaminated can be active, where existing processes or practices continue to contribute to the contamination, and historical, where such processes or practices have stopped but the pollution remains. The sources of the contamination may be waste management activities, stack emissions, fugitive emissions, and/or spills and emergency incidents. The risks to local communities and exposed populations is the principle concern at contaminated sites.
Succinct summary of provisions relevant to the Maldives	<ul style="list-style-type: none"> • To develop strategies for identifying and assessing sites contaminated by mercury or mercury compounds (Article 12.1). • To reduce risks posed by contaminated sites shall be done in an environmentally sound manner, assessment of risks to human health and the environment (Article 12.2). • Parties are encouraged to cooperate in developing strategies and implementing activities for identifying, assessing, prioritizing, managing, and remediating contaminated sites. (Article 12.4)
Policy and regulatory measures in place that enable the country to comply with the above listed provisions:	
Title and reference/ number of relevant regulatory measure,	<ul style="list-style-type: none"> • Environment Protection and Preservation Act - Law No.4/93 • Waste Management Regulation (2013/R-58) 2014
Relevant institutions	ME
Outstanding regulatory or policy aspects that would need to be addressed/developed to ensure compliance with the Convention's provisions (only in relation to binding provisions):	
<ul style="list-style-type: none"> • Law on mercury management, • defining obligations and rights of different institutions and their responsibilities in controlling and monitoring of mercury and mercury-containing products • Amend waste regulation to include provisions on transport, storage and disposal of mercury waste 	



Article 13 - Financial resources and mechanism

Table 4-14 Policy and Regulatory Measures in Place and Remaining Gaps related to Article 13: Financial resources and mechanism.

Article 13 - Financial resources and mechanism

Description of Article:	To provide effective implementation of the Convention, Article 13 establishes a Financial Mechanism with two components: (1) the Global Environment Facility Trust Fund, and (2) an International Programme to support capacity building and technical assistance. Article 13 also elaborates on the governance of the Financial Mechanism and provides specific guidance on its operation. The Financial Mechanism is meant to support developing country Parties and Parties with economies in transition in implementing their obligations under the Convention (Article 13.5).
Succinct summary of provisions relevant to the Maldives	<ul style="list-style-type: none"> • Institutional strengthening at the national level for implementation of the Minamata Convention • Enhancing national capacity to develop, adopt, monitor, and enforce policy, legislation and regulation, and to gain access to financial and other resources for the implementation of the Minamata Convention • Identifying national institutional capacity, weaknesses, gaps and needs • Strengthening institutional capacity to plan, develop, undertake, monitor and coordinate the implementation of policies, strategies and national programmes for the sound management of chemicals and wastes • Promoting an enabling environment to foster the ratification the Minamata Convention;
Policy and regulatory measures in place that enable the country to comply with the above listed provisions:	
Title and reference/ number of relevant regulatory measure,	<ul style="list-style-type: none"> • Environment Protection and Preservation Act – Law No.4/93 • Mercury Free Policy for HealthCare Maldives, 2018
Relevant institutions	ME, WAMCO, MoD, MoH
Outstanding regulatory or policy aspects that would need to be addressed/developed to ensure compliance with the Convention’s provisions (only in relation to binding provisions):	
<ul style="list-style-type: none"> • Law on mercury management, • Defining obligations and rights of different institutions and their responsibilities in controlling and monitoring of mercury and mercury-containing products 	



Article 14 - Capacity-building, technical assistance and technology transfer

Table 4-15 Policy and Regulatory Measures in Place and Remaining Gaps related to Article 14: F Capacity-building, technical assistance and technology transfer.

Article 14 - Capacity-building, technical assistance and technology transfer	
Description of Article:	Capacity-building and technical assistance may be delivered through regional, sub-regional and national arrangements, including existing regional and sub-regional centres, through other multilateral and bilateral means, and through partnerships, including partnerships involving the private sector.
Succinct summary of provisions relevant to the Maldives	<p>Parties should cooperate to provide, within their respective capabilities, timely and appropriate capacity-building and technical assistance to developing country Parties, in particular LDCs and SIDS and Parties with economies in transition, to assist these countries in implementing their obligations under the Convention (Article 14.1). Developed country Parties and other Parties within their capabilities shall promote and facilitate, supported by private sector and other relevant stakeholders as appropriate:</p> <ul style="list-style-type: none"> • Development; • Transfer and diffusion; and • Access to up-to-date environmentally sound alternative technologies to developing countries, in particular LDCs, SIDS, and Parties with economies in transition.
Policy and regulatory measures in place that enable the country to comply with the above listed provisions:	
Title and reference/ number of relevant regulatory measure,	<ul style="list-style-type: none"> • Environment Protection and Preservation Act – Law No.4/93 • Waste Management Regulation (2013/R-58) 2014 • Mercury Free Policy for Healthcare Maldives, 2018
Relevant institutions	ME, MoH, MoT, MoFMRA, MoD
Outstanding regulatory or policy aspects that would need to be addressed/developed to ensure compliance with the Convention’s provisions (only in relation to binding provisions):	
<ul style="list-style-type: none"> • Create awareness among the government authorities on the flow of mercury containing products in the country • Need establishment of separate regulatory mechanisms to manage mercury 	



Article 16 - Health aspects

Table 4-16 Policy and Regulatory Measures in Place and Remaining Gaps related to Article 16: Health aspects.

Article 16 - Health aspects	
Description of Article:	Mercury adversely impacts both human health and the environment. Article 16 promotes program development related to the health aspects of mercury, recognizing the activities will involve WHO, public health ministries, and other stakeholders involved in the delivery of health services. Article 16 provides guidance to health ministries on the activities they can undertake to minimize the mercury exposure of vulnerable populations, and the adverse consequences of such exposures. Establish and strengthen, the institutional and health professional capacities for the prevention, diagnosis, treatment and monitoring of health risks related to the exposure to mercury and mercury compounds.
Succinct summary of provisions relevant to the Maldives	<ul style="list-style-type: none"> • Promote the development and implementation of strategies and programmes to identify and protect populations at risk, particularly vulnerable populations. Setting targets for mercury exposure reduction, where appropriate; <ul style="list-style-type: none"> • Public education, for public health and other involved stakeholders • Fish consumption advisories • Promote the development and implementation of science-based educational and preventive programmes on occupational exposure to mercury and mercury compounds; • Promote appropriate healthcare services for prevention, treatment and care for populations affected by the exposure to mercury or mercury compounds; • Establish and strengthen, as appropriate, the institutional and health professional capacities for the prevention, diagnosis, treatment and monitoring of health risks related to the exposure to mercury and mercury compounds.
Policy and regulatory measures in place that enable the country to comply with the above listed provisions:	
Title and reference/ number of relevant regulatory measure,	<ul style="list-style-type: none"> • National Standard for Clinical Laboratories in Maldives, 2013 • Mercury Free Policy for Healthcare Maldives, 2018
Relevant institutions	MoH, MoFMRA, ME, NGOs
Outstanding regulatory or policy aspects that would need to be addressed/developed to ensure compliance with the Convention's provisions (only in relation to binding provisions):	
<ul style="list-style-type: none"> • Develop and implement strategies and action plan and set targets for mercury exposure reduction; • Education, and awareness on public health aspects of mercury • Fish consumption advisories • Implementation of science-based educational and preventive measures on occupational exposure to mercury and mercury compounds; • Develop mercury consumption phase-out management plans in hospitals • Develop institutional and health professional capacities for the prevention, diagnosis, treatment and monitoring of health risks related to the exposure to mercury and mercury compounds. • Need to develop separate regulation on handling transport storage of biomedical waste management in Hospitals and clinics • Improve the existing National Standard for Clinical Laboratories in Maldives, 2013 to include mercury products 	



Article 17 - Information Exchange

Table 4-17 Information exchange

Article 17 - Information exchange	
Description of Article:	Article 17 focuses on the exchange of information between countries. It identifies key information that Parties to the Convention need to share with each other and identifies mechanisms for sharing the information.
Succinct summary of provisions relevant to the Maldives	<p>Parties to the Convention shall facilitate the exchange of:</p> <ol style="list-style-type: none"> 1. Scientific, technical, economic and legal information concerning mercury and mercury compounds, including toxicological, eco-toxicological and safety information; 2. Information on the reduction or elimination of the production, use, trade, emissions and releases of mercury and mercury compounds; 3. Information on technically and economically viable alternatives to: <ol style="list-style-type: none"> I. Mercury-added products; II. Manufacturing processes in which mercury or mercury compounds are used; and III. Activities and processes that emit or release mercury or mercury compounds; <p>Health and environmental risks and economic and social costs and benefits of such alternatives; and</p> <ol style="list-style-type: none"> 4. Epidemiological information concerning health impacts associated with exposure to mercury and mercury compounds, in close cooperation with the World Health Organization and other relevant organizations, as appropriate (Article 17.1). 5. Each Party shall designate a national focal point for the exchange of information under the Convention, including exchanging information related to providing consent for mercury trade transactions under Article 3 (Article 17.4)
Policy and regulatory measures in place that enable the country to comply with the above listed provisions:	
Title and reference/ number of relevant regulatory measure,	<p>Environment Protection and Preservation Act - Law No.4/93</p> <ul style="list-style-type: none"> • Mercury Free Policy for Health Care Maldives, 2018
Relevant institutions	ME, MoH, MoFMRA, MCS, MoD, NGOs



Article 18 - Public information, awareness and education

Table 4-18 : Policy and Regulatory Measures in Place and Remaining Gaps related to Article 18: Public information, awareness and education.

Article 18 - Public information, awareness and education	
Description of Article:	Article 18 focuses on the sharing of information between government and the public. Similar to Article 17, Article 18 identifies key information that governments need to share with the public and the mechanisms that can be employed for public awareness-raising.
Succinct summary of provisions relevant to the Maldives	Parties to the Convention are required to promote and facilitate :Provision to the public of available information on: <ol style="list-style-type: none"> 1. The health and environmental effects of mercury and mercury compounds; 2. Alternatives to mercury and mercury compounds; 3. The topics identified in Article 17 4. The results of its research, development and monitoring activities under Article 19; and 5. Activities to meet its obligations under this Convention. Education, training and public awareness related to the effects of exposure to mercury and mercury compounds on human health and the environment, Information on preventative measures in order to protect against mercury exposure, such as fish advisories,
Policy and regulatory measures in place that enable the country to comply with the above listed provisions:	
Title and reference/ number of relevant regulatory measure,	<ul style="list-style-type: none"> • Environment Protection and Preservation Act - Law No.4/93 • Mercury Free Policy for Health Care Maldives, 2018
Relevant institutions	ME, MoH, MoT, MoFMRA
Outstanding regulatory or policy aspects that would need to be addressed/developed to ensure compliance with the Convention's provisions (only in relation to binding provisions):	
<ul style="list-style-type: none"> • Develop public information awareness and education strategy • Create awareness among the government authorities on the flow of mercury containing products in the country • Available mercury free alternative products • Health and environmental risks and economic and social costs and benefits of such alternatives; and; • Health impacts associated with exposure to mercury and mercury compounds, 	



Article 19 - Research, development and monitoring

Table 4-19 Policy and Regulatory Measures in Place and Remaining Gaps related to Article 19: Research, development and monitoring.

Article 19 - Research, development and monitoring	
Description of Article:	Article 19 seeks cooperation among countries to develop and improve on key areas of research that can support effective implementation of the Convention. These research areas include, among others, inventories of mercury use and consumption; the levels of mercury in people, aquatic food sources, and wildlife; and information on mercury commerce and trade.
Succinct summary of provisions relevant to the Maldives	<p>Party shall cooperate in the following areas:</p> <ol style="list-style-type: none"> 1. Inventories of use, consumption, and anthropogenic emissions to air and releases to water and land of mercury and mercury compounds; 2. Modelling and geographically representative monitoring of levels of mercury and mercury compounds in vulnerable populations and in environmental media, such as fish, marine mammals, sea turtles and birds, as well as collaboration in the collection and exchange of relevant and appropriate samples; 3. Assessments of the impact of mercury and mercury compounds on human health and the environment, in addition to social, economic and cultural impacts, particularly in respect of vulnerable populations; 4. Information on the environmental cycle, transport transformation and fate of mercury and mercury compounds in a range of ecosystems, 5. Information on commerce and trade in mercury and mercury compounds and mercury added products; and 6. Information and research on the technical and economic availability of mercury-free products and processes and on best available techniques to reduce and monitor emissions and releases of mercury and mercury compounds.
Policy and regulatory measures in place that enable the country to comply with the above listed provisions:	
Title and reference/ number of relevant regulatory measure,	<ul style="list-style-type: none"> • Environment Protection and Preservation Act – Law No.4/93 • Mercury Free Policy for Health Care Maldives, 2018
Relevant institutions	ME, MoFMRA, MoH, MCS
Outstanding regulatory or policy aspects that would need to be addressed/developed to ensure compliance with the Convention's provisions (only in relation to binding provisions):	
<ul style="list-style-type: none"> • Need to develop research development and monitoring strategy for the Maldives the strategy should cover the following: <ul style="list-style-type: none"> • Assessments of the impact of mercury and mercury compounds on human health and the environment, • Environmental cycle, transport transformation and fate of mercury and mercury compounds in marine ecosystems, particularly bio accumulation in fish and marine life, • Develop a database on import/export of mercury added products; and • provide technical and economic availability of mercury-free products to importers and business community. • Mechanism to monitor emissions and releases of mercury and mercury compounds. 	



Article 21 - Reporting

Table 4-20 Policy and Regulatory Measures in Place and Remaining Gaps related to Article 21: Reporting.

Article 21 - Reporting	
Description of Article:	Article 21 reporting will be a principal basis for evaluating both individual government compliance and the overall effectiveness of the Convention.
Succinct summary of provisions relevant to the Maldives	<p>Countries report on:</p> <ol style="list-style-type: none"> 1. Measures taken to implement the provisions of the Convention, the effectiveness of such measures, and the possible challenges in MEting the objectives of the Convention 2. Information as called for in Articles 3 (Supply and Trade), 8 (Emissions) and (Releases)
Policy and regulatory measures in place that enable the country to comply with the above listed provisions:	
Title and reference/ number of relevant regulatory measure,	<ul style="list-style-type: none"> • Environment Protection and Preservation Act - Law No.4/93
Relevant institutions	ME, MOH, MoFMRA,
Outstanding regulatory or policy aspects that would need to be addressed/developed to ensure compliance with the Convention’s provisions (only in relation to binding provisions):	
<ul style="list-style-type: none"> • Establish a proper institutional mechanism to collect mercury related data (supply, trade, emissions and releases) and reporting • Establish a special unit within the ME and develop capacity to implement the Minamata convention on mercury • Establish institutional strengthening to implement Minamata Convention on Mercury to ensure timely reporting obligations 	



National Strategy to identify mercury contaminated sites

Introduction

This is the National Strategy to identify mercury contaminated sites developed as part of the Minamata Initial Assessment for Maldives to identify, assess and reduce risks from mercury-contaminated sites. It provides strategies for identification of contaminated sites by mercury. According to the Minamata Convention all countries shall endeavour to develop appropriate strategies for identifying and assessing sites contaminated by mercury or mercury compounds.

Article 12 of the Minamata Convention on Mercury states:

1. Each Party shall endeavour to develop appropriate strategies for identifying and assessing sites contaminated by mercury or mercury compounds.
2. Any actions to reduce the risks posed by such sites shall be performed in an environmentally sound manner incorporating, where appropriate, an assessment of the risks to human health and the environment from the mercury or mercury compounds they contain.
3. The Conference of the Parties shall adopt guidance on managing contaminated sites that may include methods and approaches for:
 - a. Site identification and characterization;
 - b. Engaging the public;
 - c. Human health and environmental risk assessments;
 - d. Options for managing the risks posed by contaminated sites;
 - e. Evaluation of benefits and costs; and
 - f. Validation of outcomes.
4. Parties are encouraged to cooperate in developing strategies and implementing activities for identifying, assessing, prioritizing, managing and, as appropriate, remediating contaminated sites.

This document addresses the specific requirement of the Article in the context of Maldives. The national strategy for management of contaminated sites is considered to be a necessity with national importance and the strategy will be integrated into the 'National Waste Management Policy' and 'Waste Management Strategic Action Plan' adopted by the Ministry of Environment which envisages the establishment of Waste Management Centres on each inhabited island and the construction of Regional Waste Management Facilities.



Priorities of national strategy

Based on the evaluation of the different aspects of the situation and the capacity of the country in the management of contaminated site, the following strategic actions are identified at the national level.

Legislative framework

- Define responsibilities and roles of the various Government agencies NGOs and public
- Define the conditions and tools required for technical operations—inventory method, creation of a register of contaminated sites, definition of procedures to assess pollution on a site, prioritization of intervention measures, choice of objectives and rehabilitation scenarios
- Revise the existing legal framework and development of new instruments which are in line with the national strategy as needed.

Financial resources

- Enforce the legal provisions
- Create a contingency fund to finance supervision of the programme, monitor performance of certain preliminary actions (e.g. inventories, initial assessments), and for rehabilitation of sites.
- Resource mobilization will ensure different types of support such as physical, financial, technical, and human capacity to achieve the strategic actions.

Technical measures

- Establish administrative services which will contain a network of technical expertise capable of providing support in the different operational phases.
- Design and develop training and capacity or create technical tools, such as investigation equipment, laboratories, and treatment facilities identified as necessary through assessment of existing facilities.
- Promote proper knowledge and management of mercury waste by instituting training programs and raising awareness among stakeholders (policy makers, waste handlers, general public etc.).
- Technical resources will be generated over time.
- Transfers of technology and foreign technical assistance may be significant at the beginning, but their need should diminish thereafter.
- Avoid the use of excessively sophisticated and costly technologies unsuitable for the local context.

Political initiatives

- Integration of contaminated site management into national policy for protection of the environment, and coordination, with water protection and waste management programmes.



- Development of a programme for communication among the different stakeholders, public authorities, industry representatives, land owners, scientists, contractors of studies and works, and between the various stakeholders and the general public.
- Implementation of a policy on contaminated sites will be lengthy and often costly. It should therefore be spread over several years.
- Action programmes should be designed to be gradual and adaptable.
- Initial estimates of needs should be approximate and should be refined gradually once inventories are completed and experience has been gained.

Potential mercury contaminated sites in the Maldives

During the Inception Workshop and field surveys based on discussions with stakeholders, it was clear that there has not been any historical handling of large amounts of mercury in the Maldives. The only sites that are potentially contaminated with mercury are large waste landfill/disposal sites and large cemeteries in the country, particularly in Malé (*Figure 5-7*). Waste dump sites in urban islands, with large population, can also be considered as potential contaminated sites.

Thilafushi is the largest operational waste disposal site in the Maldives, where the whole reef has been reclaimed and is most likely the largest contaminated site in the Maldives. Waste dump sites in urban islands, such as Hithadhoo and Kulhudhufushi are also presumably contaminated with mercury waste. This would need to be confirmed with further investigation

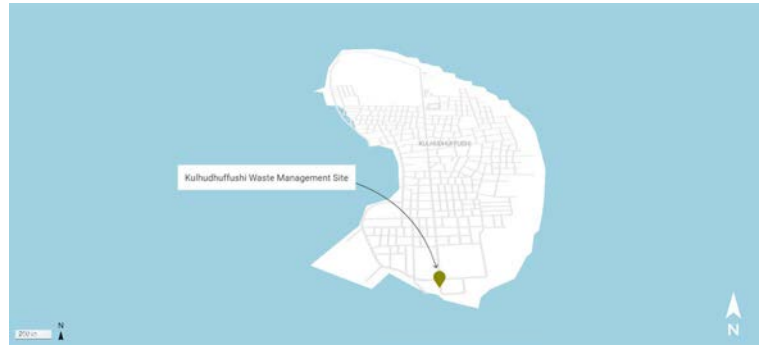
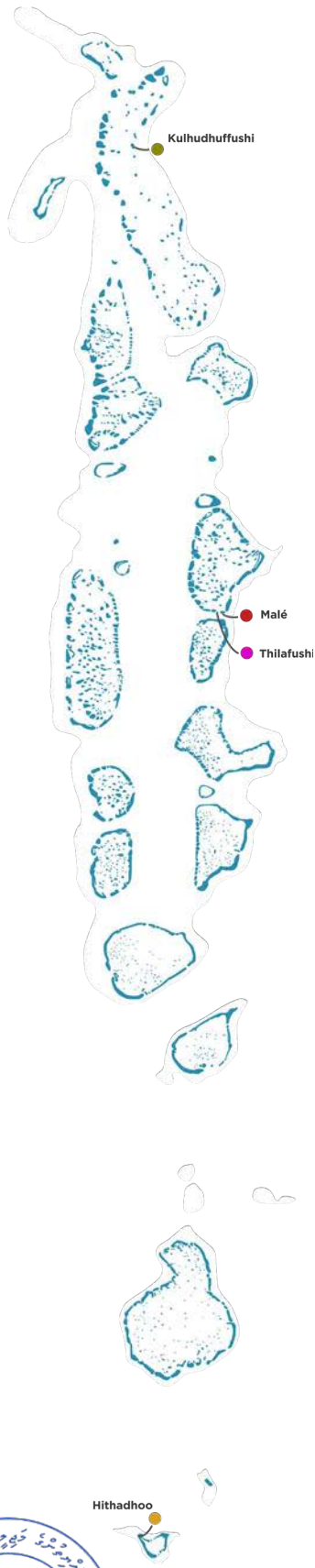
Education, awareness, training and capacity building

There is a need for education, awareness and capacity building particularly among the key technical ministries and institutions. The same is true for the public.

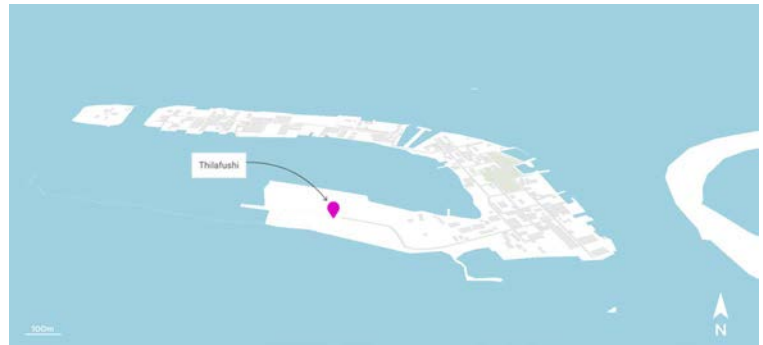
Training of primary national stakeholders for mercury, including ME (the Convention focal point and main implementing agency) and other front line agencies, such as MCS, MFDA, HPA, MoH, MoFMRA, MoD, hospitals, media personnel, fish processing stations, and export facilities etc. Awareness activities should focus on:

- Creating awareness among government institutions on the extensiveness of mercury flow and its impact on human health and environment
- Creating awareness among government institutions on the need for separate laws to manage mercury
- Strengthening policy and regulatory structures for Healthcare Waste Management





Hdh. Kulhudhufushi waste disposal site



Thilafushi island the largest waste disposal site in the Maldives



Malé, location of cemeteries



S. Hithadhoo waste disposal site

Figure 5-1 Potential mercury contaminated sites in Maldives



Research, monitoring and reporting

The Health Protection Agency currently has the technical and physical capacity to undertake testing of mercury. In addition, some laboratories in fish processing plants have the capacity to test for mercury in fish and the environment. However, the scientific and personnel resources are limited within the national laboratories. Therefore, a dedicated programme for monitoring of mercury nationwide is required to be established that would build capacity within existing institutions (FDA, MFDA, EPA, MoFMRA) that are actively involved in monitoring and research. Monitoring and reporting should include collaboration and information sharing between regional and scientific institutions.

Monitoring and reporting will also allow for the update of the baseline mercury inventory to facilitate reporting to the Convention.





Conclusion

The Minamata Convention has not yet been ratified by the Maldives. This assessment report is the first step for the facilitation of ratification and early implementation of the Minamata Convention on Mercury in the Maldives. The country's mercury releases have not been thoroughly monitored, but preliminary findings of this inventory provide evidence that mercury emissions from the relevant sectors in Maldives can have a substantial impact on the environment. The inventory has shown that the annual mercury release in the Maldives is estimated to be 1,310 kg Hg/year (1.3 tonnes). *Figure 6-1* shows the estimated significant categories of mercury release in the Maldives.

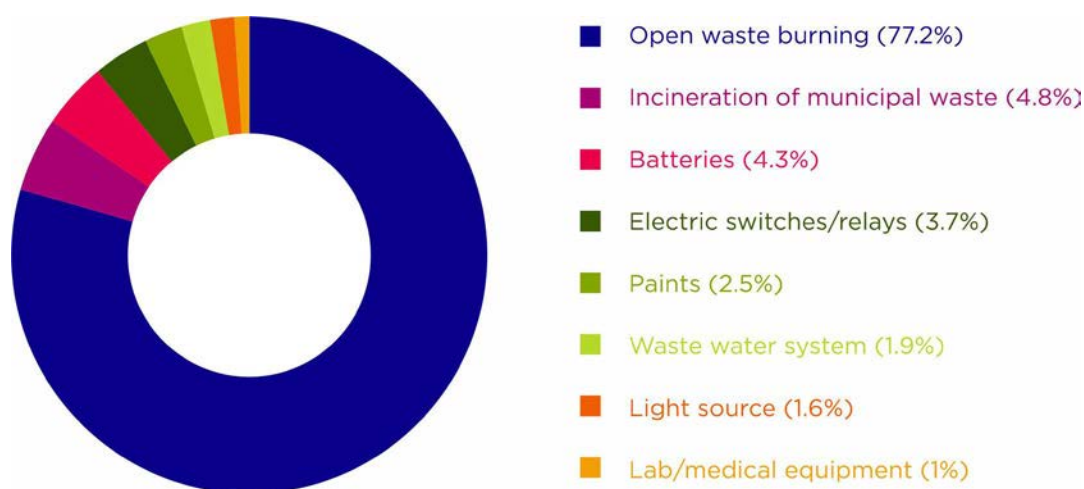


Figure 6-1 Estimated significant categories of mercury release in Maldives

As can be seen from *Figure 6-1*, the primary release of mercury to air in the Maldives is from 'Open Fire Waste Burning', which accounts for 77% of the total input (1,030 kg Hg/year). A total of 84% of mercury releases are from the source category of 'waste incineration and open waste burning'. The second largest contributor to mercury releases (15%) in the Maldives is from use and disposal of products with mercury content, such as batteries, electrical switches and relays with mercury, paints, light sources with mercury, and other laboratory and medical equipment with mercury. Mercury release from all other potential source categories were estimated to account for less than 9% of the remaining releases of mercury in Maldives. The most significant of the remaining categories was the incineration of municipal waste, which accounts for approximately 4.8% of total release of mercury in the Maldives. From the management and elimination perspective, mercury releases from the use and disposal of mercury-containing products can be easily reduced through implementation of regulatory measures to control and ban mercury-containing products. Solid waste management is widely recognized as a pressing environmental issue in the Maldives.



Reducing the release of mercury from open burning of municipal waste, which is the largest contributor of mercury release in the Maldives, can be considered as a challenge in the future. However, with the existing national waste management policy, strict implementation of the Waste Management Regulation (2013/R-58), and development of regional waste management centres, these measures can significantly contribute to the reduction and subsequent elimination of mercury releases associated with open burning of municipal waste.

In order to facilitate the ratification process of the Minamata Convention, reviewing of the regulatory framework relating to mercury and mercury containing compounds is necessary as discussed in the relevant section on regulatory framework. Relevant regulations should be revised and updated to include provisions of the Convention to the national and local regulatory framework. This would significantly improve knowledge regarding flows of mercury and mercury-containing equipment within the country. There is also a need to develop specific regulations to manage the import, export, handling and storage for disposal of mercury-containing products in the Maldives. It is anticipated that this assessment process will provide more detailed information on the existing mercury sources which can lead to informed decision making.



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MINAMATA CONVENTION ON MERCURY

TEXT AND ANNEXES



UN
environment

United Nations
Environment Programme



MINAMATA CONVENTION ON MERCURY

TEXT AND ANNEXES

This booklet is published for information only. It does not substitute the original authentic texts of the Minamata Convention on Mercury as deposited with the Secretary-General of the United Nations acting as the Depositary of the Convention

www.mercuryconvention.org

September 2019





FOREWORD BY THE SECRETARY-GENERAL OF THE UNITED NATIONS **ANTÓNIO GUTERRES**

In 1956, two sisters, aged two and five, were diagnosed in Minamata Bay, Japan, with the crippling, untreatable and stigmatizing effects of mercury poisoning. In the decades that followed, their story would be retold many times, becoming synonymous with the tens of thousands of adults, children and unborn infants to suffer from what is now known as Minamata disease.

Unfortunately, it is a story that we still need to tell because, decades on, too many people still think of mercury simply as a fascinating element safely contained in thermometers. Too few understand that it is lethal, indestructible and present in everything from coal-fired power generation to certain mascaras and fluorescent lights. Likewise, too many are unaware that just a fraction of the 130,000 chemicals and other substances on the market are properly assessed, labelled and tracked. Even fewer suspect that items as mundane as pizza boxes, microwave popcorn or electronic waste pollute our air, land, water, food chains and ecosystems for generations. It still takes far too long to identify, accept and act on such risks to human health.

We need to reinforce the right of scientists to pursue their work for the greater good and for medical experts and citizens to access that knowledge easily. And we need to insist on the right and responsibility of judiciaries and governments to act on such knowledge and the right of the media to report on the outcomes and implications of all these efforts. These are basic rights highlighted by the tragic past and optimistic future that the Minamata Convention symbolizes.

Like so many contaminants, mercury doesn't just damage individual victims. It damages entire communities. It fuels poverty, feeds conflict and pushes equality further out of reach. Take the example of a young mother working as an artisanal gold miner. While she is poisoned from handling mercury at work, countless others, including her children, are harmed by its impact on the environment.

The Minamata Convention is our chance to break that cycle of misery. It represents an opportunity to not only improve the health of people around the world, but to accelerate the transition to a fairer, greener economy. People can benefit from technology that offers safer, more effective alternatives for communities to build a more stable, sustainable future. The legal waste market, which is already worth \$400 billion a year, can create more jobs to securely handle the 90 per cent of electronic waste currently left to pollute our health and our environment. Quite simply, the potential benefits are enormous.

I thank everyone who has already worked so hard to ratify this Convention. But the hardest work still lies ahead, because now we must implement it swiftly and effectively to minimize the risks posed to communities in all regions by the toxic threat of mercury poisoning.





FOREWORD BY UN UNDER-SECRETARY-GENERAL AND EXECUTIVE DIRECTOR OF UN ENVIRONMENT

INGER ANDERSEN

Surrounded by forests and blue sea, Minamata Bay, in Japan, gives the impression of an idyllic place. But it was not always like this. A memorial erected a few meters from the coast serves as a reminder of the local communities that were poisoned by mercury in the late 1950s.

Through the Minamata Convention on Mercury, the global community remembers the many lives already lost to mercury poisoning and commits to preventing similar catastrophes. It is the first global environmental agreement addressing one of the biggest challenges to human health and the environment, from anthropogenic emissions and the release of mercury and mercury compounds.

Mercury exposure is a global concern. Every year, as much as 9,000 tons of mercury are released into the atmosphere, in water and on land. The largest source of mercury emissions is artisanal and small-scale gold mining, followed closely by coal combustion, non-ferrous metal production and cement production. And we still find mercury in many commercial products such as batteries, fluorescent lamps, cosmetics, pesticides, thermometers and dental amalgams. Everyone is exposed to some amount of mercury and high amounts of mercury can lead to long-term and sometimes permanent neurological damages.

The Minamata Convention which entered into force in August 2017, provides a powerful impetus to global efforts to reduce and eliminate the use of mercury and mercury compounds. The international community is working hard to comply with the measures established in the Convention as well as with the related-Sustainable Development Goals to move towards our common goal of prosperity for people and the planet.

A key priority in coming years is to shift investments from mercury polluting industries, in favour of investments in renewable energy, nature, research and development. In doing so, we must capture the opportunities of affordable technologies and innovations that can move markets in the right direction. With greater ambition we will all step up and step in with new solutions to ensure the effective implementation of the Minamata Convention on Mercury.

For the good of our planet, for our future generations, it is time to take action and make mercury history!





FOREWORD BY HER EXCELLENCY (MRS.) DORIS LEUTHARD, PRESIDENT OF THE SWISS CONFEDERATION AND MINISTER FOR THE ENVIRONMENT, TRANSPORT, ENERGY AND COMMUNICATIONS ON THE OCCASION OF THE FIRST MEETING OF THE CONFERENCE OF THE PARTIES TO THE MINAMATA CONVENTION (GENEVA, 24-29 SEPTEMBER 2017)

The Minamata Convention is the first global environmental agreement negotiated in the 21st millennium. It reflects an innovative and comprehensive approach, addressing mercury throughout its life cycle from its mining to its management as waste. It is a privilege and honor for me to host the first Conference of the Parties to the Minamata Convention in Geneva, Switzerland.

In 2003, the Global Mercury Assessment was presented to the 22nd UNEP Governing Council. It concluded that there is significant global adverse impacts from mercury and its compounds to warrant further international action. In response, Switzerland, together with Norway, proposed to develop a comprehensive legally binding instrument on mercury. It took 6 years and many efforts of formal and informal discussions and outreach until the UNEP Governing Council decided in 2009 at its 25th session to launch negotiations for a global mercury convention. These negotiations were well organized and prepared by UNEP Chemicals. They benefitted from substantive input from competent intergovernmental institutions as well as nongovernmental organizations. And, they were guided by the president of the negotiation process, ambassador Fernando Lujaris from Uruguay, in a diligent, wise and solution oriented manner.

In 2013, 10 years after Switzerland's and Norway's call for a legally binding instrument for mercury, the 5th session of the Intergovernmental Negotiation Committee concluded its negotiations in Geneva. I very well remember the final negotiations in Geneva and the pride and satisfaction, when on Saturday morning, 19 January 2013, at 7 am, after a long week of intensive negotiations, agreement on the text of the Minamata Convention on Mercury was achieved. The convention was formally adopted and opened for signature at the Diplomatic Conference of Plenipotentiaries in Kumamoto, Japan, on 10 October 2013, it entered into force on 16 August 2017, and its first Conference of the Parties meets in September 2017 in Geneva.

The Minamata Convention follows and builds on the Basel, Rotterdam and Stockholm conventions. It sets out the same basic substantive obligations for all countries, while providing some targeted differentiation and flexibility in specific substantive provisions, as well as provisions to mobilize financial resources by all, within their capabilities, for implementation in developing countries. Together with the Basel, Rotterdam and Stockholm conventions, it forms a comprehensive global regime for the sound management of chemicals and hazardous wastes.

The Minamata Convention is a 21st century response to the catastrophic pollution in Minamata, Japan, where industrial releases of methyl mercury caused the epidemic known as the Minamata disease in the 1950s and onwards. By naming the convention 'Minamata Convention', the name Minamata will not only be associated with a problem, but also with a solution. It is both an impressive and stimulating proof of how successful multilateralism can be to solve global problems and challenges. I would like to thank wholeheartedly all those who have contributed to that success.





INTRODUCTION

In 2001, the Governing Council of the United Nations Environment Programme¹ (UNEP) invited the Executive Director of UNEP to undertake a global assessment of mercury and its compounds, including information on the chemistry and health effects, sources, long-range transport, and prevention and control technologies relating to mercury. In 2003, the Governing Council considered this assessment and found that there was sufficient evidence of significant global adverse impacts from mercury and its compounds to warrant further international action to reduce the risks to human health and the environment from the release of mercury and its compounds to the environment. Governments were urged to adopt goals for the reduction of mercury emissions and releases and UNEP initiated technical assistance and capacity building activities to meet these goals.

Mercury is recognized as a substance producing significant adverse neurological and other health effects, with particular concerns expressed about its harmful effects on infants and unborn children. The global transport of mercury in the environment was a key reason for taking the decision that global action to address the problem of mercury pollution was required. A mercury programme to address these concerns was thus established and was further strengthened by governments in decisions of the Governing Council in 2005 and in 2007. In the decision of 2007, the Governing Council concluded that the options of enhanced voluntary measures and new or existing international legal instruments would be reviewed and assessed in order to make progress in addressing the mercury issue.

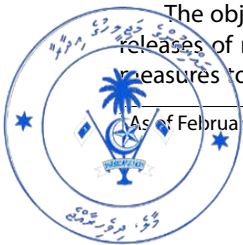
In 2009, following extensive consideration of the issue, the Governing Council agreed that voluntary actions had not been sufficient to address the concerns on mercury, and decided on the need for further action on mercury, including the preparation of a global legally binding instrument. An intergovernmental negotiating committee to prepare a global legally binding instrument on mercury was therefore established, to commence its work in 2010 and conclude its negotiations prior to the twenty-seventh session of the Governing Council in 2013. The committee was provided with a detailed mandate setting out specific issues to be covered in the text of the instrument, as well as a number of other elements to be taken into account while negotiating the text.

In January 2013, the intergovernmental negotiating committee concluded its fifth session by agreeing on the text of the Minamata Convention on Mercury. The text was adopted by the Conference of Plenipotentiaries on 10 October 2013 in Japan and was opened for signature for one year until 9 October 2014. During this period, it was signed by 127 states and one regional economic integration organization, bringing to 128 the total number of signatories.

The Conference of Plenipotentiaries also mandated the intergovernmental negotiating committee to meet during the interim period preceding the opening of the first meeting of the Conference of the Parties to the Convention to facilitate the rapid entry into force of the Convention and its effective implementation upon entry into force. Two sessions of the committee were held, in November 2014 in Bangkok, Thailand and in March 2016 at the Dead Sea in Jordan.

The objective of the Convention is to protect human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds and it sets out a range of measures to meet that objective. These include measures to control the supply and trade of mercury, including setting limitations on specific sources of mercury such as

¹As of February 2013, the designation of the Governing Council of UNEP has been changed to the United Nations Environment Assembly.



primary mining, and to control mercury-added products and manufacturing processes in which mercury or mercury compounds are used, as well as artisanal and small scale gold mining. The text of the Convention includes separate articles on emissions and releases of mercury, with controls directed at reducing levels of mercury while allowing flexibility to accommodate national development plans. In addition, it contains measures on the environmentally sound interim storage of mercury and on mercury wastes, as well as contaminated sites. Provision is made in the text for financial and technical support to developing countries and countries with economies in transition, and a financial mechanism for the provision of adequate, predictable and timely financial resources is defined.

The Minamata Convention provides that it shall enter into force on the ninetieth day after the date of deposit of the fiftieth instrument of ratification, acceptance, approval or accession. That milestone was reached on 18 May 2017, allowing the Convention to enter into force on 16 August 2017 and the holding of the first meeting of its Conference of the Parties from 24 to 29 September 2017 in Geneva, Switzerland.

It is expected that coordinated implementation of the obligations of the Convention will lead to an overall reduction in mercury levels in the environment over time, thus meeting the objective of the Convention to protect human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds.







MINAMATA CONVENTION ON MERCURY

The Parties to this Convention,

Recognizing that mercury is a chemical of global concern owing to its long-range atmospheric transport, its persistence in the environment once anthropogenically introduced, its ability to bioaccumulate in ecosystems and its significant negative effects on human health and the environment,

Recalling decision 25/5 of 20 February 2009 of the Governing Council of the United Nations Environment Programme to initiate international action to manage mercury in an efficient, effective and coherent manner,

Recalling paragraph 221 of the outcome document of the United Nations Conference on Sustainable Development "The future we want", which called for a successful outcome of the negotiations on a global legally binding instrument on mercury to address the risks to human health and the environment,

Recalling the United Nations Conference on Sustainable Development's reaffirmation of the principles of the Rio Declaration on Environment and Development, including, inter alia, common but differentiated responsibilities, and acknowledging States' respective circumstances and capabilities and the need for global action,

Aware of the health concerns, especially in developing countries, resulting from exposure to mercury of vulnerable populations, especially women, children, and, through them, future generations,

Noting the particular vulnerabilities of Arctic ecosystems and indigenous communities because of the biomagnification of mercury and contamination of traditional foods, and concerned about indigenous communities more generally with respect to the effects of mercury,

Recognizing the substantial lessons of Minamata Disease, in particular the serious health and environmental effects resulting from the mercury pollution, and the need to ensure proper management of mercury and the prevention of such events in the future,

Stressing the importance of financial, technical, technological, and capacity-building support, particularly for developing countries, and



countries with economies in transition, in order to strengthen national capabilities for the management of mercury and to promote the effective implementation of the Convention,

Recognizing also the activities of the World Health Organization in the protection of human health related to mercury and the roles of relevant multilateral environmental agreements, especially the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal and the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade,

Recognizing that this Convention and other international agreements in the field of the environment and trade are mutually supportive,

Emphasizing that nothing in this Convention is intended to affect the rights and obligations of any Party deriving from any existing international agreement,

Understanding that the above recital is not intended to create a hierarchy between this Convention and other international instruments,

Noting that nothing in this Convention prevents a Party from taking additional domestic measures consistent with the provisions of this Convention in an effort to protect human health and the environment from exposure to mercury in accordance with that Party's other obligations under applicable international law,

Have agreed as follows:

Article 1 Objective

The objective of this Convention is to protect the human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds.



Article 2

Definitions

For the purposes of this Convention:

(a) "Artisanal and small-scale gold mining" means gold mining conducted by individual miners or small enterprises with limited capital investment and production;

(b) "Best available techniques" means those techniques that are the most effective to prevent and, where that is not practicable, to reduce emissions and releases of mercury to air, water and land and the impact of such emissions and releases on the environment as a whole, taking into account economic and technical considerations for a given Party or a given facility within the territory of that Party. In this context:

(i) "Best" means most effective in achieving a high general level of protection of the environment as a whole;

(ii) "Available" techniques means, in respect of a given Party and a given facility within the territory of that Party, those techniques developed on a scale that allows implementation in a relevant industrial sector under economically and technically viable conditions, taking into consideration the costs and benefits, whether or not those techniques are used or developed within the territory of that Party, provided that they are accessible to the operator of the facility as determined by that Party; and

(iii) "Techniques" means technologies used, operational practices and the ways in which installations are designed, built, maintained, operated and decommissioned;

(c) "Best environmental practices" means the application of the most appropriate combination of environmental control measures and strategies;

(d) "Mercury" means elemental mercury (Hg(0), CAS No. 7439-97-6);

(e) "Mercury compound" means any substance consisting of atoms of mercury and one or more atoms of other chemical elements that can be separated into different components only by chemical reactions;



(f) "Mercury-added product" means a product or product component that contains mercury or a mercury compound that was intentionally added;

(g) "Party" means a State or regional economic integration organization that has consented to be bound by this Convention and for which the Convention is in force;

(h) "Parties present and voting" means Parties present and casting an affirmative or negative vote at a meeting of the Parties;

(i) "Primary mercury mining" means mining in which the principal material sought is mercury;

(j) "Regional economic integration organization" means an organization constituted by sovereign States of a given region to which its member States have transferred competence in respect of matters governed by this Convention and which has been duly authorized, in accordance with its internal procedures, to sign, ratify, accept, approve or accede to this Convention; and

(k) "Use allowed" means any use by a Party of mercury or mercury compounds consistent with this Convention, including, but not limited to, uses consistent with Articles 3, 4, 5, 6 and 7.

Article 3

Mercury supply sources and trade

1. For the purposes of this Article:

(a) References to "mercury" include mixtures of mercury with other substances, including alloys of mercury, with a mercury concentration of at least 95 per cent by weight; and

(b) "Mercury compounds" means mercury (I) chloride (known also as calomel), mercury (II) oxide, mercury (II) sulphate, mercury (II) nitrate, cinnabar and mercury sulphide.

2. The provisions of this Article shall not apply to:



(a) Quantities of mercury or mercury compounds to be used for laboratory-scale research or as a reference standard; or

(b) Naturally occurring trace quantities of mercury or mercury compounds present in such products as non-mercury metals, ores, or mineral products, including coal, or products derived from these materials, and unintentional trace quantities in chemical products; or

(c) Mercury-added products.

3. Each Party shall not allow primary mercury mining that was not being conducted within its territory at the date of entry into force of the Convention for it.

4. Each Party shall only allow primary mercury mining that was being conducted within its territory at the date of entry into force of the Convention for it for a period of up to fifteen years after that date. During this period, mercury from such mining shall only be used in manufacturing of mercury-added products in accordance with Article 4, in manufacturing processes in accordance with Article 5, or be disposed in accordance with Article 11, using operations which do not lead to recovery, recycling, reclamation, direct re-use or alternative uses.

5. Each Party shall:

(a) Endeavour to identify individual stocks of mercury or mercury compounds exceeding 50 metric tons, as well as sources of mercury supply generating stocks exceeding 10 metric tons per year, that are located within its territory;

(b) Take measures to ensure that, where the Party determines that excess mercury from the decommissioning of chlor-alkali facilities is available, such mercury is disposed of in accordance with the guidelines for environmentally sound management referred to in paragraph 3 (a) of Article 11, using operations that do not lead to recovery, recycling, reclamation, direct re-use or alternative uses.

6. Each Party shall not allow the export of mercury except:

(a) To a Party that has provided the exporting Party with its written consent, and only for the purpose of:



- (i) A use allowed to the importing Party under this Convention;
or
- (ii) Environmentally sound interim storage as set out in Article 10;
or

(b) To a non-Party that has provided the exporting Party with its written consent, including certification demonstrating that:

- (i) The non-Party has measures in place to ensure the protection of human health and the environment and to ensure its compliance with the provisions of Articles 10 and 11; and
- (ii) Such mercury will be used only for a use allowed to a Party under this Convention or for environmentally sound interim storage as set out in Article 10.

7. An exporting Party may rely on a general notification to the Secretariat by the importing Party or non-Party as the written consent required by paragraph 6. Such general notification shall set out any terms and conditions under which the importing Party or non-Party provides its consent. The notification may be revoked at any time by that Party or non-Party. The Secretariat shall keep a public register of all such notifications.

8. Each Party shall not allow the import of mercury from a non-Party to whom it will provide its written consent unless the non-Party has provided certification that the mercury is not from sources identified as not allowed under paragraph 3 or paragraph 5 (b).

9. A Party that submits a general notification of consent under paragraph 7 may decide not to apply paragraph 8, provided that it maintains comprehensive restrictions on the export of mercury and has domestic measures in place to ensure that imported mercury is managed in an environmentally sound manner. The Party shall provide a notification of such decision to the Secretariat, including information describing its export restrictions and domestic regulatory measures, as well as information on the quantities and countries of origin of mercury imported from non-Parties. The Secretariat shall maintain a public register of all such notifications. The Implementation and Compliance Committee shall review and evaluate any such notifications and supporting information in accordance with Article 15 and may make recommendations, as appropriate, to the Conference of the Parties.



10. The procedure set out in paragraph 9 shall be available until the conclusion of the second meeting of the Conference of the Parties. After that time, it shall cease to be available, unless the Conference of the Parties decides otherwise by simple majority of the Parties present and voting, except with respect to a Party that has provided a notification under paragraph 9 before the end of the second meeting of the Conference of the Parties.

11. Each Party shall include in its reports submitted pursuant to Article 21 information showing that the requirements of this Article have been met.

12. The Conference of the Parties shall at its first meeting provide further guidance in regard to this Article, particularly in regard to paragraphs 5 (a), 6 and 8, and shall develop and adopt the required content of the certification referred to in paragraphs 6 (b) and 8.

13. The Conference of the Parties shall evaluate whether the trade in specific mercury compounds compromises the objective of this Convention and consider whether specific mercury compounds should, by their listing in an additional annex adopted in accordance with Article 27, be made subject to paragraphs 6 and 8.

Article 4

Mercury-added products

1. Each Party shall not allow, by taking appropriate measures, the manufacture, import or export of mercury-added products listed in Part I of Annex A after the phase-out date specified for those products, except where an exclusion is specified in Annex A or the Party has a registered exemption pursuant to Article 6.

2. A Party may, as an alternative to paragraph 1, indicate at the time of ratification or upon entry into force of an amendment to Annex A for it, that it will implement different measures or strategies to address products listed in Part I of Annex A. A Party may only choose this alternative if it can demonstrate that it has already reduced to a de minimis level the manufacture, import, and export of the large majority of the products listed in Part I of Annex A and that it has implemented measures or strategies to reduce the use of mercury in additional products not listed in



Part I of Annex A at the time it notifies the Secretariat of its decision to use this alternative. In addition, a Party choosing this alternative shall:

(a) Report at the first opportunity to the Conference of the Parties a description of the measures or strategies implemented, including a quantification of the reductions achieved;

(b) Implement measures or strategies to reduce the use of mercury in any products listed in Part I of Annex A for which a de minimis value has not yet been obtained;

(c) Consider additional measures to achieve further reductions; and

(d) Not be eligible to claim exemptions pursuant to Article 6 for any product category for which this alternative is chosen.

No later than five years after the date of entry into force of the Convention, the Conference of the Parties shall, as part of the review process under paragraph 8, review the progress and the effectiveness of the measures taken under this paragraph.

3. Each Party shall take measures for the mercury-added products listed in Part II of Annex A in accordance with the provisions set out therein.

4. The Secretariat shall, on the basis of information provided by Parties, collect and maintain information on mercury-added products and their alternatives, and shall make such information publicly available. The Secretariat shall also make publicly available any other relevant information submitted by Parties.

5. Each Party shall take measures to prevent the incorporation into assembled products of mercury-added products the manufacture, import and export of which are not allowed for it under this Article.

6. Each Party shall discourage the manufacture and the distribution in commerce of mercury-added products not covered by any known use of mercury-added products prior to the date of entry into force of the Convention for it, unless an assessment of the risks and benefits of the product demonstrates environmental or human health benefits. A Party shall provide to the Secretariat, as appropriate, information on any such product, including any information on the environmental and human



health risks and benefits of the product. The Secretariat shall make such information publicly available.

7. Any Party may submit a proposal to the Secretariat for listing a mercury-added product in Annex A, which shall include information related to the availability, technical and economic feasibility and environmental and health risks and benefits of the non-mercury alternatives to the product, taking into account information pursuant to paragraph 4.

8. No later than five years after the date of entry into force of the Convention, the Conference of the Parties shall review Annex A and may consider amendments to that Annex in accordance with Article 27.

9. In reviewing Annex A pursuant to paragraph 8, the Conference of the Parties shall take into account at least:

(a) Any proposal submitted under paragraph 7;

(b) The information made available pursuant to paragraph 4; and

(c) The availability to the Parties of mercury-free alternatives that are technically and economically feasible, taking into account the environmental and human health risks and benefits.

Article 5

Manufacturing processes in which mercury or mercury compounds are used

1. For the purposes of this Article and Annex B, manufacturing processes in which mercury or mercury compounds are used shall not include processes using mercury-added products, processes for manufacturing mercury-added products or processes that process mercury-containing waste.

2. Each Party shall not allow, by taking appropriate measures, the use of mercury or mercury compounds in the manufacturing processes listed in Part I of Annex B after the phase-out date specified in that Annex for the individual processes, except where the Party has a registered exemption pursuant to Article 6.



3. Each Party shall take measures to restrict the use of mercury or mercury compounds in the processes listed in Part II of Annex B in accordance with the provisions set out therein.

4. The Secretariat shall, on the basis of information provided by Parties, collect and maintain information on processes that use mercury or mercury compounds and their alternatives, and shall make such information publicly available. Other relevant information may also be submitted by Parties and shall be made publicly available by the Secretariat.

5. Each Party with one or more facilities that use mercury or mercury compounds in the manufacturing processes listed in Annex B shall:

(a) Take measures to address emissions and releases of mercury or mercury compounds from those facilities;

(b) Include in its reports submitted pursuant to Article 21 information on the measures taken pursuant to this paragraph; and

(c) Endeavour to identify facilities within its territory that use mercury or mercury compounds for processes listed in Annex B and submit to the Secretariat, no later than three years after the date of entry into force of the Convention for it, information on the number and types of such facilities and the estimated annual amount of mercury or mercury compounds used in those facilities. The Secretariat shall make such information publicly available.

6. Each Party shall not allow the use of mercury or mercury compounds in a facility that did not exist prior to the date of entry into force of the Convention for it using the manufacturing processes listed in Annex B. No exemptions shall apply to such facilities.

7. Each Party shall discourage the development of any facility using any other manufacturing process in which mercury or mercury compounds are intentionally used that did not exist prior to the date of entry into force of the Convention, except where the Party can demonstrate to the satisfaction of the Conference of the Parties that the manufacturing process provides significant environmental and health benefits and that there are no technically and economically feasible mercury-free alternatives available providing such benefits.



8. Parties are encouraged to exchange information on relevant new technological developments, economically and technically feasible mercury-free alternatives, and possible measures and techniques to reduce and where feasible to eliminate the use of mercury and mercury compounds in, and emissions and releases of mercury and mercury compounds from, the manufacturing processes listed in Annex B.

9. Any Party may submit a proposal to amend Annex B in order to list a manufacturing process in which mercury or mercury compounds are used. It shall include information related to the availability, technical and economic feasibility and environmental and health risks and benefits of the non-mercury alternatives to the process.

10. No later than five years after the date of entry into force of the Convention, the Conference of the Parties shall review Annex B and may consider amendments to that Annex in accordance with Article 27.

11. In any review of Annex B pursuant to paragraph 10, the Conference of the Parties shall take into account at least:

(a) Any proposal submitted under paragraph 9;

(b) The information made available under paragraph 4; and

(c) The availability for the Parties of mercury-free alternatives which are technically and economically feasible taking into account the environmental and health risks and benefits.

Article 6

Exemptions available to a Party upon request

1. Any State or regional economic integration organization may register for one or more exemptions from the phase-out dates listed in Annex A and Annex B, hereafter referred to as an "exemption", by notifying the Secretariat in writing:

(a) On becoming a Party to this Convention; or

(b) In the case of any mercury-added product that is added by an amendment to Annex A or any manufacturing process in which mercury is used that is added by an amendment to Annex B, no later than the date



upon which the applicable amendment enters into force for the Party.

Any such registration shall be accompanied by a statement explaining the Party's need for the exemption.

2. An exemption can be registered either for a category listed in Annex A or B or for a sub-category identified by any State or regional economic integration organization.

3. Each Party that has one or more exemptions shall be identified in a register. The Secretariat shall establish and maintain the register and make it available to the public.

4. The register shall include:

- (a) A list of the Parties that have one or more exemptions;
- (b) The exemption or exemptions registered for each Party; and
- (c) The expiration date of each exemption.

5. Unless a shorter period is indicated in the register by a Party, all exemptions pursuant to paragraph 1 shall expire five years after the relevant phase-out date listed in Annex A or B.

6. The Conference of the Parties may, at the request of a Party, decide to extend an exemption for five years unless the Party requests a shorter period. In making its decision, the Conference of the Parties shall take due account of:

- (a) A report from the Party justifying the need to extend the exemption and outlining activities undertaken and planned to eliminate the need for the exemption as soon as feasible;

- (b) Available information, including in respect of the availability of alternative products and processes that are free of mercury or that involve the consumption of less mercury than the exempt use; and

- (c) Activities planned or under way to provide environmentally sound storage of mercury and disposal of mercury wastes.

An exemption may only be extended once per product per phase-out date.



7. A Party may at any time withdraw an exemption upon written notification to the Secretariat. The withdrawal of an exemption shall take effect on the date specified in the notification.

8. Notwithstanding paragraph 1, no State or regional economic integration organization may register for an exemption after five years after the phase-out date for the relevant product or process listed in Annex A or B, unless one or more Parties remain registered for an exemption for that product or process, having received an extension pursuant to paragraph 6. In that case, a State or regional economic integration organization may, at the times set out in paragraphs 1 (a) and (b), register for an exemption for that product or process, which shall expire ten years after the relevant phase-out date.

9. No Party may have an exemption in effect at any time after 10 years after the phase-out date for a product or process listed in Annex A or B.

Article 7

Artisanal and small-scale gold mining

1. The measures in this Article and in Annex C shall apply to artisanal and small-scale gold mining and processing in which mercury amalgamation is used to extract gold from ore.

2. Each Party that has artisanal and small-scale gold mining and processing subject to this Article within its territory shall take steps to reduce, and where feasible eliminate, the use of mercury and mercury compounds in, and the emissions and releases to the environment of mercury from, such mining and processing.

3. Each Party shall notify the Secretariat if at any time the Party determines that artisanal and small-scale gold mining and processing in its territory is more than insignificant. If it so determines the Party shall:

(a) Develop and implement a national action plan in accordance with Annex C;

(b) Submit its national action plan to the Secretariat no later than three years after entry into force of the Convention for it or three years after the notification to the Secretariat, whichever is later; and



(c) Thereafter, provide a review every three years of the progress made in meeting its obligations under this Article and include such reviews in its reports submitted pursuant to Article 21.

4. Parties may cooperate with each other and with relevant intergovernmental organizations and other entities, as appropriate, to achieve the objectives of this Article. Such cooperation may include:

(a) Development of strategies to prevent the diversion of mercury or mercury compounds for use in artisanal and small-scale gold mining and processing;

(b) Education, outreach and capacity-building initiatives;

(c) Promotion of research into sustainable non-mercury alternative practices;

(d) Provision of technical and financial assistance;

(e) Partnerships to assist in the implementation of their commitments under this Article; and

(f) Use of existing information exchange mechanisms to promote knowledge, best environmental practices and alternative technologies that are environmentally, technically, socially and economically viable.

Article 8

Emissions

1. This Article concerns controlling and, where feasible, reducing emissions of mercury and mercury compounds, often expressed as “total mercury”, to the atmosphere through measures to control emissions from the point sources falling within the source categories listed in Annex D.

2. For the purposes of this Article:

(a) “Emissions” means emissions of mercury or mercury compounds to the atmosphere;

(b) “Relevant source” means a source falling within one of the source categories listed in Annex D. A Party may, if it chooses, establish criteria to



identify the sources covered within a source category listed in Annex D so long as those criteria for any category include at least 75 per cent of the emissions from that category;

(c) "New source" means any relevant source within a category listed in Annex D, the construction or substantial modification of which is commenced at least one year after the date of:

- (i) Entry into force of this Convention for the Party concerned; or
- (ii) Entry into force for the Party concerned of an amendment to Annex D where the source becomes subject to the provisions of this Convention only by virtue of that amendment;

(d) "Substantial modification" means modification of a relevant source that results in a significant increase in emissions, excluding any change in emissions resulting from by-product recovery. It shall be a matter for the Party to decide whether a modification is substantial or not;

(e) "Existing source" means any relevant source that is not a new source;

(f) "Emission limit value" means a limit on the concentration, mass or emission rate of mercury or mercury compounds, often expressed as "total mercury", emitted from a point source.

3. A Party with relevant sources shall take measures to control emissions and may prepare a national plan setting out the measures to be taken to control emissions and its expected targets, goals and outcomes. Any plan shall be submitted to the Conference of the Parties within four years of the date of entry into force of the Convention for that Party. If a Party develops an implementation plan in accordance with Article 20, the Party may include in it the plan prepared pursuant to this paragraph.

4. For its new sources, each Party shall require the use of best available techniques and best environmental practices to control and, where feasible, reduce emissions, as soon as practicable but no later than five years after the date of entry into force of the Convention for that Party. A Party may use emission limit values that are consistent with the application of best available techniques.



5. For its existing sources, each Party shall include in any national plan, and shall implement, one or more of the following measures, taking into account its national circumstances, and the economic and technical feasibility and affordability of the measures, as soon as practicable but no more than ten years after the date of entry into force of the Convention for it:

(a) A quantified goal for controlling and, where feasible, reducing emissions from relevant sources;

(b) Emission limit values for controlling and, where feasible, reducing emissions from relevant sources;

(c) The use of best available techniques and best environmental practices to control emissions from relevant sources;

(d) A multi-pollutant control strategy that would deliver co-benefits for control of mercury emissions;

(e) Alternative measures to reduce emissions from relevant sources.

6. Parties may apply the same measures to all relevant existing sources or may adopt different measures in respect of different source categories. The objective shall be for those measures applied by a Party to achieve reasonable progress in reducing emissions over time.

7. Each Party shall establish, as soon as practicable and no later than five years after the date of entry into force of the Convention for it, and maintain thereafter, an inventory of emissions from relevant sources.

8. The Conference of the Parties shall, at its first meeting, adopt guidance on:

(a) Best available techniques and on best environmental practices, taking into account any difference between new and existing sources and the need to minimize cross-media effects; and

(b) Support for Parties in implementing the measures set out in paragraph 5, in particular in determining goals and in setting emission limit values.

9. The Conference of the Parties shall, as soon as practicable, adopt guidance on:



- (a) Criteria that Parties may develop pursuant to paragraph 2 (b);
- (b) The methodology for preparing inventories of emissions.

10. The Conference of the Parties shall keep under review, and update as appropriate, the guidance developed pursuant to paragraphs 8 and 9. Parties shall take the guidance into account in implementing the relevant provisions of this Article.

11. Each Party shall include information on its implementation of this Article in its reports submitted pursuant to Article 21, in particular information concerning the measures it has taken in accordance with paragraphs 4 to 7 and the effectiveness of the measures.

Article 9

Releases

1. This Article concerns controlling and, where feasible, reducing releases of mercury and mercury compounds, often expressed as “total mercury”, to land and water from the relevant point sources not addressed in other provisions of this Convention.

2. For the purposes of this Article:

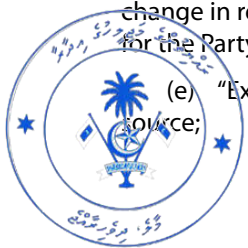
(a) “Releases” means releases of mercury or mercury compounds to land or water;

(b) “Relevant source” means any significant anthropogenic point source of release as identified by a Party that is not addressed in other provisions of this Convention;

(c) “New source” means any relevant source, the construction or substantial modification of which is commenced at least one year after the date of entry into force of this Convention for the Party concerned;

(d) “Substantial modification” means modification of a relevant source that results in a significant increase in releases, excluding any change in releases resulting from by-product recovery. It shall be a matter for the Party to decide whether a modification is substantial or not;

(e) “Existing source” means any relevant source that is not a new source;



(f) "Release limit value" means a limit on the concentration or mass of mercury or mercury compounds, often expressed as "total mercury", released from a point source.

3. Each Party shall, no later than three years after the date of entry into force of the Convention for it and on a regular basis thereafter, identify the relevant point source categories.

4. A Party with relevant sources shall take measures to control releases and may prepare a national plan setting out the measures to be taken to control releases and its expected targets, goals and outcomes. Any plan shall be submitted to the Conference of the Parties within four years of the date of entry into force of the Convention for that Party. If a Party develops an implementation plan in accordance with Article 20, the Party may include in it the plan prepared pursuant to this paragraph.

5. The measures shall include one or more of the following, as appropriate:

(a) Release limit values to control and, where feasible, reduce releases from relevant sources;

(b) The use of best available techniques and best environmental practices to control releases from relevant sources;

(c) A multi-pollutant control strategy that would deliver co-benefits for control of mercury releases;

(d) Alternative measures to reduce releases from relevant sources.

6. Each Party shall establish, as soon as practicable and no later than five years after the date of entry into force of the Convention for it, and maintain thereafter, an inventory of releases from relevant sources.

7. The Conference of the Parties shall, as soon as practicable, adopt guidance on:

(a) Best available techniques and on best environmental practices, taking into account any difference between new and existing sources and the need to minimize cross-media effects;

(b) The methodology for preparing inventories of releases.



8. Each Party shall include information on its implementation of this Article in its reports submitted pursuant to Article 21, in particular information concerning the measures it has taken in accordance with paragraphs 3 to 6 and the effectiveness of the measures.

Article 10

Environmentally sound interim storage of mercury, other than waste mercury

1. This Article shall apply to the interim storage of mercury and mercury compounds as defined in Article 3 that do not fall within the meaning of the definition of mercury wastes set out in Article 11.
2. Each Party shall take measures to ensure that the interim storage of such mercury and mercury compounds intended for a use allowed to a Party under this Convention is undertaken in an environmentally sound manner, taking into account any guidelines, and in accordance with any requirements, adopted pursuant to paragraph 3.
3. The Conference of the Parties shall adopt guidelines on the environmentally sound interim storage of such mercury and mercury compounds, taking into account any relevant guidelines developed under the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal and other relevant guidance. The Conference of the Parties may adopt requirements for interim storage in an additional annex to this Convention in accordance with Article 27.
4. Parties shall cooperate, as appropriate, with each other and with relevant intergovernmental organizations and other entities, to enhance capacity-building for the environmentally sound interim storage of such mercury and mercury compounds.

Article 11

Mercury wastes

The relevant definitions of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal shall apply to wastes covered under this Convention for Parties to the Basel Convention. Parties to this Convention that are not Parties to the Basel



Convention shall use those definitions as guidance as applied to wastes covered under this Convention.

2. For the purposes of this Convention, mercury wastes means substances or objects:

- (a) Consisting of mercury or mercury compounds;
- (b) Containing mercury or mercury compounds; or
- (c) Contaminated with mercury or mercury compounds,

in a quantity above the relevant thresholds defined by the Conference of the Parties, in collaboration with the relevant bodies of the Basel Convention in a harmonized manner, that are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of national law or this Convention. This definition excludes overburden, waste rock and tailings from mining, except from primary mercury mining, unless they contain mercury or mercury compounds above thresholds defined by the Conference of the Parties.

3. Each Party shall take appropriate measures so that mercury waste is:

(a) Managed in an environmentally sound manner, taking into account the guidelines developed under the Basel Convention and in accordance with requirements that the Conference of the Parties shall adopt in an additional annex in accordance with Article 27. In developing requirements, the Conference of the Parties shall take into account Parties' waste management regulations and programmes;

(b) Only recovered, recycled, reclaimed or directly re-used for a use allowed to a Party under this Convention or for environmentally sound disposal pursuant to paragraph 3 (a);

(c) For Parties to the Basel Convention, not transported across international boundaries except for the purpose of environmentally sound disposal in conformity with this Article and with that Convention. In circumstances where the Basel Convention does not apply to transport across international boundaries, a Party shall allow such transport only after taking into account relevant international rules, standards, and guidelines.



4. The Conference of the Parties shall seek to cooperate closely with the relevant bodies of the Basel Convention in the review and update, as appropriate, of the guidelines referred to in paragraph 3 (a).

5. Parties are encouraged to cooperate with each other and with relevant intergovernmental organizations and other entities, as appropriate, to develop and maintain global, regional and national capacity for the management of mercury wastes in an environmentally sound manner.

Article 12

Contaminated sites

1. Each Party shall endeavour to develop appropriate strategies for identifying and assessing sites contaminated by mercury or mercury compounds.

2. Any actions to reduce the risks posed by such sites shall be performed in an environmentally sound manner incorporating, where appropriate, an assessment of the risks to human health and the environment from the mercury or mercury compounds they contain.

3. The Conference of the Parties shall adopt guidance on managing contaminated sites that may include methods and approaches for:

- (a) Site identification and characterization;
- (b) Engaging the public;
- (c) Human health and environmental risk assessments;
- (d) Options for managing the risks posed by contaminated sites;
- (e) Evaluation of benefits and costs; and
- (f) Validation of outcomes.

4. Parties are encouraged to cooperate in developing strategies and implementing activities for identifying, assessing, prioritizing, managing and, as appropriate, remediating contaminated sites.



Article 13

Financial resources and mechanism

1. Each Party undertakes to provide, within its capabilities, resources in respect of those national activities that are intended to implement this Convention, in accordance with its national policies, priorities, plans and programmes. Such resources may include domestic funding through relevant policies, development strategies and national budgets, and bilateral and multilateral funding, as well as private sector involvement.
2. The overall effectiveness of implementation of this Convention by developing country Parties will be related to the effective implementation of this Article.
3. Multilateral, regional and bilateral sources of financial and technical assistance, as well as capacity-building and technology transfer, are encouraged, on an urgent basis, to enhance and increase their activities on mercury in support of developing country Parties in the implementation of this Convention relating to financial resources, technical assistance and technology transfer.
4. The Parties, in their actions with regard to funding, shall take full account of the specific needs and special circumstances of Parties that are small island developing States or least developed countries.
5. A Mechanism for the provision of adequate, predictable, and timely financial resources is hereby defined. The Mechanism is to support developing country Parties and Parties with economies in transition in implementing their obligations under this Convention.
6. The Mechanism shall include:
 - (a) The Global Environment Facility Trust Fund; and
 - (b) A specific international Programme to support capacity-building and technical assistance.
7. The Global Environment Facility Trust Fund shall provide new, predictable, adequate and timely financial resources to meet costs in support of implementation of this Convention as agreed by the Conference of the Parties. For the purposes of this Convention, the Global



Environment Facility Trust Fund shall be operated under the guidance of and be accountable to the Conference of the Parties. The Conference of the Parties shall provide guidance on overall strategies, policies, programme priorities and eligibility for access to and utilization of financial resources. In addition, the Conference of the Parties shall provide guidance on an indicative list of categories of activities that could receive support from the Global Environment Facility Trust Fund. The Global Environment Facility Trust Fund shall provide resources to meet the agreed incremental costs of global environmental benefits and the agreed full costs of some enabling activities.

8. In providing resources for an activity, the Global Environment Facility Trust Fund should take into account the potential mercury reductions of a proposed activity relative to its costs.

9. For the purposes of this Convention, the Programme referred to in paragraph 6 (b) will be operated under the guidance of and be accountable to the Conference of the Parties. The Conference of the Parties shall, at its first meeting, decide on the hosting institution for the Programme, which shall be an existing entity, and provide guidance to it, including on its duration. All Parties and other relevant stakeholders are invited to provide financial resources to the Programme, on a voluntary basis.

10. The Conference of the Parties and the entities comprising the Mechanism shall agree upon, at the first meeting of the Conference of the Parties, arrangements to give effect to the above paragraphs.

11. The Conference of the Parties shall review, no later than at its third meeting, and thereafter on a regular basis, the level of funding, the guidance provided by the Conference of the Parties to the entities entrusted to operationalize the Mechanism established under this Article and their effectiveness, and their ability to address the changing needs of developing country Parties and Parties with economies in transition. It shall, based on such review, take appropriate action to improve the effectiveness of the Mechanism.

12. All Parties, within their capabilities, are invited to contribute to the Mechanism. The Mechanism shall encourage the provision of resources from other sources, including the private sector, and shall seek to leverage such resources for the activities it supports.



Article 14

Capacity-building, technical assistance and technology transfer

1. Parties shall cooperate to provide, within their respective capabilities, timely and appropriate capacity-building and technical assistance to developing country Parties, in particular Parties that are least developed countries or small island developing States, and Parties with economies in transition, to assist them in implementing their obligations under this Convention.
2. Capacity-building and technical assistance pursuant to paragraph 1 and Article 13 may be delivered through regional, subregional and national arrangements, including existing regional and subregional centres, through other multilateral and bilateral means, and through partnerships, including partnerships involving the private sector. Cooperation and coordination with other multilateral environmental agreements in the field of chemicals and wastes should be sought to increase the effectiveness of technical assistance and its delivery.
3. Developed country Parties and other Parties within their capabilities shall promote and facilitate, supported by the private sector and other relevant stakeholders as appropriate, development, transfer and diffusion of, and access to, up-to-date environmentally sound alternative technologies to developing country Parties, in particular the least developed countries and small island developing States, and Parties with economies in transition, to strengthen their capacity to effectively implement this Convention.
4. The Conference of the Parties shall, by its second meeting and thereafter on a regular basis, and taking into account submissions and reports from Parties including those as provided for in Article 21 and information provided by other stakeholders:
 - (a) Consider information on existing initiatives and progress made in relation to alternative technologies;
 - (b) Consider the needs of Parties, particularly developing country Parties, for alternative technologies; and



(c) Identify challenges experienced by Parties, particularly developing country Parties, in technology transfer.

5. The Conference of the Parties shall make recommendations on how capacity-building, technical assistance and technology transfer could be further enhanced under this Article.

Article 15

Implementation and Compliance Committee

1. A mechanism, including a Committee as a subsidiary body of the Conference of the Parties, is hereby established to promote implementation of, and review compliance with, all provisions of this Convention. The mechanism, including the Committee, shall be facilitative in nature and shall pay particular attention to the respective national capabilities and circumstances of Parties.

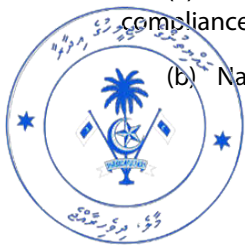
2. The Committee shall promote implementation of, and review compliance with, all provisions of this Convention. The Committee shall examine both individual and systemic issues of implementation and compliance and make recommendations, as appropriate, to the Conference of the Parties.

3. The Committee shall consist of 15 members, nominated by Parties and elected by the Conference of the Parties, with due consideration to equitable geographical representation based on the five regions of the United Nations; the first members shall be elected at the first meeting of the Conference of the Parties and thereafter in accordance with the rules of procedure approved by the Conference of the Parties pursuant to paragraph 5; the members of the Committee shall have competence in a field relevant to this Convention and reflect an appropriate balance of expertise.

4. The Committee may consider issues on the basis of:

(a) Written submissions from any Party with respect to its own compliance;

(b) National reports in accordance with Article 21; and



(c) Requests from the Conference of the Parties.

5. The Committee shall elaborate its rules of procedure, which shall be subject to approval by the second meeting of the Conference of the Parties; the Conference of the Parties may adopt further terms of reference for the Committee.

6. The Committee shall make every effort to adopt its recommendations by consensus. If all efforts at consensus have been exhausted and no consensus is reached, such recommendations shall as a last resort be adopted by a three-fourths majority vote of the members present and voting, based on a quorum of two-thirds of the members.

Article 16

Health aspects

1. Parties are encouraged to:

(a) Promote the development and implementation of strategies and programmes to identify and protect populations at risk, particularly vulnerable populations, and which may include adopting science-based health guidelines relating to the exposure to mercury and mercury compounds, setting targets for mercury exposure reduction, where appropriate, and public education, with the participation of public health and other involved sectors;

(b) Promote the development and implementation of science-based educational and preventive programmes on occupational exposure to mercury and mercury compounds;

(c) Promote appropriate health-care services for prevention, treatment and care for populations affected by the exposure to mercury or mercury compounds; and

(d) Establish and strengthen, as appropriate, the institutional and health professional capacities for the prevention, diagnosis, treatment and monitoring of health risks related to the exposure to mercury and mercury compounds.



2. The Conference of the Parties, in considering health-related issues or activities, should:

(a) Consult and collaborate with the World Health Organization, the International Labour Organization and other relevant intergovernmental organizations, as appropriate; and

(b) Promote cooperation and exchange of information with the World Health Organization, the International Labour Organization and other relevant intergovernmental organizations, as appropriate.

Article 17

Information exchange

1. Each Party shall facilitate the exchange of:

(a) Scientific, technical, economic and legal information concerning mercury and mercury compounds, including toxicological, ecotoxicological and safety information;

(b) Information on the reduction or elimination of the production, use, trade, emissions and releases of mercury and mercury compounds;

(c) Information on technically and economically viable alternatives to:

(i) Mercury-added products;

(ii) Manufacturing processes in which mercury or mercury compounds are used; and

(iii) Activities and processes that emit or release mercury or mercury compounds;

including information on the health and environmental risks and economic and social costs and benefits of such alternatives; and

(d) Epidemiological information concerning health impacts associated with exposure to mercury and mercury compounds, in close cooperation with the World Health Organization and other relevant organizations, as appropriate.



2. Parties may exchange the information referred to in paragraph 1 directly, through the Secretariat, or in cooperation with other relevant organizations, including the secretariats of chemicals and wastes conventions, as appropriate.

3. The Secretariat shall facilitate cooperation in the exchange of information referred to in this Article, as well as with relevant organizations, including the secretariats of multilateral environmental agreements and other international initiatives. In addition to information from Parties, this information shall include information from intergovernmental and non-governmental organizations with expertise in the area of mercury, and from national and international institutions with such expertise.

4. Each Party shall designate a national focal point for the exchange of information under this Convention, including with regard to the consent of importing Parties under Article 3.

5. For the purposes of this Convention, information on the health and safety of humans and the environment shall not be regarded as confidential. Parties that exchange other information pursuant to this Convention shall protect any confidential information as mutually agreed.

Article 18

Public information, awareness and education

1. Each Party shall, within its capabilities, promote and facilitate:

(a) Provision to the public of available information on:

- (i) The health and environmental effects of mercury and mercury compounds;
- (ii) Alternatives to mercury and mercury compounds;
- (iii) The topics identified in paragraph 1 of Article 17;
- (iv) The results of its research, development and monitoring activities under Article 19; and
- (v) Activities to meet its obligations under this Convention;

(b) Education, training and public awareness related to the effects of exposure to mercury and mercury compounds on human health



and the environment in collaboration with relevant intergovernmental and non-governmental organizations and vulnerable populations, as appropriate.

2. Each Party shall use existing mechanisms or give consideration to the development of mechanisms, such as pollutant release and transfer registers where applicable, for the collection and dissemination of information on estimates of its annual quantities of mercury and mercury compounds that are emitted, released or disposed of through human activities.

Article 19

Research, development and monitoring

1. Parties shall endeavour to cooperate to develop and improve, taking into account their respective circumstances and capabilities:

(a) Inventories of use, consumption, and anthropogenic emissions to air and releases to water and land of mercury and mercury compounds;

(b) Modelling and geographically representative monitoring of levels of mercury and mercury compounds in vulnerable populations and in environmental media, including biotic media such as fish, marine mammals, sea turtles and birds, as well as collaboration in the collection and exchange of relevant and appropriate samples;

(c) Assessments of the impact of mercury and mercury compounds on human health and the environment, in addition to social, economic and cultural impacts, particularly in respect of vulnerable populations;

(d) Harmonized methodologies for the activities undertaken under subparagraphs (a), (b) and (c);

(e) Information on the environmental cycle, transport (including long-range transport and deposition), transformation and fate of mercury and mercury compounds in a range of ecosystems, taking appropriate account of the distinction between anthropogenic and natural emissions and releases of mercury and of remobilization of mercury from historic deposition;



(f) Information on commerce and trade in mercury and mercury compounds and mercury-added products; and

(g) Information and research on the technical and economic availability of mercury-free products and processes and on best available techniques and best environmental practices to reduce and monitor emissions and releases of mercury and mercury compounds.

2. Parties should, where appropriate, build on existing monitoring networks and research programmes in undertaking the activities identified in paragraph 1.

Article 20

Implementation plans

1. Each Party may, following an initial assessment, develop and execute an implementation plan, taking into account its domestic circumstances, for meeting the obligations under this Convention. Any such plan should be transmitted to the Secretariat as soon as it has been developed.

2. Each Party may review and update its implementation plan, taking into account its domestic circumstances and referring to guidance from the Conference of the Parties and other relevant guidance.

3. Parties should, in undertaking work in paragraphs 1 and 2, consult national stakeholders to facilitate the development, implementation, review and updating of their implementation plans.

4. Parties may also coordinate on regional plans to facilitate implementation of this Convention.

Article 21

Reporting

1. Each Party shall report to the Conference of the Parties, through the Secretariat, on the measures it has taken to implement the provisions of this Convention and on the effectiveness of such measures and the possible challenges in meeting the objectives of the Convention.

2. Each Party shall include in its reporting the information as called for in Articles 3, 5, 7, 8 and 9 of this Convention.



3. The Conference of the Parties shall, at its first meeting, decide upon the timing and format of the reporting to be followed by the Parties, taking into account the desirability of coordinating reporting with other relevant chemicals and wastes conventions.

Article 22

Effectiveness evaluation

1. The Conference of the Parties shall evaluate the effectiveness of this Convention, beginning no later than six years after the date of entry into force of the Convention and periodically thereafter at intervals to be decided by it.

2. To facilitate the evaluation, the Conference of the Parties shall, at its first meeting, initiate the establishment of arrangements for providing itself with comparable monitoring data on the presence and movement of mercury and mercury compounds in the environment as well as trends in levels of mercury and mercury compounds observed in biotic media and vulnerable populations.

3. The evaluation shall be conducted on the basis of available scientific, environmental, technical, financial and economic information, including:

(a) Reports and other monitoring information provided to the Conference of the Parties pursuant to paragraph 2;

(b) Reports submitted pursuant to Article 21;

(c) Information and recommendations provided pursuant to Article 15; and

(d) Reports and other relevant information on the operation of the financial assistance, technology transfer and capacity-building arrangements put in place under this Convention.

Article 23

Conference of the Parties

A Conference of the Parties is hereby established.



2. The first meeting of the Conference of the Parties shall be convened by the Executive Director of the United Nations Environment Programme no later than one year after the date of entry into force of this Convention. Thereafter, ordinary meetings of the Conference of the Parties shall be held at regular intervals to be decided by the Conference.

3. Extraordinary meetings of the Conference of the Parties shall be held at such other times as may be deemed necessary by the Conference, or at the written request of any Party, provided that, within six months of the request being communicated to the Parties by the Secretariat, it is supported by at least one third of the Parties.

4. The Conference of the Parties shall by consensus agree upon and adopt at its first meeting rules of procedure and financial rules for itself and any of its subsidiary bodies, as well as financial provisions governing the functioning of the Secretariat.

5. The Conference of the Parties shall keep under continuous review and evaluation the implementation of this Convention. It shall perform the functions assigned to it by this Convention and, to that end, shall:

(a) Establish such subsidiary bodies as it considers necessary for the implementation of this Convention;

(b) Cooperate, where appropriate, with competent international organizations and intergovernmental and non-governmental bodies;

(c) Regularly review all information made available to it and to the Secretariat pursuant to Article 21;

(d) Consider any recommendations submitted to it by the Implementation and Compliance Committee;

(e) Consider and undertake any additional action that may be required for the achievement of the objectives of this Convention; and

(f) Review Annexes A and B pursuant to Article 4 and Article 5.

6. The United Nations, its specialized agencies and the International Atomic Energy Agency, as well as any State not a Party to this Convention, may be represented at meetings of the Conference of the Parties as observers. Any body or agency, whether national or international,



governmental or non-governmental, that is qualified in matters covered by this Convention and has informed the Secretariat of its wish to be represented at a meeting of the Conference of the Parties as an observer may be admitted unless at least one third of the Parties present object. The admission and participation of observers shall be subject to the rules of procedure adopted by the Conference of the Parties.

Article 24

Secretariat

1. A Secretariat is hereby established.
2. The functions of the Secretariat shall be:
 - (a) To make arrangements for meetings of the Conference of the Parties and its subsidiary bodies and to provide them with services as required;
 - (b) To facilitate assistance to Parties, particularly developing country Parties and Parties with economies in transition, on request, in the implementation of this Convention;
 - (c) To coordinate, as appropriate, with the secretariats of relevant international bodies, particularly other chemicals and waste conventions;
 - (d) To assist Parties in the exchange of information related to the implementation of this Convention;
 - (e) To prepare and make available to the Parties periodic reports based on information received pursuant to Articles 15 and 21 and other available information;
 - (f) To enter, under the overall guidance of the Conference of the Parties, into such administrative and contractual arrangements as may be required for the effective discharge of its functions; and
 - (g) To perform the other secretariat functions specified in this Convention and such other functions as may be determined by the Conference of the Parties.



3. The secretariat functions for this Convention shall be performed by the Executive Director of the United Nations Environment Programme, unless the Conference of the Parties decides, by a three-fourths majority of the Parties present and voting, to entrust the secretariat functions to one or more other international organizations.

4. The Conference of the Parties, in consultation with appropriate international bodies, may provide for enhanced cooperation and coordination between the Secretariat and the secretariats of other chemicals and wastes conventions. The Conference of the Parties, in consultation with appropriate international bodies, may provide further guidance on this matter.

Article 25

Settlement of disputes

1. Parties shall seek to settle any dispute between them concerning the interpretation or application of this Convention through negotiation or other peaceful means of their own choice.

2. When ratifying, accepting, approving or acceding to this Convention, or at any time thereafter, a Party that is not a regional economic integration organization may declare in a written instrument submitted to the Depositary that, with regard to any dispute concerning the interpretation or application of this Convention, it recognizes one or both of the following means of dispute settlement as compulsory in relation to any Party accepting the same obligation:

(a) Arbitration in accordance with the procedure set out in Part I of Annex E;

(b) Submission of the dispute to the International Court of Justice.

3. A Party that is a regional economic integration organization may make a declaration with like effect in relation to arbitration in accordance with paragraph 2.

4. A declaration made pursuant to paragraph 2 or 3 shall remain in force until it expires in accordance with its terms or until three months after written notice of its revocation has been deposited with the Depositary.



5. The expiry of a declaration, a notice of revocation or a new declaration shall in no way affect proceedings pending before an arbitral tribunal or the International Court of Justice, unless the parties to the dispute otherwise agree.

6. If the parties to a dispute have not accepted the same means of dispute settlement pursuant to paragraph 2 or 3, and if they have not been able to settle their dispute through the means mentioned in paragraph 1 within twelve months following notification by one Party to another that a dispute exists between them, the dispute shall be submitted to a conciliation commission at the request of any party to the dispute. The procedure set out in Part II of Annex E shall apply to conciliation under this Article.

Article 26

Amendments to the Convention

1. Amendments to this Convention may be proposed by any Party.
2. Amendments to this Convention shall be adopted at a meeting of the Conference of the Parties. The text of any proposed amendment shall be communicated to the Parties by the Secretariat at least six months before the meeting at which it is proposed for adoption. The Secretariat shall also communicate the proposed amendment to the signatories to this Convention and, for information, to the Depositary.
3. The Parties shall make every effort to reach agreement on any proposed amendment to this Convention by consensus. If all efforts at consensus have been exhausted, and no agreement reached, the amendment shall as a last resort be adopted by a three-fourths majority vote of the Parties present and voting at the meeting.
4. An adopted amendment shall be communicated by the Depositary to all Parties for ratification, acceptance or approval.
5. Ratification, acceptance or approval of an amendment shall be notified to the Depositary in writing. An amendment adopted in accordance with paragraph 3 shall enter into force for the Parties having consented to be bound by it on the ninetieth day after the date of deposit of instruments of ratification, acceptance or approval by at least three-fourths of the Parties



that were Parties at the time at which the amendment was adopted. Thereafter, the amendment shall enter into force for any other Party on the ninetieth day after the date on which that Party deposits its instrument of ratification, acceptance or approval of the amendment.

Article 27

Adoption and amendment of annexes

1. Annexes to this Convention shall form an integral part thereof and, unless expressly provided otherwise, a reference to this Convention constitutes at the same time a reference to any annexes thereto.

2. Any additional annexes adopted after the entry into force of this Convention shall be restricted to procedural, scientific, technical or administrative matters.

3. The following procedure shall apply to the proposal, adoption and entry into force of additional annexes to this Convention:

(a) Additional annexes shall be proposed and adopted according to the procedure laid down in paragraphs 1–3 of Article 26;

(b) Any Party that is unable to accept an additional annex shall so notify the Depositary, in writing, within one year from the date of communication by the Depositary of the adoption of such annex. The Depositary shall without delay notify all Parties of any such notification received. A Party may at any time notify the Depositary, in writing, that it withdraws a previous notification of non-acceptance in respect of an additional annex, and the annex shall thereupon enter into force for that Party subject to subparagraph (c); and

(c) On the expiry of one year from the date of the communication by the Depositary of the adoption of an additional annex, the annex shall enter into force for all Parties that have not submitted a notification of non-acceptance in accordance with the provisions of subparagraph (b).

4. The proposal, adoption and entry into force of amendments to annexes to this Convention shall be subject to the same procedures as for the proposal, adoption and entry into force of additional annexes to the Convention, except that an amendment to an annex shall not enter into



force with regard to any Party that has made a declaration with regard to amendment of annexes in accordance with paragraph 5 of Article 30, in which case any such amendment shall enter into force for such a Party on the ninetieth day after the date it has deposited with the Depository its instrument of ratification, acceptance, approval or accession with respect to such amendment.

5. If an additional annex or an amendment to an annex is related to an amendment to this Convention, the additional annex or amendment shall not enter into force until such time as the amendment to the Convention enters into force.

Article 28

Right to vote

1. Each Party to this Convention shall have one vote, except as provided for in paragraph 2.
2. A regional economic integration organization, on matters within its competence, shall exercise its right to vote with a number of votes equal to the number of its member States that are Parties to this Convention. Such an organization shall not exercise its right to vote if any of its member States exercises its right to vote, and vice versa.

Article 29

Signature

This Convention shall be opened for signature at Kumamoto, Japan, by all States and regional economic integration organizations on 10 and 11 October 2013, and thereafter at the United Nations Headquarters in New York until 9 October 2014.

Article 30

Ratification, acceptance, approval or accession

1. This Convention shall be subject to ratification, acceptance or approval by States and by regional economic integration organizations. It shall be open for accession by States and by regional economic integration



organizations from the day after the date on which the Convention is closed for signature. Instruments of ratification, acceptance, approval or accession shall be deposited with the Depositary.

2. Any regional economic integration organization that becomes a Party to this Convention without any of its member States being a Party shall be bound by all the obligations under the Convention. In the case of such organizations, one or more of whose member States is a Party to this Convention, the organization and its member States shall decide on their respective responsibilities for the performance of their obligations under the Convention. In such cases, the organization and the member States shall not be entitled to exercise rights under the Convention concurrently.

3. In its instrument of ratification, acceptance, approval or accession, a regional economic integration organization shall declare the extent of its competence in respect of the matters governed by this Convention. Any such organization shall also inform the Depositary, who shall in turn inform the Parties, of any relevant modification of the extent of its competence.

4. Each State or regional economic integration organization is encouraged to transmit to the Secretariat at the time of its ratification, acceptance, approval or accession of the Convention information on its measures to implement the Convention.

5. In its instrument of ratification, acceptance, approval or accession, any Party may declare that, with regard to it, any amendment to an annex shall enter into force only upon the deposit of its instrument of ratification, acceptance, approval or accession with respect thereto.



Article 31

Entry into force

1. This Convention shall enter into force on the ninetieth day after the date of deposit of the fiftieth instrument of ratification, acceptance, approval or accession.
2. For each State or regional economic integration organization that ratifies, accepts or approves this Convention or accedes thereto after the deposit of the fiftieth instrument of ratification, acceptance, approval or accession, the Convention shall enter into force on the ninetieth day after the date of deposit by such State or regional economic integration organization of its instrument of ratification, acceptance, approval or accession.
3. For the purposes of paragraphs 1 and 2, any instrument deposited by a regional economic integration organization shall not be counted as additional to those deposited by member States of that organization.

Article 32

Reservations

No reservations may be made to this Convention.

Article 33

Withdrawal

1. At any time after three years from the date on which this Convention has entered into force for a Party, that Party may withdraw from the Convention by giving written notification to the Depositary.
2. Any such withdrawal shall take effect upon expiry of one year from the date of receipt by the Depositary of the notification of withdrawal, or on such later date as may be specified in the notification of withdrawal.



Article 34

Depositary

The Secretary-General of the United Nations shall be the Depositary of this Convention.

Article 35

Authentic texts

The original of this Convention, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Depositary.

IN WITNESS WHEREOF the undersigned, being duly authorized to that effect, have signed this Convention.

Done at Kumamoto, Japan, on this tenth day of October, two thousand and thirteen.



ANNEXES



Annex A

Mercury-added products

The following products are excluded from this Annex:

- (a) Products essential for civil protection and military uses;
- (b) Products for research, calibration of instrumentation, for use as reference standard;
- (c) Where no feasible mercury-free alternative for replacement is available, switches and relays, cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for electronic displays, and measuring devices;
- (d) Products used in traditional or religious practices; and
- (e) Vaccines containing thiomersal as preservatives.

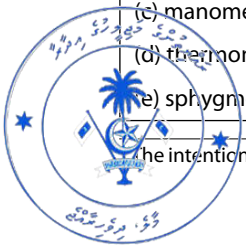
Part I: Products subject to Article 4, paragraph 1

Mercury-added products	Date after which the manufacture, import or export of the product shall not be allowed (phase-out date)
Batteries, except for button zinc silver oxide batteries with a mercury content < 2% and button zinc air batteries with a mercury content < 2%	2020
Switches and relays, except very high accuracy capacitance and loss measurement bridges and high frequency radio frequency switches and relays in monitoring and control instruments with a maximum mercury content of 20 mg per bridge, switch or relay	2020
Compact fluorescent lamps (CFLs) for general lighting purposes that are ≤ 30 watts with a mercury content exceeding 5 mg per lamp burner	2020



<p>Linear fluorescent lamps (LFLs) for general lighting purposes:</p> <p>(a) Triband phosphor < 60 watts with a mercury content exceeding 5 mg per lamp;</p> <p>(b) Halophosphate phosphor ≤ 40 watts with a mercury content exceeding 10 mg per lamp</p>	2020
<p>High pressure mercury vapour lamps (HPMV) for general lighting purposes</p>	2020
<p>Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for electronic displays:</p> <p>(a) short length (≤ 500 mm) with mercury content exceeding 3.5 mg per lamp</p> <p>(b) medium length (> 500 mm and ≤ 1 500 mm) with mercury content exceeding 5 mg per lamp</p> <p>(c) long length (> 1 500 mm) with mercury content exceeding 13 mg per lamp</p>	2020
<p>Cosmetics (with mercury content above 1 ppm), including skin lightening soaps and creams, and not including eye area cosmetics where mercury is used as a preservative and no effective and safe substitute preservatives are available¹⁷</p>	2020
<p>Pesticides, biocides and topical antiseptics</p>	2020
<p>The following non-electronic measuring devices except non-electronic measuring devices installed in large-scale equipment or those used for high precision measurement, where no suitable mercury-free alternative is available:</p> <p>(a) barometers;</p> <p>(b) hygrometers;</p> <p>(c) manometers;</p> <p>(d) thermometers;</p> <p>(e) sphygmomanometers.</p>	2020

¹⁷The intention is not to cover cosmetics, soaps or creams with trace contaminants of mercury.



Part II: Products subject to Article 4, paragraph 3

Mercury-added products	Provisions
Dental amalgam	<p>Measures to be taken by a Party to phase down the use of dental amalgam shall take into account the Party's domestic circumstances and relevant international guidance and shall include two or more of the measures from the following list:</p> <ul style="list-style-type: none"> (i) Setting national objectives aiming at dental caries prevention and health promotion, thereby minimizing the need for dental restoration; (ii) Setting national objectives aiming at minimizing its use; (iii) Promoting the use of cost-effective and clinically effective mercury-free alternatives for dental restoration; (iv) Promoting research and development of quality mercury-free materials for dental restoration; (v) Encouraging representative professional organizations and dental schools to educate and train dental professionals and students on the use of mercury-free dental restoration alternatives and on promoting best management practices; (vi) Discouraging insurance policies and programmes that favour dental amalgam use over mercury-free dental restoration; (vii) Encouraging insurance policies and programmes that favour the use of quality alternatives to dental amalgam for dental restoration; (viii) Restricting the use of dental amalgam to its encapsulated form; (ix) Promoting the use of best environmental practices in dental facilities to reduce releases of mercury and mercury compounds to water and land.



Annex B

Manufacturing processes in which mercury or mercury compounds are used

Part I: Processes subject to Article 5, paragraph 2

Manufacturing processes using mercury or mercury compounds	Phase-out date
Chlor-alkali production	2025
Acetaldehyde production in which mercury or mercury compounds are used as a catalyst	2018

Part II: Processes subject to Article 5, paragraph 3

Mercury using process	Provisions
Vinyl chloride monomer production	<p>Measures to be taken by the Parties shall include but not be limited to:</p> <ul style="list-style-type: none">(i) Reduce the use of mercury in terms of per unit production by 50 per cent by the year 2020 against 2010 use;(ii) Promoting measures to reduce the reliance on mercury from primary mining;(iii) Taking measures to reduce emissions and releases of mercury to the environment;(iv) Supporting research and development in respect of mercury-free catalysts and processes;(v) Not allowing the use of mercury five years after the Conference of the Parties has established that mercury-free catalysts based on existing processes have become technically and economically feasible;(vi) Reporting to the Conference of the Parties on its efforts to develop and/or identify alternatives and phase out mercury use in accordance with Article 21.



<p>Sodium or Potassium Methylate or Ethylate</p>	<p>Measures to be taken by the Parties shall include but not be limited to:</p> <ul style="list-style-type: none"> (i) Measures to reduce the use of mercury aiming at the phase out of this use as fast as possible and within 10 years of the entry into force of the Convention; (ii) Reduce emissions and releases in terms of per unit production by 50 per cent by 2020 compared to 2010; (iii) Prohibiting the use of fresh mercury from primary mining; (iv) Supporting research and development in respect of mercury-free processes; (v) Not allowing the use of mercury five years after the Conference of the Parties has established that mercury-free processes have become technically and economically feasible; (vi) Reporting to the Conference of the Parties on its efforts to develop and/or identify alternatives and phase out mercury use in accordance with Article 21.
<p>Production of polyurethane using mercury containing catalysts</p>	<p>Measures to be taken by the Parties shall include but not be limited to:</p> <ul style="list-style-type: none"> (i) Taking measures to reduce the use of mercury, aiming at the phase out of this use as fast as possible, within 10 years of the entry into force of the Convention; (ii) Taking measures to reduce the reliance on mercury from primary mercury mining; (iii) Taking measures to reduce emissions and releases of mercury to the environment; (iii) Encouraging research and development in respect of mercury-free catalysts and processes; (iv) Reporting to the Conference of the Parties on its efforts to develop and/or identify alternatives and phase out mercury use in accordance with Article 21. <p>Paragraph 6 of Article 5 shall not apply to this manufacturing process.</p>



Annex C

Artisanal and small-scale gold mining

National action plans

1. Each Party that is subject to the provisions of paragraph 3 of Article 7 shall include in its national action plan:

- (a) National objectives and reduction targets;
- (b) Actions to eliminate:
 - (i) Whole ore amalgamation;
 - (ii) Open burning of amalgam or processed amalgam;
 - (iii) Burning of amalgam in residential areas; and
 - (iv) Cyanide leaching in sediment, ore or tailings to which mercury has been added without first removing the mercury;
- (c) Steps to facilitate the formalization or regulation of the artisanal and small-scale gold mining sector;
- (d) Baseline estimates of the quantities of mercury used and the practices employed in artisanal and small-scale gold mining and processing within its territory;
- (e) Strategies for promoting the reduction of emissions and releases of, and exposure to, mercury in artisanal and small-scale gold mining and processing, including mercury-free methods;
- (f) Strategies for managing trade and preventing the diversion of mercury and mercury compounds from both foreign and domestic sources to use in artisanal and small scale gold mining and processing;
- (g) Strategies for involving stakeholders in the implementation and continuing development of the national action plan;
- (h) A public health strategy on the exposure of artisanal and small-scale gold miners and their communities to mercury. Such a strategy



should include, inter alia, the gathering of health data, training for health-care workers and awareness-raising through health facilities;

(i) Strategies to prevent the exposure of vulnerable populations, particularly children and women of child-bearing age, especially pregnant women, to mercury used in artisanal and small-scale gold mining;

(j) Strategies for providing information to artisanal and small-scale gold miners and affected communities; and

(k) A schedule for the implementation of the national action plan.

2. Each Party may include in its national action plan additional strategies to achieve its objectives, including the use or introduction of standards for mercury-free artisanal and small-scale gold mining and market-based mechanisms or marketing tools.



Annex D

List of point sources of emissions of mercury and mercury compounds to the atmosphere

Point source category:

Coal-fired power plants;

Coal-fired industrial boilers;

Smelting and roasting processes used in the production of non-ferrous metals;^{1/}

Waste incineration facilities;

Cement clinker production facilities.



^{1/}For the purpose of this Annex, "non-ferrous metals" refers to lead, zinc, copper and industrial gold.

Annex E

Arbitration and conciliation procedures

Part I: Arbitration procedure

The arbitration procedure for purposes of paragraph 2 (a) of Article 25 of this Convention shall be as follows:

Article 1

1. A Party may initiate recourse to arbitration in accordance with Article 25 of this Convention by written notification addressed to the other party or parties to the dispute. The notification shall be accompanied by a statement of claim, together with any supporting documents. Such notification shall state the subject matter of arbitration and include, in particular, the Articles of this Convention the interpretation or application of which are at issue.

2. The claimant party shall notify the Secretariat that it is referring a dispute to arbitration pursuant to Article 25 of this Convention. The notification shall be accompanied by the written notification of the claimant party, the statement of claim, and the supporting documents referred to in paragraph 1 above. The Secretariat shall forward the information thus received to all Parties.

Article 2

1. If a dispute is referred to arbitration in accordance with Article 1 above, an arbitral tribunal shall be established. It shall consist of three members.

2. Each party to the dispute shall appoint an arbitrator, and the two arbitrators so appointed shall designate by agreement the third arbitrator, who shall be the President of the tribunal. In disputes between more than two parties, parties in the same interest shall appoint one arbitrator jointly by agreement. The President of the tribunal shall not be a national of any of the parties to the dispute, nor have his or her usual place of residence in the territory of any of these parties, nor be employed by any of them, nor have dealt with the case in any other capacity.



3. Any vacancy shall be filled in the manner prescribed for the initial appointment.

Article 3

1. If one of the parties to the dispute does not appoint an arbitrator within two months of the date on which the respondent party receives the notification of the arbitration, the other party may inform the Secretary-General of the United Nations, who shall make the designation within a further two-month period.

2. If the President of the arbitral tribunal has not been designated within two months of the date of the appointment of the second arbitrator, the Secretary-General of the United Nations shall, at the request of a party, designate the President within a further two-month period.

Article 4

The arbitral tribunal shall render its decisions in accordance with the provisions of this Convention and international law.

Article 5

Unless the parties to the dispute otherwise agree, the arbitral tribunal shall determine its own rules of procedure.

Article 6

The arbitral tribunal may, at the request of one of the parties to the dispute, recommend essential interim measures of protection.

Article 7

The parties to the dispute shall facilitate the work of the arbitral tribunal and, in particular, using all means at their disposal, shall:

- (a) Provide it with all relevant documents, information and facilities; and
- (b) Enable it, when necessary, to call witnesses or experts and receive their evidence.



Article 8

The parties to the dispute and the arbitrators are under an obligation to protect the confidentiality of any information or documents that they receive in confidence during the proceedings of the arbitral tribunal.

Article 9

Unless the arbitral tribunal determines otherwise because of the particular circumstances of the case, the costs of the tribunal shall be borne by the parties to the dispute in equal shares. The tribunal shall keep a record of all its costs and shall furnish a final statement thereof to the parties.

Article 10

A Party that has an interest of a legal nature in the subject matter of the dispute that may be affected by the decision may intervene in the proceedings with the consent of the arbitral tribunal.

Article 11

The arbitral tribunal may hear and determine counterclaims arising directly out of the subject matter of the dispute.

Article 12

Decisions of the arbitral tribunal on both procedure and substance shall be taken by a majority vote of its members.

Article 13

1. If one of the parties to the dispute does not appear before the arbitral tribunal or fails to defend its case, the other party may request the tribunal to continue the proceedings and to make its decision. Absence of a party or a failure of a party to defend its case shall not constitute a bar to the proceedings.
2. Before rendering its final decision, the arbitral tribunal must satisfy itself that the claim is well founded in fact and law.



Article 14

The arbitral tribunal shall render its final decision within five months of the date on which it is fully constituted, unless it finds it necessary to extend the time limit for a period that should not exceed five more months.

Article 15

The final decision of the arbitral tribunal shall be confined to the subject matter of the dispute and shall state the reasons on which it is based. It shall contain the names of the members who have participated and the date of the final decision. Any member of the tribunal may attach a separate or dissenting opinion to the final decision.

Article 16

The final decision shall be binding on the parties to the dispute. The interpretation of this Convention given by the final decision shall also be binding upon a Party intervening under Article 10 above insofar as it relates to matters in respect of which that Party intervened. The final decision shall be without appeal unless the parties to the dispute have agreed in advance to an appellate procedure.

Article 17

Any disagreement that may arise between those bound by the final decision in accordance with Article 16 above, as regards the interpretation or manner of implementation of that final decision, may be submitted by any of them for decision to the arbitral tribunal that rendered it.



Part II: Conciliation procedure

The conciliation procedure for purposes of paragraph 6 of Article 25 of this Convention shall be as follows:

Article 1

A request by a party to a dispute to establish a conciliation commission pursuant to paragraph 6 of Article 25 of this Convention shall be addressed in writing to the Secretariat, with a copy to the other party or parties to the dispute. The Secretariat shall forthwith inform all Parties accordingly.

Article 2

1. The conciliation commission shall, unless the parties to the dispute otherwise agree, comprise three members, one appointed by each party concerned and a President chosen jointly by those members.
2. In disputes between more than two parties, parties in the same interest shall appoint their member of the commission jointly by agreement.

Article 3

If any appointment by the parties to the dispute is not made within two months of the date of receipt by the Secretariat of the written request referred to in Article 1 above, the Secretary-General of the United Nations shall, upon request by any party, make such appointment within a further two-month period.

Article 4

If the President of the conciliation commission has not been chosen within two months of the appointment of the second member of the commission, the Secretary-General of the United Nations shall, upon request by any party to the dispute, designate the President within a further two-month period.

Article 5

The conciliation commission shall assist the parties to the dispute in an independent and impartial manner in their attempt to reach an amicable resolution.



Article 6

1. The conciliation commission may conduct the conciliation proceedings in such a manner as it considers appropriate, taking fully into account the circumstances of the case and the views the parties to the dispute may express, including any request for a swift resolution. It may adopt its own rules of procedure as necessary, unless the parties otherwise agree.
2. The conciliation commission may, at any time during the proceedings, make proposals or recommendations for a resolution of the dispute.

Article 7

The parties to the dispute shall cooperate with the conciliation commission. In particular, they shall endeavour to comply with requests by the commission to submit written materials, provide evidence and attend meetings. The parties and the members of the conciliation commission are under an obligation to protect the confidentiality of any information or documents they receive in confidence during the proceedings of the commission.

Article 8

The conciliation commission shall take its decisions by a majority vote of its members.

Article 9

Unless the dispute has already been resolved, the conciliation commission shall render a report with recommendations for resolution of the dispute no later than twelve months of being fully constituted, which the parties to the dispute shall consider in good faith.

Article 10

Any disagreement as to whether the conciliation commission has competence to consider a matter referred to it shall be decided by the commission.

Article 11

The costs of the conciliation commission shall be borne by the parties to the dispute in equal shares, unless they agree otherwise. The commission shall keep a record of all its costs and shall furnish a final statement thereof to the parties.









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environment

United Nations
Environment Programme

مركز ابحاث ودراسات

اقتصاد وعلوم سياسية ودراسات

عربية ودراسات اسلامية



بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ



މިސަރުކާރުގެ ނަމުގައި ބަޔާންކުރަމެންނެވެ، ރާއްޖޭގެ ބައިވެރިންނަށް ރައްކާތެރިކަމާއި
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މިއަދު.

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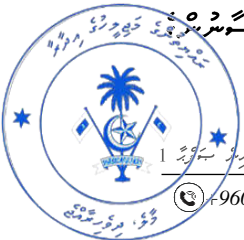
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ބޭނުންކުރަމެންނެވެ.

3. ވަނަ ބައި:

ރާއްޖޭގެ ބައިވެރިންނަށް ރައްކާތެރިކަމާއި ބޭނުންކުރަމެންނެވެ. ރާއްޖޭގެ ބައިވެރިންނަށް
ރައްކާތެރިކަމާއި ބޭނުންކުރަމެންނެވެ. ރާއްޖޭގެ ބައިވެރިންނަށް ރައްކާތެރިކަމާއި
ބޭނުންކުރަމެންނެވެ. 2013 ވަނަ އަހަރުގެ ނިންމުމުގެ ދަށުން ރާއްޖޭގެ ބައިވެރިންނަށް
ރައްކާތެރިކަމާއި ބޭނުންކުރަމެންނެވެ.

މިސަރުކާރުގެ ނަމުގައި ބަޔާންކުރަމެންނެވެ، ރާއްޖޭގެ ބައިވެރިންނަށް ރައްކާތެރިކަމާއި
އެކުލަވައިލުމަށް ބޭނުންކުރަމެންނެވެ. ރާއްޖޭގެ ބައިވެރިންނަށް ރައްކާތެރިކަމާއި
އެކުލަވައިލުމަށް ބޭނުންކުރަމެންނެވެ. ރާއްޖޭގެ ބައިވެރިންނަށް ރައްކާތެރިކަމާއި
އެކުލަވައިލުމަށް ބޭނުންކުރަމެންނެވެ. ރާއްޖޭގެ ބައިވެރިންނަށް ރައްކާތެރިކަމާއި
އެކުލަވައިލުމަށް ބޭނުންކުރަމެންނެވެ.



بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ



بجاء تفریق 2

ہجرت کے سبب سے پہلے سے تفریق



3 صح تروخو

صح تروخو صح تروخو صح تروخو صح تروخو صح تروخو
صح تروخو صح تروخو صح تروخو صح تروخو صح تروخو



بج تروخو 4

دفعه ٤٠٠٠ بج تروخو ٤٠٠٠ بج تروخو ٤٠٠٠ بج تروخو





අධිකාරීන් සේවයේ යෙදවීමේ ක්‍රමය, අතිරික්තව පවතින 4/93 (අධිකාරීන්ගේ සේවයේ යෙදවීමේ ක්‍රමය) පිළිබඳව අධිකාරීන්ගේ සේවයේ යෙදවීමේ ක්‍රමය (අධිකාරීන්ගේ සේවයේ යෙදවීමේ ක්‍රමය) යනුවෙන් හැඳින්වෙන පිළිබඳව අධිකාරීන්ගේ සේවයේ යෙදවීමේ ක්‍රමය.

10. ධීවරකර්ම අංශයේ 13 වන කොටසේ දී, ධීවරකර්ම අංශයේ සේවයේ යෙදවීමේ ක්‍රමය පිළිබඳව අධිකාරීන්ගේ සේවයේ යෙදවීමේ ක්‍රමය (අධිකාරීන්ගේ සේවයේ යෙදවීමේ ක්‍රමය) යනුවෙන් හැඳින්වෙන පිළිබඳව අධිකාරීන්ගේ සේවයේ යෙදවීමේ ක්‍රමය.

11. ධීවරකර්ම අංශයේ 16 වන කොටසේ දී, ධීවරකර්ම අංශයේ සේවයේ යෙදවීමේ ක්‍රමය පිළිබඳව අධිකාරීන්ගේ සේවයේ යෙදවීමේ ක්‍රමය (අධිකාරීන්ගේ සේවයේ යෙදවීමේ ක්‍රමය) යනුවෙන් හැඳින්වෙන පිළිබඳව අධිකාරීන්ගේ සේවයේ යෙදවීමේ ක්‍රමය.

12. ධීවරකර්ම අංශයේ 17 වන කොටසේ දී, ධීවරකර්ම අංශයේ සේවයේ යෙදවීමේ ක්‍රමය පිළිබඳව අධිකාරීන්ගේ සේවයේ යෙදවීමේ ක්‍රමය (අධිකාරීන්ගේ සේවයේ යෙදවීමේ ක්‍රමය) යනුවෙන් හැඳින්වෙන පිළිබඳව අධිකාරීන්ගේ සේවයේ යෙදවීමේ ක්‍රමය.

13. ධීවරකර්ම අංශයේ 18 වන කොටසේ දී, ධීවරකර්ම අංශයේ සේවයේ යෙදවීමේ ක්‍රමය පිළිබඳව අධිකාරීන්ගේ සේවයේ යෙදවීමේ ක්‍රමය (අධිකාරීන්ගේ සේවයේ යෙදවීමේ ක්‍රමය) යනුවෙන් හැඳින්වෙන පිළිබඳව අධිකාරීන්ගේ සේවයේ යෙදවීමේ ක්‍රමය.

14. ධීවරකර්ම අංශයේ 21 වන කොටසේ දී, ධීවරකර්ම අංශයේ සේවයේ යෙදවීමේ ක්‍රමය පිළිබඳව අධිකාරීන්ගේ සේවයේ යෙදවීමේ ක්‍රමය (අධිකාරීන්ගේ සේවයේ යෙදවීමේ ක්‍රමය) යනුවෙන් හැඳින්වෙන පිළිබඳව අධිකාරීන්ගේ සේවයේ යෙදවීමේ ක්‍රමය.

15. ධීවරකර්ම අංශයේ 25 වන කොටසේ දී, ධීවරකර්ම අංශයේ සේවයේ යෙදවීමේ ක්‍රමය පිළිබඳව අධිකාරීන්ගේ සේවයේ යෙදවීමේ ක්‍රමය (අධිකාරීන්ගේ සේවයේ යෙදවීමේ ක්‍රමය) යනුවෙන් හැඳින්වෙන පිළිබඳව අධිකාරීන්ගේ සේවයේ යෙදවීමේ ක්‍රමය.



بَیِّنَاتٌ ۵

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ



بج ترفوتو 6

د سړو سړو پر اتر اتر، اتر د اتر اتر اتر اتر اتر اتر
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بَیِّنَاتُ ٧

رَأَى كَلْبًا سَرَّكَ يَدْرِي لَأَسْرَجَ نَبْرَتِي مَعَهُ سَوْدٌ



Becoming a party to the Minamata Convention on Mercury

Background

The Minamata Convention was adopted on **10 October 2013** and opened for signature for one year, until 9 October 2014. During this period, 127 states and one regional economic integration organization signed the Convention, bringing to 128 the total number of its signatories. The Convention entered into force on **16 August 2017**, which was, as specified in its Article 31, the ninetieth day after the date of deposit of the fiftieth instrument of ratification, acceptance, approval or accession.

The signature is the formal expression of intent to be bound and become a party but it does not prejudice ratification. The signature does not bear legal obligation as such; however, a State is expected to refrain from acts that would defeat the object and purpose of a treaty it has signed.

Ratification, acceptance, approval, and accession are similar means by which a State establishes its consent to be bound by a treaty, depending on domestic legal or policy requirements.

Accession has the same legal effect as ratification, acceptance or approval and was opened from the day the Convention was closed for signature – on 10 October 2014. Unlike ratification, acceptance or approval, which are preceded by signature to create binding legal obligations under international law, accession requires only one step, namely, the deposit of an instrument of accession.

The **text of the Minamata Convention** is available in Arabic, Chinese, English, French, Russian and Spanish.

The six language versions of the Convention text are equally authentic. Certified true copies of the Convention in all official languages **can be found here**.

How does a country become a party to the Minamata Convention?

In order to become a party to the Minamata Convention, a State or a regional economic integration organization must demonstrate its willingness to undertake the legal rights and obligations contained in the Convention. In other words, it must express its consent to be bound by the Convention. In practical terms, under the Minamata Convention, a State must lodge with the depositary – the Secretary-General of the United Nations – its instrument of ratification, acceptance, approval or accession.

Usually ratification, acceptance, approval or accession involves two distinct procedural acts:

- The first act relates to the constitutional (internal) laws of a State and to the procedure that must be fulfilled before the State can assume the international obligations enshrined in the Minamata Convention. While the required process is defined by laws of each State and therefore unique to that State, this often involves approval by the national parliament.

- The second act deals with the external (international) level, which is the process through which the State indicates its consent to be bound by the Convention.

The usual main steps to be undertaken for becoming a party to an international treaty, including the Minamata Convention, may be summarized as follows:

1. **Carry out a national situation analysis and collect information:** The lead ministry/authority responsible for the Convention (such as the national authority or ministry involved in negotiating or implementing the Convention) prepares an analysis of the domestic situation of becoming a party to the Convention, of the steps to be taken, including any legislative or administrative actions that will be necessary for its implementation, and collects all relevant documentation. This information would be shared with other relevant authorities (e.g., other ministries) as part of the process of carrying out



Becoming a party to the Minamata Convention on Mercury

the steps listed below. If the country has undertaken a Minamata Initial Assessment (MIA), the MIA report would contain useful information for this step of the process.

2. **Make necessary national arrangements:** The lead ministry/authority should prepare the necessary arrangements at the national level to allow for policy coordination among the different concerned bodies and stakeholders to be involved in the process as well as the necessary legislative, administrative and institutional arrangements.
3. **Contact the authority responsible for issuing the instrument of ratification (or acceptance, approval or accession) and identify the signatory of the instrument:** The lead ministry/authority should consult with the government authority responsible for drafting ratification instruments and related documents (the "ratification package") for international agreements. This is usually a legal unit within the Ministry of Foreign Affairs. The authority responsible for preparing the ratification package would identify who, at the national level, can take a decision on or approve ratification/accession of the Convention, recognizing that this decision might involve more than one part of the national governmental structure.

The decision or approval would provide the basis for the issuance of an instrument of ratification, acceptance, approval or accession for the Convention. The instrument must be signed by the Head of State, Head of Government or Minister for Foreign Affairs. **Templates are available** at UN Office of Legal Affairs, Treaties Section.

4. **Identify and undertake the processes leading to domestic approval of the ratification (or acceptance, approval or accession):** The office of the authority or authorities vested with the power to decide on ratification (or acceptance, approval or accession) can advise on the

steps that would lead to such domestic approval.

Provided that there is the political will to proceed, the office of such authority or authorities can indicate the necessary documentation and decision-making processes that have to be completed before the instrument can be signed and deposited with the Depository.

In addition to obtaining necessary approvals of the authority or authorities (such as the administration of the head of State or head of Government, and the parliament or other bodies as may be relevant), such processes might include, if so required by relevant national laws and depending upon the specific circumstances of that State, passing new legislation, regulations and/or policies or revising the existing ones, a review by judicial bodies, and/or engagement of civil society.

Early consultation and cooperation among the responsible and interested entities is encouraged to enhance and facilitate the decision-making process.

5. **Determine the declarations or statements that may be necessary:** As part of the above decision-making process, the Government will need to determine the declarations and/or notifications it needs and wishes to make at the time of deposit of its instrument of ratification, acceptance, approval or accession.

Some declarations maybe included in the instrument of ratification itself (or acceptance, approval or accession), such as the declaration regarding the means of dispute settlement as per Article 25, paragraphs 2 and 3 and the declaration on the entry into force of any amendment to an annex as per Article 30, paragraph 5.

Optional and mandatory declarations impose legal obligations on the declarant and therefore must be signed by the Head of State, Head of Government or Minister for Foreign Affairs or by a person having full powers for that purpose issued by one of the above authorities.



Becoming a party to the Minamata Convention on Mercury

Under the Minamata Convention, notifications to be transmitted in writing to the Secretariat include:

- Notifications under Article 3, paragraphs 6, 7 and 9. The general notification of consent to import as per Article 3, paragraphs 6 and 7, may be done at any time. The time frame for notification of application of Article 3, paragraph 9 was until the end of the second meeting of the Conference of the Parties.
- Notification regarding the implementation of different measures or strategies to address products listed in Part I of Annex A, as per Article 4, paragraph 2. If the party wishes to notify the implementation of different measures or strategies, the declaration must be done at the time of ratification or upon entry into force of an amendment to Annex A for it.
- Notification to register exemptions from the phase out dates in Annexes A and B as per Article 6, paragraph 1. If an exemption is desired, such notification must be submitted on becoming a party to the Convention, or for products or processes that are added by an amendment to Annexes A or B, no later than the date upon which the applicable amendment enters into force for the party.
- Information on the number and types of facilities within its territory that use mercury or mercury compounds for processes listed in Annex B and the estimated annual amount of mercury or mercury compounds used in those facilities as per Article 5, paragraph 5. Parties shall endeavour to identify these facilities and shall submit the above information to the Secretariat no later than three years after the date of entry into force of the Convention for it.
- Notification that artisanal and small-scale gold mining and processing is more than insignificant, as per Article 7, paragraph 3. Such notification must be done at any time the party determines such activity is more than insignificant in its territory. A model letter that could be used by the party for such a notification is [available here](#).
- Information on measures to implement the Convention as per Article 30, paragraph 4. States are encouraged to transmit such information at the time of ratification (acceptance, approval or accession).
- Each party is to designate a national focal point for the exchange of information, including with regard to the consent of importing parties under Article 3, as per Article 17, paragraph 4. In order to make such national focal point known to other parties, the party should notify the Secretariat about the designated national focal point. If at any time the national focal point changes, the Secretariat should be notified. The form and sample letter to notify

the designation of a national focal point is [available here](#). The Secretariat posts there the contact information for national focal points.

Since a notification does not have the same legal effect as a declaration, it does not need to be signed by the Head of State, Head of Government or Minister for Foreign Affairs or by a person having full powers. It should be noted that some of the above notifications are made following a particular choice by the State while others are obligations on any party with a particular national situation (such as facilities present in the territory which use processes listed in Annex B, or parties which have artisanal and small-scale gold mining and processing that is more than insignificant). The Secretariat posts [notifications here](#).



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- 6. Prepare and sign the instrument:** Following the completion of the domestic legislative procedures, where necessary for the approval of the Convention, and following the completion of the necessary national decision-making processes, the government office responsible for doing so will prepare the instrument of ratification, acceptance, approval or accession and any instruments of declaration. Model instruments of ratification, acceptance or approval in the six official UN languages are [available here](#). In the practice of many countries, this responsibility belongs to the Ministry of Foreign Affairs. The authority entitled to do so will then sign the instrument. The instrument must be signed by the Head of State, Head of Government or Minister for Foreign Affairs.
- 7. Lodge the instrument with the Depositary:** An instrument of ratification, acceptance, approval or accession to the Convention becomes effective only after it is deposited with the Secretary-General of the United Nations at UN Headquarters in New York. This is customarily done through the Permanent Mission of the relevant State to the UN in New York. Note that the instrument is not to be sent to the Minamata Convention Secretariat. The date of deposit is normally recorded as that on which the instrument is received at UN Headquarters. States are advised to deliver such instrument to the Treaty Section, Office of Legal Affairs of the UN directly to ensure that the action is promptly processed.

The usual steps for depositing the instrument include:

- Prepare the instrument of ratification, acceptance, approval or accession, as applicable, in the language as required by the laws and procedures of that State;
- E-mail or fax a copy to the UN Treaty Section for review (if the instrument is written in a language other than one of the six UN languages, a courtesy translation into one of the six UN languages could be included to facilitate its review);
- Deliver the original instrument by hand or mail to the Treaty Section;
- Full Powers are not required for the person delivering the instrument;
- If the instrument is e-mailed or faxed for immediate deposit, deliver the original instrument to the Treaty Section as soon as possible thereafter.

Treaty Section

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Becoming a party to the Minamata Convention on Mercury

Summary of the key steps of becoming a party

The UN Treaty Handbook, [available in the 6 UN languages](#) on the UN Treaty section website, contains further information on these issues, including model instruments.

[Templates are available](#) at UN Office of Legal Affairs, Treaties Section.



When does the Minamata Convention enter into force for a party?

For each State or regional economic integration organization that ratifies, accepts or approves the Convention or accedes thereto after that date, the Convention will enter into force on the 90th day after the date of deposit of its instrument of ratification, acceptance, approval or accession.

The updated list of signatories and of States having deposited their instrument of ratification, acceptance, approval or accession is [available here](#).

Are there financial obligations resulting from becoming a party to the Minamata Convention?

Parties to the Minamata Convention are obliged to adhere to its obligations, which include in Article 13 a requirement for each party to provide, within its capabilities, resources in respect of those national activities that are intended to implement the Convention, in accordance with its national policies, priorities, plans and programmes. Article 13 also defines a financial mechanism to support developing country parties and parties with economies in transition in implementing their obligations.

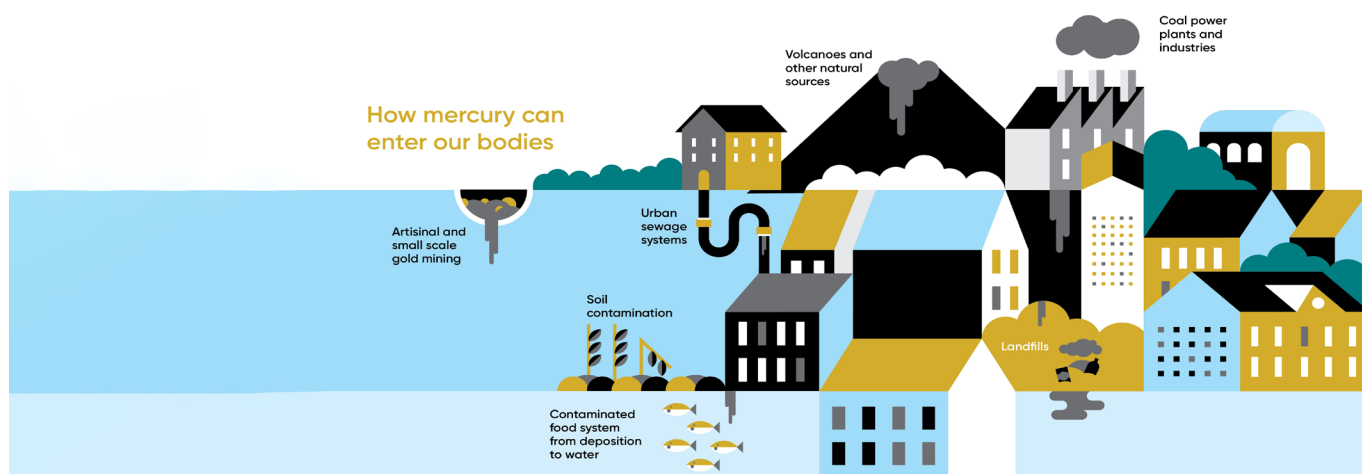
The parties also have financial commitments to support the operation of the Convention, its Conference of the Parties (COP), and the Secretariat through the General Trust Fund. Parties make contributions each year on the basis of an indicative scale of assessments of the United Nations, against the budget approved by the COP per biennium, and as stipulated by the Financial Rules of the Convention. The contributions are

adjusted so as to ensure that no party contributes less than 0.01 per cent of the total, that no one contribution exceeds 22 per cent of the total and that no contribution from a least developed country party exceeds 0.01 per cent of the total.

In addition, parties can make voluntary contributions to two trust funds: the Special Trust Fund, to support capacity building and technical assistance activities of the Secretariat, participation of developing-country parties in meetings of the Conference of the Parties and its subsidiary bodies, as well as other appropriate purposes consistent with the objectives of the Convention; and the Specific Trust Fund to support the Specific International Programme (SIP) for direct assistance to eligible parties in support of capacity-building and technical assistance.



Becoming a party to the Minamata Convention on Mercury



What are the benefits of becoming a party to the Minamata Convention?

Becoming a party to the Minamata Convention carries the requirement for compliance with a number of obligations, and creates certain benefits, including for eligible parties in terms of technical and financial assistance. Among the main advantages, joining the Convention allows a party to:

- Protect its own people's health and environment from the harmful effects of mercury from anthropogenic sources.
- Benefit from global efforts to protect human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds.
- Influence the development and implementation of the Convention through participation in the decision-making process of the Conference of the Parties.
- Participate in trade regimes to manage mercury responsibly.
- Contribute to achieving its commitment to Sustainable Development Goals.
- Access capacity-building and technical assistance support for eligible parties through the Convention's financial mechanism and through capacity building and technical assistance activities provided by the Secretariat.
- Improve information, awareness-raising and public education, especially through regular exchange of information and expertise and drawing also on the Secretariat and the UNEP Global Mercury Partnership.
- Improve research and development on mercury.
- Facilitate cooperation among parties and other stakeholders to support the implementation of Convention obligations.



FINANCIAL RULES

FOR THE **MINAMATA CONVENTION**
ON MERCURY



MINAMATA
CONVENTION
ON MERCURY

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UNITED NATIONS PUBLICATION

**Financial rules for the Conference of the Parties to the
Minamata Convention on Mercury, its subsidiary bodies and
the secretariat of the Convention**

As adopted at the first meeting of the Conference of the Parties in Geneva,
24–29 September 2017 ([annex to decision MC-1/10](#))



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Scope

Rule 1

The present rules shall govern the financial administration of the Conference of the Parties to the Minamata Convention on Mercury, its subsidiary bodies and the Convention secretariat. In respect of matters not specifically provided for by the present rules, the Financial Regulations and Rules of the United Nations shall apply.

Financial period

Rule 2

The financial period shall be a calendar year. The biennial programme of work and budget of the Minamata Convention shall normally consist of two consecutive calendar years, the first of which shall be an even year.

Budget

Rule 3

1. The head of the secretariat of the Minamata Convention on Mercury shall prepare budget estimates for the following biennium in United States dollars showing projected income and expenditures for each year. The budget should be presented in a programmatic format consistent with the format used by the secretariats of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade and the Stockholm Convention on Persistent Organic Pollutants.¹ The head of the secretariat shall dispatch the estimates, as well as the actual income and expenditure for each year of the previous biennium and estimates of actual expenditure in the current biennium, to all parties to the Convention at least 90 days before the opening of the meeting of the Conference of the Parties at which the budget is to be adopted.
2. The Conference of the Parties shall, prior to the commencement of the financial period that the budget covers, consider the budget estimates and adopt an operational budget by consensus authorizing expenditures, other than those referred to in rule 4, paragraphs 3, 4 and 5.
3. The head of the secretariat shall provide the Conference of the Parties with cost estimates for actions that have budgetary implications that are not foreseen in the draft programme of work but are included in proposed draft decisions prior to the adoption of those decisions by the Conference of the Parties.
4. The adoption of the operational budget by the Conference of the Parties shall constitute the authority of the head of the secretariat to incur commitments and make payments for the purposes for which the appropriations were approved and up to the amounts so approved, provided always that, unless specifically authorized by the Conference of the Parties, commitments shall be covered by related received funds.
5. The head of the secretariat may make transfers within each of the main appropriation lines of the approved operational budget. The head of the secretariat may also make transfers between such appropriation lines up to 20 per cent of the main appropriation line from which the transfer is made unless another limit is set by the Conference of the Parties.

¹ Linked to the decision on hosting arrangements for the secretariat.



Funds

Rule 4

1. A general trust fund for the Convention shall be established by the Executive Director of the United Nations Environment Programme and managed by the head of the secretariat. The fund is to provide financial support for the work of the Convention secretariat. Contributions made pursuant to rule 5, paragraph 1 (a) and (b), shall be credited to this fund. Contributions made pursuant to rule 5, paragraph 1 (e), by the United Nations Environment Programme shall be credited to this fund. All budget expenditures that are made pursuant to rule 3, paragraph 4, shall be charged to the General Trust Fund.
2. Within the General Trust Fund there shall be maintained a working capital reserve at a level to be determined from time to time by the Conference of the Parties by consensus. The purpose of the working capital reserve shall be to ensure continuity of operations in the event of a temporary shortfall of cash. Following any drawdown of the working capital reserve, it shall be restored to its established level as soon as possible and no later than the end of the following year.
3. A special trust fund shall be established by the Executive Director of the United Nations Environment Programme and managed by the head of the secretariat. This fund shall receive contributions pursuant to rule 5, paragraph 1 (c) to (e), to support, in particular:
 - a. The activities of the Minamata Convention secretariat in accordance with article 14;
 - b. The participation of representatives of developing-country parties, in particular the least developed country parties and small island developing States among them, and of parties with economies in transition, in the meetings of the Conference of the Parties and its subsidiary bodies pursuant to the procedure set out in the annex to the financial rules;
 - c. Other appropriate purposes consistent with the objectives of the Convention.
4. A specific trust fund shall be established by the Executive Director of the United Nations Environment Programme for the specific international programme to support capacity-building and technical assistance in accordance with article 13.
5. Subject to the approval of the Conference of the Parties, the Executive Director of the United Nations Environment Programme may establish other trust funds, provided that they are consistent with the objectives of the Convention.
6. In the event that the Conference of the Parties decides to terminate a trust fund established pursuant to the present rules, it shall so advise the Executive Director of the United Nations Environment Programme at least six months before the date of termination so decided. The Conference of the Parties shall decide, in consultation with the Executive Director of the United Nations Environment Programme, on the distribution of any uncommitted balances after all liquidation expenses have been met.

Contributions

Rule 5

1. The resources of the Conference of the Parties shall comprise:
 - a. Contributions made each year by Parties on the basis of an indicative scale adopted by consensus by the Conference of the Parties and based on such a scale of assessments of the United Nations as may be adopted from time to time by the General Assembly, adjusted so as to ensure that no party contributes less than 0.01 per cent of the total, that no one contribution exceeds 22 per cent of the total and that no contribution from a least developed country party exceeds 0.01 per cent of the total;



- b. The 60 per cent of the unearmarked contributions made each year by the Government hosting the Convention secretariat;
 - c. The remaining 40 per cent of the unearmarked contributions made each year by the Government hosting the Convention secretariat, which will be prioritized for the purposes set out in rule 4, paragraph 3 (b);
 - d. Contributions made each year by parties in addition to those made pursuant to paragraphs (a)–(c);
 - e. Contributions from States not parties to the Convention, as well as governmental, intergovernmental and non-governmental organizations and other sources;
 - f. The uncommitted balance of income received from previous financial periods;
 - g. Miscellaneous income.
2. The Conference of the Parties shall, in adopting the indicative scale of contributions referred to in rule 5, paragraph 1 (a), make adjustments to take account of contributions of parties that are not members of the United Nations, as well as those of regional economic integration organizations that are parties.
 3. In respect of contributions made pursuant to rule 5, paragraph 1 (a):
 - a. Contributions for each calendar year are expected by 1 January of that year and should be paid promptly and in full. Parties should be notified of the amount of their contributions for a given year by 15 October of the previous year;
 - b. Each party shall, as far in advance as possible of the date due for the contribution, inform the head of the secretariat of the contribution it intends to make and of the projected timing of that contribution;
 - c. If the contributions of any parties have not been received by 31 December of the relevant year, the head of the secretariat shall write to those parties to impress upon them the importance of paying their respective outstanding contributions for prior periods and shall report to the Conference of the Parties at its next meeting on the consultations with such parties;
 - d. If the contributions of any party have not been received after two or more years, the head of the secretariat shall jointly decide with any party who has outstanding contributions to develop a payment schedule to permit such party to pay all outstanding contributions within six years, depending on the financial circumstances of the party, and to pay future contributions promptly. The head of the secretariat shall report to the Bureau and to the Conference of the Parties at their next meetings on progress under any such schedule;
 - e. If a payment schedule is not jointly decided or respected, the Conference of the Parties will decide on appropriate measures, taking into account the specific needs and the special circumstances of [developing countries, particularly] least developed countries or small island developing States;
 - f. Given the importance of the full and effective participation of developing country parties, in particular least developed countries and small island developing States, and parties with economies in transition, the head of the secretariat shall remind parties of the need for contributions to the Special Trust Fund at least six months prior to each ordinary meeting of the Conference of the Parties, reflecting on the financial need, and urge parties in a position to do so to ensure that any contributions are paid at least three months before the meeting.
 4. Contributions made pursuant to rule 5, paragraph 1 (d) and (e), shall be used in accordance with such terms and conditions, consistent with the objectives of the Convention and the Financial Regulations and Rules of the United Nations, as may be agreed between the head of the secretariat and the contributors.
 5. Contributions made pursuant to rule 5, paragraph 1 (a), from States and regional economic integration organizations that become parties to the Convention after the beginning of a



financial period shall be made pro rata temporis for the balance of that financial period. Consequent adjustments shall be made at the end of each financial period for other parties.

6. Notwithstanding rule 4, paragraph 3, the specific trust fund shall be open to contributions from signatories, parties and non-parties to the Convention with capacity to do so, as well as from the private sector, including industry, foundations, other non-governmental organizations and other stakeholders.
7. All contributions shall be paid in United States dollars or the equivalent in a convertible currency. They shall be paid into a bank account to be designated by the Executive Director of the United Nations Environment Programme in consultation with the head of the secretariat. In conversion into United States dollars, the United Nations operational rate of exchange shall be used.
8. The head of the secretariat shall acknowledge promptly the receipt of all pledges and contributions and shall inform the parties by publishing on the Convention website up-to-date information on the status of pledges and payments of contributions.
9. Contributions not immediately required shall be invested in accordance with applicable United Nations rules at the discretion of the Executive Director of the United Nations Environment Programme, in consultation with the head of the secretariat. In case both are not in agreement the Executive Director shall decide the further course of action. The resulting income shall be credited to the relevant Convention trust fund.

Accounts and audit

Rule 6

1. The accounts and financial management of all funds governed by the present rules shall be subject to the internal and external audit process of the United Nations.
2. An interim statement of accounts for the financial period shall be provided to the Conference of the Parties, and a final audited statement of accounts for the full financial period shall be provided to the Conference of the Parties as soon as possible after the accounts for the financial period are closed.
3. The Conference of the Parties shall be informed of any relevant remarks in the reports of the United Nations Board of Auditors on financial statements of the United Nations Environment Programme and remarks in reports resulting from external audits.

Administrative support costs

Rule 7

The Conference of the Parties shall reimburse the United Nations Environment Programme for the services provided to the Conference of the Parties, its subsidiary bodies and the Convention secretariat from the funds referred to in rule 4, paragraphs 1, 3 and 5, on such terms as may from time to time be agreed upon between the Conference of the Parties and the United Nations Environment Programme or, in the absence of such agreement, in accordance with the general policy of the United Nations.

Amendments

Rule 8

Any amendment to the present rules shall be adopted by the Conference of the Parties by consensus.



Annex to the financial rules

Procedure for the allocation of funding from the Special Trust Fund for facilitating the participation of parties in meetings of the Conference of the Parties

1. The procedure for facilitating the participation of eligible delegates in meetings under the Convention should aim at the full and active participation of developing country parties, in particular least developed countries and small island developing States, and parties with economies in transition in the activities of the Convention to broaden the scope of experiences and information available to Convention parties and encourage the implementation of the Convention at the local, national, regional and international levels.
2. [The procedure should give [priority][special] attention to least developed countries and small island developing States and thereafter aim at ensuring adequate representation of all eligible parties. It should continue to be guided by established United Nations practice.]
3. The secretariat should notify parties as soon as possible, and preferably six months in advance, of the dates and venues of meetings of the Conference of the Parties.
4. Following the dispatch of a notification that a meeting will take place, eligible parties should be invited to inform the secretariat, through official channels of communication, as soon as possible and no later than three months before the meeting, whether funding is requested.
5. Based on the availability of financial resources and the number of requests received, the head of the secretariat shall prepare a list of sponsored delegates. The list shall be established in accordance with paragraphs 1 and 2 above with a view to ensuring adequate geographical representation of eligible regions, [with [priority][special] attention given to least developed countries and small island developing States].
6. The secretariat should, four weeks in advance of the meeting, notify eligible countries that will not be sponsored, inviting them to seek other alternative sources of funding.
7. The head of the secretariat is invited to liaise with the Executive Director of the United Nations Environment Programme with a view to ensuring a waiver of the programme support costs on contributions to the Special Trust Fund for the participation of representatives from developing countries and countries with economies in transition, with the understanding that the additional money secured will be used to enhance the representation of eligible parties.



**Financial rules for the Conference of the Parties to the
Minamata Convention on Mercury, its subsidiary bodies
and the secretariat of the Convention**
www.mercuryconvention.org



بجاء ترميز 8

دستورالعمل ریسپوندرز انستیتوت سرچ





MINISTRY OF ENVIRONMENT

MINAMATA INITIAL ASSESSMENT REPORT 2019

Maldives Mercury Assessment



Document Name	Minamata Initial Assessment Report 2019, Republic of Maldives
Document Short Title	Maldives MIA Report
Date	22nd October 2019
Consultant	Dr. Mahmood Riyaz and Ms Amy Sauer

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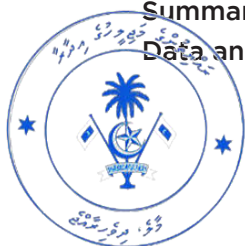
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Acronyms

ASGM	Artisanal and small scale gold mining
DPH	Department of Public Health
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
EPPA	Environmental Protection and Preservation Act
FDA	Food and Drug Authority
GW	Giga Watt
GWh	Giga Watt hour
HCW	Health Care Waste
HCWM	Health Care Waste Management
HPA	Health Protection Agency
HCFC	Hydrochlorofluorocarbons
IGMH	Indhira Gandhi Memorial Hospital
IOMC	Inter-Organization Programme for the Sound Management of Chemicals
ITE	International Technical Experts
Lpg	Liquid petroleum gas
MCS	Maldives Customs Services
ME	Ministry of Environment
MFDA	Maldives Food and Drug Authority
MIA	Minamata Initial Assessment
MoD	Ministry of Defence
MoH	Ministry of Health
MoFMRA	Ministry of Fisheries Marine Resources and Agriculture
MVR	Maldivian Rufiyaa
MW	Mega Watt
MWSC	Maldives Water and Sewerage Company
ODS	Ozone Depleting Substances
UNEP	United Nations Environment Programme
WAMCO	Waste Management Cooperation
WHO	World Health Organisation





Foreword

The Maldives recognises the threat that mercury and mercury compounds pose to human health and the environment. We are currently working towards becoming a Party to the Minamata Convention.

The Minamata Initial Assessment (MIA) has been conducted to identify the current status and existing challenges to mercury management, and the regulatory frameworks that need to be developed to fully comply with our obligations and realise the objectives under the Convention.

There is no mining, manufacturing or production of mercury or mercury-added products in the Maldives. Our only source of mercury is through the import of mercury compounds and mercury-containing products. However, we are exposed and remain vulnerable to the risks of the anthropogenic release of mercury.

The largest local sources of emissions to the air include open-burning of waste. While, the second-largest contributor to local mercury releases in the Maldives is from use and disposal of products with mercury such as batteries, paints and other laboratory and medical equipment containing mercury.

To phase out mercury-containing products and reduce mercury emissions, policies and strategies need to be developed and strengthened. We also need to develop partnerships with relevant sectors, including the health sector and private sector, to strengthen our efforts to regulate the use of mercury in the country. Given that safe disposal of mercury-containing products presents some of the greatest challenges for us, international collaboration for their transfer and safe disposal is crucial.

To transit to a mercury-free society, there is a pressing need for education and awareness on the risks of mercury, and its uses. We also need to focus on the uptake of mercury-free alternatives and strengthening our capacity to better monitor and manage the use of mercury. The government of Maldives is fully committed towards this goal and will work towards the ratification and implementation of the Minamata Convention.

Dr Hussain Rasheed Hassan

Minister





Executive Summary

The Minamata Initial Assessment (MIA) is intended to facilitate countries to ratify and implement the Minamata Convention on Mercury. The primary objective of the Initial Assessment Report is to provide a basis for further activities relevant to the implementation of the Convention. In this regard, the MIA report will assist Maldives in notifying the Convention in accordance with Article 7, and with respect to the development of its National Implementation Plan in accordance with Article 20. MIA will enable the preparation of a National Plan to reduce mercury emissions as set out in Article 8 of the Convention.

The report gives an overview of the initial inventory of stocks of mercury and/or mercury compounds; supply of mercury, including relevant sources of mercury emissions and release sectors that use mercury or mercury compounds; and the amount of Hg per year based on the data collection exercises conducted for the MIA in the Maldives.

Maldives is a country that depends on import. There is no mining, manufacturing or production of mercury or mercury added products in the country. The only source of mercury in the Maldives is estimated to be through the import of mercury and mercury containing products.

Results of the national mercury inventory

The inventory for mercury in Maldives is presented through four different output pathways: 1) emissions to air, 2) direct releases to water, 3) direct releases to land, and 4) others. The “others” category includes output pathways for “products”, “general waste” and “sector-specific waste treatment”. Mercury identified in Maldives comes from mercury containing products/ devices, such as batteries, compact fluorescent lamps (CFL), sphygmomanometers, thermometers and dental amalgam. Major source groups that contribute mercury inputs in the Maldives are: waste incineration and open waste burning; use and disposal of other products; application, use and disposal of dental amalgam fillings; other fossil fuel and biomass, combustion and: cemeteries. These are released mostly through air, water and general waste.

National strategy to identify mercury contaminated sites in the Maldives

Developing a national strategy to identify mercury-contaminated sites is a specific requirement of the Article 12 of the Minamata Convention. The strategy will be integrated into the “National Waste Management Policy” and “Waste Management Strategic Action Plan” adopted by the Ministry of Environment. These envisage the establishment of Waste Management Centres on each inhabited island and the construction of Regional Waste Management Facilities.



Contaminated sites

Large waste landfill/disposal sites and large cemeteries in the country, particularly Malé are the only sites that are potentially contaminated with mercury. Waste dumpsites in urban islands with large population can also be considered as potential contaminated sites. Thilafushi is the largest operational waste disposal site in the Maldives, where the whole reef has been reclaimed, and it is most likely the largest contaminated site in the Maldives. Waste dumpsites in urban islands such as Hithadhoo, and Kulhudhufushi are also presumably contaminated with mercury waste.

Mercury input

The largest inputs of mercury in the Maldives are from the source categories 'Use and Disposal of Other Products', and 'Waste Incineration and Open Waste Burning'. Total mercury input from the 'Use and Disposal of Other Products' is estimated to be 202 kg Hg/y and the amount from 'Waste Incineration and Open Waste Burning' is estimated to be 110 kg Hg/y.

Emission to air

'Waste Incineration and Open Waste Burning' contributed the highest mercury releases to air at approximately 1090 kg Hg/y, which is about 96% of the total amount of Hg released to the air. Hg released to air from 'Use and Disposal of other Products' is estimated to be 37.2 kg Hg/y, which is 3% of the total releases to the atmosphere. Mercury can be released to air due to combustion of mercury-containing products or due to diffusion of mercury vapour such as small scale fuel burning, electric lamp breakage, laboratory use dental preparation, landfills etc.

Release to water

Two main sectors responsible for releases of mercury to water are the 'Waste water Treatment Systems' (22.6 kg Hg /y), 'Use, and Disposal of Other Products' (19.6 kg Hg/y), with a minute amount of Hg released to water from 'Use, and Disposal of Dental Amalgam Fillings' (1.6 kg Hg/y).

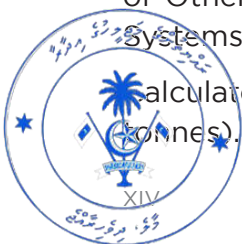
Release to land

In the Maldives the estimated mercury release to land is 10 kg Hg/y from three main sources. The highest release to land is from 'Use and Disposal of Other Products' (5.5 kg Hg/year), followed by 'Cemeteries' (3 kg Hg/year approximately), and 'Use and Disposal of Dental Amalgam Fillings' (0.3 kg Hg/year) and 1.2 kg Hg/year from other sources.

Others

A total of 140 kg Hg/y is estimated to be released to general waste. Approximately 96% (134.7 kg Hg/y) of the Hg released to general waste is contributed from the 'Use and Disposal of Other Products'. Approximately 2.5 kg Hg/y is released from 'Waste Water Treatment Systems'.

Calculated annual releases of mercury for Maldives is estimated to be 1310 kg Hg/year (1.3 tonnes).



Policy, regulatory and institutional assessment

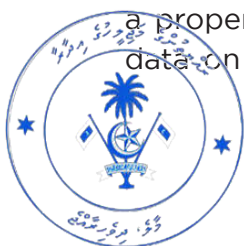
As ratification (or acceptance, approval or accession) by the Maldives of the Minamata Convention on Mercury legally binds the country to the Convention's obligations, the ratification process involves carrying out a national situation analysis, identifying existing relevant legislation and identifying legal or administrative actions that may be needed. A summary of policy, regulatory and institutional assessment of existing national policies and regulatory measures (in place and under development), and their scope with special focus on the extent they already meet the requirements as stipulated in the provisions of the Minamata Convention is provided in this report. In this regard, the report provides an analysis of existing policy and regulatory measures in place and remaining gaps in relation to implementation of each article of Minamata Convention on Mercury in the Maldives and gives recommendations to meet the obligations of the Convention.

Data gaps and recommendations

The biggest challenge in completing the inventory was acquiring adequate data in a very short timeframe. Maldives depends entirely on imports, and therefore to collect the information required, questionnaires on instruments, products and laboratory chemicals used in hospitals and the health sector that may contain mercury were formulated and distributed to the relevant institutions.

The data collection heavily relied on the import data obtained from the Maldives Customs Services (MCS). MCS data are sorted with HS codes, but the HS codes are not given based on the presence of mercury in the products. Therefore, in all categories, it was difficult to distinguish between the products that contain mercury and mercury-free products. With the limited information in MCS data, obtaining product-specific information is extremely difficult and time-consuming. Often the product's information sheet does not provide the full list and quantities of ingredients in the product, which makes the identification and quantification of mercury present difficult. With the increasing number of mercury-free products and replacing of mercury-based products to mercury-free products, distinguishing between such products brands is difficult.

Significant challenges were encountered in identifying and obtaining the data necessary to complete Step 5 regarding 'waste handling and recycling'. It is compulsory to have waste incinerators in tourist resorts, but the quantities of waste incinerated in the resorts are not available due to a lack of recording this data. In terms of medical waste, there are no proper management or incineration facilities in any hospital. In most of the regional hospitals, including the largest hospital, Indhira Gandhi Memorial Hospital (IGMH), medical waste is dumped into the municipal waste dumpsites to be burned with the municipal waste without adequate treatment. In some hospitals, medical waste is burned in closed burners, but there were only broad estimates available on the amount of waste incinerated per year due to lack of record-keeping. Medical waste is an area that needs to be addressed to establish a proper mechanism for waste disposal. Therefore, the amount of waste generation and data on the sub-categories 'Waste incineration', 'Incineration/burning of Medical Waste',



'Open fire waste burning' (on landfills and informally), and 'Waste water system/treatment' were estimated based on published values for waste generation/person/day (SOE, 2016) and assumptions were made on the amount of incineration, open burning/landfill and waste water.

Step 6 of the inventory focuses on data collection and inventory of the consumption of mercury-added products. In the sub-categories 'Batteries with mercury', 'Paints with mercury', and 'Skin lightening cream', the Customs data collected did not specify or it was difficult to distinguish the types of products with mercury and mercury-free products imported in Maldives. The data for batteries only specified quantities imported and a limited number of types/brands imported such as AA, AAA, C, D alkaline, atomic, lithium-ion batteries, mercury-zinc cells, etc. Identifying the type is of significant importance because not all types of batteries, paints and skin lightening creams contain mercury.

Recommendations

The following recommendations aims to strengthen subsequent reporting on mercury.

1. Improve imports data collection by having more detailed entries to the various products listed. A sub classification within the HS code could be introduced to capture sub-categories containing Hg products.
2. WAMCO/ME should improve data collection on municipal waste that is collected in all waste management centres in the country.
3. ME and the Ministry of Health can develop a system to properly manage medical waste and record quantities of medical wastes that are generated, incinerated or burned in the country.
4. Cosmetics sector need to be better regulated in terms of imports and targeting products that may contain harmful substances, including mercury
5. Establish appropriate testing capacity for mercury in relevant government authorities (eg: MFDA, HPA, EPA)
6. Review and revise relevant laws, regulations and other legislative tools to address the use and management of mercury – there is a need for a comprehensive law on mercury management, defining obligations and rights of different institutions and their responsibilities in controlling and monitoring of mercury and mercury-containing products, addressing occupational and public health issues related to the disposal of mercury containing waste and all other aspects of mercury management.
7. Review and revise relevant laws, regulations and other legislative tools to address the use and management. Until specific legislative measures can be developed, these issues can be incorporated into relevant existing legal and regulatory instruments.
8. Create awareness among government institutions on the extensiveness of mercury flow and its impact on human health and environment
9. Strengthen policy and regulatory structures for HCWM



Introduction

Minamata Convention on Mercury

The harmful impacts on human health due to mercury exposure are now well documented and accepted within the scientific community. Many countries have already initiated actions to mitigate emissions and exposure to mercury. However, considering that mercury is both a local, as well as a global pollutant, actions by national governments alone would not suffice in addressing the issue of pollution due to mercury and its harmful impacts on the environment and human health.

In view of the risks that mercury poses to human health and the environment, the global community agreed in 2009 to start intergovernmental negotiations with the objective of developing a legally binding treaty to limit global mercury emissions. The treaty known as the Minamata Convention was opened for signature on 10th October 2013 and entered into force on 16 August 2017. Maldives is in the ratification process of this Convention. This assessment is a partial requirement to fulfill the ratification process. As of November 2019, there are 128 signatories and 114 ratifications¹.

The primary objective of the Convention is “to protect human health and the environment from anthropogenic releases of mercury and mercury compounds”. The Convention’s main thrust is for countries to ban new mercury mines and carry out a systematic phase-out of existing ones. It also provides for the phase-out of mercury containing products and reducing mercury supply and trade, and to make a significant reduction in mercury releases to air, water and land. The Convention also addresses: interim storage of mercury and its disposal once it becomes waste; sites contaminated by mercury and: human and environmental health issues related to exposure to mercury.

Mercury in Maldives

Maldives is a country that depends on imports. The only source of mercury in the Maldives is through the import of mercury and mercury containing products. Mercury identified in Maldives comes from mercury containing products and devices, such as batteries, compact fluorescent lamps (CFL), sphygmomanometers, thermometers and dental amalgam. Major source groups that contribute mercury inputs in the Maldives are: waste incineration and open waste burning; use and disposal of other products; application, use and disposal of dental amalgam fillings; other fossil fuel and biomass combustion; and cemeteries.

Mercury is not a regulated substance in the Maldives. However, permission from HPA and MoD is required to import mercury into the country. There are no specific legal instruments for managing mercury in the Maldives. Existing general laws and regulations on chemicals



¹ <http://www.mercuryconvention.org/Countries/Parties/tabid/3428/language/en-US/Default.aspx>

and environmental management are used to address issues related to the management of mercury in the absence of specific legal framework in the Maldives.

Maldives is a country that depends on imports. The only source of mercury in the Maldives is through the import of mercury and mercury containing products.

Table 1-1 Summary of mercury inventory results

Source category	Estimated Hg input, kg Hg/y	Estimated Hg releases, standard estimates, kg Hg/y							Percent of total releases ^{*3*4}
		Air	Water	Land	By-products and impurities	General waste	Sector specific waste treatment / disposal	Total releases ^{*3*4*5}	
Coal combustion and other coal use	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0%
Other fossil fuel and biomass combustion	3.1	3.1	0.0	0.0	0.0	0.0	0.0	3	0%
Oil and gas production	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0%
Primary metal production (excl. gold production by amalgamation)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0%
Gold extraction with mercury amalgamation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0%
Other materials production ¹	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0%
Chlor-alkali production with mercury-cells	-	-	-	-	-	-	-	0	0%
Other production of chemicals and polymers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0%
Production of products with mercury content*1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0%
Application, use and disposal of dental amalgam fillings	3.6	0.1	1.6	0.3	0.2	0.7	0.7	4	0%
Use and disposal of other products	202.3	37.2	19.6	5.5	0.0	134.0	6.0	202	15%
Production of recycled metals	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0%
Waste incineration and open waste burning*2	1,096.9	1,090.5	0.0	0.0	0.0	0.0	6.4	1,097	84%
Waste deposition*2	-	-	-	-	-	-	-	0	0%
Informal dumping of general waste ^{*2*3}	-	-	-	-	-	-	-	0	0%
Waste water system/treatment *4	25.2	0.0	22.6	0.0	0.0	2.5	0.0	3	0%
Crematoria and cemeteries	2.8	0.0	0.0	2.8	0.0	0.0	0.0	3	0%
TOTALS (rounded) ^{*1*2*3*4*5*6}	320	1,130	20	10	0	140	10	1,310	100%

¹ To avoid double counting, fossil fuel mercury contributions to cement production was subtracted automatically in the TOTALS.



Notes to table above: *1 To avoid double counting of mercury in products produced domestically and sold on the domestic market (including oil and gas), only the part of mercury inputs released from production are included in the input TOTAL. *2: To avoid double counting of mercury inputs from waste and products in the input TOTAL, only 10% of the mercury input to waste incineration, waste deposition and informal dumping is included in the total for mercury inputs. These 10% represent approximately the mercury input to waste from materials which were not quantified individually in Inventory Level 1 of the Toolkit. *3: The estimated quantities include mercury in products which has also been accounted for under each product category. To avoid double counting, the release to land from informal dumping of general waste has been subtracted automatically in the TOTALS. *4: The estimated input and release to water include mercury amounts which have also been accounted for under each source category. To avoid double counting, input to, and release to water from, waste water system/treatment have been subtracted automatically in the TOTALS. *5: Total inputs do not necessarily equal total outputs due to corrections for double counting (see notes*1-*3) and because some mercury follows products/metal mercury which are not sold in the same country or in the same year. *6: To avoid double counting, fossil fuel mercury contributions to cement production was subtracted automatically in the TOTALS

Key priority sectors for implementation of the Convention

The key priority areas that needs to be focused in implementation of Minamata Convention on Mercury in the Maldives includes the following:

1. Strengthening the legal framework
2. Interim storage and disposal of mercury waste
3. Education awareness and capacity building
4. Research, monitoring and reporting

Strengthening the legal framework

There are no specific legal instruments for managing mercury in the Maldives. Existing general laws and regulations on chemicals and environmental management are currently used to address issues related to the management of mercury in the absence of specific legal framework in the Maldives. Key recommendations from the policy and regulatory report are:

- Develop a comprehensive law on mercury management, defining obligations and rights of different institutions and their responsibilities in controlling and monitoring of mercury and mercury-containing products, addressing occupational and public health issues related to the disposal of mercury containing waste and all other aspects of mercury management.
- Review and revise relevant laws, regulations and other legislative tools to address the use and management of mercury.
- Incorporate mercury management issues into relevant existing legal and regulatory instruments until specific instruments can be developed

Interim storage and disposal of mercury waste

The major source of mercury in the country is in mercury-containing equipment. Replacement of these items with non-mercury containing alternatives will generate a waste stream that would need to be managed. There are two main waste streams to consider, namely: 1) waste equipment from the medical sector including dental amalgams, thermometers and sphygmomanometers, etc. and 2) from other products such as compact fluorescent lights, paint and batteries etc.

Mercury containing waste should not be dumped in municipal waste yards, but rather sent to specialized facilities abroad for safe disposal. Maldives would not be able to produce sufficient amounts for viable export. Therefore, interim storage will be required to enable



the stock to accumulate over months and years. Integrated interim storage facility for chemicals and mercury can be constructed to safely contain these until export for processing at specialized facilities. Mercury waste management is therefore cross-linked with similar action under POPs and SAICM as storage facilities can be shared.

Education, awareness, training and capacity building

There is a need for education, awareness and capacity building particularly among the key technical ministries and institutions, which lack specialists with chemistry knowledge, and decision makers that have limited background knowledge of the subject. The same is true for the public.

Training of primary national stakeholders for mercury including ME (the Convention focal point and main implementing agency) and other front line agencies, such as MCS, MFDA, HPA, MoH, MoFMRA, MoD, hospitals, media personnel, fish processing, and export facilities etc. Awareness activities should focus on:

- Creating awareness among government institutions on the extensiveness of mercury flow and its impact on human health and environment
- Creating awareness among government institutions on the need for separate laws to manage mercury
- Strengthening policy and regulatory structures for Healthcare Waste Management (HCWM)

Research, monitoring and reporting

The Health Protection Agency currently has the technical and physical capacity to undertake testing of mercury. In addition, some laboratories in fish processing plants have the capacity to test for mercury in fish and the environment. However, the scientific and personnel resources are limited within the national laboratories. Therefore, a dedicated programme for monitoring of mercury nationwide is required to be established that would build capacity within existing institutions (FDA, MFDA, EPA, MoFMRA) that are actively involved in monitoring and research. Research, monitoring and reporting should include collaboration and information sharing between regional and international scientific institutions.

Monitoring and reporting will also allow for the update of the baseline mercury inventory to facilitate reporting to the Convention.







Country Profile

Geography and Population

The Maldives is an island nation consisting of approximately 1,190 low-lying coral reef islands that form a chain of 26 natural atolls that stretches over an area of 90,000 sq kms on the Laccadive-Chargos submarine ridge at the central part of the Indian Ocean. Ninety-nine percent of the Maldivian territory is ocean.

The total population is approximately 400,000 people dispersed across 187 inhabited islands. The country's GDP per capita reached \$11,151 in 2017, compared to \$3,630 in 2004. The Human Development Index ranking of Maldives is 103rd, out of 187 countries in 2013, which places Maldives at the top of the 'medium human development' category and above the average for South Asia.

Average life expectancy at birth is 75.15 years (2014) with females having a slightly longer life expectancy at 77.55 years and males at 72.86 years. Infant mortality rate is 6 infants per 1000 live births in 2010 and the unemployment rate is 11.7% in 2010, calculated from the population 15 years and above. The overall poverty ratio is 8.2 percent in 2016 (6.6 percent under the poverty line of \$5.50 per person per day in 2011 purchasing power parity terms).

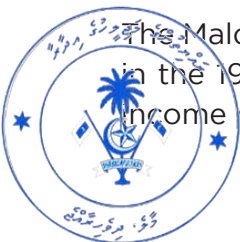
Main development challenges are geographic dispersion, environmental sustainability, risk from climate change and disaster resilience. Increased frequency and intensity of natural disasters are expected to be aggravated through the effects of climate change on weather patterns. This compounds trends of increasing coastal erosion and pressure on scarce land resources, and increases the physical vulnerability of island populations, infrastructure and livelihood assets. Almost half of all settlements and over two thirds of critical infrastructure are located within 100 meters of the shoreline and are under immediate threat from rising sea levels. Geographic dispersion of the population across many small islands makes service delivery difficult and can limit opportunities for economic growth and development.

Climate

Maldives experiences tropical monsoonal climate due to its proximity to the equator. The Southwest monsoon (rainy season) extends from May to December, while Northeast monsoon (dry season) begins from January and continues up to April. The average annual temperature in Maldives is 28°C and relative humidity ranges from 71% to 84%. The mean daily maximum temperature is 30.4 °C and the mean daily minimum temperature is 25.7 °C. Rainfall is higher on the southern region of the country than the northern region with an annual average of 2,277 mm for south and 1,786 mm for the north.

Profiles of economic sectors

The Maldivian economy has grown relatively quickly with the advent of the tourism industry in the 1970s. The Maldives has surpassed all South Asian countries to achieve the highest income per capita. However, it is important to note that while the GDP per capita is high, the



country's economy is still very small. The Maldivian economy maintained its robust growth trajectory during 2018 with real GDP growth accelerating to 7.6% according to estimates of October 2018. This was driven by the exceptional performance of the tourism sector on the back of strong global demand and increased air connectivity. In 2018, growth was also bolstered by strong activity in wholesale and retail trade, and construction investment led by the mega infrastructure projects of the government and strong bank credit growth to the private sector.

Tourism

Tourism is the main player in the local economy, which accounts for 28% of GDP and more than 60 percent of foreign exchange earnings to the country. Over 90 percent of government tax revenue comes from import duties and tourism-related taxes.

The resilient growth of the tourism sector in 2018 was driven by vigorous promotional activities undertaken by the industry, favourable global economic conditions and strong demand from major source markets. Tourist arrivals grew annually by 7%, after increasing to 8% in 2017, and reached 1,484,274 in 2018. While bed nights grew by 10%, average stay increased from 6.2 days in 2017 to 6.4 days in 2018. Tourism receipts are estimated at US\$3.0 billion in 2018, a growth of 10% compared with the US\$2.7 billion estimated in 2017 (MMA 2018).

Fisheries and Agriculture

The contribution of fisheries to the economy is declining. The fisheries sector continued to be affected by the persistent decline in fish catch, owing to both environmental factors and higher fuel prices. Fish purchases grew marginally by 2% in annual terms and amounted to 78.3 thousand metric tons in 2018. This was a significant deceleration in growth compared with the 42% annual growth recorded in 2017. Yellowfin tuna purchases declined by 4% in 2018 following a 19% growth in 2017, while skipjack tuna purchases grew by 6% after a 64% growth in 2017. In addition, purchases of bigeye tuna decreased significantly during the year and as a result, the share of bigeye tuna reached its lowest (0.4% of total fish purchases) for the past five years. The volume of fish exports declined by 9% compared with 2017 and totalled 65.8 thousand metric tons in 2018 (MMA 2018).

The agriculture sector is prominent in the livelihoods of the rural population of Maldives and plays an important role in food and nutrition security, especially for those who are residing in the rural areas. Agriculture provides food for consumption and constitutes an important primary source of livelihood for over 7,000 farmers and their families (MoFMRA 2012). The contribution of the agriculture sector to GDP is significantly low yet from a livelihood and employment perspective, agriculture is vital to the economy in terms of its economic and social welfare value.

Agricultural production in the country is limited by the poor soil conditions and availability of land, which restricts farming on a larger scale. For every 1,000 people, there is only 0.3 square kilometres of land used for agricultural purposes. Commonly grown field crops for domestic use includes sweet potatoes, taro, cassava, chilies, watermelons, papaya, eggplant, green leaves cabbage, gourds, and pumpkins. Seasonal crops such as mango, breadfruit and



drumstick contributes significantly to the farmers' income. Growth in the agriculture sector is critical for the country's economy in the face of global climate change and its likely impact on the economy.

Construction

The construction sector is the second largest contributor to the economy after tourism. Past few years have seen a progressive growth in the construction sector and the trend continued into 2018. In 2018, the annual growth in construction sector-related imports accelerated to 35% from 24% in 2017. Commercial banks' credit to the construction sector recorded an annual growth of 21% in 2018 and accounted for 52% of total private sector credit, up from the 47% recorded in 2017 (MMA 2018).

Environmental overview

Maldives is known globally for its pro-environmental stance, making commitments to global efforts in environmental protection and sustainable development. Maldives has played a key role in highlighting the special vulnerability of low-lying small islands developing states to climate change and getting the attention on this issue in international forums.

Table 2-1 A list of multilateral and regional environmental agreements Maldives is party to

Multilateral/ Regional agreement	Signed/joined
Vienna Convention for the Protection of Ozone layer	1988
Montreal Protocol	1989
United Nations Framework Convention on Climate Change (UNFCCC)	1992
Basel Convention	1992
Convention on Biological Diversity	1993
Malé Declaration on Control and Prevention of air pollution and its likely transboundary effect for South Asia	1998
United Nations Convention to Combat Desertification (UNCCD)	2002
Cartagena Protocol on Biosafety	2003
Rotterdam Convention	2006
Stockholm Convention	2006
International Plant Protection Convention (IPPC)	2006
Indian Ocean Tuna Commission	2011
Climate and Clean Air Coalition (CCAC)	2012
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)	2013





Mercury Inventory

This chapter presents the results of the mercury inventory for Maldives developed in 2019. Data for the year 2017 have been used in the inventory, when available. In cases where data for both 2016 and 2017 is available, the average of the two years was used. The year for all data given is noted with the data in question in the relevant sections of this report.

Methodology

This mercury release inventory was made with the use of the ‘Toolkit for identification and quantification of mercury releases’ made available by the Chemicals Branch of the United Nations Environment Programme. The Toolkit is available at ‘UNEP’ website:

<http://web.unep.org/chemicalsandwaste/what-we-do/technology-and-metals/mercury/toolkit-identification-and-quantification-mercury-releases>

This inventory was developed on the Toolkit’s Inventory Level 1. The Toolkit is based on mass balances for each mercury release source type. Inventory Level 1 works with pre-determined factors used in the calculation of mercury inputs to society and releases, the so-called default input factors and default output distribution factors. These factors were derived from data on mercury inputs and releases from the relevant mercury source types from available literature and other relevant data sources.

For the mercury source sub-categories, data was collected for the following sectors relevant to the Maldives:

- Energy consumption and fuel production
 - * Combustion/use of gasoline, petroleum, kerosene, LPG and jet fuel
 - * Charcoal combustion
- Waste handling and recycling
 - * Waste incineration
 - * Incineration/burning of medical waste
 - * Open fire waste burning (on landfills and informally)
 - * Waste water system/treatment
- General consumption of mercury in products
 - * Dental amalgam
 - * Thermometers
 - * Electric switches and relays
 - * Light source with mercury
 - * Batteries with mercury
 - * Polyurethane
 - * Paints with mercury
 - * Skin lighting creams
 - * Medical blood pressure gauges (mercury sphygmomanometers)



- * Other manometers and gauges with mercury
- * Laboratory chemicals
- Cemeteries

See further description of these estimations in the relevant source type sections.

The inventory involved a four-step process¹:

Step 1: A coarse screening matrix is used to identify the main mercury source categories present in the country,

Step 2: The main categories were further classified into sub-categories in order to identify the individual activities that potentially release mercury,

Step 3: Quantitative inventory was developed,

Step 4: Compilation of the standardized mercury inventory using results generated in steps 1-3. A standardized presentation format is provided to ensure that all known sources are considered (even if they cannot be quantified), data gaps are apparent, and inventories are comparable and transparent.

Mercury release source types present

Table 3-1 shows which mercury release sources were identified as present or absent in the Maldives. Only source types positively identified as present are included in the quantitative assessment.

It should be noted, however, that the presumably minor mercury release source types shown in Table 3-1 were not included in the detailed source identification and quantification work

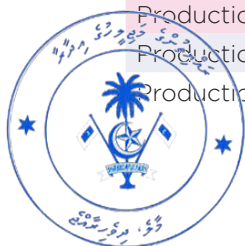
Table 3-1 . Identification of mercury release sources in the country; sources present (Y), absent (N).

Source category	Source present? Y/N
Energy consumption	
Coal combustion in large power plants	N
Coal combustion in coal fired industrial boilers	N
Other coal uses	N
Combustion/use of petroleum coke and heavy oil	N
Combustion/use of diesel, gasoil, petroleum, kerosene, LPG and other light to medium distillates	Y
Use of raw or pre-cleaned natural gas	N
Use of pipeline gas (consumer quality)	N
Biomass fired power and heat production	N
Charcoal combustion	Y
Fuel production	

¹ <http://wedocs.unep.org/bitstream/handle/20.500.11822/14777/Hg-Toolkit-Guideline-IL1-January2017.pdf?sequence=1&isAllowed=y>



Oil extraction	N
Oil refining	N
Extraction and processing of natural gas	N
Primary metal production	
Mercury (primary) extraction and initial processing	N
Production of zinc from concentrates	N
Production of copper from concentrates	N
Production of lead from concentrates	N
Gold extraction by methods other than mercury amalgamation	N
Alumina production from bauxite (aluminium production)	N
Primary ferrous metal production (pig iron production)	N
Gold extraction with mercury amalgamation - from whole ore	N
Gold extraction with mercury amalgamation - from concentrate	N
Other materials production	
Cement production	N
Pulp and paper production	N
Production of chemicals	
Chlor-alkali production with mercury-cells	N
VCM production with mercury catalyst	N
Acetaldehyde production with mercury catalyst	N
Production of products with mercury content	
Hg thermometers (medical, air, lab, industrial etc.)	N
Electrical switches and relays with mercury	N
Light sources with mercury (fluorescent, compact, others: see guideline)	N
Batteries with mercury	N
Manometers and gauges with mercury	N
Biocides and pesticides with mercury	N
Paints with mercury	N
Skin lightening creams and soaps with mercury chemicals	N
Use and disposal of products with mercury content	
Dental amalgam fillings (“silver” fillings)	Y
Thermometers	Y
Electrical switches and relays with mercury	Y
Light sources with mercury	Y
Batteries with mercury	Y
Polyurethane (PU, PUR) produced with mercury catalyst	Y
Paints with mercury preservatives	Y
Skin lightening creams and soaps with mercury chemicals	Y
Medical blood pressure gauges (mercury sphygmomanometers)	Y
Other manometers and gauges with mercury	Y
Laboratory chemicals	Y
Other laboratory and medical equipment with mercury	Y
Production of recycled of metals	
Production of recycled mercury (“secondary production”)	N
Production of recycled ferrous metals (iron and steel)	N



Waste incineration	
Incineration of municipal/general waste	Y
Incineration of hazardous waste	N
Incineration / burning of medical waste	Y
Sewage sludge incineration	N
Open fire waste burning (on landfills and informally)	Y
Waste deposition/landfilling and waste water treatment	
Controlled landfills/deposits	N
Informal dumping of general waste *1	N
Waste water system/treatment	Y
Crematoria and cemeteries	
Crematoria	N
Cemeteries	Y

Table 3-2 . Miscellaneous potential mercury sources not included in the quantitative inventory; with preliminary indication of possible presence in the country.

Source category	Source present? Y/N/?
Combustion of oil shale	N
Combustion of peat	N
Geothermal power production	N
Production of other recycled metals	N
Production of lime	N
Production of light weight aggregates (burnt clay nuts for building purposes)	N
Production of other chemicals (than chlorine and sodium hydroxide) in Chlor-alkali facilities with mercury-cell technology	N
Polyurethane production with mercury catalysts	N
Seed dressing with mercury chemicals	N
Infra red detection semiconductors	N
Bougie tubes and Cantor tubes (medical)	Y
Educational uses	Y
Gyroscopes with mercury	N
Vacuum pumps with mercury	N
Mercury used in religious rituals (amulets and other uses)	Y
Mercury used in traditional medicines (ayurvedic and others) and homeopathic medicine	N
Use of mercury as a refrigerant in certain cooling systems	N
Light houses (levelling bearings in marine navigation lights)	N
Mercury in large bearings of rotating mechanic parts in for example older waste water treatment plants	N
Tanning	N
Pigments	N
Products for browning and etching steel	N
Certain colour photograph paper types	N



Recoil softeners in rifles	N
Explosives (mercury-fulminate a.o.)	N
Fireworks	N
Executive toys	N

Summary of mercury inputs to society

Mercury inputs to society should be understood here as the mercury amounts made available for potential releases through economic activity in the country. This includes mercury intentionally used in products such as thermometers, blood pressure gauges, fluorescent light bulbs, etc. It also includes mercury mobilised via extraction and use of raw materials that contain mercury in trace concentrations.

Note that the following source sub-categories made the largest contributions to mercury inputs to society:

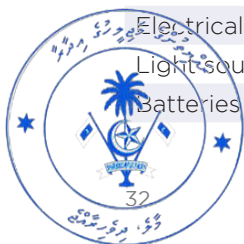
- Open fire waste burning (on landfills and informally) (1,030 kg Hg/y)
- Incineration of municipal/general waste (64 kg Hg/y)
- Batteries with mercury (57 kg Hg/y)
- Electrical switches and relays with mercury (49 kg Hg/y)

Table 3-3. Summary of mercury inputs to society

Source category	Source present? Y/N/?	Activity rate	Unit	Estimated Hg input, kg Hg/y
				Standard Estimate
Energy consumption				
Coal combustion in large power plants	N	0	Coal combusted, t/y	-
Coal combustion in coal fired industrial boilers	N	0	Coal combusted, t/y	-
Other coal uses	N	0	Coal used, t/y	-
Combustion/use of petroleum coke and heavy oil	N	0	Oil product combusted, t/y	-
Combustion/use of diesel, gasoil, petroleum, kerosene, LPG and other light to medium distillates	Y	549,247	Oil product combusted, t/y	3
Use of raw or pre-cleaned natural gas	N	0	Gas used, Nm ³ /y	-
Use of pipeline gas (consumer quality)	N	0	Gas used, Nm ³ /y	-
Biomass fired power and heat production	N	0	Biomass combusted, t/y	-
Charcoal combustion	Y	430	Charcoal combusted, t/y	0
Fuel production				
Oil extraction	N	0	Crude oil produced, t/y	-
Oil refining	N	0	Crude oil refined, t/y	-
Extraction and processing of natural gas	N	0	Gas produced, Nm ³ /y	-



Primary metal production				
Mercury (primary) extraction and initial processing	N	0	Mercury produced, t/y	-
Production of zinc from concentrates	N	0	Concentrate used, t/y	-
Production of copper from concentrates	N	0	Concentrate used, t/y	-
Production of lead from concentrates	N	0	Concentrate used, t/y	-
Gold extraction by methods other than mercury amalgamation	N	0	Gold ore used, t/y	-
Alumina production from bauxite aluminium production	N	0	Bauxit processed, t/y	-
Primary ferrous metal production (pig iron production)	N	0	Pig iron produced, t/y	-
Gold extraction with mercury amalgamation - from whole ore	N	0	Gold produced, kg/y	-
Gold extraction with mercury amalgamation - from concentrate	N	0	Gold produced, kg/y	-
Other materials production				
Cement production*4	N	0	Cement produced, t/y	-
Pulp and paper production	N	0	Biomass used for production, t/y	-
Production of chemicals				
Chlor-alkali production with mercury- cells	N	0	Cl2 produced, t/y	-
VCM production with mercury catalyst	N	0	VCM produced, t/y	-
Acetaldehyde production with mercury catalyst	N	0	Acetaldehyde produced, t/y	-
Production of products with mercury content				
Hg thermometers (medical, air, lab, industrial etc.)	N	0	Mercury used for Production, kg/y	-
Electrical switches and relays with mercury	N	0	Mercury used for production t, kg/y	-
Light sources with mercury (fluorescent, compact, others: see guideline)	N	0	Mercury used for production, kg/y	-
Batteries with mercury	N	0	Mercury used for production, kg/y	-
Manometers and gauges with mercury	N	0	Mercury used for production, kg/y	-
Biocides and pesticides with mercury	N	0	Mercury used for production, kg/y	-
Paints with mercury	N	0	Mercury used for production, kg/y	-
Skin lightening creams and soaps with mercury chemicals	N	0	Mercury used for production, kg/y	-
Use and disposal of products with mercury content				
Dental amalgam fillings ("silver" fillings)	Y	352,795	Number of inhabitants	4
Thermometers	Y	182	Items sold/y	1
Electrical switches and relays with mercury	Y	352,795	Number of inhabitants	49
Light sources with mercury	Y	1,749,79	Items sold/y	21
Batteries with mercury	Y	7	t batteries sold/y	57



Polyurethane (PU, PUR) produced with mercury catalyst	Y	352,795	Number of inhabitants	11
Paints with mercury preservatives	Y	13	Paint sold, t/y	33
Skin lightening creams and soaps with mercury chemicals	Y	0	Cream or soap sold, t/y	11
Medical blood pressure gauges (mercury sphygmomanometers)	Y	1	Items sold/y	0
Other manometers and gauges with mercury	Y	352,795	Number of inhabitants	2
Laboratory chemicals	Y	352,795	Number of inhabitants	4
Other laboratory and medical equipment with mercury	Y	352,795	Number of inhabitants	14
Production of recycled of metals				
Production of recycled mercury (“secondary production”)	N	0	Mercury produced, kg/y	-
Production of recycled ferrous metals (iron and steel)	N	0	Number of vehicles recycled/y	-
Waste incineration				
Incineration of municipal/general waste	Y	12,813	Waste incinerated, t/y	64
Incineration of hazardous waste	N	0	Waste incinerated, t/y	-
Incineration / burning of medical waste	Y	119	Waste incinerated, t/y	3
Sewage sludge incineration	N	0	Waste incinerated, t/y	-
Open fire waste burning (on landfills and informally)	Y	205,989	Waste burned, t/y	1,030
Waste deposition/landfilling and waste water treatment				
Controlled landfills/deposits	N	0	Waste landfilled, t/y	-
Informal dumping of general waste *1	N	0	Waste dumped, t/y	-
Waste water system/treatment	Y	4,790,62	Waste water, m ³ /y	25
Crematoria and cemeteries				
Crematoria	N	0	Corpses cremated/y	-
Cemeteries	Y	1,110	Corpses buried/y	3
TOTAL of quantified inputs*1*2*3*4				320



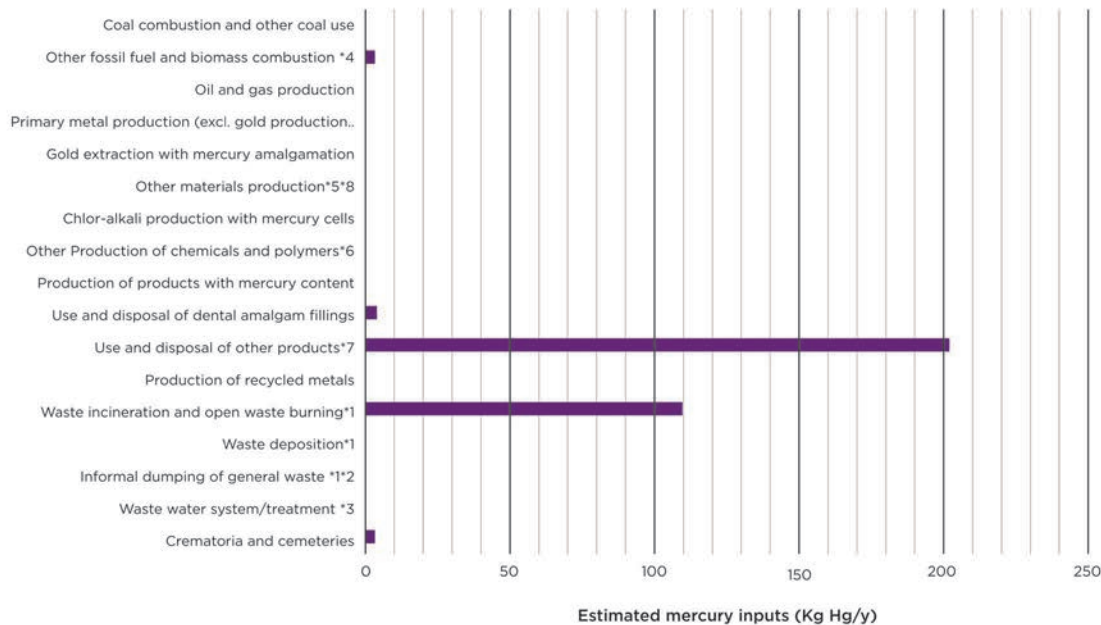


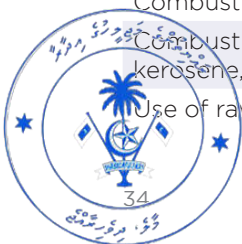
Figure 3-1 Estimating Hg Input (kg Hg/y)

Summary of mercury releases

In the *Table 3-4* below, a summary of mercury releases from all source categories present is given. The key mercury releases here are releases to air (the atmosphere), to water (marine and ground water, including via waste water systems), to land, to general waste, and to sectors specific waste treatment. An additional output pathway is “by-products and impurities” which designate mercury flows back into the market with by-products and products where mercury does not play an intentional role. See *Table 3-4* below for a more detailed description and definition of the output pathways.

Table 3-4 . Summary of mercury releases

Source category	Estimated Hg releases, standard estimates, kg Hg/y					
	Air	Water	Land	By-products and impurities	General	Sector specific waste treatment / disposal
Energy consumption						
Coal combustion in large power plants	-	-	-	-	-	-
Coal combustion in coal fired industrial boilers	-	-	-	-	-	-
Other coal uses	-	-	-	-	-	-
Combustion/use of petroleum coke and heavy oil	-	-	-	-	-	-
Combustion/use of diesel, gasoil, petroleum, kerosene, LPG and other light to medium distillates	3.0	0.0	0.0	0.0	0.0	0.0
Use of raw or pre-cleaned natural gas	-	-	-	-	-	-



Use of pipeline gas (consumer quality)	-	-	-	-	-	-
Biomass fired power and heat production	-	-	-	-	-	-
Charcoal combustion	0.1	0.0	0.0	0.0	0.0	0.0
Fuel production						
Oil extraction	-	-	-	-	-	-
Oil refining	-	-	-	-	-	-
Extraction and processing of natural gas	-	-	-	-	-	-
Primary metal production						
Mercury (primary) extraction and initial processing	-	-	-	-	-	-
Production of zinc from concentrates	-	-	-	-	-	-
Production of copper from concentrates	-	-	-	-	-	-
Production of lead from concentrates	-	-	-	-	-	-
Gold extraction by methods other than mercury amalgamation	-	-	-	-	-	-
Alumina production from bauxite (aluminium production)	-	-	-	-	-	-
Primary ferrous metal production (pig iron production)	-	-	-	-	-	-
Gold extraction with mercury amalgamation - from whole ore	-	-	-	-	-	-
Gold extraction with mercury amalgamation - from concentrate	-	-	-	-	-	-
Other materials production						
Cement production*3	-	-	-	-	-	-
Pulp and paper production	-	-	-	-	-	-
Production of chemicals						
Chlor-alkali production with mercury-cells	-	-	-	-	-	-
VCM production with mercury catalyst	-	-	-	-	-	-
Acetaldehyde production with mercury catalyst	-	-	-	-	-	-
Production of products with mercury content						
Hg thermometers (medical, air, lab, industrial etc.)	-	-	-	-	-	-
Electrical switches and relays with mercury	-	-	-	-	-	-
Light sources with mercury (fluorescent, compact, others: see guideline)	-	-	-	-	-	-
Batteries with mercury	-	-	-	-	-	-
Manometers and gauges with mercury	-	-	-	-	-	-
Biocides and pesticides with mercury	-	-	-	-	-	-
Paints with mercury	-	-	-	-	-	-
Skin lightening creams and soaps with mercury chemicals	-	-	-	-	-	-
Use and disposal of products with mercury content						
Dental amalgam fillings ("silver" fillings)	0.1	1.6	0.3	0.2	0.7	0.7
Thermometers	0.1	0.3	0.0	0.0	0.5	0.0
Electrical switches and relays with mercury	4.9	0.0	4.9	0.0	39.4	0.0
Light sources with mercury	1.1	0.0	0.0	0.0	20.1	0.0
Batteries with mercury	0.0	0.0	0.0	0.0	57.0	0.0



Polyurethane (PU, PUR) produced with mercury catalyst	1.1	0.5	0.0	0.0	9.0	0.0
Paints with mercury preservatives	29.9	1.6	0.0	0.0	1.0	0.0
Skin lightening creams and soaps with mercury chemicals	0.0	10.8	0.6	0.0	0.0	0.0
Medical blood pressure gauges (mercury sphygmomanometers)	0.0	0.0	0.0	0.0	0.0	0.0
Other manometers and gauges with mercury	0.2	0.5	0.0	0.0	1.1	0.0
Laboratory chemicals	0.0	1.2	0.0	0.0	1.2	1.2
Other laboratory and medical equipment with mercury	0.0	4.6	0.0	0.0	4.6	4.8
Production of recycled of metals						
Production of recycled mercury ("secondary production")	-	-	-	-	-	-
Production of recycled ferrous metals (iron and steel)	-	-	-	-	-	-
Waste incineration						
Incineration of municipal/general waste	57.7	0.0	0.0	0.0	0.0	6.4
Incineration of hazardous waste	-	-	-	-	-	-
Incineration / burning of medical waste	2.9	0.0	0.0	0.0	0.0	0.0
Sewage sludge incineration	-	-	-	-	-	-
Open fire waste burning (on landfills and informally)	1,029.9	0.0	0.0	0.0	0.0	0.0
Waste deposition/landfilling and waste water treatment						
Controlled landfills/deposits	-	-	-	-	-	-
Informal dumping of general waste *1	-	-	-	-	-	-
Waste water system/treatment *2	0.0	22.6	0.0	0.0	2.5	0.0
Crematoria and cemeteries						
Crematoria	-	-	-	-	-	-
Cemeteries	0.0	0.0	2.8	-	0.0	0.0
TOTAL of quantified releases*1*2*3	1,130.0	20.0	10.0	0.0	140.0	10.0

Notes to table above: *1 To avoid double counting of mercury in products produced domestically and sold on the domestic market (including oil and gas), only the part of mercury inputs released from production are included in the input TOTAL. *2: To avoid double counting of mercury inputs from waste and products in the input TOTAL, only 10% of the mercury input to waste incineration, waste deposition and informal dumping is included in the total for mercury inputs. These 10% represent approximately the mercury input to waste from materials which were not quantified individually in Inventory Level 1 of the Toolkit. *3: The estimated quantities include mercury in products which has also been accounted for under each product category. To avoid double counting, the release to land from informal dumping of general waste has been subtracted automatically in the TOTALS. *4: The estimated input and release to water include mercury amounts which have also been accounted for under each source category. To avoid double counting, input to, and release to water from, waste water system/ treatment have been subtracted automatically in the TOTALS. *5: Total inputs do not necessarily equal total outputs due to corrections for double counting (see notes*1-*3) and because some mercury follows products/metal mercury which are not sold in the same country or in the same year.



Note that the following source sub-categories made the largest contributions to mercury releases to the atmosphere:

- Open fire waste burning (on landfills and informally) (1,030 kg Hg/y)
- Incineration of municipal/general waste (57.7 kg Hg/y)
- Paints with mercury preservatives (29.9 kg Hg/y)
- Electrical switches and relays with mercury (4.9 kg Hg/y)

Table 3-5. Below provides general descriptions and definitions of the output pathways.

Calculation result type	Description
Estimated Hg input, kg Hg/y	The standard estimate of the amount of mercury entering this source category with input materials, for example calculated mercury amount in coal used annually in the country for combustion in large power plants.
Air	Mercury emissions to the atmosphere from point sources and diffuse sources from which mercury may be spread locally or over long distances with air masses; for example from: <ul style="list-style-type: none"> • Point sources such as coal fired power plants, metal smelter, waste incineration; • Diffuse sources such as small-scale gold mining, informal burning of waste with fluorescent lamps, batteries, thermometers.
Water	Mercury releases to aquatic environments and to waste water systems; point sources and diffuse sources from which mercury will be spread to marine environments (oceans), and freshwaters (rivers, lakes, etc.). for example releases from: <ul style="list-style-type: none"> • Wet flue gas cleaning systems on coal fired power plants; • Industry, households, etc. to aquatic environments • Surface run-off and leachate from mercury contaminated soil and waste dumps
Land	Mercury releases to the terrestrial environment: general soil and ground water. For example releases from: <ul style="list-style-type: none"> • Solid residues from flue gas cleaning on coal fired power plants used for gravel road construction. • Uncollected waste products dumped or buried informally • Local un-confined releases from industry such as on site hazardous waste storage/burial • Spreading of sewage sludge with mercury content on agricultural land (sludge used as fertilizer) • Application on land, seeds or seedlings of pesticides with mercury compound
By-products and impurities	By-products that contain mercury, which are sent back into the market and cannot be directly allocated to environmental releases, for example: <ul style="list-style-type: none"> • Gypsum wallboard produced from solid residues from flue gas cleaning on coal fired power plants. • Sulphuric acid produced from desulphurization of flue gas (flue gas cleaning) in non-ferrous metal plants with mercury trace concentrations • Chlorine and sodium hydroxide produced with mercury-based chlor-alkali technology; with mercury trace concentrations • Metal mercury or calomel as by-product from non-ferrous metal mining (high mercury concentrations)



General waste	General waste: Also called municipal waste in some countries. Typically household and institution waste where the waste undergoes a general treatment, such as incineration, landfilling or informal dumping. The mercury sources to waste are consumer products with intentional mercury content (batteries, thermometers, fluorescent tubes, etc.) as well as high volume waste like printed paper, plastic, etc., with small trace concentrations of mercury.
Sector specific waste treatment / disposal	<p>Waste from industry and consumers which is collected and treated in separate systems, and in some cases recycled; for example:</p> <ul style="list-style-type: none"> • Confined deposition of solid residues from flue gas cleaning on coal fired power plants on dedicated sites. • Hazardous industrial waste with high mercury content which is deposited in dedicated, safe sites • Hazardous consumer waste with mercury content, mainly separately collected and safely treated batteries, thermometers, mercury switches, lost teeth with amalgam fillings, etc. • Confined deposition of tailings and high volume rock/waste from extraction of non-ferrous metals

An aggregated presentation of the results for main groups of mercury release sources is presented in *Figure 3-1, Figure 3-6 and Table 3-4.*

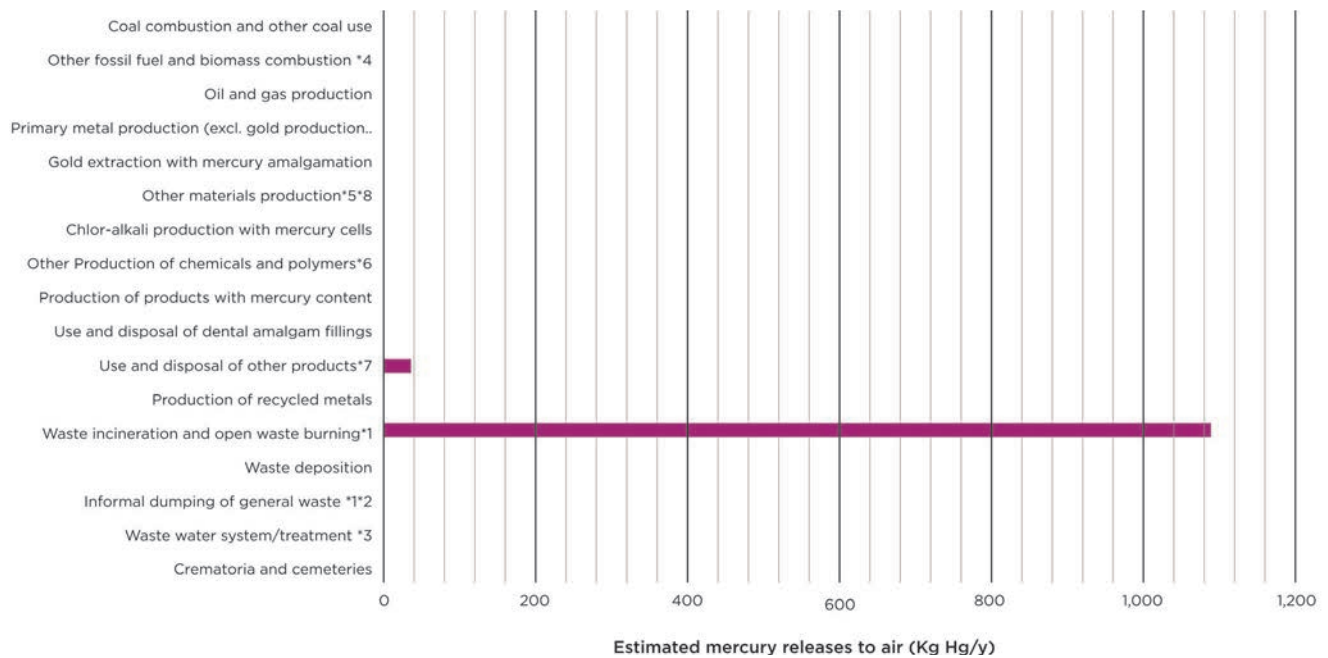


Figure 3-2 Estimating Hg release to air (kg Hg/y)



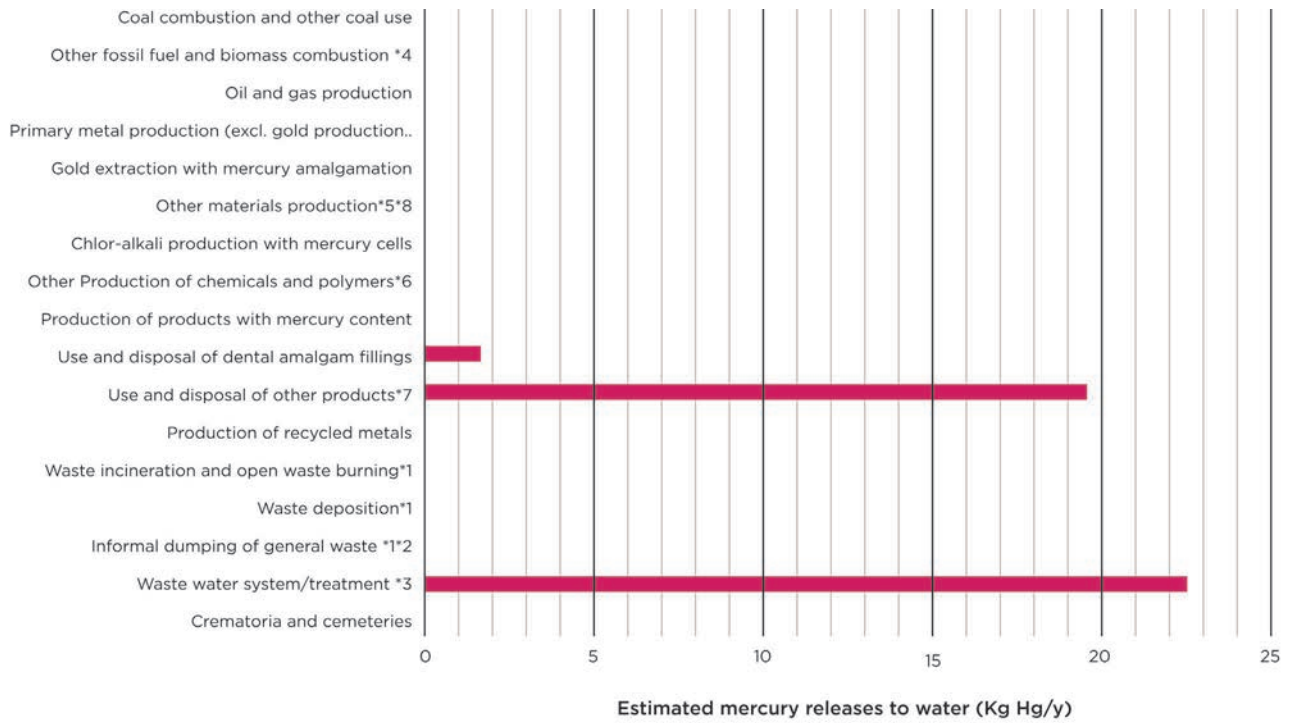


Figure 3-3 .Estimating Hg release to water (kg Hg/y)

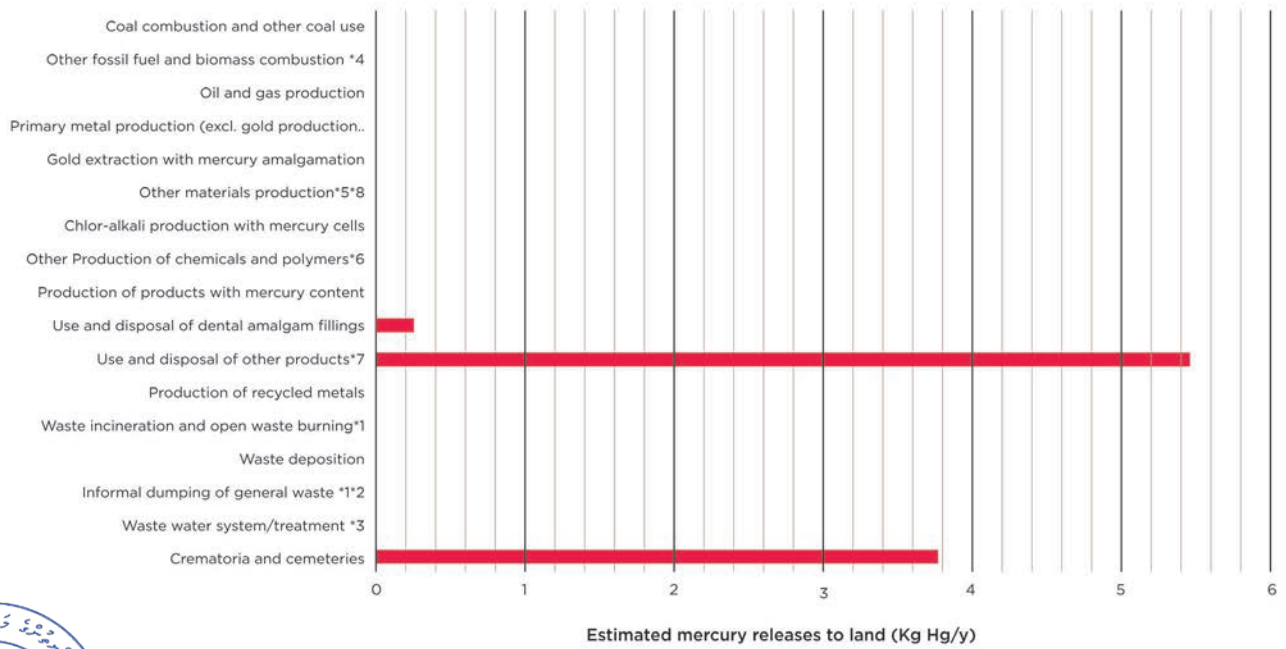


Figure 3-4 Estimating Hg release to land (kg Hg/y)



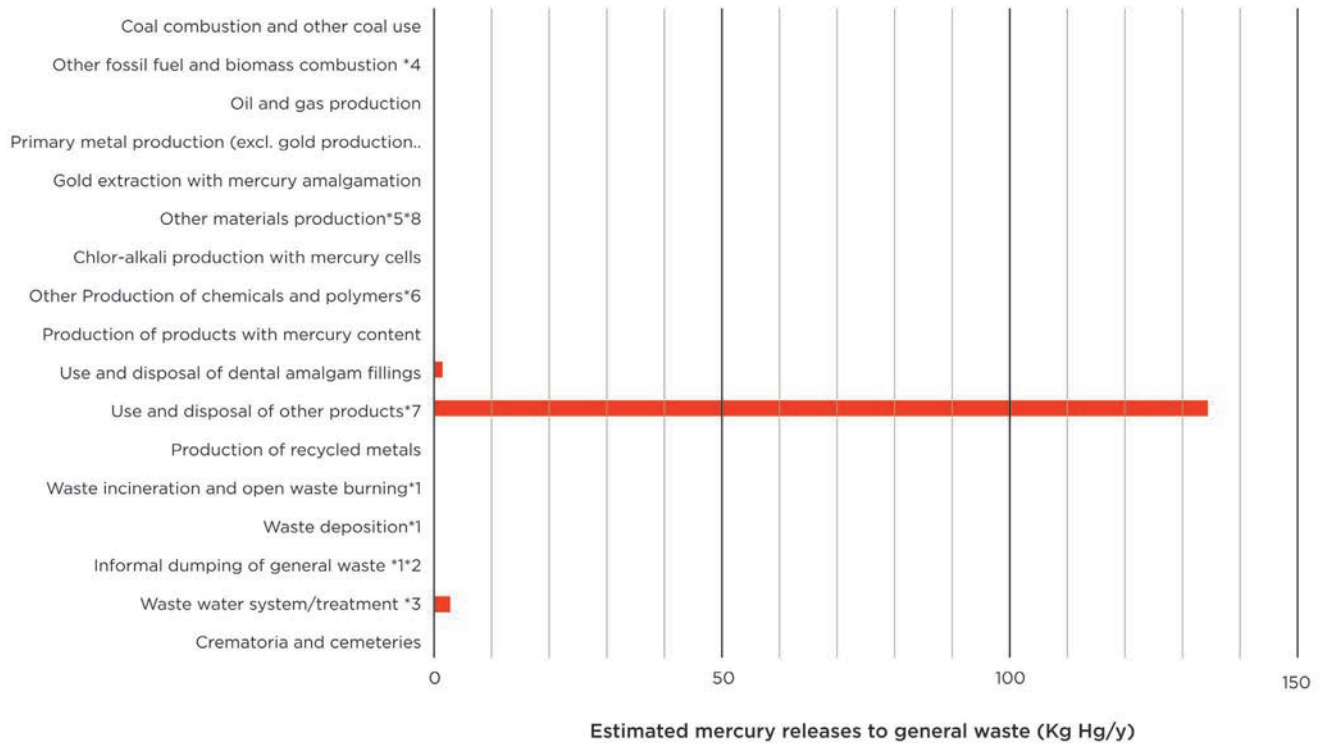


Figure 3-5 Estimated Hg release to general waste (kg Hg/y)

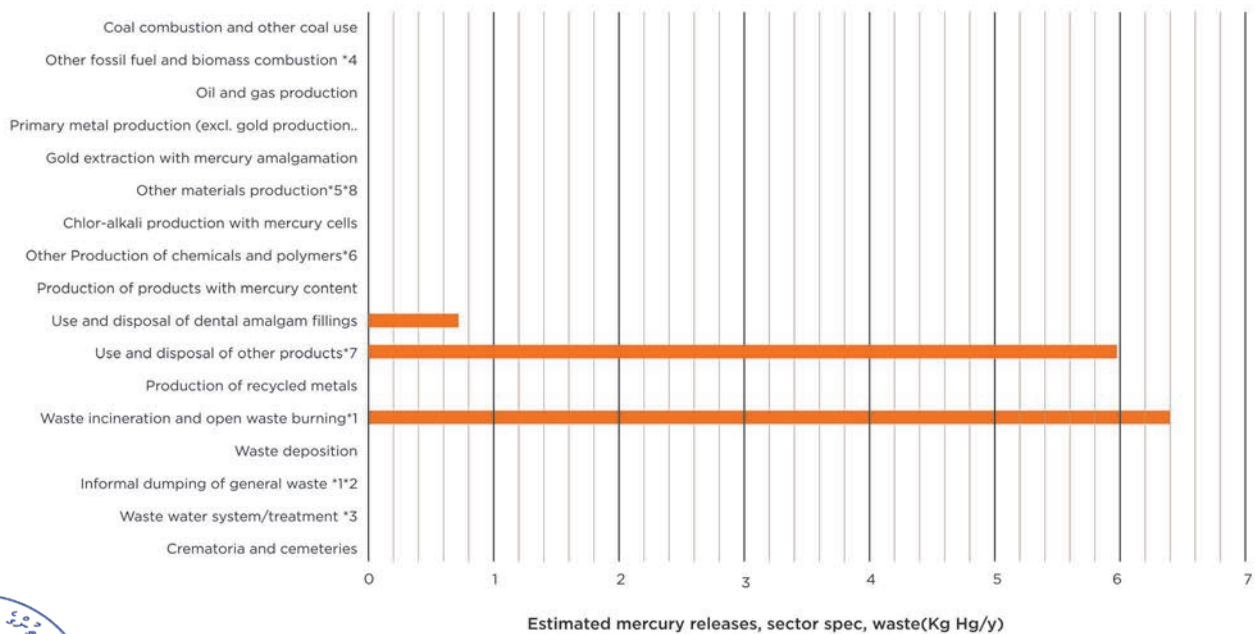


Figure 3-6 Estimated Hg releases sector specific waste (kg Hg/y)



Data and inventory on energy consumption and fuel production

Combustion/use of Diesel, gasoil, Petroleum, Kerosene, LPG and other light to medium distillates

The Maldives achieved universal access to electricity in 2008. Electricity in Maldives is produced by diesel generators and through renewable energy sources. There are a total of 186 powerhouses in inhabited islands. The inhabited islands of the Maldives have a total installed capacity of 240 MW of diesel generators to cater to the electricity demand. Electricity generation for the greater Malé region (Malé, Villingili and Hulhumale') accounts for 56.9% of the total electricity generation of all the inhabited islands. This is the largest electricity-consuming region with consumption of about 400 GWh/year and having an installed capacity of 101 MW. Total power generation from renewable energy in the Maldives is 11 MW (Source: Island Electricity Data Book 2018).²

The inventory data is based on the customs imports published and the Island Electricity Data Book 2018, published by ME. The activity rate entered into the toolkit is an average of the both 2016 and 2017 (*Table 3-6*). The total input from combustion/use of diesel, gasoil, petroleum, kerosene, LPG and other light to medium distillates was determined to be 3 kg Hg/year.

Table 3-6 . Use of fuel (Diesel, Petrol aviation gas and cooking gas) in Maldives 2016-2017 (Source: Island Electricity Data Book, 2018).

Fuel Type	Quantity (mt)		Activity rate (mt)
	2016	2017	
Diesel	445,036	447,555	446,295.5
Aviation gas	30,611	41,666	36,138.5
Petrol	47,794	57,730	52,762
Cooking gas	13,619	14,483	14,051
Total	537,060	561,434	549,247

Charcoal Combustion

Charcoal is not produced in Maldives, but is imported mainly for cooking and barbecuing purposes in some resorts, restaurants and hotels. The average annual import of charcoal is 430 mt. based on the imports of charcoal in 2016 and 2017 (Maldives Customs Service 2017).

Biomass Fired Power and Heat Production

There is no structured use of biomass in Maldives. The only form of biomass which can be considered to be used on a broader scale is firewood used for cooking in the rural islands. Heating facilities in households are not used in Maldives due to its tropical temperatures.

² <http://www.environment.gov.mv/v2/en/download/8106>.



Data gaps and priorities for potential follow up

Major data gap in this category is biomass fired power and heat production, which is widely used in the outer islands. There is no systematic data collection on the use of firewood for cooking in rural islands.

Data and inventory on waste handling and recycling

General waste management setup

The overall questions about the overall waste treatment setup in the country were answered as follows:

Table 3-7. Waste treatment setup in the Maldives (UNEP's Toolkit (Inventory Level 1, Version 2 January 2017))

Please answer questions about the current waste treatment set-up in your country:	Y/N		Y/N
a) Is more than 2/3 (two thirds = 67%) of the general waste collected and deposited on lined landfills or incinerated in closed incinerators?	Y	b) Is more than 1/3 (one third = 33%) of the mercury-added products waste safely collected and treated separately?	N

Waste handling and recycling

The following sub-categories on waste handling and recycling do not apply for Maldives:

- Production of recycled mercury (“Secondary Production”)
- Production of recycled ferrous metal (iron and steel)
- Incineration of hazardous waste
- Sewage sludge incineration

Waste management in Maldives is in a developmental stage, and existing systems are struggling to cope with the waste generated, particularly in outer islands. Solid waste management is widely recognized as a pressing environmental issue in the Maldives. There is a national waste management policy and a Waste Management Regulation (R-58-2013) which addresses: hazardous waste (e.g. explosives, flammable liquid/solids, corrosives, toxic/poisonous substances/organic peroxides, etc.) and special waste (e.g. combustible/reactive/corrosive/poisonous waste). Details of Waste Management Regulation are given in the section on Regulatory and Institutional Setup on this report.

Details of the estimates for Municipal Waste, Biomedical Waste and Waste Water calculation are given in *Table 3-8*. Each subcategory is explained in the relevant sections.

Over the last decade, waste generation in Malé increased 155% and 57.6% in the outer atolls. Waste generation per capita per day is estimated to be 1.7 kg for Malé, 0.8 kg for islands and 3.5 kg for resorts (State of the Environment 2016). The total number of resort beds and



waste generation per capita in the resort sector (3.5 kg/day) was used for the estimation of waste generation in the tourism sector.

Waste generation rate multiplied by the total population is used for the estimation of total amount of waste generated (waste kg/day) in the country. These values were subsequently converted to waste tons/day and waste tons/year (*Table 3-8*).

Table 3-8 . Details of Municipal Waste, Biomedical Waste and Waste Water calculation

	Malé	Atolls	Resort	Total
Waste generation rate ³	1.7 kg/day	0.8 kg/day	3.5 kg/day	
Population	157,935 ⁴	249,725	37,482 ⁵	
Waste kg/day	268,489.5	199,780	131,187	
Waste t/day	268.4	199.7	131.1	599.2
Waste t/year	97,998.6	72,919.7	47,883.2	218,801.5
Incineration of municipal/general waste (t/year)	4,900	729	7,182.48	12,813.48
Open Fire Waste Burning (t/year)	58,799.16	10,937.85	19,153.28	88,890.29
Landfill Dumpster (t/year)	34299.51	61251.96	21547.5	117099.06

Incineration of municipal waste

Installation of waste incinerators is compulsory mandated in all resorts. At present, there are no functional waste incinerators of municipal waste in the country. An ongoing Regional Waste Management project in R. Vandhoo has installed an incinerator, but it is yet to be in operation. Even though resort facilities have installed incinerators, most of the resorts don't have records for the amount of incinerated waste. Usually most of the waste generated in the resort is transported to be disposed of at Thilafushi waste disposal area. Therefore, it was assumed that incinerated waste accounts for 15% of waste generated in the resorts (7,182 t/y), 5% of the municipal waste in the Malé region (4,900 t/y), and 1% in the atolls (729 t/y) (EPA, 2010). To calculate the activity rate for Incineration of Municipal Waste (t/y), the waste (t/y) for each general location was multiplied by the estimated percentage of waste incinerated, for a total of 12,813 t/y of waste incinerated (*Table 3-8*). The total input from the Incineration of Municipal/General Waste was determined to be 64 kg Hg/year.

Incineration of hazardous waste

At present, Maldives does not have a dedicated facility to store or dispose of hazardous waste. Small quantities of hazardous waste are often transported to Thilafushi waste disposal site and burned in an open fire at the site. Records on the quantities of hazardous waste generated in the country is not available.

³ State of the Environment Report 2016

⁴ Census 2014 (including expatriates in the country)

⁵ Tourism yearbook 2017



Incineration and open burning of medical waste

The survey of medical waste management in hospitals and clinics has revealed that hospitals treat their medical waste differently. In some hospitals, eg: Kulhudhufushi regional hospital and ADK, medical waste are separately collected, autoclaved, and sent to the municipal waste dumpsite where it is burned with the municipal waste. In other regional hospitals, eg: L Gan, R. Ungoofaaru and Gn. Fuvahmulah, biomedical waste is separately collected and burned daily in a closed furnace within the hospital premises. In most of the hospitals, including the largest hospital IGMH and S. Hithadhoo Regional Hospital, biomedical waste is separately collected and taken to a municipal waste management area for final disposal and open burning as indicated in the filed survey report (*Table 3-9*).

Medical waste generated in hospitals are estimated using the bed capacity and 0.2kg/day (WHO fact Sheet 253).

Table 3-9 Medical waste generation

	Malé	Atolls	Resorts	Total
Bed Capacity	810	700	125	1635
Incineration/burning of medical waste (t/y)	162 kg/day	140 kg/day	25 kg/day	119 t/year

Sewage sludge incineration

Sewage sludge incineration is not practiced in Maldives.

Open fire waste burning (on landfills and informally)

In the Malé region and some outer islands, waste is collected on a daily or weekly basis by WAMCO and disposed of at designated waste management areas. In most of the islands, waste collection does not occur regularly or at all, and residents carry waste to the designated waste management areas. In most of the waste disposal sites, including Thilafushi, waste is burned with open fires.

To estimate the amount of municipal waste burned in open fires it was assumed that 60% (58,799.16 t/year) in the Malé region, 15% (10,937.85 t/year) in atolls and 45% (19,153.28 t/year) in resorts of total waste is burned in open fires (SOE 2016). A simple calculation was made with the given numbers (88,890.29 t/year) as waste burned in the open fire and this accounts for about 40% of the total waste generated in the country (*Table 3-8*). To calculate the activity rate of ‘open fire waste’, the amount of landfill dumpsites and the open fire waste were combined and entered to the toolkit as inputs. Therefore, the total input from the Open fire waste burning (on landfills and informally) was determined to be 1030 kg Hg/year.



Controlled landfills /deposits

Maldives does not have a controlled landfill and most garbage is deposited in an open dumpsite in Thilafushi and waste management sites in outer island. A proper controlled landfill site has been constructed in R. Vandhoo Island, but the facility is not fully operational yet. Most of the waste generated in the Malé region and resorts in the area is disposed in the open dumpsite at Thilafushi, about 8 km from the Capital, Malé. Thilafushi dumpsite operates at a low level of efficiency and poses health and environmental risks to persons entering and operating within the facility and surrounding environment.

Wastewater treatment

Waste water treatment facilities in the Maldives are mostly found in tourist resort islands. It is mandatory to have treatment plants in the upcoming new resort facilities. Generally, resorts have waste water treatment plants within the capacity ranging between 150-200 m³/day. Based on this, the amount of waste water treatment is calculated to be (4,790,625 m³/year) assuming 60 % of the resorts already have waste water treatment plants (Ministry of Tourism 2017). The total input from wastewater treatment was determined to be 25 kg Hg/year.

Test of waste and wastewater default factors

In this inventory, default input factors were used for the estimation of mercury releases from general waste treatment and wastewater treatment. The following test of the results was performed to qualify the results for these sources.

The test made for general waste compares the calculated inputs to all four general waste sub-categories with the sum of general waste outputs from intentional mercury uses in products plus processes as follows, using data from the Inventory Level 1 spreadsheet:

In the IL1 spreadsheet, the test was done as follows: Tab “Level 1-total summary”:

$$(E60+E64+E66+E67) > 2*(J25+J26+\sum(J31 \text{ to } J55)). \text{ The result gives } 89 < 271.2$$

We found the inequality $(E60+E64+E66+E67) > 2*(J25+J26+\sum(J31 \text{ to } J55))$ to be found false

The test made for wastewater compares the calculated inputs to wastewater treatment with the sum of outputs to water from intentional mercury uses in products plus processes as follows, using data from the Inventory level 1 spreadsheet:

In the IL1 spreadsheet the test was done as follows: Tab “Level 1-ExecSummary”:

$$B19 > 2*(D8+D10+D11+D12+D13+D14+D15) \text{ The result gives } 25.2 < 62.7$$

$$B19 > 2*(D8+D10+D11+D12+D13+D14+D15)$$

Therefore, the second inequality was false.

The calculations made indicate that the default input factors for general waste and wastewater treatment does not necessarily over-estimate the mercury releases from these sub-categories. Therefore, it was determined that the default input factors represent the best available estimates and associated calculation of mercury releases for general waste and wastewater treatment in Maldives.



Data gaps and priorities for potential follow up

Proper assessments of quantities and types of municipal waste (waste audits) needs to be carried out nationwide (Malé, atolls, industrial islands, resorts etc).

Appropriate assessments on management and disposal of biomedical waste and hazardous waste should be established throughout the country.

It is difficult to distinguish between the informal dumping of general waste and landfill dumpsites. Since all the islands have designated dumpsites, it is difficult to quantify informal dumping (illegal dumping).

Data and inventory on general consumption of mercury in products, as metal mercury and as mercury containing substances

General background data

Background calculations for the product groups listed below were based on the data on population, electrification rate and dental personnel density shown in *Table 3-11*.

Table 3-10 Sub-categories with their data type

Sub-category	Data types used as activity rates
Dental amalgam fillings (“silver” fillings)	Population, density of dental personnel
Electrical switches and relays with mercury	Population, electrification rate (percent of population with access to electricity)
Polyurethane (PU, PUR) produced with mercury catalyst	Population, electrification rate (percent of population with access to electricity)
Other manometers and gauges with mercury	Population, electrification rate (percent of population with access to electricity)
Laboratory chemicals	Population, electrification rate (percent of population with access to electricity)
Other laboratory equipment with mercury	Population, electrification rate (percent of population with access to electricity)

Table 3-11 Background data for default calculations for dental amalgam and certain other product types.

Country	Population in 2014 (Census 2014)	Dental personnel per 1000 inhabitants	Electrification rate, % of population with access to electricity
Maldives	352,795	0.043	100



Dental amalgam fillings (“silver” fillings)

The total population of the Maldives is 352,795 inhabitants. With an estimate of 0.043 as the number of dental personnel/1000 inhabitants, it is estimated that input of 4 kg Hg/year from dental amalgam waste is generated in the Maldives.

Dental restoration is a standard technique used to treat cavities. If left untreated, cavities often lead to severe pain or discomfort, requiring the removal of affected teeth. Dental amalgam is a broadly used restorative material that contains roughly 50% mercury (UNEP, 2016).⁶ The Global Mercury Assessment of 2013 revealed that mercury in dental use accounted world-wide for 270-341 tonnes of mercury releases in 2010, 10% of the mercury consumption overall. One of the requirements of the Minamata Convention is for countries to reduce their use of dental amalgam (UNEP, 2016). Other mercury-free materials can also be used to fill cavities caused by dental decay. The primary alternatives to dental amalgam are as follows (FDA, 2015)⁷

- **Composite Resin Fillings:** the most common alternative to dental amalgam. They are made of a type of plastic (an acrylic resin) reinforced with powdered glass filler. The colour (shade) of composite resins can be customized to closely match surrounding teeth. Composite resin fillings are often light cured by a “blue light” in layers to build up the final restoration. Some advantages of these fillings are that they blend with surrounding teeth; they are very strong and; require minimal removal of healthy tooth structure for placement. The disadvantages are that they are less durable than dental amalgam, more difficult to place and are higher in cost.
- **Glass Ionomer Cement Fillings:** contain organic acids, such as eugenol, and bases, such as zinc oxide, and may include acrylic resins. Like some composite resins, glass ionomer cements include a component of glass filler that releases fluoride over time. Also, like composite fillings, glass ionomer cements are toothcoloured. The composition and properties of glass ionomer cements are best suited for very small restorations. Unlike compo-site resin fillings, glass ionomer cements are self-curing and usually do not need a “blue light” to harden. The advantages of glass ionomer cements are ease of use and appearance. Their chief disadvantage is that they are limited to use in small restorations.

Thermometers

Medical mercury thermometers

Import data on medical thermometers with or without mercury was obtained from Maldives Customs and *Table 3-12* shows the imported quantity in numbers. These data were entered into the Toolkit.

6 UNEP. (2016). Lessons from Countries Phasing Down Dental Amalgam Use.

7 FDA. (2015, january 27). U.S. Department of Health and Human Services. Retrieved from U.S. Food and Drug Administration: <http://www.fda.gov/MedicalDevices/ProductsandMedicalProcedures/DentalProducts/DentalAmalgam/ucm171108.htm#1>



Table 3-12 Thermometers with or without mercury imported 2016-2017

Item	Relevant HS Customs Code1	Units imported in 2016	Units imported in 2017	Average
Clinical thermometer containing mercury (Nmb)	9025111000	149	-	74.5
Clinical thermometer mercury free (Nmb)	9025111000	27	234	130
Thermometer (liquid filled not Hg) (Nmb)	9025119010	346	166	
Thermometer (medical use) containing Hg (Nmb)	9025191000	10	78	44
Thermometer (medical use) non Hg (Nmb)	9025191000	4369	4671	4520
Thermometer others containing (Hg) (Nmb)	9025199010	2		1
Thermometer others (non Hg) (Nmb)	9025199010	12302		12302
Glass thermometers Hg free for laboratories (Nmb)	9025199010	38		19
Barometers/manometers containing mercury (Nmb)	9025 8020	30	96	63
Barometers/manometers mercury free (Nmb)	9025 8020	269	371	320
Hydrometers, pyrometers, hygrometers, etc, containing mercury and combinations (excluding 9025 1120 and 9025 1180) (Nmb)	9025 8080	63		31.5
Hydrometers, pyrometers, hygrometers, etc, mercury free and combinations (excluding 9025 1920) (Nmb)	9025 8040	174	15	94
sphygmomanometers mercury free (medical blood pressure gauges) (Nmb)	9025 8020	198		99
sphygmomanometers containing mercury (medical blood pressure gauges) (Nmb)	9025 8020	1		0.5
Thermostats mercury free (Nmb)	9032 1000	1031	1913	1472

Further verification of import data on Hg based thermometers reveal that most of the imports are for school laboratories and not for use in hospitals or clinics. The average of units imported in 2016 and 2017 (highlighted in green) in *Table 3-12* was used to determine the estimate of 118 items sold/year that was entered into the Toolkit.

Other glass Hg thermometers (air, laboratory, dairy, etc.)

Import data on glass thermometers obtained from MCS shows that Hg-based glass thermometers were not imported in 2016-2017. However, 38 Hg-free glass thermometers were imported in 2016 for laboratory use. The average of units imported in 2016 and 2017 (highlighted in yellow) in *Table 3-12* was used to determine the estimate of 64 items sold/year that was entered into the Toolkit. The total input from all thermometers was determined to be 1 kg Hg/year.

Engine control Hg thermometers and other large industrial/specialty Hg thermometers

Import data on Hg thermometers obtained from Maldives Customs shows that Hg based thermometers and other large industrial Hg thermometers were not imported in 2016-2017.



Electrical switches and relays with mercury

This estimate is automatically calculated in the Toolkit based on the population and electrification rate (percent of population with access to electricity). The total input from 'Electrical Switches and Relays' with mercury was determined to be 49 kg Hg/year.

Light sources with Mercury

Six different types of light sources can be recognized from the MCS data (*Table 3-13*). More sub categories can be found in Customs HS codes. Based on HS codes, the number of light sources with mercury imported during the year 2016 and 2017 were estimated and divided into three broad categories:

1. Fluorescent tubes (double end)

This sub category includes discharge lamps, fluorescent, hot cathode with/without double ended cap imported in 2016 and 2017. The average import of 2016-2017 (203,515 items) was used to determine the activity rate from this sub category, with an estimated mercury input of 5 kg Hg/year.

2. Compact Fluorescent lamps (CFL single end)

This sub category includes various types of low energy consumption lamps/light bulb that have been imported under 5 different HS codes. The average import of 2016-2017 (1,494,563.5 items) was used to determine the activity rate from this sub category, with an estimated mercury input of 15 kg Hg/year.

3. Other Hg containing light sources

This sub-category includes: Arc Lamps (901 items); Mercury or sodium vapour lamps, metal halide lamps (22 items); discharge lamps, other than ultra-violet, low energy and fluorescent lamps (50,484.5 items); and Ultra-violet or infra-red lamps, excluding arc-lamps (309 items). The average import of 2016-2017 (51,717 items) was used to determine the activity rate from this sub category, with an estimated mercury input of kg Hg/year.

Table 3-13 Types of light source with mercury imported in 2016 and 2017 into Maldives

tem	HS Code	Units imported in 2016	Units imported in 2017	Average 2016-2017
Discharge lamps, fluorescent, hot cathode with/without double ended cap (Nmb)	8539 31000	386,260	20,770	203,515
Arc- Lamps (Nmb)	8539410000	1,155	647	901
Mercury or sodium vapour lamps; metal halide lamps (Nmb)	8539 3200	31	13	22
Low energy consumption lamps/light bulb (Nmb)	8539 3910	2,203,133	785,994	1,494,563.5
	8506800010			
	8539210000			
	8539220000			
	8539291000			



Discharge lamps, other than ultra-violet, low energy and fluorescent lamps(Nmb)	8539 3900	7,748	93,221	50,484.5
Ultra-violet or infra-red lamps (excluding arc-lamps) (Nmb)	8539 49000	353	265	309

The average of 2016 and 2017 (1,749,795 items) was used in the Toolkit to calculate an estimated mercury input of 21 kg/yr from light sources. Major mercury-added lamp categories and the amount of mercury content per lamp is shown in *Table 3-14* (UN Environment, 2017).

Table 3-14 Major mercury-added lamp categories (UN Environment 2017)

Description	Mercury content per lamp (mg)
Discharge lamps, fluorescent, hot cathode, with double ended cap	10-40
Discharge lamps, fluorescent, hot cathode (excl. with double ended cap)	5-15
Mercury and sodium vapour lamps	10-30
Discharge lamps (excl. fluorescent, hot cathode lamps, mercury/sodium vapour lamps, metal halide lamps and ultraviolet lamps)	25

Batteries with Mercury

There are different types of batteries containing mercury that were inventoried in the Toolkit (*Table 3-15*), such as:

- Mercury oxide (button cells and other sizes); also called mercury-zinc cells, button cell batteries and miniature batteries. They are used in small portable electronic devices such as watches, cameras, digital thermometers, calculators and toys. These batteries do not pose a health risk when in use since the chances of the mercury leaking out are minimal (EPA 2016).
- Other button cells (zinc-air, alkaline button cells, silver-oxide)
- Other batteries with mercury (plain cylindrical alkaline, permanganate, etc.)

Table 3-15 Types of batteries that may contain mercury (UN Environment, 2017)⁸

Mercury-added batteries	Mercury content (kg Hg/tonne batteries)
Mercury oxide (also called mercury-zinc cells), all sizes	320

⁸ UN Environment, 2017. Global mercury supply, trade and demand. United Nations Environment Programme, Chemicals and Health Branch. Geneva, Switzerland



Zinc-air button cells	12
Silver oxide button cells	4
Alkaline button cells	5
Alkaline, other than button cell shapes	0.25

The following include various types of batteries that may contain mercury imported to Maldives in 2016-2017 (*Table 3-16*):

Table 3-16 Batteries imported to Maldives that may contain mercury (MCS)

Item	HS Code	Units imported in 2016	Units imported in 2017	Unit Weight (grams)	Average weight 2016-2017) (Tons)	Activity rate (Tons/y)	Input kg Hg/y
Silver oxide primary cells or batteries	8506 4000	77,868		1.3	0.05	0.025	8
Other primary cells/batteries	8506 8000	2,582,818	3,239,791	5	14	7	49
Button cell Watch Battery	8506800010	28,895	34,028	0.89	0.027	0.013	0

In the past decade, the battery manufacturing industry has reduced its use of mercury significantly. Therefore, mercury is not contained in all types of batteries that are produced. Now, only button batteries, such as those used in hearing aids, watches and other items requiring a small battery, contain mercury. Battery weights are obtained from product specification and the calculated total weight of imported batteries and the activity rate calculated for each type is shown in *Table 3-16*. The total input from batteries with mercury was determined to be 57 kg Hg/year.

Polyurethane (PU, PUR) produced with mercury catalyst

This is automatically calculated in the Toolkit based on the population and electrification rate (percent of population with access to electricity). The total input from polyurethane (PU, PUR) produced with mercury catalyst was determined to be 11 kg Hg/year

Paints with mercury preservatives

Paints are not produced in Maldives. All the types of paint are imported. The Customs data shows 6 different categories of paints are imported into the Maldives (*Table 3-17*). From the various types of paints imported, it is difficult to distinguish which type of paint contains mercury. According to UNEP (2017), 20- 30% of the paint factories, particularly in Asia (eg: Thailand), still use mercury as an additive in the process and in quantities of not more than 0.5 % of total weight. Based on this, it is assumed that 0.1 % of the paints imported contain mercury and 0.1 % of the average total weight of paints imported into Maldives in 2016 and 2017 was entered (13 tons/year) into the Toolkit. The total input from paints with mercury



preservatives was determined to be 33 kg Hg/year.

Table 3-17 Customs data showing the imports of various types of paints into Maldives 2016-2017

Item	Units imported in 2016 (ltr)	Units imported in 2017 (ltr)	Average 2016- 2017 (ltr)	Mercury containing paint 20% (mt)
Antifouling paint	0	32,836.23	16,418.1	3.28
Paint (based on acrylic or vinyl polymers in a non- aqueous medium)	156,116.31	174,096.16	165,106.2	33.02
Paint (based on polyester in a non-aqueous medium)	19,489.65	72,844.83	46,167.2	9.23
Paint (in a non-aqueous medium)	3,387,596.15	6,937,406.43	5,162,501	1,032.50
Paints and varnishes, in an aqueous medium,	1,008,031.20	386,958.73	697,495	139.50
Paints... Based on acrylic or vinyl polymers, in an aqueous medium	395,837.86	0	197,918.9	39.58
Totals	4,967,071.17	7,604,142.37	6,285,607	1,257.12

Skin lightening creams and soaps with mercury chemicals

Skin-lightening products may be in the form of creams, milks, oils, ointments or soaps. Hundreds, if not thousands, of them are available in the global market. Those that use mercury as an active ingredient often contain from 2 to 10 percent mercury by weight.

In Maldives, all the cosmetic products are imported and the imports are broadly regulated by the MFDA, HPA, and Ministry of Economic Development. There are neither legislations nor standards in place to limit or prohibit mercury content in cosmetics. Therefore, no record of mercury content in cosmetics exists in the country.

For this study, cosmetic products import data from Maldives Customs was obtained. A literature study on mercury content in cosmetics was conducted and more than 213 brands of cosmetics used in Asia, Africa, Latin America and USA⁹ were checked to confirm if the same brands of cosmetics that contain mercury were imported into the Maldives. *Table 3-18* shows the compiled list of various brands of cosmetics imported into the Maldives between 2016-2017 that contain mercury content as reported in the study.

⁹ <https://patch.com/us/across-america/cosmetics-may-contain-dangerous-levels-mercury-fda> (accessed Dec 2018)



Table 3-18 Compiled list of various brands of cosmetics imported into the Maldives that have been reported to contain mercury

Product Brand Name	Import 2016 (ltr)	Import 2017 (ltr)	Reporting country & Reference
FAIR & LOVELY	2.4	1.3	Nepal, Sri Lanka, Bangladesh, Pakistan ¹⁰
TOP	0.8		Spain
OLAY	153.4	43.8	Bangladesh, Pakistan, Sri Lanka
KELLY	0.6		Saudi Arabia
CUSSON	10.8	697.68	Not Identified(NI) ¹¹
VASELINE	27.9	467.03	Sri Lanka
LOREAL	9.6		Sri Lanka, Pakistan
Pond kg		1,935	Pakistan, Bangladesh
ASEPSO		14.9	Kenya ¹²
LOTUS		5	Nepal
Garnier		9.22	Sri Lanka, Nepal, Pakistan
PALMER'S		295.37	Saudi Arabia, Cote
d'Voire1			
Loreal		216.2	Pakistan
Civic		54	Saudi Arabia
Dove		96	Nigeria
Revlon		62.4	Sri Lanka
Total	205.5	3897.9	

The assessment shows that 16 different brands of skin-lighting products in the form of creams, milks, oils, ointments or soaps with records of mercury content are available in the market in the Maldives. Seven brands were imported in 2016 and 13 were imported in 2017. It is difficult to determine if the different brands of skin-lighting product imported into Maldives contain mercury as no proper testing is carried out. Therefore, based on the literature and source of cosmetics imports into the Maldives it is assumed that 10% of the skin-lightening products imported contain mercury and 10 % of the total weight of 2017 imports was entered (0.38 tonnes) into the Toolkit. The total input from skin lightening creams and soaps with mercury chemicals was determined to be 11 kg Hg/year.

10 Ali. S.W., and Khwaja M.A., (2016) Assessment of Prevalence of Health Complication and skin disease due to Mercury Containing Skin Whitening Creams (SWCs) Use among the population at selected Cities of Pakistan, Sustainable Development Policy Institute (SDPI), Islamabad Pakistan October 2016, 73PP

11 Haradaa M., Nakachib S.,Tasakac K.,Sakashitad S., Mutae K., Yanagidaf K., Doig R., Kizakih T., Ohnoh H., (2001) Wide use of skin-lightening soap may cause mercury poisoning in Kenya, Short Communication, The Science of the Total Environment 269 Ž2001. 183 187, 2001 Elsevier Science B.V. All rights reserved. PII: S 0 0 4 8 - 9 6 9 7 Ž 0 0. 0 0 8 1 2 - 3

12 Oyelakin O., Saigykhan J, Secka P; Adjivon A and Acquaye H.B.(2010) Assessment of the Level of Mercury Present in Soaps by the Use of Cold Vapour Atomic Fluorescence Spectrometric Analysis - A Gambian Case Study, Ethiopian Journal of Environmental Studies and Management Vol.3 No.1 2010.



Medical blood pressure gauges (mercury sphygmomanometers)

The import data shows that only one sphygmomanometer with mercury was imported in 2016 and 198 mercury-free sphygmomanometers were imported in the same year (*Table 3-19*). Field surveys on hospitals have found 19 sphygmomanometers with mercury, including 6 in Kulhudhufushi, 5 in Ungoofaaruu, and 8 in ADK Hospital. All these sphygmomanometers are taken from the service. It is estimated that nationwide 50-75 mercury-containing sphygmomanometers may exist in the Maldives.

Other manometers and gauges with mercury

This is automatically calculated in the Toolkit based on the population and electrification rate (percent of population with access to electricity). The default values are used because it seems to be the standards followed in the Toolkit for countries with a population size of Maldives. Import data on manometers and other various types of gauges were collected for the inventory (*Table 3-19*). The total input from other manometers and gauges with mercury was determined to be 2 kg Hg/year.

Table 3-19 Import data on manometers and gauges (2016-2017)

Product Brand Name	HS Code	Import 2016 (Nmb)	Import 2017 (Nmb)
Barometers/manometers containing mercury	9025 8020	30	96
Barometers/manometers mercury free	9025 8020	269	371
Hydrometers, pyrometers, hygrometers, etc, containing mercury and combinations (excluding 9025 1120 and 9025 1180)	9025 8080	63	
Hydrometers, pyrometers, hygrometers, etc, mercury free and combinations (excluding 9025 1920)	9025 8040	174	15
sphygmomanometers mercury free (medical blood pressure gauges)	9025 8020	198	
sphygmomanometers containing mercury (medical blood pressure gauges)	9025 8020	1	
Thermostats mercury free	9032 1000	1031	1913

Laboratory chemicals

This estimate is automatically calculated in the Toolkit based on the population and electrification rate. The default values are used for the inventory for two reasons. First, it seems to be the standards followed in the Toolkit for countries with a population size of Maldives. Second, there are discrepancies between the compiled data from various sources, including MoD, MFDA and Maldives Customs Services. However, a compiled list of chemicals that may contain mercury imported in 2016 and 2017 for laboratory and analytical use is given in *Table 7-11*. The import of chemicals is administered by various government authorities, particularly MoD and MFDA. The total input from other manometers and gauges with mercury was determined to be 4 kg Hg/year.



Table 3-20 Compiled list of chemicals that may contain Mercury, Imported in 2016 and 2017

Chemical name	Country origin	Relevant HS Customs Code	Imported in 2016	Imported in 2017
Mercury liquid	India/Turkey	2805400000		1502 (kg)
Mercury (II) Oxide-red	India	2852100000		1 (kg)
Mercury (I) Chloride Mercurous	India	2852100000		1 (kg)
Mercury metal	India	2852900000		3 (kg)
Mercury (II) nitrate	India			100 (g)
Mercury ICP Standard	India	2852100000	400 (ml)	100 (ml)
Mercury (II) acetate	India			100 (g)
Mercury (II) Chloride	India			20 (g)
Mercury reagent	India		13.7 (kg)	
Mercury (III) Chloride	India			20 (g)

Other Laboratory and medical equipment with mercury

This is automatically calculated in the Toolkit based on the population and electrification rate. The default values are used because it seems to be the standards followed in the Toolkit for countries with a population size of Maldives. The total input from other manometers and gauges with mercury was determined to be 14 kg Hg/year.

Data gaps and priorities for potential follow up

The data collection heavily relied on the import data obtained from MCS. The following were identified as potential areas for improved estimation with an Inventory Level 2:

- It is difficult to distinguish between the products that contain mercury and mercury-free products from HS codes
- Inaccurate coding of some commodities and errors encountered in transferring information from manual documents to digital
- Product-specific information is extremely difficult to obtain and time-consuming.
- Often the products information sheet does not provide the full list and quantities of ingredients in the product, which makes the identification and quantification of mercury difficult (eg: paints, cosmetics, battery etc).
- With the increasing number of mercury-free products and conversion of mercury-based products to mercury-free products, distinguishing between such products brands is difficult.



Data and inventory on crematoria and cemeteries

Cemeteries

The annual number of deaths was obtained from the census where the average number of deaths per year from 2006-2014 was calculated. The value of 1,110 corpses buried/year was entered into the Toolkit to represent the number of burials that takes place annually and resulted in a total input of 3 kg Hg/year of mercury released to the environment.



Policy, Regulatory and Institutional Framework Assessment

Legal framework for Management of Mercury

There are no specific legal instruments for managing mercury in the Maldives. Existing laws and regulations on general chemicals and environmental management can be considered as relevant and used to address issues related to the management of mercury in the absence of specific legal framework in the Maldives.

This section presents an overview of key legal instruments which address the management of chemicals in the Maldives. The following table (*Table 4-1*) presents existing/draft legal instruments (laws, regulations, standards etc.) that address various aspects of environmental and chemical management, which is also considered to be appropriate to address mercury management in the country. The table provides names of the existing/draft legal instrument, year of enactment, government agency responsible for implementation and enforcement, and the main objectives of the legal instrument. Additional details of the legal instruments are given in each subsection following *Table 4-1*.

Table 4-1 Existing/draft Legal Instruments to Manage Chemicals Relevant to Mercury Management in the Maldives

Laws, Regulations, Standards and Guidelines	Year of Enactment	Relevant Agency	Objective of the Legal Instrument
Environment Protection and Preservation Act - Law No. 4/93	1993	Ministry of Environment Environmental Protection Agency	Environmental Protection and Preservation Act of the Maldives, EPPA (Law No. 4/93) provides the framework law for environmental management, including Environmental Impact Assessment (EIA)
Law on importation of prohibited items to the Maldives Act No. 4/75	1975	Maldives Customs Service Ministry of Defence	Regulating imports/exports of prohibited substances (eg:- chemicals, acid, poisons, toxic substances, explosives)
Waste Management Regulation - 2013/R-58	2014	Ministry of Environment Environmental Protection Agency	Waste management including: hazardous waste (e.g. explosives, flammable liquid/solids, corrosives, toxic/ poisonous substances/organic peroxides, etc); Special waste (e.g. combustible/ reactive/ corrosive/ poisonous waste)
Ozone Layer Protection Act 14/2015	2015	Ministry of Environment	Banned import of HCFC-based equipment starting on 31st May 2016



Regulation on Management, Use and Control of HCFC Substances, and HCFC based equipment 2010 (2010/R-19)	2010	Ministry of Environment	Control, import/export use and sale of HCFC and HCFC blends ODS-containing equipment starting in 2011 and complete phase-out of HCFCs by 2020.
Regulation on Protection and Conservation of Environment in the Tourism Industry	1998	Ministry of Tourism	The purpose of this regulation is to protect the environment in the tourism industry and to encourage and facilitate sustainable development of tourism. Covers disposal of toxic and hazardous waste
Regulation on Fuel Storage, Handling and Use (2015/R-160)	2015	Ministry of Defence	To regulate the storage, handling, transport and sale of petroleum products.
Regulation on Environmental Damage and Liabilities (2011/R-9)	2011	Ministry of Environment	The purpose of this regulation is to stop unlawful activities and adequately implement a fining procedure for violations, as well as implement a compensation mechanism on environmental damages.
The first National Standard for Clinical Laboratories in Maldives	2013	Ministry of Health	Waste management standards that are followed at all clinical and medical laboratories, regional hospitals, and atoll hospitals in Maldives.
National Healthcare waste management Policy	2016	Ministry of Health	The “National Policy on Healthcare Waste Management” is a framework of strategies, legal regulations, guidelines and operational procedures.
National health care waste management strategic plan 2016-2021	2016	Ministry of Health	Strategic plan is developed to enforce the “National Health Care Waste Management Policy” by establishing a countrywide integrated healthcare waste system, which is managed without adverse effects on human health and environment, and that is environmentally and economically sustainable
Draft Mercury free policy for healthcare	2018	Ministry of Health (pending political endorsement)	To support health care facilities to create a mercury- free environment and to mitigate the effects of mercury exposure on human health and environment with contribution to achieve the global objectives of the Minamata Convention to protect human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds. This policy applies to all health care facilities; public and private including companies importing and selling health care products and agencies responsible for environmental protection and waste management in the Maldives.



Pesticides Act (year 2019)	Draft	Ministry of Fisheries, Marine Resources and Agriculture	To regulate the management, import/export, use and distribution of pesticides with the objective of protecting human, animal and plant health and the marine and terrestrial environment.
Chemical Regulation	2019	Ministry of Defence	To regulate the import, sale, use permits, safe handling, storage, and disposal of hazardous chemicals.

The Environment Protection and Preservation Act of Maldives (Act No. 4/93)

The Environmental Protection and Preservation Act of the Maldives, EPPA (Law No. 4/93), provides the basic framework for environmental management, including the Environmental Impact Assessment (EIA) process in the Maldives, which is currently being implemented by the Environmental Protection Agency (EPA)

The EPPA gives provisions to the Ministry of Environment to formulate policies, rules and regulations regarding the protection of the environment and makes environmental impact assessments a mandatory requirement for all development projects. The EPPA also gives provisions to terminate any project that has an undesirable impact on the environment and levying fines up to one hundred million Rufiya for offenses in breach of this law. The EPPA gives the government of the Maldives the right to claim compensation for all damages caused by activities that are detrimental to the environment.

Clause 7 of the EPPA refers to the disposal of oil, wastes and poisonous substances in the Maldivian territory. According to this clause, any type of waste, oil, toxic gas or any substance that may have harmful effects on the environment should not be disposed of within the Maldivian territory. If, however, the disposals of such substances become absolutely necessary, the clause states that they should be disposed only within the areas designated for that purpose and if incinerated, appropriate precautions should be taken to avoid harm to the health of the population.

The EPPA is the single most important legal instrument with regards to environmental management and it gives very high prominence towards safeguarding the environment with regard to all development activities. Under this Act, the Ministry of Environment have developed regulations and guidelines concerning environmental protection through implementation of EIA procedures.

If a specific focused regulatory measure is necessary for the management of mercury in the Maldives, EPPA is the appropriate tool for such an intervention.

Law on importation of prohibited items to the Maldives (Act No. 4/75)

The objective of this Act is to define, control and manage substances that are prohibited from importation or only to be imported with special permission from the relevant authorities and agencies specified. The Act also provides a list of materials which are completely banned from import and a list of chemicals (*Table 4-2*) that can be imported under special permission from relevant government authorities.



Generally, chemical substances are under import, use and manufacture controls unless accompanied with a special permission from the Ministry of Defence and other related ministries, such as the Ministry of Health, Ministry of Fisheries, Marine Resources and Agriculture, and Ministry of Environment. These include hazardous chemicals and chemical-based substances that do not fall under the category of explosives, but can be used as substances for chemical weapons.

The Ministry of Defence is the custodian of this Act, in coordination with other relevant government agencies, including: Ministry of Health, Ministry of Fisheries, Marine Resources and Agriculture, Ministry of Environment, and the Maldives Customs Service.

Under the provisions of this Act, prior written consent is required from the Ministry of Defence to import hazardous chemical substances.

Table 4-2 List of Class A chemicals banned from import into the Maldives

Common Name	Trade Name
Insecticides/Acaricides	
Aldrin	Aldrex, Aldrite
Chlrodane	Chlorotox, Octachlor, Pentichlor
Endvin	Hexadrin
DDT (dichloro diphenyl trichloroethane)	Neocide, Pentachlorin, Chlorophenothate
Heptachlore	Dromex, Heptamol, Heptox
Mirex	
HCH (<99% gamma isomer)	Hexachlorohexane
Hexachlorobenzene	
Campechlor	Toxaphene, Polychloro camphene
Nitrofew	
1,2 Dibromoethane	
1,2 Dichloroethane	
Monocrotophos	
Bromochloromethane (CH ₂ BrCl)	
Methylbromide (CH ₂ Br)	
Fungicides	

Source: Ministry of Defence

Waste Management Regulation (2013/R-58)

The Waste Management Regulation drawn under the EPPA provides a set of comprehensive guidelines on collection, storage, transportation and management of wastes, including management of hazardous waste. The purpose of this Regulation is to implement national policies regarding waste management and to conserve the environment. The Environmental Protection Agency is given the main responsibility to enforce the Waste Management Regulation.



Two main categories of chemical use are covered in the Waste Management Regulation. The Regulation addresses aspects of import, storage, transport, use, handling, export and disposal of specified waste products that falls into Category 1 and 2.

Special waste that has any of the following characteristics is considered as Category 1 waste in the Regulation:

- Waste generated from products having fire combustible sign;
- Reactive waste;
- Corrosive waste; and
- Poisonous waste.

Special waste generated from the following is considered as Category 2 waste in the Regulation:

- Engine oil;
- Batteries;
- Fibre resin;
- Pesticides;
- Rat poison;
- Paint and chemical solvents;
- Substances containing mercury;
- Electronics;
- Laboratory chemicals;
- Lead; and
- Asbestos.

Mercury is covered and can be addressed in both of these chemical waste Categories 1 and 2 as defined in the Waste Management Regulation.

Ozone Layer Protection (Act No. 14/2015)

Under the Ozone Layer Protection Act 14/2015, the government has banned the import of HCFC-based equipment. The Act also has provisions for establishing annual import quota, registration of importers and for levying fines for importing Ozone Depleting Substances listed in Schedule 1 and 2 of the Act. This also includes the use of HCFC and HCFC blends without registration, exceeding the annual quota and unauthorized importation.

Regulation on Management, Use and Control of HCFC Substances, and HCFC based equipment (Act No. 2010/R-19)

The HCFC Regulation is developed under the Environmental Protection and Preservation Act (4/93) to regulate HCFCs through the control of imports, use, and sale of HCFC substances.

The complete phasing out and elimination of HCFC substances in the Maldives is scheduled by 2020.



Under this Regulation, designed to meet obligations under the Montreal Protocol, the Regulation will manage and control the importation and establish a system to monitor the sale and usage of HCFC, HCFC-blends and HCFC-containing equipment.

The Ministry of Environment is responsible for the implementation and enforcement of both the Ozone Layer Protection Act 14/2015 and Regulation on Management, Use and Control of HCFC Substances, and HCFC based equipment (2010/R-19).

Regulation on Protection and Conservation of Environment in the Tourism Industry

This Regulation stipulates the standards for the protection and conservation of the environment in the tourism industry. The purpose of this Regulation is to protect the natural and physical environment from activities within the tourism industry and to encourage and facilitate sustainable development of tourism. It is strictly enforced on islands and land areas leased for the development of tourist resorts and facilities by the Ministry of Tourism. The key attributes of the Regulation relevant to chemicals and chemical management are given below:

1. All chemicals used as pesticides and fertilizers imported for use in a tourist resort, picnic islands, marina or such a place shall be imported after obtaining written permission from the relevant government authority (Ministry of Defence, Ministry of Fisheries, Marine Resources and Agriculture, and Ministry of Environment).
2. Waste disposal in tourist resorts, picnic islands, and marinas operating in the Maldives shall be carried out in a manner that would have the least impact on the environment, and in accordance with the laws and regulations and in accordance with the rules prescribed by the Ministry of Tourism. Hence, toxic or hazardous waste (such as battery and waste oil) must be separated and has to be properly labeled prior to disposal. This Regulation requires certain types of equipment such as bottle crushers, can crushers, and incinerators to be installed and functional in the islands as part of a condition of the license to operate the resort.
3. Sewage shall be disposed in a manner that is least harmful to the environment

If any provision of this regulation is contravened by any tourist resort, picnic island, marina, hotel, guesthouse, or tourist vessel, they shall be guilty of an offence, and shall be liable to a fine, taking into consideration the seriousness of the non-compliance, between MVR 1,000.00 and MVR 10,000.00 in the first instance. Parties repeatedly in non-compliance shall be liable to a fine between MVR 50,000.00 and MVR 100,000.00. If non-compliance of a provision occurs more than once, the Ministry reserves the right to revoke the operating license of the resort.

Regulation on Fuel Storage, Handling and Use (2015/R-160)

The Regulation on Fuel Storage, Handling and Usage (2015/R-160) came into effect on 12 August 2015. The Regulation deals with the installation, registration, security, safety and inspection of fuel storage facilities, design requirements for fuel/petrol storage tanks/



containers, specifics of filling points, and prohibits keeping wet cells, acids and pressurized containers in petrol sheds or petrol storage area. The Regulation also sets the requirements for fuel delivery lines.

Regulation on Environmental Damage and Liabilities (Act No. 2011/R-9)

The Regulation on Environmental Damage and Liabilities is drawn under the EPPA. The main purpose of this Regulation is to deter and prevent unlawful activities detrimental to the environment and adequately implement penalties in the form of fines for violations, as well as implement a compensation mechanism on environmental damages. The Schedules under the Regulation form the basis for levying fines on various environmental damages, components and activities. The Ministry of Environment is the custodian for the implementation of this Regulation.

Damages and detrimental effects resulting from the use of mercury and compensations arising from the effects of mercury may be covered under this Regulation with relevant amendments.

National Standard for Clinical Laboratories in Maldives

The first National Standard for Clinical Laboratories in Maldives was published by the Ministry of Health in February 2013. This Standard applies to ‘all medical laboratories both public and private which shall include laboratories at the central level, regional hospitals and atoll hospitals’.

According to the national Standard, clinical laboratories are responsible for proper management of the waste that are generated. The Manager of the facilities should understand and comply with all relevant regulations and shall reduce the amount of wastes to be incinerated by proper segregation, collection, treatment and disposal. Additionally, clinical waste should be segregated from municipal solid waste or other waste streams.

Waste generated from clinics and laboratories are categorized into the following five categories that are defined in the national Standards:

1. Non-contaminated (non-infectious) waste that can be reused, recycled or disposed of as general “household” waste
2. Contaminated (infectious) “sharps” – hypodermic needles, scalpels, knives and broken glass should be collected in puncture-proof containers that are fitted with covers and treated as infectious
3. Contaminated material for decontamination by autoclaving and thereafter washing and reuse or recycling
4. Contaminated material for autoclaving and disposal
5. Contaminated material for direct incineration

The Standards provide guidelines for handling, storage, transportation and disposal of infectious waste to avoid environmental contamination and to minimize potential human exposure.



National Healthcare Waste Management Policy

The purpose of the National Healthcare Waste Management Policy is to ensure that all waste generated within the health sector is managed safely without adverse effects on human health and environment in an integrated manner that is environmentally and economically sustainable. The policy encompasses both hazardous healthcare waste as well as the non-hazardous waste along the complete logistic chain: procurement, generation, segregation, collection, storage, transport, treatment and disposal. The policy does not specifically address mercury waste generated from healthcare facilities. Main objectives of the Policy are:

- To manage healthcare waste through healthcare waste management policies and strategies
- To integrate healthcare waste with the national waste management policy and strategy;
- To minimize the quantities and risks associated with healthcare waste.
- To protect health of patients, health workers, and public from hazards related to healthcare waste.
- To protect the environment from the hazardous materials of healthcare waste.
- To promote economically sustainable practices for healthcare waste management
- To promote the proper management of healthcare waste by institute training programs and raising awareness of health workers, patients and public.
- To ensure the proper management of healthcare waste through availability and accessibility of required tools and equipment.
- To adopt healthcare waste management practices that support the international treaties such as Stockholm Convention on Persistent Organic Pollutants and the Basel Convention on the Control of Trans boundary Movements of Hazardous Wastes and their disposal.

The policy also identifies the following as the priorities of action towards healthcare waste management:

- Governance and legal framework
- Public health, occupational safety and environmental protection
- Waste Handling
- Education, Training and Research
- Resource Mobilization
- Monitoring and Evaluation
- Contracting

National strategy and implementation plan that has been developed under this policy is discussed in following section.



National Healthcare Waste Management Strategic Plan 2016-2021

This strategic plan was developed in line with the “National Waste Management Policy” and “Waste Management Strategic Action Plan” endorsed by the Ministry of Environment, which envisages the establishment of waste management centres on each inhabited island and the construction of Regional Waste Management Facilities.

Priorities identified in the strategic plan and the objectives of each priority is summarised in the following table.

Table 4-3 Priorities identified in the national healthcare waste management strategic plan

Strategic Priority	Objective
Strategic Priority 1: Improving the legal framework for healthcare waste management	<ul style="list-style-type: none"> • Review and revise existing legal documents • Strengthen policy and regulatory structures for HCWM
Strategic Priority 2: Improving knowledge management and capacity building healthcare waste management	<ul style="list-style-type: none"> • Develop national training packages on healthcare waste management • Implementation of developed HCWM training programs • Promote research, new technologies and innovative methods for sound management of HCW
Strategic Priority 3: Implementing of an integrated healthcare waste management	<ul style="list-style-type: none"> • Assessment of the current waste management situation • Set up of an integrated system in a pilot atoll • HCWM planning • Promote green procurement and minimizing wastes • Improvement of Infectious Waste and Sharp Waste Management
Strategic Priority 4: Improving and adapting of national and local monitoring	<ul style="list-style-type: none"> • Assessment of current monitoring situation • Strengthen reporting, monitoring, and evaluation mechanism on HCWM • Regular monitoring and evaluation of the HCWM system and performance of the equipment
Strategic Priority 5: Resource Mobilization	<ul style="list-style-type: none"> • Establish sustainable sources of funding • Budget completion

Mercury Free Policy for Healthcare Facilities

Mercury Free Policy For Healthcare Facilities is a policy developed by the Ministry of Health to support healthcare facilities to create a mercury- free environment and to mitigate the effects of mercury exposure on human health and environment with contribution to achieve the global objectives of the Minamata Convention to protect the human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds.

The policy was developed in September 2018 and it is pending political endorsement from the Government.



When the policy is endorsed it will apply to all healthcare facilities operating in the Maldives; public and private including companies importing and selling healthcare products and agencies responsible for environmental protection and waste management in the Maldives.

Objectives specified in the policy are:

- To evaluate and monitor the situation of mercury use in healthcare facilities.
- To phase out and ban mercury thermometers and sphygmomanometers and other mercury containing healthcare products used in healthcare facilities.
- To link management of mercury waste at healthcare facilities with healthcare waste management policy.
- To strengthen capacity of health service providers to prevent, detect, treat and care for populations affected by mercury exposure.
- To conduct policy advocacy and public education regarding the health and environmental effects of mercury and mercury compounds

The policy also identifies a number of policy interventions with very specific targets to phase-out/phase-down mercury from healthcare facilities. The following policy interventions are identified in the document with a proposal to be reviewed by Ministry of Health in consultation with stakeholders in 3-5 years.

1. A stakeholder engagement strategy shall be developed to achieve goals and objectives cited under this policy to phase out mercury in healthcare facilities
2. Baseline survey shall be carried out in collaboration with relevant organizations to identify mercury containing products, knowledge practices and belief of healthcare providers towards mercury product use and its impact.
3. An assessment shall be carried out to identify availability of reliable and economically feasible alternatives for mercury containing equipment and devices in the health sector.
4. A plan shall be developed to substitute and eliminate use of mercury containing equipment and devices in the healthcare facilities. The plan shall prioritize list of targets with measurable goals for all levels of healthcare facilities
5. Mercury phase out guideline shall be developed which provides direction for procurement, use, safe handling, storage, collection and environmentally sound disposal of mercury-containing products.
6. An inventory shall be developed for items that contain mercury in the healthcare facilities detailing use, storage and other relevant information.
7. Inventory for mercury containing equipment in healthcare facilities shall be maintained at central level linked with National Waste Management System.
8. Sensitization and capacity development programs shall be carried out for policy makers, managers and health care professionals to enhance substitution of mercury containing products, management of mercury and mercury-containing wastes in healthcare facilities, practical procedures for handling of broken devices and use of new mercury-free equipment.
9. Strengthen health sector and institutional capacity to prevent, diagnose, treat, monitor and manage health risks that occur due to exposure to mercury and mercury compounds.



10. Inform public through health promotion and public education programs; strategize these interventions through existing public health plans and awareness programs of relevant sectors.
11. Develop and implement strategies and programs with stakeholders to identify and protect populations at risk including healthcare providers. Annual budgeting of all public and private healthcare facilities shall facilitate procurement of safer alternatives to mercury and health promotion programs
12. Mechanism for safe collection, disposal of mercury wastes shall be established in line with the National Waste Management Regulation (2013/R-58).
13. Mercury containing thermometers and sphygmomanometers shall be phased out by 2020 to achieve the target as per the Minamata Convention on Mercury (Article 4; mercury manometers shall be replaced with Aneroid – mercury free alternatives.)
14. Dental service providers shall develop a plan and implement to phase down the use of dental amalgam by 2020.
15. Evaluation and monitoring mechanism shall be established to monitor and assess the progress of the implementation of relevant policy and guidelines.
16. Conduct safer mercury safety audits.

Pesticides Act (21/2019)

The Act serves as the primary legal instrument to regulate the import, handling, transport, management, use and distribution of pesticides during all stages of their life cycle, including the disposal of pesticide wastes. The objective of this Act is to protect human, animal and plant health, the marine and terrestrial environment, and promote sustainable agricultural production in the Maldives.

Ministry of Fisheries and Agriculture is mandated to issue permits on the use of pesticides and manage both direct and indirect effects of pesticides. The enforcement of this legislation will enable the country to more effectively meet its international obligations and further collaboration with international partners.

Chemical Regulation (R-1057-2019)

This Regulation is vested from the Law No. 4/75, under Article No. 5a(3) enforced by the Ministry of Defence. It was drafted in 2005 and has been enacted in 2019. The Regulation covers different aspects of hazardous chemical management such as its import, sale, use permits, safe handling, storage, and disposal. The Regulation will be implemented and enforced by the Ministry of Defence

Institutional capacities on Mercury Management

There is no designated government institution or agency that is responsible for the specific management of mercury in the Maldives. Furthermore, an analysis of the existing legislation, within the scope of mercury management, shows a lack of special legislation and standards for mercury management. The existing institutional capacity to control and monitor chemicals can be considered as the existing legislative system for mercury management in the Maldives as well.



The purpose of this chapter is to provide a description of roles and responsibilities of relevant ministries, agencies and other governmental institutions relating to chemical management in the Maldives. The control and regulation of chemicals are divided between various government institutions and the role and responsibilities of each institution is briefly described in the following subsections.

Ministry of Defence (MoD)

The Ministry of Defence is the main institution mandated with regulating the monitoring and import control of dangerous chemicals into the country in coordination with other government relevant authorities. All dangerous chemicals (except for fireworks), including acids and other poisonous items produced using these chemicals can only be imported into the country with prior written permission from the MoD. The Ministry also implements decisions and provides coordination of activities by relevant ministries, departments and institutions dealing with imports, usage and distribution of chemical and chemical compounds.

Ministry of Environment (ME) and MoD has recently launched a national chemical management database, MAKUDI. This is a harmonized database that shows the most common types of chemicals imported to Maldives, which will strengthen the monitoring and surveillance of imported chemicals.

Although, Mod is the overarching agency dealing with the disposal of chemicals, the Ministry lacks capacity, appropriate means and Standard Operating Procedures (SOPs) required to safely dispose of various types of chemicals.

Maldives Customs Service

The Maldives Customs Service (MCS) ensures that the regulations on import of chemicals into the country are fully enforced and the records are well kept and maintained. The MCS maintains a database for the imports of chemicals that shows a broad category of chemicals that are imported into the country. The database maintained by Customs is very comprehensive and is based on internationally recognized HS cores. MCS also verifies that the necessary permissions from the relevant government authorities on chemicals imported are obtained prior to importation and withholds any attempt to import chemicals brought into the country without proper documentation, and necessary permissions required from the Government authorities.

Ministry of Fisheries, Marine Resources and Agriculture (MoFMRA)

The main responsibility of MoFMRA, regarding chemicals is related to pesticides and fertilizers and includes the following:

- Developing standards and regulations related to the import and handling of pesticides and fertilizers;
- Storing and treatment of pesticides;
- Determination of alternative methods for control of pests, plant diseases and weeds;
- Elaboration of effective measures on safe use of plant protection chemicals;



- Official control of observation rules on use and treatment of pesticides;
- Regulation of import and distribution of pesticides;
- Establish and maintain a pesticides and chemical database; and
- Issuing licenses for the import of pesticides and chemical fertilizers.

MoFMRA also provides advice on the control of pests and proper treatment of pesticides. The Ministry also provides information to farmers and other consumers on the recommended pesticides and effective use, which give instructions and precautions in handling and application of pesticides.

Since some older pesticides contain mercury and may still be in use or have stockpiles, it is important that safe use and mercury-free pesticides be controlled within the framework of the new pesticide regulation to be implemented in the agriculture sector.

Ministry of Environment (ME)

The Ministry of Environment (ME), is mandated to set appropriate policies and formulate the required laws and regulations on waste management, including chemical and hazardous wastes. ME is responsible for the management and guidance of control of environmental hazards caused by chemicals. ME also issues quota, and controls and manages the import, use, sales and distribution of Ozone Depleting Substances (ODS), such as HCFCs and HCFC blends, as per obligations under the Montreal Protocol.

Environmental Protection Agency (EPA)

EPA is the regulatory body, affiliated with the ME, assigned to implement the environmental laws and regulations. The Agency is also responsible for implementation of the Environmental Impact Assessment Regulation (EIA).

Ministry of Health (MoH)

Ministry of Health is mandated with overseeing the country's health and social protection sectors. The Health Ministry is also responsible for development of health policies, related standards overseeing and implementing national standards in hospitals, clinics laboratories and other health facilities in the sector. Hospitals, clinics and laboratories can be considered as the main consumers of mercury and mercury-containing products. Previously, the Ministry has taken an initiative to manage mercury in hospitals and developed Mercury Free Policy for HealthCare in Maldives. The policy is pending political endorsement from the Government. This initiative is anticipated to contributed to a reduction in the use of mercury containing equipment in hospitals. Also, the use of mercury based dental amalgam is almost completely phased out except in rare cases where it is kept for use in emergency cases in some hospitals. This has been verified and confirmed during the survey conducted to assess the mercury in hospitals.

The Health Protection Agency and the Maldives Food and Drug Authority are both institutions operating under the umbrella of Ministry of Health.



Health Protection Agency (HPA)

Health Protection Agency operates under the MoH with a mandate to undertake the responsibilities assigned in the Public Health Protection Act (Law No. 7/2012) and to take the lead to protect public health, maintain public well-being and improve health awareness among Maldivians and all people living in Maldives. HPA does not have specific responsibilities towards mercury management, but HPA's main responsibilities in relation to chemicals management is to identify hazards or the possibility of health hazards, measure the extent of possible public health risks, and to establish a monitoring system to protect people working or living in surrounding areas from any gas, chemicals, radiation or vibrations emanating from a residential or non-residential building. Furthermore, HPA also regulates chemicals that are used for controlling mosquitoes that cause vector borne diseases, such as dengue fever and chikungunya. Some of the responsibilities of the Agency include the following:

- Establish policies to protect public health in Maldives;
- Identify communicable, dangerous and notifiable diseases and develop policies on how such diseases can be classified;
- Identify lifestyle related diseases and non-communicable diseases, increase public awareness on such diseases and establish policies to protect the public from such diseases;
- Establish policies to respond to public health emergencies;
- Classify situations which may be harmful to health and establish methods to act in such a situation;
- Establish roles and responsibilities of the island, atoll and city councils in the protection of public health; and
- Make each Maldivian citizen a responsible and accountable person with regard to public health protection.

Maldives Food and Drug Authority (MFDA)

Maldives Food and Drug Authority (MFDA) is an institution under the Ministry of Health responsible for standardization, certification monitoring and quality control of the import and export of food and drug items. The main responsibilities of MFDA, with regard to general chemicals, includes developing guidelines and monitoring the storage, production, and sales and distribution of items for food, water, medicine, chemicals, medical gas, vaccine, and other biological medical devices and diagnostics and radiation emitting devices.

Prior approval from MFDA is required for the import of chemicals, including mercury, pesticides and drugs that are not included in the approved list drug published by the Ministry of Health on a yearly basis. The importer is required to complete a special application form to import chemicals and the request form includes brand name, chemical name, quantity, and intended use of the product. However, information on the formulation or the concentration is not included in these requests. The requests are approved based on public health considerations.

The National Health Laboratory operates under MFDA and is used for conducting a range of tests including, water quality tests, histamine and mercury in fish, and alcohol traces



in beverages. As part of EU compliance standard, fish exporters are required to regularly check mercury levels in exported fish and MFDA will ensure that all the fish exports meet EU standards prior to shipping.

There are no specific guidelines and national standards established in the Maldives for mercury-containing products, such as soaps and skin lightening creams and other cosmetic products which are harmful for human health.

Policy and regulatory measures in place and remaining gaps

This section presents policy and regulatory measures in place and remaining gaps in relation to implementation of each article of Minamata Convention on Mercury in the Maldives. The following Tables (from *Table 4-4*) will give a brief description of each article, succinct summary of provisions relevant to the Maldives, relevant institutions, policy and regulatory measures in place and outstanding regulatory or policy aspects that would need to be addressed/developed to ensure compliance with the Convention's provisions.

Article 3 - Mercury supply sources and trade

Table 4-4 Policy and Regulatory Measures in Place and Remaining Gaps related to Article 3 : Mercury supply sources and trade.

Article 3 - Mercury supply sources and trade

Description of Article:	Contains control measures aimed at limiting the global supply of mercury to complement and reinforce the demand reduction control measures in Articles 4-7. The Article 3 provisions limit the sources of mercury available for use and trade, and specify procedures to follow where such trade is still allowed.
Succinct summary of provisions relevant to the Maldives	<ul style="list-style-type: none"> • Not allow new primary mercury mining • Prevent the import and use of mercury from primary mercury mining for artisanal and small-scale gold mining (ASGM) • Obtain information on stocks of mercury or mercury compounds exceeding 50 metric tons (MT), and mercury supply generating stocks exceeding 10 MT/yr • Not allow the export of mercury • Not allow the import of mercury without government consent, • Not allow the import of mercury from a non-Party
Policy and regulatory measures in place that enable the country to comply with the above listed provisions:	
Title and reference/ number of relevant regulatory measure,	There is no specific national regulation on mercury but the provisions are being addressed by the following regulatory measure: <ul style="list-style-type: none"> • Environment Protection and Preservation Act – Law No.4/93 • Law on importation of prohibited items to the Maldives Act No. 4/75 • Mercury Free Policy for HealthCare Maldives, 2018
Relevant institutions	MNDS, ME, MCS, MoT, and MOH
Outstanding regulatory or policy aspects that would need to be addressed/developed to ensure compliance with the Convention's provisions (only in relation to binding provisions):	
<ul style="list-style-type: none"> • Law on mercury management, • Defining obligations and rights of different institutions and their responsibilities in controlling and monitoring of mercury and mercury-containing products • Include provisions in Customs law on import/export of mercury to not allow the import of mercury without government consent, and not allow the import of mercury from a non-Party 	



Article 4 - Mercury-added products

Table 4-5 Policy and Regulatory Measures in Place and Remaining Gaps related to Article 4: Mercury-added products.

Article 4 - Mercury-added products	
Description of Article:	The aim of the article is to reduce mercury demand in products through a combination of measures which phase out mercury uses in many key products, phase down mercury use in another, require the review of remaining products for possible restrictions within five years, and discourage the manufacture of new products using mercury.
Succinct summary of provisions relevant to the Maldives	Not allow, by taking appropriate measures, the manufacture, import or export of mercury-added products listed in Part I of Annex A after the phase-out date specified for those products, Take measures for the mercury-added products listed in Part II of Annex A in accordance with the provisions set out therein. Discourage the manufacture and the distribution in commerce of mercury-added products not
Policy and regulatory measures in place that enable the country to comply with the above listed provisions:	
Title and reference/ number of relevant regulatory measure,	<ul style="list-style-type: none"> • Environment Protection and Preservation Act – Law No.4/93 • The first National Standard for Clinical Laboratories in Maldives 2013 • Law on importation of prohibited items to the Maldives Act No. 4/75 • Mercury Free Policy for HealthCare Maldives, 2018
Relevant institutions	MCS, ME, MoH and MoT
Outstanding regulatory or policy aspects that would need to be addressed/developed to ensure compliance with the Convention’s provisions (only in relation to binding provisions):	
<ul style="list-style-type: none"> • Include provisions in Customs law on import of mercuryadded products • Encourage importation of non Hg products through waiver of customs duties 	



Article 5 - Manufacturing processes in which mercury or mercury compounds are used

Table 4-6 Policy and Regulatory Measures in Place and Remaining Gaps related to Article 5: Manufacturing processes in which mercury or mercury compounds are used.

Article 5 - Manufacturing processes in which mercury or mercury compounds are used

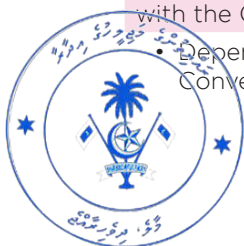
Description of Article:	Control measures to prohibit or restrict mercury use in manufacturing processes to reduce global mercury demand
Succinct summary of provisions relevant to the Maldives	Discourage the development of any facility using any other manufacturing process in which mercury or mercury compounds are intentionally used that did not exist prior to the date of entry into force of the Convention, Encouraged to exchange information on relevant new technological developments, economically and technically feasible mercury-free alternatives, and possible measures and techniques to reduce, eliminate the use of mercury and mercury compounds in manufacturing processes listed in Annex B.
Policy and regulatory measures in place that enable the country to comply with the above listed provisions:	
Title and reference/ number of relevant regulatory measure,	As there aren't any manufacturing in the Maldives this provision is not relevant to Maldives • Environment Protection and Preservation Act – Law No.4/93
Relevant institutions	ME, MoH, MoT, MoFMRA
Outstanding regulatory or policy aspects that would need to be addressed/developed to ensure compliance with the Convention's provisions (only in relation to binding provisions):	
<ul style="list-style-type: none"> • To amend the EIA regulation to discourage the development of any facility using mercury; and • To encourage to exchange information on relevant new technological developments 	

Article 6 - Exemptions available to a Party upon request

Table 4-7 Policy and Regulatory Measures in Place and Remaining Gaps related to Article 6: on exemptions available to a Party upon request.

Article 6 - Exemptions available to a Party upon request

Description of Article:	Seeking additional time to comply with the deadlines for the phase out of mercury use in products (Article 4) or industrial processes (Article 5) must use the procedures specified in Article 6.
Succinct summary of provisions relevant to the Maldives	May register for one or more exemptions from the phase-out dates listed in Annex A and Annex B on becoming a Party to this Convention; (this means a Party should determine whether it can meet the Article 4 and 5 deadlines before it ratifies the Convention)
Policy and regulatory measures in place that enable the country to comply with the above listed provisions:	
Title and reference/ number of relevant regulatory measure,	Not relevant to Maldives
Relevant institutions	ME
Outstanding regulatory or policy aspects that would need to be addressed/developed to ensure compliance with the Convention's provisions (only in relation to binding provisions):	
Depending on the preparedness of the country ME will develop a policy on becoming a Party to this Convention or request for exemption	



Article 7 - Artisanal and small-scale gold mining

Table 4-8 Policy and Regulatory Measures in Place and Remaining Gaps related to Article 7: Artisanal and small-scale gold mining.

Article 7 - Artisanal and small-scale gold mining	
Description of Article:	Article 7 applies to artisanal and small-scale gold mining (ASGM), in which mercury is used to extract gold.
Succinct summary of provisions relevant to the Maldives	Not relevant to Maldives
Policy and regulatory measures in place that enable the country to comply with the above listed provisions:	
Title and reference/ number of relevant regulatory measure,	Not relevant to Maldives



Article 8- Emissions

Table 4-9 Policy and Regulatory Measures in Place and Remaining Gaps related to Article 8: Emissions.

Article 8 - Emissions	
Description of Article:	To reduce mercury emissions to air from five of the most significant source categories identified during the Convention negotiations. Man-made sources are responsible for about 30% of annual emissions of mercury to air and contribute to mercury re-released into the environment annually from surface soils and oceans, now accounting for about 60% of the global air pollution pool. Progress in reducing mercury global pollution cannot be achieved without significant reductions in atmospheric emissions leading to corresponding direct and re-release declines over time.
Succinct summary of provisions relevant to the Maldives	Emission from waste incineration facilities include incinerators burning hazardous waste, municipal waste, medical waste, and/or sewage sludge
Policy and regulatory measures in place that enable the country to comply with the above listed provisions:	
Title and reference/ number of relevant regulatory measure,	<ul style="list-style-type: none"> • Waste Management Regulation (2013/R-58) 2014 • Environment Protection and Preservation Act - Law No.4/93 • Regulation on Protection and Conservation of Environment in the Tourism Industry, 1998 • Regulation on Fuel Storage, Handling and Use (2015/R-160), 2011 • National Standard for Clinical Laboratories in Maldives, 2013 • Mercury Free Policy for HealthCare Maldives, 2018
Relevant institutions	ME, MoD, MoH, MoT, WAMCO
Outstanding regulatory or policy aspects that would need to be addressed/developed to ensure compliance with the Convention's provisions (only in relation to binding provisions):	
<ul style="list-style-type: none"> • Standards for the management of mercury in hospitals, health facilities and laboratories • Regulations on mercury containing waste, biomedical hospital waste and no current Regulations address mercury management • Define obligations and rights of different institutions and their responsibilities in controlling and monitoring of mercury and mercury-containing products, addressing occupational and public health issues related to the disposal of mercury containing waste and all other aspects of mercury management. • Review and amend Waste Management Regulation to include control measure on emission from mercury wastes 	



Article 9 - Releases

Table 4-10 : Policy and Regulatory Measures in Place and Remaining Gaps related to Article 9: Releases

Article 9 - Releases	
Description of Article:	To reduce mercury releases to land and water from sources not addressed by other provisions of the Convention.
Succinct summary of provisions relevant to the Maldives	<p>Countries need to identify these “relevant point sources” no later than 3 years after the Convention enters into force</p> <ul style="list-style-type: none"> • Release limit values; • The use of BAT and BEP; • A multi-pollutant control strategy that will deliver co-benefits for control of mercury releases; and • Alternative measures to reduce releases from relevant sources (Article 9.5). • Establish and maintain an inventory of emissions from the relevant sources, as soon as practicable, but no later than 5 years after entry into force of the Convention for that Party (Article 9.6)
Policy and regulatory measures in place that enable the country to comply with the above listed provisions:	
Title and reference/ number of relevant regulatory measure,	<ul style="list-style-type: none"> • Waste Management Regulation (2013/R-58) 2014 • Environment Protection and Preservation Act - Law No.4/93 • Regulation on Protection and Conservation of Environment in the Tourism Industry, 1998 • Mercury Free Policy for Health Care Maldives, 2018
Relevant institutions	ME, MoH, MoT, and MoD
Outstanding regulatory or policy aspects that would need to be addressed/developed to ensure compliance with the Convention’s provisions (only in relation to binding provisions):	
<ul style="list-style-type: none"> • Comprehensive law on chemicals, and mercury defining obligations, roles and responsibilities of different parties and their authority for control of mercury, addressing occupational and public health, disposal and all other aspects of mercury management. • Law on mercury management, • Defining obligations and rights of different institutions and their responsibilities in controlling and monitoring of mercury and mercury-containing products 	



Article 10 - Environmentally sound interim storage of mercury, other than waste mercury

Table 4-11 Policy and Regulatory Measures in Place and Remaining Gaps related to Article 10: Environmentally sound interim storage of mercury, other than waste mercury.

Article 10 - Environmentally sound interim storage of mercury, other than waste mercury

Description of Article:	Improper or inadequate care in the collection, handling, transport and storage of mercury and mercury compounds can result in emissions and releases of the toxic material that can eventually harm humans and the environment. To prevent the possible adverse effects of mercury as it is held in various locations prior to its intended use, the Convention requires countries to take measures to ensure the environmentally sound storage of mercury
Succinct summary of provisions relevant to the Maldives	Measures to ensure the interim storage of mercury and mercury compounds, other than wastes. The storage obligation also does not apply to mercury-added products. Assess the types of facilities which may need to store mercury, Prepare the appropriate industry or sector for environmentally sound interim storage compliance such as facility identification, data gathering, and developing guidance or regulations outlining handling and storage procedures,
Policy and regulatory measures in place that enable the country to comply with the above listed provisions:	
Title and reference/number of relevant regulatory measure,	<ul style="list-style-type: none"> • Waste Management Regulation (2013/R-58) 2014 • Environment Protection and Preservation Act – Law No.4/93 • Basel Convention has developed draft technical guidelines on the environmentally sound management of mercury wastes
Relevant institutions	ME, WAMCO, MoD, MoH
Outstanding regulatory or policy aspects that would need to be addressed/developed to ensure compliance with the Convention's provisions (only in relation to binding provisions):	
<ul style="list-style-type: none"> • Law on mercury management, • Defining obligations and rights of different institutions and their responsibilities in controlling and monitoring of mercury and mercury-containing products 	



Article 11 - Mercury wastes

Table 4-12 Policy and Regulatory Measures in Place and Remaining Gaps related to Article 11: Mercury wastes.

Article 11 - Mercury wastes	
Description of Article:	<p>Mercury wastes can come in a variety of forms, depending upon the source. Industrial processes using mercury will create wastes from both the manufacturing process and pollution control operations, such as sludges and spent catalysts. Mercury-added products become wastes when discarded, typically at the end of their useful life. Products also become wastes if the product cannot be sold legally or lacks a market due to consumer preference. The cleanup of contaminated sites may generate mercury wastes, such as treatment residuals and contaminated soil. Finally, mercury and mercury compounds can and will become wastes when they are destined for disposal instead of an allowed use.</p>
Succinct summary of provisions relevant to the Maldives	<ul style="list-style-type: none"> • Parties should manage mercury waste in an environmentally sound manner, taking into account the guidelines developed under the Basel Convention and in accordance with requirements that the Conference of the Parties shall adopt in an additional annex in accordance with Article 27. • Only recovered, recycled, reclaimed or directly re-used for a use allowed to a Party under this Convention or for environmentally sound disposal pursuant to paragraph 3 (a) • Parties to the Basel Convention, not transported across international boundaries except for the purpose of environmentally sound disposal in conformity with this Article and with that Convention cooperate with each other and with relevant intergovernmental organizations and other entities, to develop and maintain global, regional and national capacity for the management of mercury wastes in an environmentally sound manner,
Policy and regulatory measures in place that enable the country to comply with the above listed provisions:	
Title and reference/ number of relevant regulatory measure,	<ul style="list-style-type: none"> • Waste Management Regulation (2013/R-58) 2014 • Environment Protection and Preservation Act - Law No.4/93 • draft technical guidelines on the environmentally sound management of mercury wastes • Mercury Free Policy for Health Care Maldives, 2018
Relevant institutions	ME, WAMCO, MoT
Outstanding regulatory or policy aspects that would need to be addressed/developed to ensure compliance with the Convention's provisions (only in relation to binding provisions):	
<ul style="list-style-type: none"> • Law on mercury management, • Defining obligations and rights of different institutions and their responsibilities in controlling and monitoring of mercury and mercury-containing products • Amend waste regulation to include provisions on transport, storage and disposal of mercury waste 	



Article 12 - Contaminated Sites

Table 4-13 Policy and Regulatory Measures in Place and Remaining Gaps related to Article 12: Contaminated Sites.

Article 12 - Contaminated Sites	
Description of Article:	Contaminated can be active, where existing processes or practices continue to contribute to the contamination, and historical, where such processes or practices have stopped but the pollution remains. The sources of the contamination may be waste management activities, stack emissions, fugitive emissions, and/or spills and emergency incidents. The risks to local communities and exposed populations is the principle concern at contaminated sites.
Succinct summary of provisions relevant to the Maldives	<ul style="list-style-type: none"> • To develop strategies for identifying and assessing sites contaminated by mercury or mercury compounds (Article 12.1). • To reduce risks posed by contaminated sites shall be done in an environmentally sound manner, assessment of risks to human health and the environment (Article 12.2). • Parties are encouraged to cooperate in developing strategies and implementing activities for identifying, assessing, prioritizing, managing, and remediating contaminated sites. (Article 12.4)
Policy and regulatory measures in place that enable the country to comply with the above listed provisions:	
Title and reference/ number of relevant regulatory measure,	<ul style="list-style-type: none"> • Environment Protection and Preservation Act - Law No.4/93 • Waste Management Regulation (2013/R-58) 2014
Relevant institutions	ME
Outstanding regulatory or policy aspects that would need to be addressed/developed to ensure compliance with the Convention's provisions (only in relation to binding provisions):	
<ul style="list-style-type: none"> • Law on mercury management, • defining obligations and rights of different institutions and their responsibilities in controlling and monitoring of mercury and mercury-containing products • Amend waste regulation to include provisions on transport, storage and disposal of mercury waste 	



Article 13 - Financial resources and mechanism

Table 4-14 Policy and Regulatory Measures in Place and Remaining Gaps related to Article 13: Financial resources and mechanism.

Article 13 - Financial resources and mechanism

Description of Article:	To provide effective implementation of the Convention, Article 13 establishes a Financial Mechanism with two components: (1) the Global Environment Facility Trust Fund, and (2) an International Programme to support capacity building and technical assistance. Article 13 also elaborates on the governance of the Financial Mechanism and provides specific guidance on its operation. The Financial Mechanism is meant to support developing country Parties and Parties with economies in transition in implementing their obligations under the Convention (Article 13.5).
Succinct summary of provisions relevant to the Maldives	<ul style="list-style-type: none"> • Institutional strengthening at the national level for implementation of the Minamata Convention • Enhancing national capacity to develop, adopt, monitor, and enforce policy, legislation and regulation, and to gain access to financial and other resources for the implementation of the Minamata Convention • Identifying national institutional capacity, weaknesses, gaps and needs • Strengthening institutional capacity to plan, develop, undertake, monitor and coordinate the implementation of policies, strategies and national programmes for the sound management of chemicals and wastes • Promoting an enabling environment to foster the ratification the Minamata Convention;
Policy and regulatory measures in place that enable the country to comply with the above listed provisions:	
Title and reference/ number of relevant regulatory measure,	<ul style="list-style-type: none"> • Environment Protection and Preservation Act – Law No.4/93 • Mercury Free Policy for HealthCare Maldives, 2018
Relevant institutions	ME, WAMCO, MoD, MoH
Outstanding regulatory or policy aspects that would need to be addressed/developed to ensure compliance with the Convention’s provisions (only in relation to binding provisions):	
<ul style="list-style-type: none"> • Law on mercury management, • Defining obligations and rights of different institutions and their responsibilities in controlling and monitoring of mercury and mercury-containing products 	



Article 14 - Capacity-building, technical assistance and technology transfer

Table 4-15 Policy and Regulatory Measures in Place and Remaining Gaps related to Article 14: F Capacity-building, technical assistance and technology transfer.

Article 14 - Capacity-building, technical assistance and technology transfer	
Description of Article:	Capacity-building and technical assistance may be delivered through regional, sub-regional and national arrangements, including existing regional and sub-regional centres, through other multilateral and bilateral means, and through partnerships, including partnerships involving the private sector.
Succinct summary of provisions relevant to the Maldives	<p>Parties should cooperate to provide, within their respective capabilities, timely and appropriate capacity-building and technical assistance to developing country Parties, in particular LDCs and SIDS and Parties with economies in transition, to assist these countries in implementing their obligations under the Convention (Article 14.1). Developed country Parties and other Parties within their capabilities shall promote and facilitate, supported by private sector and other relevant stakeholders as appropriate:</p> <ul style="list-style-type: none"> • Development; • Transfer and diffusion; and • Access to up-to-date environmentally sound alternative technologies to developing countries, in particular LDCs, SIDS, and Parties with economies in transition.
Policy and regulatory measures in place that enable the country to comply with the above listed provisions:	
Title and reference/ number of relevant regulatory measure,	<ul style="list-style-type: none"> • Environment Protection and Preservation Act – Law No.4/93 • Waste Management Regulation (2013/R-58) 2014 • Mercury Free Policy for Healthcare Maldives, 2018
Relevant institutions	ME, MoH, MoT, MoFMRA, MoD
Outstanding regulatory or policy aspects that would need to be addressed/developed to ensure compliance with the Convention’s provisions (only in relation to binding provisions):	
<ul style="list-style-type: none"> • Create awareness among the government authorities on the flow of mercury containing products in the country • Need establishment of separate regulatory mechanisms to manage mercury 	



Article 16 - Health aspects

Table 4-16 Policy and Regulatory Measures in Place and Remaining Gaps related to Article 16: Health aspects.

Article 16 - Health aspects	
Description of Article:	Mercury adversely impacts both human health and the environment. Article 16 promotes program development related to the health aspects of mercury, recognizing the activities will involve WHO, public health ministries, and other stakeholders involved in the delivery of health services. Article 16 provides guidance to health ministries on the activities they can undertake to minimize the mercury exposure of vulnerable populations, and the adverse consequences of such exposures. Establish and strengthen, the institutional and health professional capacities for the prevention, diagnosis, treatment and monitoring of health risks related to the exposure to mercury and mercury compounds.
Succinct summary of provisions relevant to the Maldives	<ul style="list-style-type: none"> • Promote the development and implementation of strategies and programmes to identify and protect populations at risk, particularly vulnerable populations. Setting targets for mercury exposure reduction, where appropriate; <ul style="list-style-type: none"> • Public education, for public health and other involved stakeholders • Fish consumption advisories • Promote the development and implementation of science-based educational and preventive programmes on occupational exposure to mercury and mercury compounds; • Promote appropriate healthcare services for prevention, treatment and care for populations affected by the exposure to mercury or mercury compounds; • Establish and strengthen, as appropriate, the institutional and health professional capacities for the prevention, diagnosis, treatment and monitoring of health risks related to the exposure to mercury and mercury compounds.
Policy and regulatory measures in place that enable the country to comply with the above listed provisions:	
Title and reference/ number of relevant regulatory measure,	<ul style="list-style-type: none"> • National Standard for Clinical Laboratories in Maldives, 2013 • Mercury Free Policy for Healthcare Maldives, 2018
Relevant institutions	MoH, MoFMRA, ME, NGOs
Outstanding regulatory or policy aspects that would need to be addressed/developed to ensure compliance with the Convention's provisions (only in relation to binding provisions):	
<ul style="list-style-type: none"> • Develop and implement strategies and action plan and set targets for mercury exposure reduction; • Education, and awareness on public health aspects of mercury • Fish consumption advisories • Implementation of science-based educational and preventive measures on occupational exposure to mercury and mercury compounds; • Develop mercury consumption phase-out management plans in hospitals • Develop institutional and health professional capacities for the prevention, diagnosis, treatment and monitoring of health risks related to the exposure to mercury and mercury compounds. • Need to develop separate regulation on handling transport storage of biomedical waste management in Hospitals and clinics • Improve the existing National Standard for Clinical Laboratories in Maldives, 2013 to include mercury products 	



Article 17 - Information Exchange

Table 4-17 Information exchange

Article 17 - Information exchange	
Description of Article:	Article 17 focuses on the exchange of information between countries. It identifies key information that Parties to the Convention need to share with each other and identifies mechanisms for sharing the information.
Succinct summary of provisions relevant to the Maldives	<p>Parties to the Convention shall facilitate the exchange of:</p> <ol style="list-style-type: none"> 1. Scientific, technical, economic and legal information concerning mercury and mercury compounds, including toxicological, eco-toxicological and safety information; 2. Information on the reduction or elimination of the production, use, trade, emissions and releases of mercury and mercury compounds; 3. Information on technically and economically viable alternatives to: <ol style="list-style-type: none"> I. Mercury-added products; II. Manufacturing processes in which mercury or mercury compounds are used; and III. Activities and processes that emit or release mercury or mercury compounds; <p>Health and environmental risks and economic and social costs and benefits of such alternatives; and</p> <ol style="list-style-type: none"> 4. Epidemiological information concerning health impacts associated with exposure to mercury and mercury compounds, in close cooperation with the World Health Organization and other relevant organizations, as appropriate (Article 17.1). 5. Each Party shall designate a national focal point for the exchange of information under the Convention, including exchanging information related to providing consent for mercury trade transactions under Article 3 (Article 17.4)
Policy and regulatory measures in place that enable the country to comply with the above listed provisions:	
Title and reference/ number of relevant regulatory measure,	Environment Protection and Preservation Act - Law No.4/93 <ul style="list-style-type: none"> • Mercury Free Policy for Health Care Maldives, 2018
Relevant institutions	ME, MoH, MoFMRA, MCS, MoD, NGOs



Article 18 - Public information, awareness and education

Table 4-18 : Policy and Regulatory Measures in Place and Remaining Gaps related to Article 18: Public information, awareness and education.

Article 18 - Public information, awareness and education	
Description of Article:	Article 18 focuses on the sharing of information between government and the public. Similar to Article 17, Article 18 identifies key information that governments need to share with the public and the mechanisms that can be employed for public awareness-raising.
Succinct summary of provisions relevant to the Maldives	<p>Parties to the Convention are required to promote and facilitate :Provision to the public of available information on:</p> <ol style="list-style-type: none"> 1. The health and environmental effects of mercury and mercury compounds; 2. Alternatives to mercury and mercury compounds; 3. The topics identified in Article 17 4. The results of its research, development and monitoring activities under Article 19; and 5. Activities to meet its obligations under this Convention. <p>Education, training and public awareness related to the effects of exposure to mercury and mercury compounds on human health and the environment, Information on preventative measures in order to protect against mercury exposure, such as fish advisories,</p>
Policy and regulatory measures in place that enable the country to comply with the above listed provisions:	
Title and reference/ number of relevant regulatory measure,	<ul style="list-style-type: none"> • Environment Protection and Preservation Act - Law No.4/93 • Mercury Free Policy for Health Care Maldives, 2018
Relevant institutions	ME, MoH, MoT, MoFMRA
Outstanding regulatory or policy aspects that would need to be addressed/developed to ensure compliance with the Convention's provisions (only in relation to binding provisions):	
<ul style="list-style-type: none"> • Develop public information awareness and education strategy • Create awareness among the government authorities on the flow of mercury containing products in the country • Available mercury free alternative products • Health and environmental risks and economic and social costs and benefits of such alternatives; and; • Health impacts associated with exposure to mercury and mercury compounds, 	



Article 19 - Research, development and monitoring

Table 4-19 Policy and Regulatory Measures in Place and Remaining Gaps related to Article 19: Research, development and monitoring.

Article 19 - Research, development and monitoring	
Description of Article:	Article 19 seeks cooperation among countries to develop and improve on key areas of research that can support effective implementation of the Convention. These research areas include, among others, inventories of mercury use and consumption; the levels of mercury in people, aquatic food sources, and wildlife; and information on mercury commerce and trade.
Succinct summary of provisions relevant to the Maldives	<p>Party shall cooperate in the following areas:</p> <ol style="list-style-type: none"> 1. Inventories of use, consumption, and anthropogenic emissions to air and releases to water and land of mercury and mercury compounds; 2. Modelling and geographically representative monitoring of levels of mercury and mercury compounds in vulnerable populations and in environmental media, such as fish, marine mammals, sea turtles and birds, as well as collaboration in the collection and exchange of relevant and appropriate samples; 3. Assessments of the impact of mercury and mercury compounds on human health and the environment, in addition to social, economic and cultural impacts, particularly in respect of vulnerable populations; 4. Information on the environmental cycle, transport transformation and fate of mercury and mercury compounds in a range of ecosystems, 5. Information on commerce and trade in mercury and mercury compounds and mercury added products; and 6. Information and research on the technical and economic availability of mercury-free products and processes and on best available techniques to reduce and monitor emissions and releases of mercury and mercury compounds.
Policy and regulatory measures in place that enable the country to comply with the above listed provisions:	
Title and reference/ number of relevant regulatory measure,	<ul style="list-style-type: none"> • Environment Protection and Preservation Act – Law No.4/93 • Mercury Free Policy for Health Care Maldives, 2018
Relevant institutions	ME, MoFMRA, MoH, MCS
Outstanding regulatory or policy aspects that would need to be addressed/developed to ensure compliance with the Convention's provisions (only in relation to binding provisions):	
<ul style="list-style-type: none"> • Need to develop research development and monitoring strategy for the Maldives the strategy should cover the following: <ul style="list-style-type: none"> • Assessments of the impact of mercury and mercury compounds on human health and the environment, • Environmental cycle, transport transformation and fate of mercury and mercury compounds in marine ecosystems, particularly bio accumulation in fish and marine life, • Develop a database on import/export of mercury added products; and • provide technical and economic availability of mercury-free products to importers and business community. • Mechanism to monitor emissions and releases of mercury and mercury compounds. 	



Article 21 - Reporting

Table 4-20 Policy and Regulatory Measures in Place and Remaining Gaps related to Article 21: Reporting.

Article 21 - Reporting	
Description of Article:	Article 21 reporting will be a principal basis for evaluating both individual government compliance and the overall effectiveness of the Convention.
Succinct summary of provisions relevant to the Maldives	<p>Countries report on:</p> <ol style="list-style-type: none"> Measures taken to implement the provisions of the Convention, the effectiveness of such measures, and the possible challenges in MEting the objectives of the Convention Information as called for in Articles 3 (Supply and Trade), 8 (Emissions) and (Releases)
Policy and regulatory measures in place that enable the country to comply with the above listed provisions:	
Title and reference/ number of relevant regulatory measure,	<ul style="list-style-type: none"> Environment Protection and Preservation Act - Law No.4/93
Relevant institutions	ME, MOH, MoFMRA,
Outstanding regulatory or policy aspects that would need to be addressed/developed to ensure compliance with the Convention’s provisions (only in relation to binding provisions):	
<ul style="list-style-type: none"> Establish a proper institutional mechanism to collect mercury related data (supply, trade, emissions and releases) and reporting Establish a special unit within the ME and develop capacity to implement the Minamata convention on mercury Establish institutional strengthening to implement Minamata Convention on Mercury to ensure timely reporting obligations 	



National Strategy to identify mercury contaminated sites

Introduction

This is the National Strategy to identify mercury contaminated sites developed as part of the Minamata Initial Assessment for Maldives to identify, assess and reduce risks from mercury-contaminated sites. It provides strategies for identification of contaminated sites by mercury. According to the Minamata Convention all countries shall endeavour to develop appropriate strategies for identifying and assessing sites contaminated by mercury or mercury compounds.

Article 12 of the Minamata Convention on Mercury states:

1. Each Party shall endeavour to develop appropriate strategies for identifying and assessing sites contaminated by mercury or mercury compounds.
2. Any actions to reduce the risks posed by such sites shall be performed in an environmentally sound manner incorporating, where appropriate, an assessment of the risks to human health and the environment from the mercury or mercury compounds they contain.
3. The Conference of the Parties shall adopt guidance on managing contaminated sites that may include methods and approaches for:
 - a. Site identification and characterization;
 - b. Engaging the public;
 - c. Human health and environmental risk assessments;
 - d. Options for managing the risks posed by contaminated sites;
 - e. Evaluation of benefits and costs; and
 - f. Validation of outcomes.
4. Parties are encouraged to cooperate in developing strategies and implementing activities for identifying, assessing, prioritizing, managing and, as appropriate, remediating contaminated sites.

This document addresses the specific requirement of the Article in the context of Maldives. The national strategy for management of contaminated sites is considered to be a necessity with national importance and the strategy will be integrated into the 'National Waste Management Policy' and 'Waste Management Strategic Action Plan' adopted by the Ministry of Environment which envisages the establishment of Waste Management Centres on each inhabited island and the construction of Regional Waste Management Facilities.



Priorities of national strategy

Based on the evaluation of the different aspects of the situation and the capacity of the country in the management of contaminated site, the following strategic actions are identified at the national level.

Legislative framework

- Define responsibilities and roles of the various Government agencies NGOs and public
- Define the conditions and tools required for technical operations—inventory method, creation of a register of contaminated sites, definition of procedures to assess pollution on a site, prioritization of intervention measures, choice of objectives and rehabilitation scenarios
- Revise the existing legal framework and development of new instruments which are in line with the national strategy as needed.

Financial resources

- Enforce the legal provisions
- Create a contingency fund to finance supervision of the programme, monitor performance of certain preliminary actions (e.g. inventories, initial assessments), and for rehabilitation of sites.
- Resource mobilization will ensure different types of support such as physical, financial, technical, and human capacity to achieve the strategic actions.

Technical measures

- Establish administrative services which will contain a network of technical expertise capable of providing support in the different operational phases.
- Design and develop training and capacity or create technical tools, such as investigation equipment, laboratories, and treatment facilities identified as necessary through assessment of existing facilities.
- Promote proper knowledge and management of mercury waste by instituting training programs and raising awareness among stakeholders (policy makers, waste handlers, general public etc.).
- Technical resources will be generated over time.
- Transfers of technology and foreign technical assistance may be significant at the beginning, but their need should diminish thereafter.
- Avoid the use of excessively sophisticated and costly technologies unsuitable for the local context.

Political initiatives

- Integration of contaminated site management into national policy for protection of the environment, and coordination, with water protection and waste management programmes.



- Development of a programme for communication among the different stakeholders, public authorities, industry representatives, land owners, scientists, contractors of studies and works, and between the various stakeholders and the general public.
- Implementation of a policy on contaminated sites will be lengthy and often costly. It should therefore be spread over several years.
- Action programmes should be designed to be gradual and adaptable.
- Initial estimates of needs should be approximate and should be refined gradually once inventories are completed and experience has been gained.

Potential mercury contaminated sites in the Maldives

During the Inception Workshop and field surveys based on discussions with stakeholders, it was clear that there has not been any historical handling of large amounts of mercury in the Maldives. The only sites that are potentially contaminated with mercury are large waste landfill/disposal sites and large cemeteries in the country, particularly in Malé (*Figure 5-7*). Waste dump sites in urban islands, with large population, can also be considered as potential contaminated sites.

Thilafushi is the largest operational waste disposal site in the Maldives, where the whole reef has been reclaimed and is most likely the largest contaminated site in the Maldives. Waste dump sites in urban islands, such as Hithadhoo and Kulhudhufushi are also presumably contaminated with mercury waste. This would need to be confirmed with further investigation

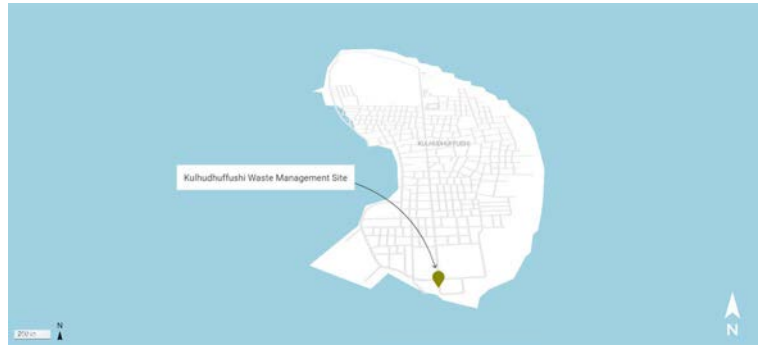
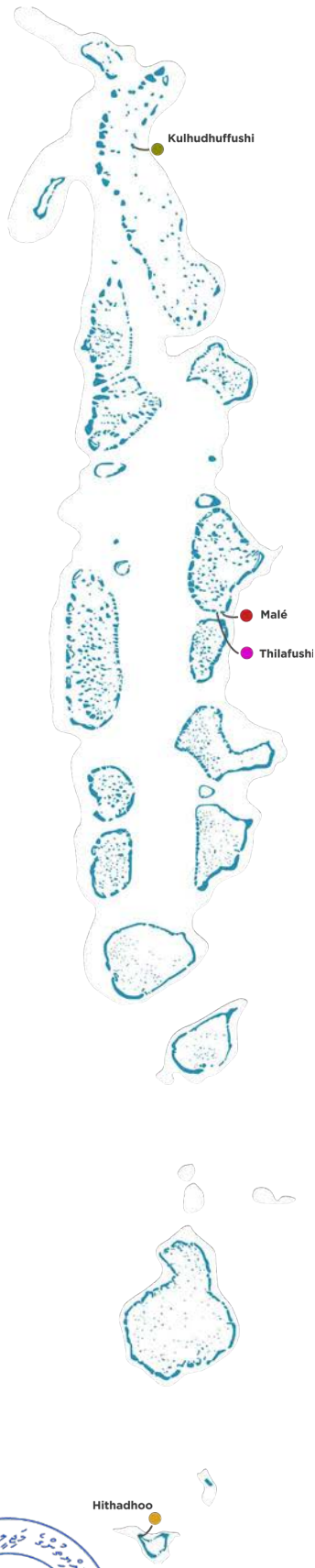
Education, awareness, training and capacity building

There is a need for education, awareness and capacity building particularly among the key technical ministries and institutions. The same is true for the public.

Training of primary national stakeholders for mercury, including ME (the Convention focal point and main implementing agency) and other front line agencies, such as MCS, MFDA, HPA, MoH, MoFMRA, MoD, hospitals, media personnel, fish processing stations, and export facilities etc. Awareness activities should focus on:

- Creating awareness among government institutions on the extensiveness of mercury flow and its impact on human health and environment
- Creating awareness among government institutions on the need for separate laws to manage mercury
- Strengthening policy and regulatory structures for Healthcare Waste Management





Hdh. Kulhudhufushi waste disposal site



Thilafushi island the largest waste disposal site in the Maldives



Malé, location of cemeteries



S. Hithadhoo waste disposal site

Figure 5-1 Potential mercury contaminated sites in Maldives



Research, monitoring and reporting

The Health Protection Agency currently has the technical and physical capacity to undertake testing of mercury. In addition, some laboratories in fish processing plants have the capacity to test for mercury in fish and the environment. However, the scientific and personnel resources are limited within the national laboratories. Therefore, a dedicated programme for monitoring of mercury nationwide is required to be established that would build capacity within existing institutions (FDA, MFDA, EPA, MoFMRA) that are actively involved in monitoring and research. Monitoring and reporting should include collaboration and information sharing between regional and scientific institutions.

Monitoring and reporting will also allow for the update of the baseline mercury inventory to facilitate reporting to the Convention.





Conclusion

The Minamata Convention has not yet been ratified by the Maldives. This assessment report is the first step for the facilitation of ratification and early implementation of the Minamata Convention on Mercury in the Maldives. The country's mercury releases have not been thoroughly monitored, but preliminary findings of this inventory provide evidence that mercury emissions from the relevant sectors in Maldives can have a substantial impact on the environment. The inventory has shown that the annual mercury release in the Maldives is estimated to be 1,310 kg Hg/year (1.3 tonnes). *Figure 6-1* shows the estimated significant categories of mercury release in the Maldives.

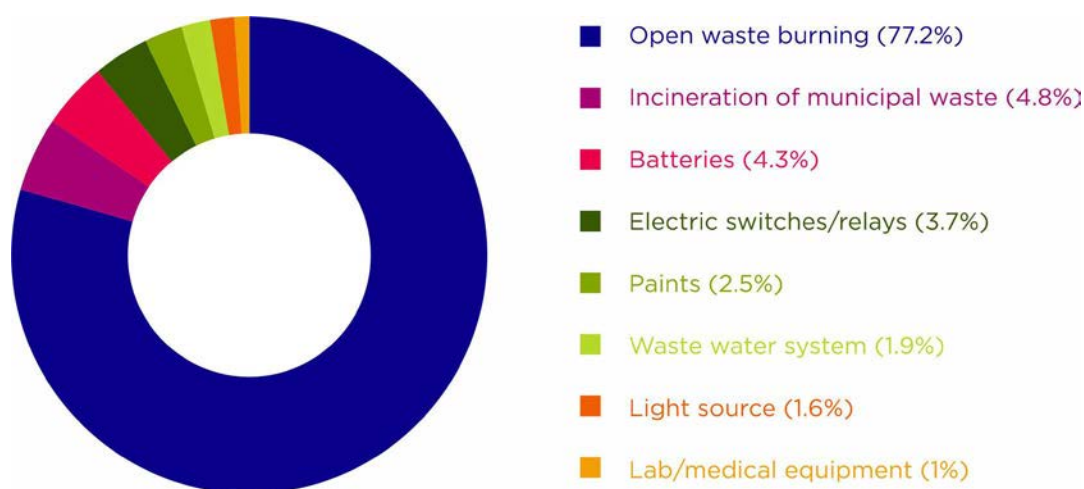


Figure 6-1 Estimated significant categories of mercury release in Maldives

As can be seen from *Figure 6-1*, the primary release of mercury to air in the Maldives is from 'Open Fire Waste Burning', which accounts for 77% of the total input (1,030 kg Hg/year). A total of 84% of mercury releases are from the source category of 'waste incineration and open waste burning'. The second largest contributor to mercury releases (15%) in the Maldives is from use and disposal of products with mercury content, such as batteries, electrical switches and relays with mercury, paints, light sources with mercury, and other laboratory and medical equipment with mercury. Mercury release from all other potential source categories were estimated to account for less than 9% of the remaining releases of mercury in Maldives. The most significant of the remaining categories was the incineration of municipal waste, which accounts for approximately 4.8% of total release of mercury in the Maldives. From the management and elimination perspective, mercury releases from the use and disposal of mercury-containing products can be easily reduced through implementation of regulatory measures to control and ban mercury-containing products. Solid waste management is widely recognized as a pressing environmental issue in the Maldives.



Reducing the release of mercury from open burning of municipal waste, which is the largest contributor of mercury release in the Maldives, can be considered as a challenge in the future. However, with the existing national waste management policy, strict implementation of the Waste Management Regulation (2013/R-58), and development of regional waste management centres, these measures can significantly contribute to the reduction and subsequent elimination of mercury releases associated with open burning of municipal waste.

In order to facilitate the ratification process of the Minamata Convention, reviewing of the regulatory framework relating to mercury and mercury containing compounds is necessary as discussed in the relevant section on regulatory framework. Relevant regulations should be revised and updated to include provisions of the Convention to the national and local regulatory framework. This would significantly improve knowledge regarding flows of mercury and mercury-containing equipment within the country. There is also a need to develop specific regulations to manage the import, export, handling and storage for disposal of mercury-containing products in the Maldives. It is anticipated that this assessment process will provide more detailed information on the existing mercury sources which can lead to informed decision making.



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د سردار جاسر و سرشور جاسر





MINAMATA CONVENTION ON MERCURY

TEXT AND ANNEXES



UN
environment

United Nations
Environment Programme



MINAMATA CONVENTION ON MERCURY

TEXT AND ANNEXES

This booklet is published for information only. It does not substitute the original authentic texts of the Minamata Convention on Mercury as deposited with the Secretary-General of the United Nations acting as the Depositary of the Convention

www.mercuryconvention.org

September 2019





FOREWORD BY THE SECRETARY-GENERAL OF THE UNITED NATIONS **ANTÓNIO GUTERRES**

In 1956, two sisters, aged two and five, were diagnosed in Minamata Bay, Japan, with the crippling, untreatable and stigmatizing effects of mercury poisoning. In the decades that followed, their story would be retold many times, becoming synonymous with the tens of thousands of adults, children and unborn infants to suffer from what is now known as Minamata disease.

Unfortunately, it is a story that we still need to tell because, decades on, too many people still think of mercury simply as a fascinating element safely contained in thermometers. Too few understand that it is lethal, indestructible and present in everything from coal-fired power generation to certain mascaras and fluorescent lights. Likewise, too many are unaware that just a fraction of the 130,000 chemicals and other substances on the market are properly assessed, labelled and tracked. Even fewer suspect that items as mundane as pizza boxes, microwave popcorn or electronic waste pollute our air, land, water, food chains and ecosystems for generations. It still takes far too long to identify, accept and act on such risks to human health.

We need to reinforce the right of scientists to pursue their work for the greater good and for medical experts and citizens to access that knowledge easily. And we need to insist on the right and responsibility of judiciaries and governments to act on such knowledge and the right of the media to report on the outcomes and implications of all these efforts. These are basic rights highlighted by the tragic past and optimistic future that the Minamata Convention symbolizes.

Like so many contaminants, mercury doesn't just damage individual victims. It damages entire communities. It fuels poverty, feeds conflict and pushes equality further out of reach. Take the example of a young mother working as an artisanal gold miner. While she is poisoned from handling mercury at work, countless others, including her children, are harmed by its impact on the environment.

The Minamata Convention is our chance to break that cycle of misery. It represents an opportunity to not only improve the health of people around the world, but to accelerate the transition to a fairer, greener economy. People can benefit from technology that offers safer, more effective alternatives for communities to build a more stable, sustainable future. The legal waste market, which is already worth \$400 billion a year, can create more jobs to securely handle the 90 per cent of electronic waste currently left to pollute our health and our environment. Quite simply, the potential benefits are enormous.

I thank everyone who has already worked so hard to ratify this Convention. But the hardest work still lies ahead, because now we must implement it swiftly and effectively to minimize the risks posed to communities in all regions by the toxic threat of mercury poisoning.





FOREWORD BY UN UNDER-SECRETARY-GENERAL AND EXECUTIVE DIRECTOR OF UN ENVIRONMENT

INGER ANDERSEN

Surrounded by forests and blue sea, Minamata Bay, in Japan, gives the impression of an idyllic place. But it was not always like this. A memorial erected a few meters from the coast serves as a reminder of the local communities that were poisoned by mercury in the late 1950s.

Through the Minamata Convention on Mercury, the global community remembers the many lives already lost to mercury poisoning and commits to preventing similar catastrophes. It is the first global environmental agreement addressing one of the biggest challenges to human health and the environment, from anthropogenic emissions and the release of mercury and mercury compounds.

Mercury exposure is a global concern. Every year, as much as 9,000 tons of mercury are released into the atmosphere, in water and on land. The largest source of mercury emissions is artisanal and small-scale gold mining, followed closely by coal combustion, non-ferrous metal production and cement production. And we still find mercury in many commercial products such as batteries, fluorescent lamps, cosmetics, pesticides, thermometers and dental amalgams. Everyone is exposed to some amount of mercury and high amounts of mercury can lead to long-term and sometimes permanent neurological damages.

The Minamata Convention which entered into force in August 2017, provides a powerful impetus to global efforts to reduce and eliminate the use of mercury and mercury compounds. The international community is working hard to comply with the measures established in the Convention as well as with the related-Sustainable Development Goals to move towards our common goal of prosperity for people and the planet.

A key priority in coming years is to shift investments from mercury polluting industries, in favour of investments in renewable energy, nature, research and development. In doing so, we must capture the opportunities of affordable technologies and innovations that can move markets in the right direction. With greater ambition we will all step up and step in with new solutions to ensure the effective implementation of the Minamata Convention on Mercury.

For the good of our planet, for our future generations, it is time to take action and make mercury history!





FOREWORD BY HER EXCELLENCY (MRS.) DORIS LEUTHARD, PRESIDENT OF THE SWISS CONFEDERATION AND MINISTER FOR THE ENVIRONMENT, TRANSPORT, ENERGY AND COMMUNICATIONS ON THE OCCASION OF THE FIRST MEETING OF THE CONFERENCE OF THE PARTIES TO THE MINAMATA CONVENTION (GENEVA, 24-29 SEPTEMBER 2017)

The Minamata Convention is the first global environmental agreement negotiated in the 21st millennium. It reflects an innovative and comprehensive approach, addressing mercury throughout its life cycle from its mining to its management as waste. It is a privilege and honor for me to host the first Conference of the Parties to the Minamata Convention in Geneva, Switzerland.

In 2003, the Global Mercury Assessment was presented to the 22nd UNEP Governing Council. It concluded that there is significant global adverse impacts from mercury and its compounds to warrant further international action. In response, Switzerland, together with Norway, proposed to develop a comprehensive legally binding instrument on mercury. It took 6 years and many efforts of formal and informal discussions and outreach until the UNEP Governing Council decided in 2009 at its 25th session to launch negotiations for a global mercury convention. These negotiations were well organized and prepared by UNEP Chemicals. They benefitted from substantive input from competent intergovernmental institutions as well as nongovernmental organizations. And, they were guided by the president of the negotiation process, ambassador Fernando Lujaris from Uruguay, in a diligent, wise and solution oriented manner.

In 2013, 10 years after Switzerland's and Norway's call for a legally binding instrument for mercury, the 5th session of the Intergovernmental Negotiation Committee concluded its negotiations in Geneva. I very well remember the final negotiations in Geneva and the pride and satisfaction, when on Saturday morning, 19 January 2013, at 7 am, after a long week of intensive negotiations, agreement on the text of the Minamata Convention on Mercury was achieved. The convention was formally adopted and opened for signature at the Diplomatic Conference of Plenipotentiaries in Kumamoto, Japan, on 10 October 2013, it entered into force on 16 August 2017, and its first Conference of the Parties meets in September 2017 in Geneva.

The Minamata Convention follows and builds on the Basel, Rotterdam and Stockholm conventions. It sets out the same basic substantive obligations for all countries, while providing some targeted differentiation and flexibility in specific substantive provisions, as well as provisions to mobilize financial resources by all, within their capabilities, for implementation in developing countries. Together with the Basel, Rotterdam and Stockholm conventions, it forms a comprehensive global regime for the sound management of chemicals and hazardous wastes.

The Minamata Convention is a 21st century response to the catastrophic pollution in Minamata, Japan, where industrial releases of methyl mercury caused the epidemic known as the Minamata disease in the 1950s and onwards. By naming the convention 'Minamata Convention', the name Minamata will not only be associated with a problem, but also with a solution. It is both an impressive and stimulating proof of how successful multilateralism can be to solve global problems and challenges. I would like to thank wholeheartedly all those who have contributed to that success.





INTRODUCTION

In 2001, the Governing Council of the United Nations Environment Programme¹ (UNEP) invited the Executive Director of UNEP to undertake a global assessment of mercury and its compounds, including information on the chemistry and health effects, sources, long-range transport, and prevention and control technologies relating to mercury. In 2003, the Governing Council considered this assessment and found that there was sufficient evidence of significant global adverse impacts from mercury and its compounds to warrant further international action to reduce the risks to human health and the environment from the release of mercury and its compounds to the environment. Governments were urged to adopt goals for the reduction of mercury emissions and releases and UNEP initiated technical assistance and capacity building activities to meet these goals.

Mercury is recognized as a substance producing significant adverse neurological and other health effects, with particular concerns expressed about its harmful effects on infants and unborn children. The global transport of mercury in the environment was a key reason for taking the decision that global action to address the problem of mercury pollution was required. A mercury programme to address these concerns was thus established and was further strengthened by governments in decisions of the Governing Council in 2005 and in 2007. In the decision of 2007, the Governing Council concluded that the options of enhanced voluntary measures and new or existing international legal instruments would be reviewed and assessed in order to make progress in addressing the mercury issue.

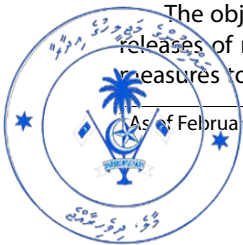
In 2009, following extensive consideration of the issue, the Governing Council agreed that voluntary actions had not been sufficient to address the concerns on mercury, and decided on the need for further action on mercury, including the preparation of a global legally binding instrument. An intergovernmental negotiating committee to prepare a global legally binding instrument on mercury was therefore established, to commence its work in 2010 and conclude its negotiations prior to the twenty-seventh session of the Governing Council in 2013. The committee was provided with a detailed mandate setting out specific issues to be covered in the text of the instrument, as well as a number of other elements to be taken into account while negotiating the text.

In January 2013, the intergovernmental negotiating committee concluded its fifth session by agreeing on the text of the Minamata Convention on Mercury. The text was adopted by the Conference of Plenipotentiaries on 10 October 2013 in Japan and was opened for signature for one year until 9 October 2014. During this period, it was signed by 127 states and one regional economic integration organization, bringing to 128 the total number of signatories.

The Conference of Plenipotentiaries also mandated the intergovernmental negotiating committee to meet during the interim period preceding the opening of the first meeting of the Conference of the Parties to the Convention to facilitate the rapid entry into force of the Convention and its effective implementation upon entry into force. Two sessions of the committee were held, in November 2014 in Bangkok, Thailand and in March 2016 at the Dead Sea in Jordan.

The objective of the Convention is to protect human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds and it sets out a range of measures to meet that objective. These include measures to control the supply and trade of mercury, including setting limitations on specific sources of mercury such as

¹As of February 2013, the designation of the Governing Council of UNEP has been changed to the United Nations Environment Assembly.



primary mining, and to control mercury-added products and manufacturing processes in which mercury or mercury compounds are used, as well as artisanal and small scale gold mining. The text of the Convention includes separate articles on emissions and releases of mercury, with controls directed at reducing levels of mercury while allowing flexibility to accommodate national development plans. In addition, it contains measures on the environmentally sound interim storage of mercury and on mercury wastes, as well as contaminated sites. Provision is made in the text for financial and technical support to developing countries and countries with economies in transition, and a financial mechanism for the provision of adequate, predictable and timely financial resources is defined.

The Minamata Convention provides that it shall enter into force on the ninetieth day after the date of deposit of the fiftieth instrument of ratification, acceptance, approval or accession. That milestone was reached on 18 May 2017, allowing the Convention to enter into force on 16 August 2017 and the holding of the first meeting of its Conference of the Parties from 24 to 29 September 2017 in Geneva, Switzerland.

It is expected that coordinated implementation of the obligations of the Convention will lead to an overall reduction in mercury levels in the environment over time, thus meeting the objective of the Convention to protect human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds.







MINAMATA CONVENTION ON MERCURY

The Parties to this Convention,

Recognizing that mercury is a chemical of global concern owing to its long-range atmospheric transport, its persistence in the environment once anthropogenically introduced, its ability to bioaccumulate in ecosystems and its significant negative effects on human health and the environment,

Recalling decision 25/5 of 20 February 2009 of the Governing Council of the United Nations Environment Programme to initiate international action to manage mercury in an efficient, effective and coherent manner,

Recalling paragraph 221 of the outcome document of the United Nations Conference on Sustainable Development "The future we want", which called for a successful outcome of the negotiations on a global legally binding instrument on mercury to address the risks to human health and the environment,

Recalling the United Nations Conference on Sustainable Development's reaffirmation of the principles of the Rio Declaration on Environment and Development, including, inter alia, common but differentiated responsibilities, and acknowledging States' respective circumstances and capabilities and the need for global action,

Aware of the health concerns, especially in developing countries, resulting from exposure to mercury of vulnerable populations, especially women, children, and, through them, future generations,

Noting the particular vulnerabilities of Arctic ecosystems and indigenous communities because of the biomagnification of mercury and contamination of traditional foods, and concerned about indigenous communities more generally with respect to the effects of mercury,

Recognizing the substantial lessons of Minamata Disease, in particular the serious health and environmental effects resulting from the mercury pollution, and the need to ensure proper management of mercury and the prevention of such events in the future,

Stressing the importance of financial, technical, technological, and capacity-building support, particularly for developing countries, and



countries with economies in transition, in order to strengthen national capabilities for the management of mercury and to promote the effective implementation of the Convention,

Recognizing also the activities of the World Health Organization in the protection of human health related to mercury and the roles of relevant multilateral environmental agreements, especially the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal and the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade,

Recognizing that this Convention and other international agreements in the field of the environment and trade are mutually supportive,

Emphasizing that nothing in this Convention is intended to affect the rights and obligations of any Party deriving from any existing international agreement,

Understanding that the above recital is not intended to create a hierarchy between this Convention and other international instruments,

Noting that nothing in this Convention prevents a Party from taking additional domestic measures consistent with the provisions of this Convention in an effort to protect human health and the environment from exposure to mercury in accordance with that Party's other obligations under applicable international law,

Have agreed as follows:

Article 1 **Objective**

The objective of this Convention is to protect the human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds.



Article 2 Definitions

For the purposes of this Convention:

(a) "Artisanal and small-scale gold mining" means gold mining conducted by individual miners or small enterprises with limited capital investment and production;

(b) "Best available techniques" means those techniques that are the most effective to prevent and, where that is not practicable, to reduce emissions and releases of mercury to air, water and land and the impact of such emissions and releases on the environment as a whole, taking into account economic and technical considerations for a given Party or a given facility within the territory of that Party. In this context:

(i) "Best" means most effective in achieving a high general level of protection of the environment as a whole;

(ii) "Available" techniques means, in respect of a given Party and a given facility within the territory of that Party, those techniques developed on a scale that allows implementation in a relevant industrial sector under economically and technically viable conditions, taking into consideration the costs and benefits, whether or not those techniques are used or developed within the territory of that Party, provided that they are accessible to the operator of the facility as determined by that Party; and

(iii) "Techniques" means technologies used, operational practices and the ways in which installations are designed, built, maintained, operated and decommissioned;

(c) "Best environmental practices" means the application of the most appropriate combination of environmental control measures and strategies;

(d) "Mercury" means elemental mercury (Hg(0), CAS No. 7439-97-6);

(e) "Mercury compound" means any substance consisting of atoms of mercury and one or more atoms of other chemical elements that can be separated into different components only by chemical reactions;



(f) "Mercury-added product" means a product or product component that contains mercury or a mercury compound that was intentionally added;

(g) "Party" means a State or regional economic integration organization that has consented to be bound by this Convention and for which the Convention is in force;

(h) "Parties present and voting" means Parties present and casting an affirmative or negative vote at a meeting of the Parties;

(i) "Primary mercury mining" means mining in which the principal material sought is mercury;

(j) "Regional economic integration organization" means an organization constituted by sovereign States of a given region to which its member States have transferred competence in respect of matters governed by this Convention and which has been duly authorized, in accordance with its internal procedures, to sign, ratify, accept, approve or accede to this Convention; and

(k) "Use allowed" means any use by a Party of mercury or mercury compounds consistent with this Convention, including, but not limited to, uses consistent with Articles 3, 4, 5, 6 and 7.

Article 3

Mercury supply sources and trade

1. For the purposes of this Article:

(a) References to "mercury" include mixtures of mercury with other substances, including alloys of mercury, with a mercury concentration of at least 95 per cent by weight; and

(b) "Mercury compounds" means mercury (I) chloride (known also as calomel), mercury (II) oxide, mercury (II) sulphate, mercury (II) nitrate, cinnabar and mercury sulphide.

2. The provisions of this Article shall not apply to:



(a) Quantities of mercury or mercury compounds to be used for laboratory-scale research or as a reference standard; or

(b) Naturally occurring trace quantities of mercury or mercury compounds present in such products as non-mercury metals, ores, or mineral products, including coal, or products derived from these materials, and unintentional trace quantities in chemical products; or

(c) Mercury-added products.

3. Each Party shall not allow primary mercury mining that was not being conducted within its territory at the date of entry into force of the Convention for it.

4. Each Party shall only allow primary mercury mining that was being conducted within its territory at the date of entry into force of the Convention for it for a period of up to fifteen years after that date. During this period, mercury from such mining shall only be used in manufacturing of mercury-added products in accordance with Article 4, in manufacturing processes in accordance with Article 5, or be disposed in accordance with Article 11, using operations which do not lead to recovery, recycling, reclamation, direct re-use or alternative uses.

5. Each Party shall:

(a) Endeavour to identify individual stocks of mercury or mercury compounds exceeding 50 metric tons, as well as sources of mercury supply generating stocks exceeding 10 metric tons per year, that are located within its territory;

(b) Take measures to ensure that, where the Party determines that excess mercury from the decommissioning of chlor-alkali facilities is available, such mercury is disposed of in accordance with the guidelines for environmentally sound management referred to in paragraph 3 (a) of Article 11, using operations that do not lead to recovery, recycling, reclamation, direct re-use or alternative uses.

6. Each Party shall not allow the export of mercury except:

(a) To a Party that has provided the exporting Party with its written consent, and only for the purpose of:



- (i) A use allowed to the importing Party under this Convention;
or
- (ii) Environmentally sound interim storage as set out in Article 10;
or

(b) To a non-Party that has provided the exporting Party with its written consent, including certification demonstrating that:

- (i) The non-Party has measures in place to ensure the protection of human health and the environment and to ensure its compliance with the provisions of Articles 10 and 11; and
- (ii) Such mercury will be used only for a use allowed to a Party under this Convention or for environmentally sound interim storage as set out in Article 10.

7. An exporting Party may rely on a general notification to the Secretariat by the importing Party or non-Party as the written consent required by paragraph 6. Such general notification shall set out any terms and conditions under which the importing Party or non-Party provides its consent. The notification may be revoked at any time by that Party or non-Party. The Secretariat shall keep a public register of all such notifications.

8. Each Party shall not allow the import of mercury from a non-Party to whom it will provide its written consent unless the non-Party has provided certification that the mercury is not from sources identified as not allowed under paragraph 3 or paragraph 5 (b).

9. A Party that submits a general notification of consent under paragraph 7 may decide not to apply paragraph 8, provided that it maintains comprehensive restrictions on the export of mercury and has domestic measures in place to ensure that imported mercury is managed in an environmentally sound manner. The Party shall provide a notification of such decision to the Secretariat, including information describing its export restrictions and domestic regulatory measures, as well as information on the quantities and countries of origin of mercury imported from non-Parties. The Secretariat shall maintain a public register of all such notifications. The Implementation and Compliance Committee shall review and evaluate any such notifications and supporting information in accordance with Article 15 and may make recommendations, as appropriate, to the Conference of the Parties.



10. The procedure set out in paragraph 9 shall be available until the conclusion of the second meeting of the Conference of the Parties. After that time, it shall cease to be available, unless the Conference of the Parties decides otherwise by simple majority of the Parties present and voting, except with respect to a Party that has provided a notification under paragraph 9 before the end of the second meeting of the Conference of the Parties.

11. Each Party shall include in its reports submitted pursuant to Article 21 information showing that the requirements of this Article have been met.

12. The Conference of the Parties shall at its first meeting provide further guidance in regard to this Article, particularly in regard to paragraphs 5 (a), 6 and 8, and shall develop and adopt the required content of the certification referred to in paragraphs 6 (b) and 8.

13. The Conference of the Parties shall evaluate whether the trade in specific mercury compounds compromises the objective of this Convention and consider whether specific mercury compounds should, by their listing in an additional annex adopted in accordance with Article 27, be made subject to paragraphs 6 and 8.

Article 4

Mercury-added products

1. Each Party shall not allow, by taking appropriate measures, the manufacture, import or export of mercury-added products listed in Part I of Annex A after the phase-out date specified for those products, except where an exclusion is specified in Annex A or the Party has a registered exemption pursuant to Article 6.

2. A Party may, as an alternative to paragraph 1, indicate at the time of ratification or upon entry into force of an amendment to Annex A for it, that it will implement different measures or strategies to address products listed in Part I of Annex A. A Party may only choose this alternative if it can demonstrate that it has already reduced to a de minimis level the manufacture, import, and export of the large majority of the products listed in Part I of Annex A and that it has implemented measures or strategies to reduce the use of mercury in additional products not listed in



Part I of Annex A at the time it notifies the Secretariat of its decision to use this alternative. In addition, a Party choosing this alternative shall:

(a) Report at the first opportunity to the Conference of the Parties a description of the measures or strategies implemented, including a quantification of the reductions achieved;

(b) Implement measures or strategies to reduce the use of mercury in any products listed in Part I of Annex A for which a de minimis value has not yet been obtained;

(c) Consider additional measures to achieve further reductions; and

(d) Not be eligible to claim exemptions pursuant to Article 6 for any product category for which this alternative is chosen.

No later than five years after the date of entry into force of the Convention, the Conference of the Parties shall, as part of the review process under paragraph 8, review the progress and the effectiveness of the measures taken under this paragraph.

3. Each Party shall take measures for the mercury-added products listed in Part II of Annex A in accordance with the provisions set out therein.

4. The Secretariat shall, on the basis of information provided by Parties, collect and maintain information on mercury-added products and their alternatives, and shall make such information publicly available. The Secretariat shall also make publicly available any other relevant information submitted by Parties.

5. Each Party shall take measures to prevent the incorporation into assembled products of mercury-added products the manufacture, import and export of which are not allowed for it under this Article.

6. Each Party shall discourage the manufacture and the distribution in commerce of mercury-added products not covered by any known use of mercury-added products prior to the date of entry into force of the Convention for it, unless an assessment of the risks and benefits of the product demonstrates environmental or human health benefits. A Party shall provide to the Secretariat, as appropriate, information on any such product, including any information on the environmental and human



health risks and benefits of the product. The Secretariat shall make such information publicly available.

7. Any Party may submit a proposal to the Secretariat for listing a mercury-added product in Annex A, which shall include information related to the availability, technical and economic feasibility and environmental and health risks and benefits of the non-mercury alternatives to the product, taking into account information pursuant to paragraph 4.

8. No later than five years after the date of entry into force of the Convention, the Conference of the Parties shall review Annex A and may consider amendments to that Annex in accordance with Article 27.

9. In reviewing Annex A pursuant to paragraph 8, the Conference of the Parties shall take into account at least:

(a) Any proposal submitted under paragraph 7;

(b) The information made available pursuant to paragraph 4; and

(c) The availability to the Parties of mercury-free alternatives that are technically and economically feasible, taking into account the environmental and human health risks and benefits.

Article 5

Manufacturing processes in which mercury or mercury compounds are used

1. For the purposes of this Article and Annex B, manufacturing processes in which mercury or mercury compounds are used shall not include processes using mercury-added products, processes for manufacturing mercury-added products or processes that process mercury-containing waste.

2. Each Party shall not allow, by taking appropriate measures, the use of mercury or mercury compounds in the manufacturing processes listed in Part I of Annex B after the phase-out date specified in that Annex for the individual processes, except where the Party has a registered exemption pursuant to Article 6.



3. Each Party shall take measures to restrict the use of mercury or mercury compounds in the processes listed in Part II of Annex B in accordance with the provisions set out therein.

4. The Secretariat shall, on the basis of information provided by Parties, collect and maintain information on processes that use mercury or mercury compounds and their alternatives, and shall make such information publicly available. Other relevant information may also be submitted by Parties and shall be made publicly available by the Secretariat.

5. Each Party with one or more facilities that use mercury or mercury compounds in the manufacturing processes listed in Annex B shall:

(a) Take measures to address emissions and releases of mercury or mercury compounds from those facilities;

(b) Include in its reports submitted pursuant to Article 21 information on the measures taken pursuant to this paragraph; and

(c) Endeavour to identify facilities within its territory that use mercury or mercury compounds for processes listed in Annex B and submit to the Secretariat, no later than three years after the date of entry into force of the Convention for it, information on the number and types of such facilities and the estimated annual amount of mercury or mercury compounds used in those facilities. The Secretariat shall make such information publicly available.

6. Each Party shall not allow the use of mercury or mercury compounds in a facility that did not exist prior to the date of entry into force of the Convention for it using the manufacturing processes listed in Annex B. No exemptions shall apply to such facilities.

7. Each Party shall discourage the development of any facility using any other manufacturing process in which mercury or mercury compounds are intentionally used that did not exist prior to the date of entry into force of the Convention, except where the Party can demonstrate to the satisfaction of the Conference of the Parties that the manufacturing process provides significant environmental and health benefits and that there are no technically and economically feasible mercury-free alternatives available providing such benefits.



8. Parties are encouraged to exchange information on relevant new technological developments, economically and technically feasible mercury-free alternatives, and possible measures and techniques to reduce and where feasible to eliminate the use of mercury and mercury compounds in, and emissions and releases of mercury and mercury compounds from, the manufacturing processes listed in Annex B.

9. Any Party may submit a proposal to amend Annex B in order to list a manufacturing process in which mercury or mercury compounds are used. It shall include information related to the availability, technical and economic feasibility and environmental and health risks and benefits of the non-mercury alternatives to the process.

10. No later than five years after the date of entry into force of the Convention, the Conference of the Parties shall review Annex B and may consider amendments to that Annex in accordance with Article 27.

11. In any review of Annex B pursuant to paragraph 10, the Conference of the Parties shall take into account at least:

(a) Any proposal submitted under paragraph 9;

(b) The information made available under paragraph 4; and

(c) The availability for the Parties of mercury-free alternatives which are technically and economically feasible taking into account the environmental and health risks and benefits.

Article 6

Exemptions available to a Party upon request

1. Any State or regional economic integration organization may register for one or more exemptions from the phase-out dates listed in Annex A and Annex B, hereafter referred to as an "exemption", by notifying the Secretariat in writing:

(a) On becoming a Party to this Convention; or

(b) In the case of any mercury-added product that is added by an amendment to Annex A or any manufacturing process in which mercury is used that is added by an amendment to Annex B, no later than the date



upon which the applicable amendment enters into force for the Party.

Any such registration shall be accompanied by a statement explaining the Party's need for the exemption.

2. An exemption can be registered either for a category listed in Annex A or B or for a sub-category identified by any State or regional economic integration organization.

3. Each Party that has one or more exemptions shall be identified in a register. The Secretariat shall establish and maintain the register and make it available to the public.

4. The register shall include:

- (a) A list of the Parties that have one or more exemptions;
- (b) The exemption or exemptions registered for each Party; and
- (c) The expiration date of each exemption.

5. Unless a shorter period is indicated in the register by a Party, all exemptions pursuant to paragraph 1 shall expire five years after the relevant phase-out date listed in Annex A or B.

6. The Conference of the Parties may, at the request of a Party, decide to extend an exemption for five years unless the Party requests a shorter period. In making its decision, the Conference of the Parties shall take due account of:

(a) A report from the Party justifying the need to extend the exemption and outlining activities undertaken and planned to eliminate the need for the exemption as soon as feasible;

(b) Available information, including in respect of the availability of alternative products and processes that are free of mercury or that involve the consumption of less mercury than the exempt use; and

(c) Activities planned or under way to provide environmentally sound storage of mercury and disposal of mercury wastes.

An exemption may only be extended once per product per phase-out date.



7. A Party may at any time withdraw an exemption upon written notification to the Secretariat. The withdrawal of an exemption shall take effect on the date specified in the notification.

8. Notwithstanding paragraph 1, no State or regional economic integration organization may register for an exemption after five years after the phase-out date for the relevant product or process listed in Annex A or B, unless one or more Parties remain registered for an exemption for that product or process, having received an extension pursuant to paragraph 6. In that case, a State or regional economic integration organization may, at the times set out in paragraphs 1 (a) and (b), register for an exemption for that product or process, which shall expire ten years after the relevant phase-out date.

9. No Party may have an exemption in effect at any time after 10 years after the phase-out date for a product or process listed in Annex A or B.

Article 7

Artisanal and small-scale gold mining

1. The measures in this Article and in Annex C shall apply to artisanal and small-scale gold mining and processing in which mercury amalgamation is used to extract gold from ore.

2. Each Party that has artisanal and small-scale gold mining and processing subject to this Article within its territory shall take steps to reduce, and where feasible eliminate, the use of mercury and mercury compounds in, and the emissions and releases to the environment of mercury from, such mining and processing.

3. Each Party shall notify the Secretariat if at any time the Party determines that artisanal and small-scale gold mining and processing in its territory is more than insignificant. If it so determines the Party shall:

(a) Develop and implement a national action plan in accordance with Annex C;

(b) Submit its national action plan to the Secretariat no later than three years after entry into force of the Convention for it or three years after the notification to the Secretariat, whichever is later; and



(c) Thereafter, provide a review every three years of the progress made in meeting its obligations under this Article and include such reviews in its reports submitted pursuant to Article 21.

4. Parties may cooperate with each other and with relevant intergovernmental organizations and other entities, as appropriate, to achieve the objectives of this Article. Such cooperation may include:

(a) Development of strategies to prevent the diversion of mercury or mercury compounds for use in artisanal and small-scale gold mining and processing;

(b) Education, outreach and capacity-building initiatives;

(c) Promotion of research into sustainable non-mercury alternative practices;

(d) Provision of technical and financial assistance;

(e) Partnerships to assist in the implementation of their commitments under this Article; and

(f) Use of existing information exchange mechanisms to promote knowledge, best environmental practices and alternative technologies that are environmentally, technically, socially and economically viable.

Article 8

Emissions

1. This Article concerns controlling and, where feasible, reducing emissions of mercury and mercury compounds, often expressed as “total mercury”, to the atmosphere through measures to control emissions from the point sources falling within the source categories listed in Annex D.

2. For the purposes of this Article:

(a) “Emissions” means emissions of mercury or mercury compounds to the atmosphere;

(b) “Relevant source” means a source falling within one of the source categories listed in Annex D. A Party may, if it chooses, establish criteria to



identify the sources covered within a source category listed in Annex D so long as those criteria for any category include at least 75 per cent of the emissions from that category;

(c) "New source" means any relevant source within a category listed in Annex D, the construction or substantial modification of which is commenced at least one year after the date of:

- (i) Entry into force of this Convention for the Party concerned; or
- (ii) Entry into force for the Party concerned of an amendment to Annex D where the source becomes subject to the provisions of this Convention only by virtue of that amendment;

(d) "Substantial modification" means modification of a relevant source that results in a significant increase in emissions, excluding any change in emissions resulting from by-product recovery. It shall be a matter for the Party to decide whether a modification is substantial or not;

(e) "Existing source" means any relevant source that is not a new source;

(f) "Emission limit value" means a limit on the concentration, mass or emission rate of mercury or mercury compounds, often expressed as "total mercury", emitted from a point source.

3. A Party with relevant sources shall take measures to control emissions and may prepare a national plan setting out the measures to be taken to control emissions and its expected targets, goals and outcomes. Any plan shall be submitted to the Conference of the Parties within four years of the date of entry into force of the Convention for that Party. If a Party develops an implementation plan in accordance with Article 20, the Party may include in it the plan prepared pursuant to this paragraph.

4. For its new sources, each Party shall require the use of best available techniques and best environmental practices to control and, where feasible, reduce emissions, as soon as practicable but no later than five years after the date of entry into force of the Convention for that Party. A Party may use emission limit values that are consistent with the application of best available techniques.



5. For its existing sources, each Party shall include in any national plan, and shall implement, one or more of the following measures, taking into account its national circumstances, and the economic and technical feasibility and affordability of the measures, as soon as practicable but no more than ten years after the date of entry into force of the Convention for it:

(a) A quantified goal for controlling and, where feasible, reducing emissions from relevant sources;

(b) Emission limit values for controlling and, where feasible, reducing emissions from relevant sources;

(c) The use of best available techniques and best environmental practices to control emissions from relevant sources;

(d) A multi-pollutant control strategy that would deliver co-benefits for control of mercury emissions;

(e) Alternative measures to reduce emissions from relevant sources.

6. Parties may apply the same measures to all relevant existing sources or may adopt different measures in respect of different source categories. The objective shall be for those measures applied by a Party to achieve reasonable progress in reducing emissions over time.

7. Each Party shall establish, as soon as practicable and no later than five years after the date of entry into force of the Convention for it, and maintain thereafter, an inventory of emissions from relevant sources.

8. The Conference of the Parties shall, at its first meeting, adopt guidance on:

(a) Best available techniques and on best environmental practices, taking into account any difference between new and existing sources and the need to minimize cross-media effects; and

(b) Support for Parties in implementing the measures set out in paragraph 5, in particular in determining goals and in setting emission limit values.

9. The Conference of the Parties shall, as soon as practicable, adopt guidance on:



- (a) Criteria that Parties may develop pursuant to paragraph 2 (b);
- (b) The methodology for preparing inventories of emissions.

10. The Conference of the Parties shall keep under review, and update as appropriate, the guidance developed pursuant to paragraphs 8 and 9. Parties shall take the guidance into account in implementing the relevant provisions of this Article.

11. Each Party shall include information on its implementation of this Article in its reports submitted pursuant to Article 21, in particular information concerning the measures it has taken in accordance with paragraphs 4 to 7 and the effectiveness of the measures.

Article 9

Releases

1. This Article concerns controlling and, where feasible, reducing releases of mercury and mercury compounds, often expressed as “total mercury”, to land and water from the relevant point sources not addressed in other provisions of this Convention.

2. For the purposes of this Article:

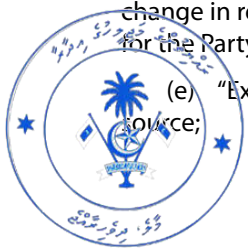
(a) “Releases” means releases of mercury or mercury compounds to land or water;

(b) “Relevant source” means any significant anthropogenic point source of release as identified by a Party that is not addressed in other provisions of this Convention;

(c) “New source” means any relevant source, the construction or substantial modification of which is commenced at least one year after the date of entry into force of this Convention for the Party concerned;

(d) “Substantial modification” means modification of a relevant source that results in a significant increase in releases, excluding any change in releases resulting from by-product recovery. It shall be a matter for the Party to decide whether a modification is substantial or not;

(e) “Existing source” means any relevant source that is not a new source;



(f) "Release limit value" means a limit on the concentration or mass of mercury or mercury compounds, often expressed as "total mercury", released from a point source.

3. Each Party shall, no later than three years after the date of entry into force of the Convention for it and on a regular basis thereafter, identify the relevant point source categories.

4. A Party with relevant sources shall take measures to control releases and may prepare a national plan setting out the measures to be taken to control releases and its expected targets, goals and outcomes. Any plan shall be submitted to the Conference of the Parties within four years of the date of entry into force of the Convention for that Party. If a Party develops an implementation plan in accordance with Article 20, the Party may include in it the plan prepared pursuant to this paragraph.

5. The measures shall include one or more of the following, as appropriate:

(a) Release limit values to control and, where feasible, reduce releases from relevant sources;

(b) The use of best available techniques and best environmental practices to control releases from relevant sources;

(c) A multi-pollutant control strategy that would deliver co-benefits for control of mercury releases;

(d) Alternative measures to reduce releases from relevant sources.

6. Each Party shall establish, as soon as practicable and no later than five years after the date of entry into force of the Convention for it, and maintain thereafter, an inventory of releases from relevant sources.

7. The Conference of the Parties shall, as soon as practicable, adopt guidance on:

(a) Best available techniques and on best environmental practices, taking into account any difference between new and existing sources and the need to minimize cross-media effects;

(b) The methodology for preparing inventories of releases.



8. Each Party shall include information on its implementation of this Article in its reports submitted pursuant to Article 21, in particular information concerning the measures it has taken in accordance with paragraphs 3 to 6 and the effectiveness of the measures.

Article 10

Environmentally sound interim storage of mercury, other than waste mercury

1. This Article shall apply to the interim storage of mercury and mercury compounds as defined in Article 3 that do not fall within the meaning of the definition of mercury wastes set out in Article 11.
2. Each Party shall take measures to ensure that the interim storage of such mercury and mercury compounds intended for a use allowed to a Party under this Convention is undertaken in an environmentally sound manner, taking into account any guidelines, and in accordance with any requirements, adopted pursuant to paragraph 3.
3. The Conference of the Parties shall adopt guidelines on the environmentally sound interim storage of such mercury and mercury compounds, taking into account any relevant guidelines developed under the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal and other relevant guidance. The Conference of the Parties may adopt requirements for interim storage in an additional annex to this Convention in accordance with Article 27.
4. Parties shall cooperate, as appropriate, with each other and with relevant intergovernmental organizations and other entities, to enhance capacity-building for the environmentally sound interim storage of such mercury and mercury compounds.

Article 11

Mercury wastes

The relevant definitions of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal shall apply to wastes covered under this Convention for Parties to the Basel Convention. Parties to this Convention that are not Parties to the Basel



Convention shall use those definitions as guidance as applied to wastes covered under this Convention.

2. For the purposes of this Convention, mercury wastes means substances or objects:

- (a) Consisting of mercury or mercury compounds;
- (b) Containing mercury or mercury compounds; or
- (c) Contaminated with mercury or mercury compounds,

in a quantity above the relevant thresholds defined by the Conference of the Parties, in collaboration with the relevant bodies of the Basel Convention in a harmonized manner, that are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of national law or this Convention. This definition excludes overburden, waste rock and tailings from mining, except from primary mercury mining, unless they contain mercury or mercury compounds above thresholds defined by the Conference of the Parties.

3. Each Party shall take appropriate measures so that mercury waste is:

(a) Managed in an environmentally sound manner, taking into account the guidelines developed under the Basel Convention and in accordance with requirements that the Conference of the Parties shall adopt in an additional annex in accordance with Article 27. In developing requirements, the Conference of the Parties shall take into account Parties' waste management regulations and programmes;

(b) Only recovered, recycled, reclaimed or directly re-used for a use allowed to a Party under this Convention or for environmentally sound disposal pursuant to paragraph 3 (a);

(c) For Parties to the Basel Convention, not transported across international boundaries except for the purpose of environmentally sound disposal in conformity with this Article and with that Convention. In circumstances where the Basel Convention does not apply to transport across international boundaries, a Party shall allow such transport only after taking into account relevant international rules, standards, and guidelines.



4. The Conference of the Parties shall seek to cooperate closely with the relevant bodies of the Basel Convention in the review and update, as appropriate, of the guidelines referred to in paragraph 3 (a).

5. Parties are encouraged to cooperate with each other and with relevant intergovernmental organizations and other entities, as appropriate, to develop and maintain global, regional and national capacity for the management of mercury wastes in an environmentally sound manner.

Article 12

Contaminated sites

1. Each Party shall endeavour to develop appropriate strategies for identifying and assessing sites contaminated by mercury or mercury compounds.

2. Any actions to reduce the risks posed by such sites shall be performed in an environmentally sound manner incorporating, where appropriate, an assessment of the risks to human health and the environment from the mercury or mercury compounds they contain.

3. The Conference of the Parties shall adopt guidance on managing contaminated sites that may include methods and approaches for:

- (a) Site identification and characterization;
- (b) Engaging the public;
- (c) Human health and environmental risk assessments;
- (d) Options for managing the risks posed by contaminated sites;
- (e) Evaluation of benefits and costs; and
- (f) Validation of outcomes.

4. Parties are encouraged to cooperate in developing strategies and implementing activities for identifying, assessing, prioritizing, managing and, as appropriate, remediating contaminated sites.



Article 13

Financial resources and mechanism

1. Each Party undertakes to provide, within its capabilities, resources in respect of those national activities that are intended to implement this Convention, in accordance with its national policies, priorities, plans and programmes. Such resources may include domestic funding through relevant policies, development strategies and national budgets, and bilateral and multilateral funding, as well as private sector involvement.
2. The overall effectiveness of implementation of this Convention by developing country Parties will be related to the effective implementation of this Article.
3. Multilateral, regional and bilateral sources of financial and technical assistance, as well as capacity-building and technology transfer, are encouraged, on an urgent basis, to enhance and increase their activities on mercury in support of developing country Parties in the implementation of this Convention relating to financial resources, technical assistance and technology transfer.
4. The Parties, in their actions with regard to funding, shall take full account of the specific needs and special circumstances of Parties that are small island developing States or least developed countries.
5. A Mechanism for the provision of adequate, predictable, and timely financial resources is hereby defined. The Mechanism is to support developing country Parties and Parties with economies in transition in implementing their obligations under this Convention.
6. The Mechanism shall include:
 - (a) The Global Environment Facility Trust Fund; and
 - (b) A specific international Programme to support capacity-building and technical assistance.
7. The Global Environment Facility Trust Fund shall provide new, predictable, adequate and timely financial resources to meet costs in support of implementation of this Convention as agreed by the Conference of the Parties. For the purposes of this Convention, the Global



Environment Facility Trust Fund shall be operated under the guidance of and be accountable to the Conference of the Parties. The Conference of the Parties shall provide guidance on overall strategies, policies, programme priorities and eligibility for access to and utilization of financial resources. In addition, the Conference of the Parties shall provide guidance on an indicative list of categories of activities that could receive support from the Global Environment Facility Trust Fund. The Global Environment Facility Trust Fund shall provide resources to meet the agreed incremental costs of global environmental benefits and the agreed full costs of some enabling activities.

8. In providing resources for an activity, the Global Environment Facility Trust Fund should take into account the potential mercury reductions of a proposed activity relative to its costs.

9. For the purposes of this Convention, the Programme referred to in paragraph 6 (b) will be operated under the guidance of and be accountable to the Conference of the Parties. The Conference of the Parties shall, at its first meeting, decide on the hosting institution for the Programme, which shall be an existing entity, and provide guidance to it, including on its duration. All Parties and other relevant stakeholders are invited to provide financial resources to the Programme, on a voluntary basis.

10. The Conference of the Parties and the entities comprising the Mechanism shall agree upon, at the first meeting of the Conference of the Parties, arrangements to give effect to the above paragraphs.

11. The Conference of the Parties shall review, no later than at its third meeting, and thereafter on a regular basis, the level of funding, the guidance provided by the Conference of the Parties to the entities entrusted to operationalize the Mechanism established under this Article and their effectiveness, and their ability to address the changing needs of developing country Parties and Parties with economies in transition. It shall, based on such review, take appropriate action to improve the effectiveness of the Mechanism.

12. All Parties, within their capabilities, are invited to contribute to the Mechanism. The Mechanism shall encourage the provision of resources from other sources, including the private sector, and shall seek to leverage such resources for the activities it supports.



Article 14

Capacity-building, technical assistance and technology transfer

1. Parties shall cooperate to provide, within their respective capabilities, timely and appropriate capacity-building and technical assistance to developing country Parties, in particular Parties that are least developed countries or small island developing States, and Parties with economies in transition, to assist them in implementing their obligations under this Convention.

2. Capacity-building and technical assistance pursuant to paragraph 1 and Article 13 may be delivered through regional, subregional and national arrangements, including existing regional and subregional centres, through other multilateral and bilateral means, and through partnerships, including partnerships involving the private sector. Cooperation and coordination with other multilateral environmental agreements in the field of chemicals and wastes should be sought to increase the effectiveness of technical assistance and its delivery.

3. Developed country Parties and other Parties within their capabilities shall promote and facilitate, supported by the private sector and other relevant stakeholders as appropriate, development, transfer and diffusion of, and access to, up-to-date environmentally sound alternative technologies to developing country Parties, in particular the least developed countries and small island developing States, and Parties with economies in transition, to strengthen their capacity to effectively implement this Convention.

4. The Conference of the Parties shall, by its second meeting and thereafter on a regular basis, and taking into account submissions and reports from Parties including those as provided for in Article 21 and information provided by other stakeholders:

(a) Consider information on existing initiatives and progress made in relation to alternative technologies;

(b) Consider the needs of Parties, particularly developing country Parties, for alternative technologies; and



(c) Identify challenges experienced by Parties, particularly developing country Parties, in technology transfer.

5. The Conference of the Parties shall make recommendations on how capacity-building, technical assistance and technology transfer could be further enhanced under this Article.

Article 15

Implementation and Compliance Committee

1. A mechanism, including a Committee as a subsidiary body of the Conference of the Parties, is hereby established to promote implementation of, and review compliance with, all provisions of this Convention. The mechanism, including the Committee, shall be facilitative in nature and shall pay particular attention to the respective national capabilities and circumstances of Parties.

2. The Committee shall promote implementation of, and review compliance with, all provisions of this Convention. The Committee shall examine both individual and systemic issues of implementation and compliance and make recommendations, as appropriate, to the Conference of the Parties.

3. The Committee shall consist of 15 members, nominated by Parties and elected by the Conference of the Parties, with due consideration to equitable geographical representation based on the five regions of the United Nations; the first members shall be elected at the first meeting of the Conference of the Parties and thereafter in accordance with the rules of procedure approved by the Conference of the Parties pursuant to paragraph 5; the members of the Committee shall have competence in a field relevant to this Convention and reflect an appropriate balance of expertise.

4. The Committee may consider issues on the basis of:

(a) Written submissions from any Party with respect to its own compliance;

(b) National reports in accordance with Article 21; and



(c) Requests from the Conference of the Parties.

5. The Committee shall elaborate its rules of procedure, which shall be subject to approval by the second meeting of the Conference of the Parties; the Conference of the Parties may adopt further terms of reference for the Committee.

6. The Committee shall make every effort to adopt its recommendations by consensus. If all efforts at consensus have been exhausted and no consensus is reached, such recommendations shall as a last resort be adopted by a three-fourths majority vote of the members present and voting, based on a quorum of two-thirds of the members.

Article 16

Health aspects

1. Parties are encouraged to:

(a) Promote the development and implementation of strategies and programmes to identify and protect populations at risk, particularly vulnerable populations, and which may include adopting science-based health guidelines relating to the exposure to mercury and mercury compounds, setting targets for mercury exposure reduction, where appropriate, and public education, with the participation of public health and other involved sectors;

(b) Promote the development and implementation of science-based educational and preventive programmes on occupational exposure to mercury and mercury compounds;

(c) Promote appropriate health-care services for prevention, treatment and care for populations affected by the exposure to mercury or mercury compounds; and

(d) Establish and strengthen, as appropriate, the institutional and health professional capacities for the prevention, diagnosis, treatment and monitoring of health risks related to the exposure to mercury and mercury compounds.



2. The Conference of the Parties, in considering health-related issues or activities, should:

(a) Consult and collaborate with the World Health Organization, the International Labour Organization and other relevant intergovernmental organizations, as appropriate; and

(b) Promote cooperation and exchange of information with the World Health Organization, the International Labour Organization and other relevant intergovernmental organizations, as appropriate.

Article 17

Information exchange

1. Each Party shall facilitate the exchange of:

(a) Scientific, technical, economic and legal information concerning mercury and mercury compounds, including toxicological, ecotoxicological and safety information;

(b) Information on the reduction or elimination of the production, use, trade, emissions and releases of mercury and mercury compounds;

(c) Information on technically and economically viable alternatives to:

(i) Mercury-added products;

(ii) Manufacturing processes in which mercury or mercury compounds are used; and

(iii) Activities and processes that emit or release mercury or mercury compounds;

including information on the health and environmental risks and economic and social costs and benefits of such alternatives; and

(d) Epidemiological information concerning health impacts associated with exposure to mercury and mercury compounds, in close cooperation with the World Health Organization and other relevant organizations, as appropriate.



2. Parties may exchange the information referred to in paragraph 1 directly, through the Secretariat, or in cooperation with other relevant organizations, including the secretariats of chemicals and wastes conventions, as appropriate.

3. The Secretariat shall facilitate cooperation in the exchange of information referred to in this Article, as well as with relevant organizations, including the secretariats of multilateral environmental agreements and other international initiatives. In addition to information from Parties, this information shall include information from intergovernmental and non-governmental organizations with expertise in the area of mercury, and from national and international institutions with such expertise.

4. Each Party shall designate a national focal point for the exchange of information under this Convention, including with regard to the consent of importing Parties under Article 3.

5. For the purposes of this Convention, information on the health and safety of humans and the environment shall not be regarded as confidential. Parties that exchange other information pursuant to this Convention shall protect any confidential information as mutually agreed.

Article 18

Public information, awareness and education

1. Each Party shall, within its capabilities, promote and facilitate:

(a) Provision to the public of available information on:

- (i) The health and environmental effects of mercury and mercury compounds;
- (ii) Alternatives to mercury and mercury compounds;
- (iii) The topics identified in paragraph 1 of Article 17;
- (iv) The results of its research, development and monitoring activities under Article 19; and
- (v) Activities to meet its obligations under this Convention;

(b) Education, training and public awareness related to the effects of exposure to mercury and mercury compounds on human health



and the environment in collaboration with relevant intergovernmental and non-governmental organizations and vulnerable populations, as appropriate.

2. Each Party shall use existing mechanisms or give consideration to the development of mechanisms, such as pollutant release and transfer registers where applicable, for the collection and dissemination of information on estimates of its annual quantities of mercury and mercury compounds that are emitted, released or disposed of through human activities.

Article 19

Research, development and monitoring

1. Parties shall endeavour to cooperate to develop and improve, taking into account their respective circumstances and capabilities:

(a) Inventories of use, consumption, and anthropogenic emissions to air and releases to water and land of mercury and mercury compounds;

(b) Modelling and geographically representative monitoring of levels of mercury and mercury compounds in vulnerable populations and in environmental media, including biotic media such as fish, marine mammals, sea turtles and birds, as well as collaboration in the collection and exchange of relevant and appropriate samples;

(c) Assessments of the impact of mercury and mercury compounds on human health and the environment, in addition to social, economic and cultural impacts, particularly in respect of vulnerable populations;

(d) Harmonized methodologies for the activities undertaken under subparagraphs (a), (b) and (c);

(e) Information on the environmental cycle, transport (including long-range transport and deposition), transformation and fate of mercury and mercury compounds in a range of ecosystems, taking appropriate account of the distinction between anthropogenic and natural emissions and releases of mercury and of remobilization of mercury from historic deposition;



(f) Information on commerce and trade in mercury and mercury compounds and mercury-added products; and

(g) Information and research on the technical and economic availability of mercury-free products and processes and on best available techniques and best environmental practices to reduce and monitor emissions and releases of mercury and mercury compounds.

2. Parties should, where appropriate, build on existing monitoring networks and research programmes in undertaking the activities identified in paragraph 1.

Article 20

Implementation plans

1. Each Party may, following an initial assessment, develop and execute an implementation plan, taking into account its domestic circumstances, for meeting the obligations under this Convention. Any such plan should be transmitted to the Secretariat as soon as it has been developed.

2. Each Party may review and update its implementation plan, taking into account its domestic circumstances and referring to guidance from the Conference of the Parties and other relevant guidance.

3. Parties should, in undertaking work in paragraphs 1 and 2, consult national stakeholders to facilitate the development, implementation, review and updating of their implementation plans.

4. Parties may also coordinate on regional plans to facilitate implementation of this Convention.

Article 21

Reporting

1. Each Party shall report to the Conference of the Parties, through the Secretariat, on the measures it has taken to implement the provisions of this Convention and on the effectiveness of such measures and the possible challenges in meeting the objectives of the Convention.

2. Each Party shall include in its reporting the information as called for in Articles 3, 5, 7, 8 and 9 of this Convention.



3. The Conference of the Parties shall, at its first meeting, decide upon the timing and format of the reporting to be followed by the Parties, taking into account the desirability of coordinating reporting with other relevant chemicals and wastes conventions.

Article 22

Effectiveness evaluation

1. The Conference of the Parties shall evaluate the effectiveness of this Convention, beginning no later than six years after the date of entry into force of the Convention and periodically thereafter at intervals to be decided by it.

2. To facilitate the evaluation, the Conference of the Parties shall, at its first meeting, initiate the establishment of arrangements for providing itself with comparable monitoring data on the presence and movement of mercury and mercury compounds in the environment as well as trends in levels of mercury and mercury compounds observed in biotic media and vulnerable populations.

3. The evaluation shall be conducted on the basis of available scientific, environmental, technical, financial and economic information, including:

(a) Reports and other monitoring information provided to the Conference of the Parties pursuant to paragraph 2;

(b) Reports submitted pursuant to Article 21;

(c) Information and recommendations provided pursuant to Article 15; and

(d) Reports and other relevant information on the operation of the financial assistance, technology transfer and capacity-building arrangements put in place under this Convention.

Article 23

Conference of the Parties

A Conference of the Parties is hereby established.



2. The first meeting of the Conference of the Parties shall be convened by the Executive Director of the United Nations Environment Programme no later than one year after the date of entry into force of this Convention. Thereafter, ordinary meetings of the Conference of the Parties shall be held at regular intervals to be decided by the Conference.

3. Extraordinary meetings of the Conference of the Parties shall be held at such other times as may be deemed necessary by the Conference, or at the written request of any Party, provided that, within six months of the request being communicated to the Parties by the Secretariat, it is supported by at least one third of the Parties.

4. The Conference of the Parties shall by consensus agree upon and adopt at its first meeting rules of procedure and financial rules for itself and any of its subsidiary bodies, as well as financial provisions governing the functioning of the Secretariat.

5. The Conference of the Parties shall keep under continuous review and evaluation the implementation of this Convention. It shall perform the functions assigned to it by this Convention and, to that end, shall:

(a) Establish such subsidiary bodies as it considers necessary for the implementation of this Convention;

(b) Cooperate, where appropriate, with competent international organizations and intergovernmental and non-governmental bodies;

(c) Regularly review all information made available to it and to the Secretariat pursuant to Article 21;

(d) Consider any recommendations submitted to it by the Implementation and Compliance Committee;

(e) Consider and undertake any additional action that may be required for the achievement of the objectives of this Convention; and

(f) Review Annexes A and B pursuant to Article 4 and Article 5.

6. The United Nations, its specialized agencies and the International Atomic Energy Agency, as well as any State not a Party to this Convention, may be represented at meetings of the Conference of the Parties as observers. Any body or agency, whether national or international,



governmental or non-governmental, that is qualified in matters covered by this Convention and has informed the Secretariat of its wish to be represented at a meeting of the Conference of the Parties as an observer may be admitted unless at least one third of the Parties present object. The admission and participation of observers shall be subject to the rules of procedure adopted by the Conference of the Parties.

Article 24

Secretariat

1. A Secretariat is hereby established.
2. The functions of the Secretariat shall be:
 - (a) To make arrangements for meetings of the Conference of the Parties and its subsidiary bodies and to provide them with services as required;
 - (b) To facilitate assistance to Parties, particularly developing country Parties and Parties with economies in transition, on request, in the implementation of this Convention;
 - (c) To coordinate, as appropriate, with the secretariats of relevant international bodies, particularly other chemicals and waste conventions;
 - (d) To assist Parties in the exchange of information related to the implementation of this Convention;
 - (e) To prepare and make available to the Parties periodic reports based on information received pursuant to Articles 15 and 21 and other available information;
 - (f) To enter, under the overall guidance of the Conference of the Parties, into such administrative and contractual arrangements as may be required for the effective discharge of its functions; and
 - (g) To perform the other secretariat functions specified in this Convention and such other functions as may be determined by the Conference of the Parties.



3. The secretariat functions for this Convention shall be performed by the Executive Director of the United Nations Environment Programme, unless the Conference of the Parties decides, by a three-fourths majority of the Parties present and voting, to entrust the secretariat functions to one or more other international organizations.

4. The Conference of the Parties, in consultation with appropriate international bodies, may provide for enhanced cooperation and coordination between the Secretariat and the secretariats of other chemicals and wastes conventions. The Conference of the Parties, in consultation with appropriate international bodies, may provide further guidance on this matter.

Article 25

Settlement of disputes

1. Parties shall seek to settle any dispute between them concerning the interpretation or application of this Convention through negotiation or other peaceful means of their own choice.

2. When ratifying, accepting, approving or acceding to this Convention, or at any time thereafter, a Party that is not a regional economic integration organization may declare in a written instrument submitted to the Depositary that, with regard to any dispute concerning the interpretation or application of this Convention, it recognizes one or both of the following means of dispute settlement as compulsory in relation to any Party accepting the same obligation:

(a) Arbitration in accordance with the procedure set out in Part I of Annex E;

(b) Submission of the dispute to the International Court of Justice.

3. A Party that is a regional economic integration organization may make a declaration with like effect in relation to arbitration in accordance with paragraph 2.

4. A declaration made pursuant to paragraph 2 or 3 shall remain in force until it expires in accordance with its terms or until three months after written notice of its revocation has been deposited with the Depositary.



5. The expiry of a declaration, a notice of revocation or a new declaration shall in no way affect proceedings pending before an arbitral tribunal or the International Court of Justice, unless the parties to the dispute otherwise agree.

6. If the parties to a dispute have not accepted the same means of dispute settlement pursuant to paragraph 2 or 3, and if they have not been able to settle their dispute through the means mentioned in paragraph 1 within twelve months following notification by one Party to another that a dispute exists between them, the dispute shall be submitted to a conciliation commission at the request of any party to the dispute. The procedure set out in Part II of Annex E shall apply to conciliation under this Article.

Article 26

Amendments to the Convention

1. Amendments to this Convention may be proposed by any Party.
2. Amendments to this Convention shall be adopted at a meeting of the Conference of the Parties. The text of any proposed amendment shall be communicated to the Parties by the Secretariat at least six months before the meeting at which it is proposed for adoption. The Secretariat shall also communicate the proposed amendment to the signatories to this Convention and, for information, to the Depositary.
3. The Parties shall make every effort to reach agreement on any proposed amendment to this Convention by consensus. If all efforts at consensus have been exhausted, and no agreement reached, the amendment shall as a last resort be adopted by a three-fourths majority vote of the Parties present and voting at the meeting.
4. An adopted amendment shall be communicated by the Depositary to all Parties for ratification, acceptance or approval.
5. Ratification, acceptance or approval of an amendment shall be notified to the Depositary in writing. An amendment adopted in accordance with paragraph 3 shall enter into force for the Parties having consented to be bound by it on the ninetieth day after the date of deposit of instruments of ratification, acceptance or approval by at least three-fourths of the Parties



that were Parties at the time at which the amendment was adopted. Thereafter, the amendment shall enter into force for any other Party on the ninetieth day after the date on which that Party deposits its instrument of ratification, acceptance or approval of the amendment.

Article 27

Adoption and amendment of annexes

1. Annexes to this Convention shall form an integral part thereof and, unless expressly provided otherwise, a reference to this Convention constitutes at the same time a reference to any annexes thereto.

2. Any additional annexes adopted after the entry into force of this Convention shall be restricted to procedural, scientific, technical or administrative matters.

3. The following procedure shall apply to the proposal, adoption and entry into force of additional annexes to this Convention:

(a) Additional annexes shall be proposed and adopted according to the procedure laid down in paragraphs 1–3 of Article 26;

(b) Any Party that is unable to accept an additional annex shall so notify the Depositary, in writing, within one year from the date of communication by the Depositary of the adoption of such annex. The Depositary shall without delay notify all Parties of any such notification received. A Party may at any time notify the Depositary, in writing, that it withdraws a previous notification of non-acceptance in respect of an additional annex, and the annex shall thereupon enter into force for that Party subject to subparagraph (c); and

(c) On the expiry of one year from the date of the communication by the Depositary of the adoption of an additional annex, the annex shall enter into force for all Parties that have not submitted a notification of non-acceptance in accordance with the provisions of subparagraph (b).

4. The proposal, adoption and entry into force of amendments to annexes to this Convention shall be subject to the same procedures as for the proposal, adoption and entry into force of additional annexes to the Convention, except that an amendment to an annex shall not enter into



force with regard to any Party that has made a declaration with regard to amendment of annexes in accordance with paragraph 5 of Article 30, in which case any such amendment shall enter into force for such a Party on the ninetieth day after the date it has deposited with the Depository its instrument of ratification, acceptance, approval or accession with respect to such amendment.

5. If an additional annex or an amendment to an annex is related to an amendment to this Convention, the additional annex or amendment shall not enter into force until such time as the amendment to the Convention enters into force.

Article 28

Right to vote

1. Each Party to this Convention shall have one vote, except as provided for in paragraph 2.
2. A regional economic integration organization, on matters within its competence, shall exercise its right to vote with a number of votes equal to the number of its member States that are Parties to this Convention. Such an organization shall not exercise its right to vote if any of its member States exercises its right to vote, and vice versa.

Article 29

Signature

This Convention shall be opened for signature at Kumamoto, Japan, by all States and regional economic integration organizations on 10 and 11 October 2013, and thereafter at the United Nations Headquarters in New York until 9 October 2014.

Article 30

Ratification, acceptance, approval or accession

1. This Convention shall be subject to ratification, acceptance or approval by States and by regional economic integration organizations. It shall be open for accession by States and by regional economic integration



organizations from the day after the date on which the Convention is closed for signature. Instruments of ratification, acceptance, approval or accession shall be deposited with the Depositary.

2. Any regional economic integration organization that becomes a Party to this Convention without any of its member States being a Party shall be bound by all the obligations under the Convention. In the case of such organizations, one or more of whose member States is a Party to this Convention, the organization and its member States shall decide on their respective responsibilities for the performance of their obligations under the Convention. In such cases, the organization and the member States shall not be entitled to exercise rights under the Convention concurrently.

3. In its instrument of ratification, acceptance, approval or accession, a regional economic integration organization shall declare the extent of its competence in respect of the matters governed by this Convention. Any such organization shall also inform the Depositary, who shall in turn inform the Parties, of any relevant modification of the extent of its competence.

4. Each State or regional economic integration organization is encouraged to transmit to the Secretariat at the time of its ratification, acceptance, approval or accession of the Convention information on its measures to implement the Convention.

5. In its instrument of ratification, acceptance, approval or accession, any Party may declare that, with regard to it, any amendment to an annex shall enter into force only upon the deposit of its instrument of ratification, acceptance, approval or accession with respect thereto.



Article 31

Entry into force

1. This Convention shall enter into force on the ninetieth day after the date of deposit of the fiftieth instrument of ratification, acceptance, approval or accession.
2. For each State or regional economic integration organization that ratifies, accepts or approves this Convention or accedes thereto after the deposit of the fiftieth instrument of ratification, acceptance, approval or accession, the Convention shall enter into force on the ninetieth day after the date of deposit by such State or regional economic integration organization of its instrument of ratification, acceptance, approval or accession.
3. For the purposes of paragraphs 1 and 2, any instrument deposited by a regional economic integration organization shall not be counted as additional to those deposited by member States of that organization.

Article 32

Reservations

No reservations may be made to this Convention.

Article 33

Withdrawal

1. At any time after three years from the date on which this Convention has entered into force for a Party, that Party may withdraw from the Convention by giving written notification to the Depositary.
2. Any such withdrawal shall take effect upon expiry of one year from the date of receipt by the Depositary of the notification of withdrawal, or on such later date as may be specified in the notification of withdrawal.



Article 34

Depositary

The Secretary-General of the United Nations shall be the Depositary of this Convention.

Article 35

Authentic texts

The original of this Convention, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Depositary.

IN WITNESS WHEREOF the undersigned, being duly authorized to that effect, have signed this Convention.

Done at Kumamoto, Japan, on this tenth day of October, two thousand and thirteen.



ANNEXES



Annex A

Mercury-added products

The following products are excluded from this Annex:

- (a) Products essential for civil protection and military uses;
- (b) Products for research, calibration of instrumentation, for use as reference standard;
- (c) Where no feasible mercury-free alternative for replacement is available, switches and relays, cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for electronic displays, and measuring devices;
- (d) Products used in traditional or religious practices; and
- (e) Vaccines containing thiomersal as preservatives.

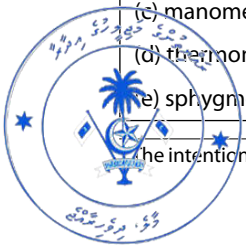
Part I: Products subject to Article 4, paragraph 1

Mercury-added products	Date after which the manufacture, import or export of the product shall not be allowed (phase-out date)
Batteries, except for button zinc silver oxide batteries with a mercury content < 2% and button zinc air batteries with a mercury content < 2%	2020
Switches and relays, except very high accuracy capacitance and loss measurement bridges and high frequency radio frequency switches and relays in monitoring and control instruments with a maximum mercury content of 20 mg per bridge, switch or relay	2020
Compact fluorescent lamps (CFLs) for general lighting purposes that are ≤ 30 watts with a mercury content exceeding 5 mg per lamp burner	2020



<p>Linear fluorescent lamps (LFLs) for general lighting purposes:</p> <p>(a) Triband phosphor < 60 watts with a mercury content exceeding 5 mg per lamp;</p> <p>(b) Halophosphate phosphor ≤ 40 watts with a mercury content exceeding 10 mg per lamp</p>	2020
High pressure mercury vapour lamps (HPMV) for general lighting purposes	2020
<p>Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for electronic displays:</p> <p>(a) short length (≤ 500 mm) with mercury content exceeding 3.5 mg per lamp</p> <p>(b) medium length (> 500 mm and ≤ 1 500 mm) with mercury content exceeding 5 mg per lamp</p> <p>(c) long length (> 1 500 mm) with mercury content exceeding 13 mg per lamp</p>	2020
Cosmetics (with mercury content above 1 ppm), including skin lightening soaps and creams, and not including eye area cosmetics where mercury is used as a preservative and no effective and safe substitute preservatives are available ¹⁷	2020
Pesticides, biocides and topical antiseptics	2020
<p>The following non-electronic measuring devices except non-electronic measuring devices installed in large-scale equipment or those used for high precision measurement, where no suitable mercury-free alternative is available:</p> <p>(a) barometers;</p> <p>(b) hygrometers;</p> <p>(c) manometers;</p> <p>(d) thermometers;</p> <p>(e) sphygmomanometers.</p>	2020

¹⁷The intention is not to cover cosmetics, soaps or creams with trace contaminants of mercury.



Part II: Products subject to Article 4, paragraph 3

Mercury-added products	Provisions
Dental amalgam	<p>Measures to be taken by a Party to phase down the use of dental amalgam shall take into account the Party's domestic circumstances and relevant international guidance and shall include two or more of the measures from the following list:</p> <ul style="list-style-type: none"> (i) Setting national objectives aiming at dental caries prevention and health promotion, thereby minimizing the need for dental restoration; (ii) Setting national objectives aiming at minimizing its use; (iii) Promoting the use of cost-effective and clinically effective mercury-free alternatives for dental restoration; (iv) Promoting research and development of quality mercury-free materials for dental restoration; (v) Encouraging representative professional organizations and dental schools to educate and train dental professionals and students on the use of mercury-free dental restoration alternatives and on promoting best management practices; (vi) Discouraging insurance policies and programmes that favour dental amalgam use over mercury-free dental restoration; (vii) Encouraging insurance policies and programmes that favour the use of quality alternatives to dental amalgam for dental restoration; (viii) Restricting the use of dental amalgam to its encapsulated form; (ix) Promoting the use of best environmental practices in dental facilities to reduce releases of mercury and mercury compounds to water and land.



Annex B

Manufacturing processes in which mercury or mercury compounds are used

Part I: Processes subject to Article 5, paragraph 2

Manufacturing processes using mercury or mercury compounds	Phase-out date
Chlor-alkali production	2025
Acetaldehyde production in which mercury or mercury compounds are used as a catalyst	2018

Part II: Processes subject to Article 5, paragraph 3

Mercury using process	Provisions
Vinyl chloride monomer production	<p>Measures to be taken by the Parties shall include but not be limited to:</p> <ul style="list-style-type: none">(i) Reduce the use of mercury in terms of per unit production by 50 per cent by the year 2020 against 2010 use;(ii) Promoting measures to reduce the reliance on mercury from primary mining;(iii) Taking measures to reduce emissions and releases of mercury to the environment;(iv) Supporting research and development in respect of mercury-free catalysts and processes;(v) Not allowing the use of mercury five years after the Conference of the Parties has established that mercury-free catalysts based on existing processes have become technically and economically feasible;(vi) Reporting to the Conference of the Parties on its efforts to develop and/or identify alternatives and phase out mercury use in accordance with Article 21.



<p>Sodium or Potassium Methylate or Ethylate</p>	<p>Measures to be taken by the Parties shall include but not be limited to:</p> <ul style="list-style-type: none"> (i) Measures to reduce the use of mercury aiming at the phase out of this use as fast as possible and within 10 years of the entry into force of the Convention; (ii) Reduce emissions and releases in terms of per unit production by 50 per cent by 2020 compared to 2010; (iii) Prohibiting the use of fresh mercury from primary mining; (iv) Supporting research and development in respect of mercury-free processes; (v) Not allowing the use of mercury five years after the Conference of the Parties has established that mercury-free processes have become technically and economically feasible; (vi) Reporting to the Conference of the Parties on its efforts to develop and/or identify alternatives and phase out mercury use in accordance with Article 21.
<p>Production of polyurethane using mercury containing catalysts</p>	<p>Measures to be taken by the Parties shall include but not be limited to:</p> <ul style="list-style-type: none"> (i) Taking measures to reduce the use of mercury, aiming at the phase out of this use as fast as possible, within 10 years of the entry into force of the Convention; (ii) Taking measures to reduce the reliance on mercury from primary mercury mining; (iii) Taking measures to reduce emissions and releases of mercury to the environment; (iii) Encouraging research and development in respect of mercury-free catalysts and processes; (iv) Reporting to the Conference of the Parties on its efforts to develop and/or identify alternatives and phase out mercury use in accordance with Article 21. <p>Paragraph 6 of Article 5 shall not apply to this manufacturing process.</p>



Annex C

Artisanal and small-scale gold mining

National action plans

1. Each Party that is subject to the provisions of paragraph 3 of Article 7 shall include in its national action plan:

- (a) National objectives and reduction targets;
- (b) Actions to eliminate:
 - (i) Whole ore amalgamation;
 - (ii) Open burning of amalgam or processed amalgam;
 - (iii) Burning of amalgam in residential areas; and
 - (iv) Cyanide leaching in sediment, ore or tailings to which mercury has been added without first removing the mercury;
- (c) Steps to facilitate the formalization or regulation of the artisanal and small-scale gold mining sector;
- (d) Baseline estimates of the quantities of mercury used and the practices employed in artisanal and small-scale gold mining and processing within its territory;
- (e) Strategies for promoting the reduction of emissions and releases of, and exposure to, mercury in artisanal and small-scale gold mining and processing, including mercury-free methods;
- (f) Strategies for managing trade and preventing the diversion of mercury and mercury compounds from both foreign and domestic sources to use in artisanal and small scale gold mining and processing;
- (g) Strategies for involving stakeholders in the implementation and continuing development of the national action plan;
- (h) A public health strategy on the exposure of artisanal and small-scale gold miners and their communities to mercury. Such a strategy



should include, inter alia, the gathering of health data, training for health-care workers and awareness-raising through health facilities;

(i) Strategies to prevent the exposure of vulnerable populations, particularly children and women of child-bearing age, especially pregnant women, to mercury used in artisanal and small-scale gold mining;

(j) Strategies for providing information to artisanal and small-scale gold miners and affected communities; and

(k) A schedule for the implementation of the national action plan.

2. Each Party may include in its national action plan additional strategies to achieve its objectives, including the use or introduction of standards for mercury-free artisanal and small-scale gold mining and market-based mechanisms or marketing tools.



Annex D

List of point sources of emissions of mercury and mercury compounds to the atmosphere

Point source category:

Coal-fired power plants;

Coal-fired industrial boilers;

Smelting and roasting processes used in the production of non-ferrous metals;^{1/}

Waste incineration facilities;

Cement clinker production facilities.



^{1/}For the purpose of this Annex, "non-ferrous metals" refers to lead, zinc, copper and industrial gold.

Annex E

Arbitration and conciliation procedures

Part I: Arbitration procedure

The arbitration procedure for purposes of paragraph 2 (a) of Article 25 of this Convention shall be as follows:

Article 1

1. A Party may initiate recourse to arbitration in accordance with Article 25 of this Convention by written notification addressed to the other party or parties to the dispute. The notification shall be accompanied by a statement of claim, together with any supporting documents. Such notification shall state the subject matter of arbitration and include, in particular, the Articles of this Convention the interpretation or application of which are at issue.

2. The claimant party shall notify the Secretariat that it is referring a dispute to arbitration pursuant to Article 25 of this Convention. The notification shall be accompanied by the written notification of the claimant party, the statement of claim, and the supporting documents referred to in paragraph 1 above. The Secretariat shall forward the information thus received to all Parties.

Article 2

1. If a dispute is referred to arbitration in accordance with Article 1 above, an arbitral tribunal shall be established. It shall consist of three members.

2. Each party to the dispute shall appoint an arbitrator, and the two arbitrators so appointed shall designate by agreement the third arbitrator, who shall be the President of the tribunal. In disputes between more than two parties, parties in the same interest shall appoint one arbitrator jointly by agreement. The President of the tribunal shall not be a national of any of the parties to the dispute, nor have his or her usual place of residence in the territory of any of these parties, nor be employed by any of them, nor have dealt with the case in any other capacity.



3. Any vacancy shall be filled in the manner prescribed for the initial appointment.

Article 3

1. If one of the parties to the dispute does not appoint an arbitrator within two months of the date on which the respondent party receives the notification of the arbitration, the other party may inform the Secretary-General of the United Nations, who shall make the designation within a further two-month period.

2. If the President of the arbitral tribunal has not been designated within two months of the date of the appointment of the second arbitrator, the Secretary-General of the United Nations shall, at the request of a party, designate the President within a further two-month period.

Article 4

The arbitral tribunal shall render its decisions in accordance with the provisions of this Convention and international law.

Article 5

Unless the parties to the dispute otherwise agree, the arbitral tribunal shall determine its own rules of procedure.

Article 6

The arbitral tribunal may, at the request of one of the parties to the dispute, recommend essential interim measures of protection.

Article 7

The parties to the dispute shall facilitate the work of the arbitral tribunal and, in particular, using all means at their disposal, shall:

- (a) Provide it with all relevant documents, information and facilities; and
- (b) Enable it, when necessary, to call witnesses or experts and receive their evidence.



Article 8

The parties to the dispute and the arbitrators are under an obligation to protect the confidentiality of any information or documents that they receive in confidence during the proceedings of the arbitral tribunal.

Article 9

Unless the arbitral tribunal determines otherwise because of the particular circumstances of the case, the costs of the tribunal shall be borne by the parties to the dispute in equal shares. The tribunal shall keep a record of all its costs and shall furnish a final statement thereof to the parties.

Article 10

A Party that has an interest of a legal nature in the subject matter of the dispute that may be affected by the decision may intervene in the proceedings with the consent of the arbitral tribunal.

Article 11

The arbitral tribunal may hear and determine counterclaims arising directly out of the subject matter of the dispute.

Article 12

Decisions of the arbitral tribunal on both procedure and substance shall be taken by a majority vote of its members.

Article 13

1. If one of the parties to the dispute does not appear before the arbitral tribunal or fails to defend its case, the other party may request the tribunal to continue the proceedings and to make its decision. Absence of a party or a failure of a party to defend its case shall not constitute a bar to the proceedings.
2. Before rendering its final decision, the arbitral tribunal must satisfy itself that the claim is well founded in fact and law.



Article 14

The arbitral tribunal shall render its final decision within five months of the date on which it is fully constituted, unless it finds it necessary to extend the time limit for a period that should not exceed five more months.

Article 15

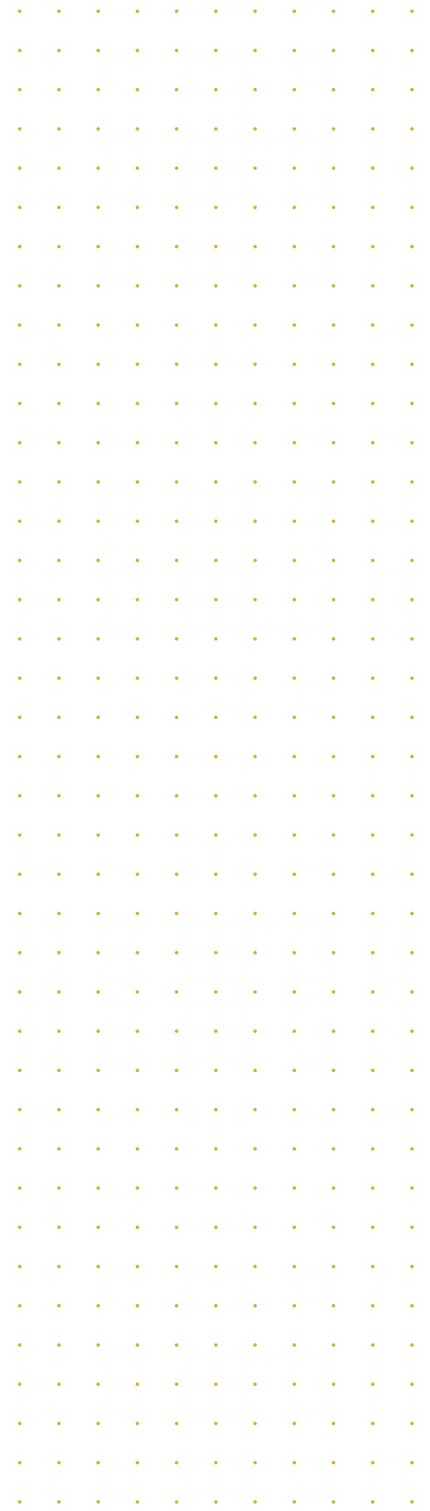
The final decision of the arbitral tribunal shall be confined to the subject matter of the dispute and shall state the reasons on which it is based. It shall contain the names of the members who have participated and the date of the final decision. Any member of the tribunal may attach a separate or dissenting opinion to the final decision.

Article 16

The final decision shall be binding on the parties to the dispute. The interpretation of this Convention given by the final decision shall also be binding upon a Party intervening under Article 10 above insofar as it relates to matters in respect of which that Party intervened. The final decision shall be without appeal unless the parties to the dispute have agreed in advance to an appellate procedure.

Article 17

Any disagreement that may arise between those bound by the final decision in accordance with Article 16 above, as regards the interpretation or manner of implementation of that final decision, may be submitted by any of them for decision to the arbitral tribunal that rendered it.



Part II: Conciliation procedure

The conciliation procedure for purposes of paragraph 6 of Article 25 of this Convention shall be as follows:

Article 1

A request by a party to a dispute to establish a conciliation commission pursuant to paragraph 6 of Article 25 of this Convention shall be addressed in writing to the Secretariat, with a copy to the other party or parties to the dispute. The Secretariat shall forthwith inform all Parties accordingly.

Article 2

1. The conciliation commission shall, unless the parties to the dispute otherwise agree, comprise three members, one appointed by each party concerned and a President chosen jointly by those members.
2. In disputes between more than two parties, parties in the same interest shall appoint their member of the commission jointly by agreement.

Article 3

If any appointment by the parties to the dispute is not made within two months of the date of receipt by the Secretariat of the written request referred to in Article 1 above, the Secretary-General of the United Nations shall, upon request by any party, make such appointment within a further two-month period.

Article 4

If the President of the conciliation commission has not been chosen within two months of the appointment of the second member of the commission, the Secretary-General of the United Nations shall, upon request by any party to the dispute, designate the President within a further two-month period.

Article 5

The conciliation commission shall assist the parties to the dispute in an independent and impartial manner in their attempt to reach an amicable resolution.



Article 6

1. The conciliation commission may conduct the conciliation proceedings in such a manner as it considers appropriate, taking fully into account the circumstances of the case and the views the parties to the dispute may express, including any request for a swift resolution. It may adopt its own rules of procedure as necessary, unless the parties otherwise agree.
2. The conciliation commission may, at any time during the proceedings, make proposals or recommendations for a resolution of the dispute.

Article 7

The parties to the dispute shall cooperate with the conciliation commission. In particular, they shall endeavour to comply with requests by the commission to submit written materials, provide evidence and attend meetings. The parties and the members of the conciliation commission are under an obligation to protect the confidentiality of any information or documents they receive in confidence during the proceedings of the commission.

Article 8

The conciliation commission shall take its decisions by a majority vote of its members.

Article 9

Unless the dispute has already been resolved, the conciliation commission shall render a report with recommendations for resolution of the dispute no later than twelve months of being fully constituted, which the parties to the dispute shall consider in good faith.

Article 10

Any disagreement as to whether the conciliation commission has competence to consider a matter referred to it shall be decided by the commission.

Article 11

The costs of the conciliation commission shall be borne by the parties to the dispute in equal shares, unless they agree otherwise. The commission shall keep a record of all its costs and shall furnish a final statement thereof to the parties.









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