

Minamata COP 4.2. side event

Mining data from National Action Plans for Artisanal and Small Scale Gold Mining

7 MARCH 2022

12:30 - 13:30 (CET)



AGENDA

Moderator: **Kenneth Davis** UNEP

Minamata Convention and National Action Plans for ASGM

Richard Gutierrez **Secretariat of the Minamata Convention**

Global overview of the latest trends and mercury reduction priorities in ASGM based on Minamata NAPs
Malgorzata Stylo **UNEP**

Translating data into policy for ASGM – case study from Nigeria NAP project
Olubunmi Olusanya **Federal Ministry of Environment of Nigeria**

Questions and Answers
Moderated by Jerome Stucki **UNIDO**





Minamata Convention and National Action Plans for ASGM

Richard Gutierrez

Secretariat of the Minamata
Convention

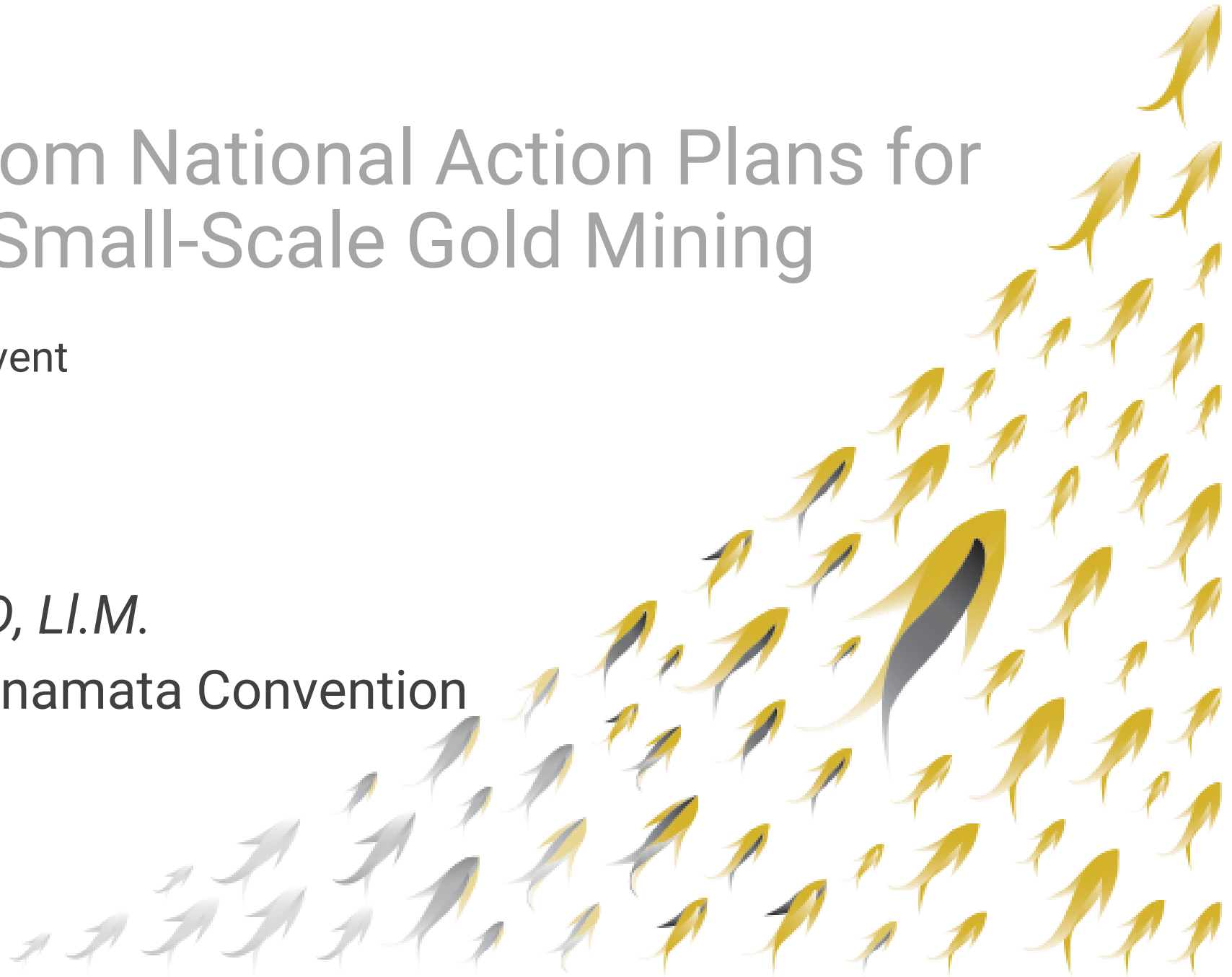
Mining Data from National Action Plans for Artisanal and Small-Scale Gold Mining

Pre-COP4.2 Online Side Event

07 March 2022

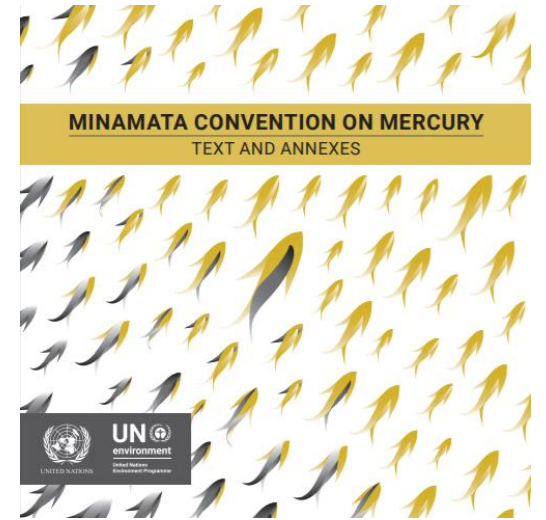
Richard Gutierrez, *JD, LI.M.*

Secretariat of the Minamata Convention

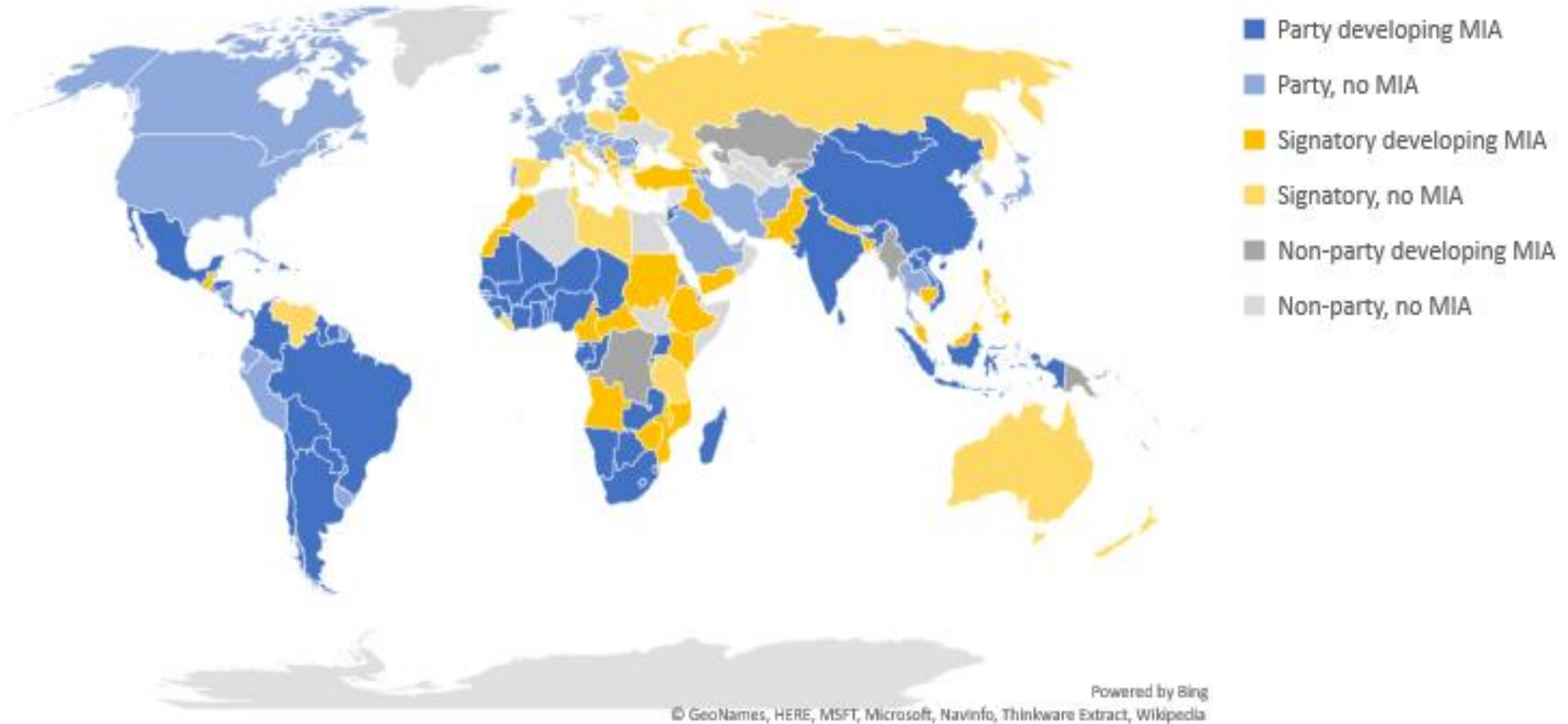


Minamata Convention on Mercury

- Adoption of text and opening for signature (Kumamoto, Japan) : 10-11 October 2013
- Entry into Force: 16 August 2017
- First Conference of the Parties (Geneva) 24 to 29 September 2017
• President: Switzerland
- Second Conference of the Parties (Geneva) 19 to 23 November 2018
President: Switzerland
- Third Conference of the Parties (Geneva) 25 to 29 November 2019
President: Zambia
- *Fourth Conference of the Parties online 1st segment 01-05 Nov. 2021 and 21-25 March 2022 President: Indonesia*



Minamata Convention Parties



137 parties as of 07 March 2022

Minamata Convention Controls the whole life cycle of mercury



**Article 3: Supply
Trade**

Guidance on identifying mercury stocks (COP-1)
Guidance and format for import consent (COP-1)



Article 4: Products
Article 5: Processes
Article 7: ASGM

NAP guidance (COP-1)



Article 8: Emissions BAT/BEP and inventory guidance (COP-1)

Article 9: Releases Inventory guidance (expected COP-4)



**Article 10:
Storage**
Interim storage guidelines (COP-2)



Article 11: Waste
Basel Convention guidelines

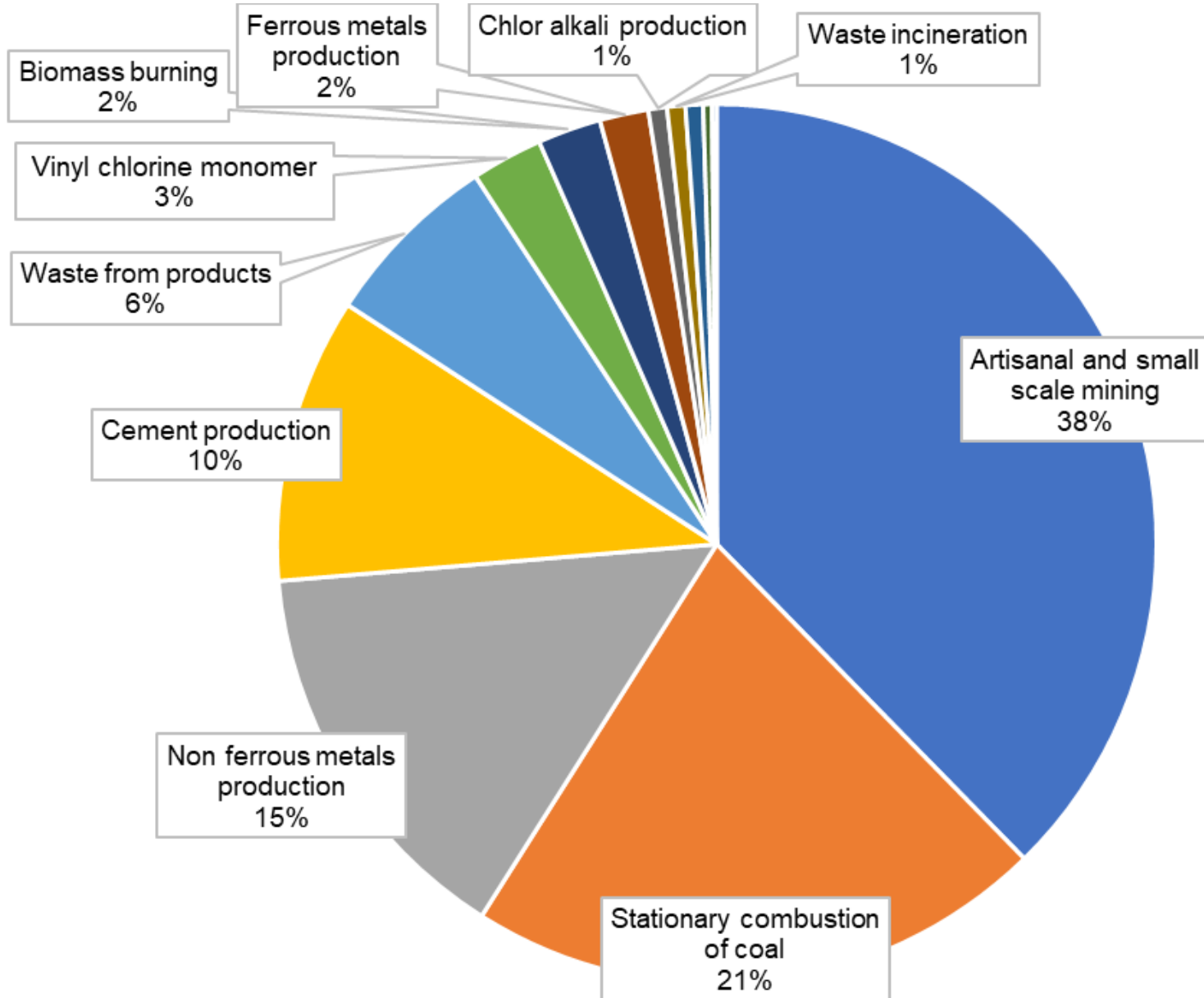


Article 12: Contaminated sites
Guidance on management (COP-3)

Guidance available from
<http://www.mercuryconvention.org/Convention/Formsandguidance/tabid/5527/language/en-US/Default.aspx>

**Life cycle of
mercury**

Global anthropogenic mercury emissions 2018

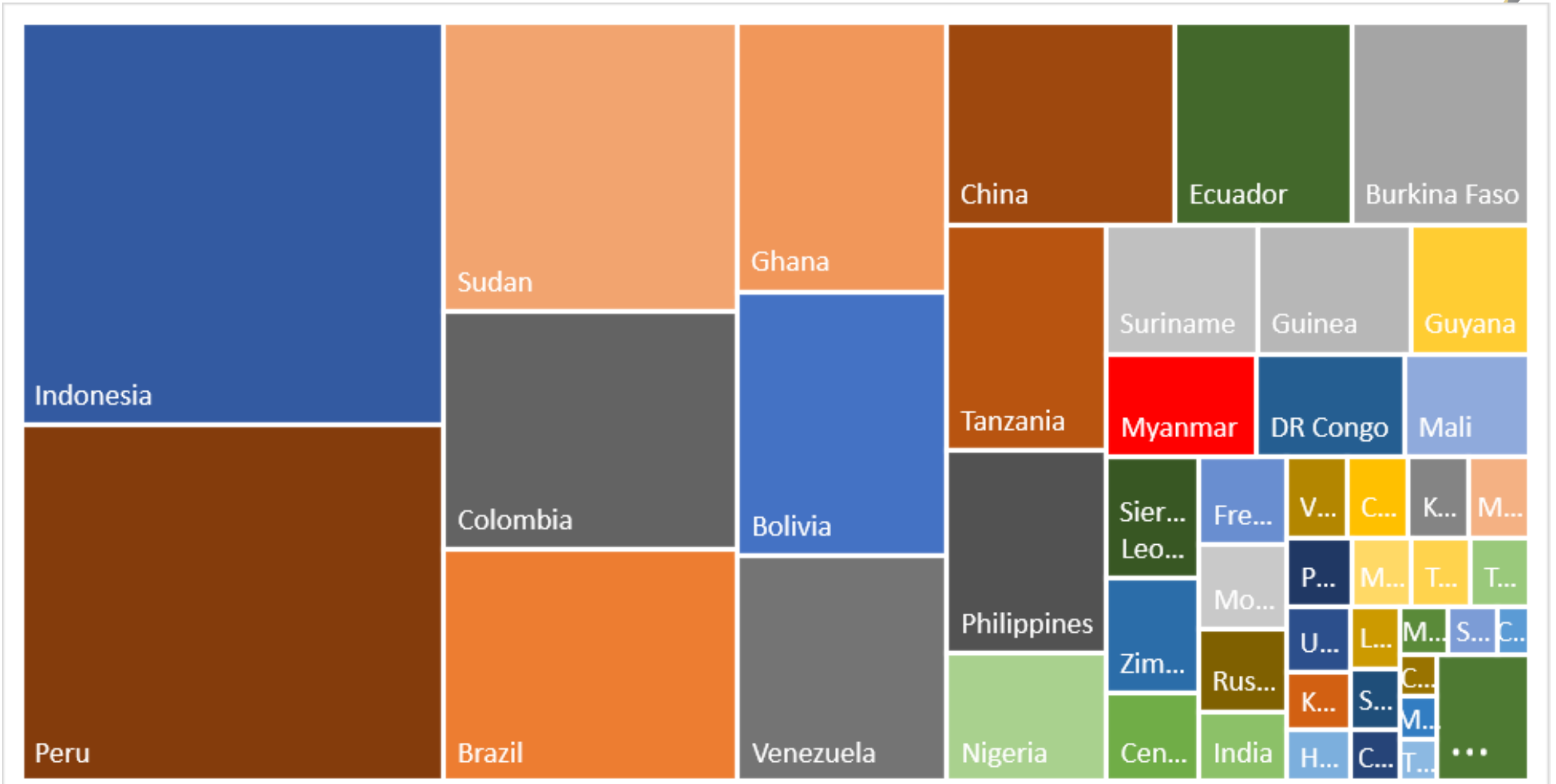


Mercury Emissions Estimates [kg], 2018	
Category	Mercury emissions estimates
Artisanal and small-scale mining	837658
Stationary combustion of coal	473777
Non-ferrous metals production	326657
Cement production	233168
Waste from products	146938
Vinyl chlorine monomer	58268
Biomass burning	51860
Ferrous metals production	39903
Chlor-alkali production	15146
Waste incineration	14944
Oil refining	14377
Stationary combustion of oil and gas	7130
Cremation	3768
Global total	2,223,594

Source: Global Mercury Assessment 2018

<https://www.unenvironment.org/explore-topics/chemicals-waste/what-we-do/mercury/global-mercury-assessment>

Mercury emission from ASGM (from GMA data)



Objective of the Minamata Convention (Article 1)

- ***“...to protect the human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds. »***
- *Provisions cover the entire life cycle of mercury, including supply, trade, mercury-added products, industrial processes using mercury, ASGM, emissions to air, releases to land and water, interim storage, waste and contaminated sites.*



Article 7 – Artisanal and small-scale gold mining

- Applies to artisanal and small-scale mining and processing of gold using mercury amalgamation to extract gold from the ore.
- Parties with ASGM that use mercury must take steps to reduce, and where feasible eliminate, the use and the emissions of mercury
- Parties who determine ASGM which is **more than insignificant** the that ASGM within its territory is more than insignificant, **MUST**:
 - Develop and implement a national action plan;
 - Submit NAP to Secretariat, review every 3 years after EIF or after notification to the Secretariat, whichever is later; and
 - Provide a review every 3 years of progress





National objectives and reduction targets



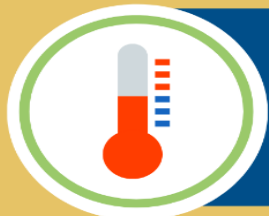
Actions to eliminate [...]



Steps to facilitate the formalization or regulation of the ASGM sector



Baseline estimates of the quantities of Hg used and practices employed



Strategies for promoting the reduction of emissions and releases of, and exposure to, Hg in ASGM

Annex C – Artisanal and small-scale gold mining: NAPs





Strategies for managing trade and preventing Hg diversion to ASGM



Strategies for involving stakeholders in the implementation and continuing NAP development



Public health strategy on Hg exposure of miners and their communities



Strategy to prevent the exposure of vulnerable populations



Strategies to provide information to miners and affected communities



Schedule of NAP implementation

Annex C – Artisanal and small-scale gold mining



NAP reports available on the web



National Action Plans





 Share

Pursuant to Article 7.3 of the Minamata Convention, a Party that at any time determines that artisanal and small-scale mining and processing in its territory is more than insignificant shall notify the Secretariat. Such Party shall also develop and implement a national action plan in accordance with Annex C of the Convention; 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 thereafter, provide a review every three years of the progress made in meeting its obligations under Article 7 and include such reviews in its reports submitted pursuant to Article 21.

Workbook last saved: 1h ago

At its first meeting, the Conference of the Parties agreed to the use of the guidance on the preparation of national action plans, which may be found [here](#).

Reports submitted by Parties may be accessed from the below links.

Country	Files	Year
Burkina Faso	 French	2020
Burundi	 French	2019
Central African Republic	 French	2019
Congo	 French	2019

<https://www.mercuryconvention.org/en/parties/national-action-plans>

THANK YOU!

www.mercuryconvention.org

MEA-MinamataSecretariat@un.org

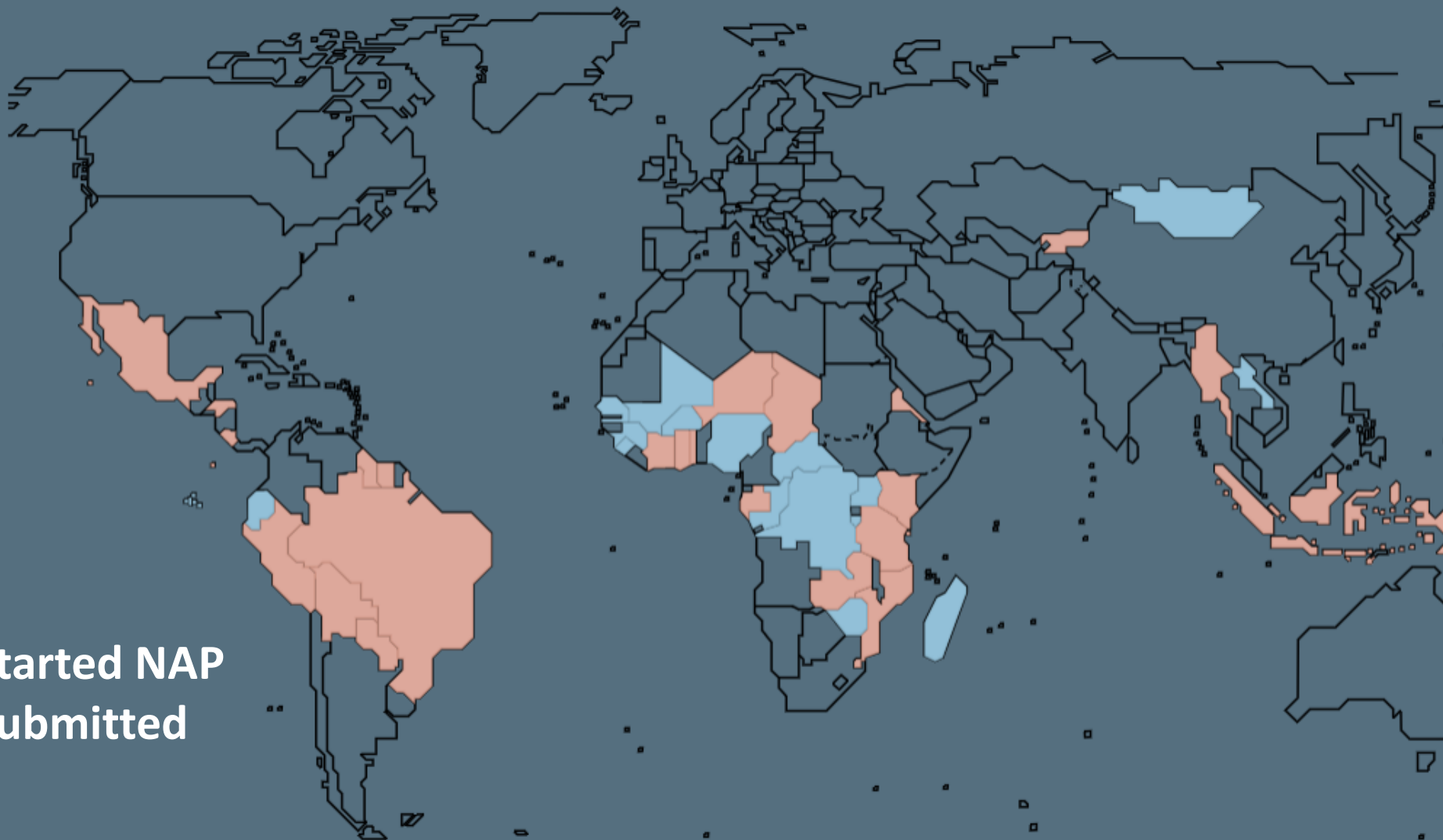
TWITTER: @minamataMEA





**Global overview of the latest trends
and mercury reduction priorities in
ASGM based on Minamata NAPs**
Malgorzata Stylo
UNEP

NAP Status
in progress
submitted



41 countries started NAP
16 countries submitted

DATA EXTRACTION

National overview

Estimated mercury use
Estimated gold production by ASGM
(also % produced with Hg)
Estimated number of miners
Presence of worst practices

Role of women in ASGM
Role of children in ASGM
Tailings management
Co-occurrence of LSM and ASGM
Impacts on biodiversity
Key locations of ASGM
Legal status, organization
Mercury trade
Health baseline information

Targets and strategies

Mercury reduction and elimination targets

Strategies to eliminate worst practices and reduce emissions/releases of mercury strategies

Formalization strategies

Mercury trade strategies

Public health strategies

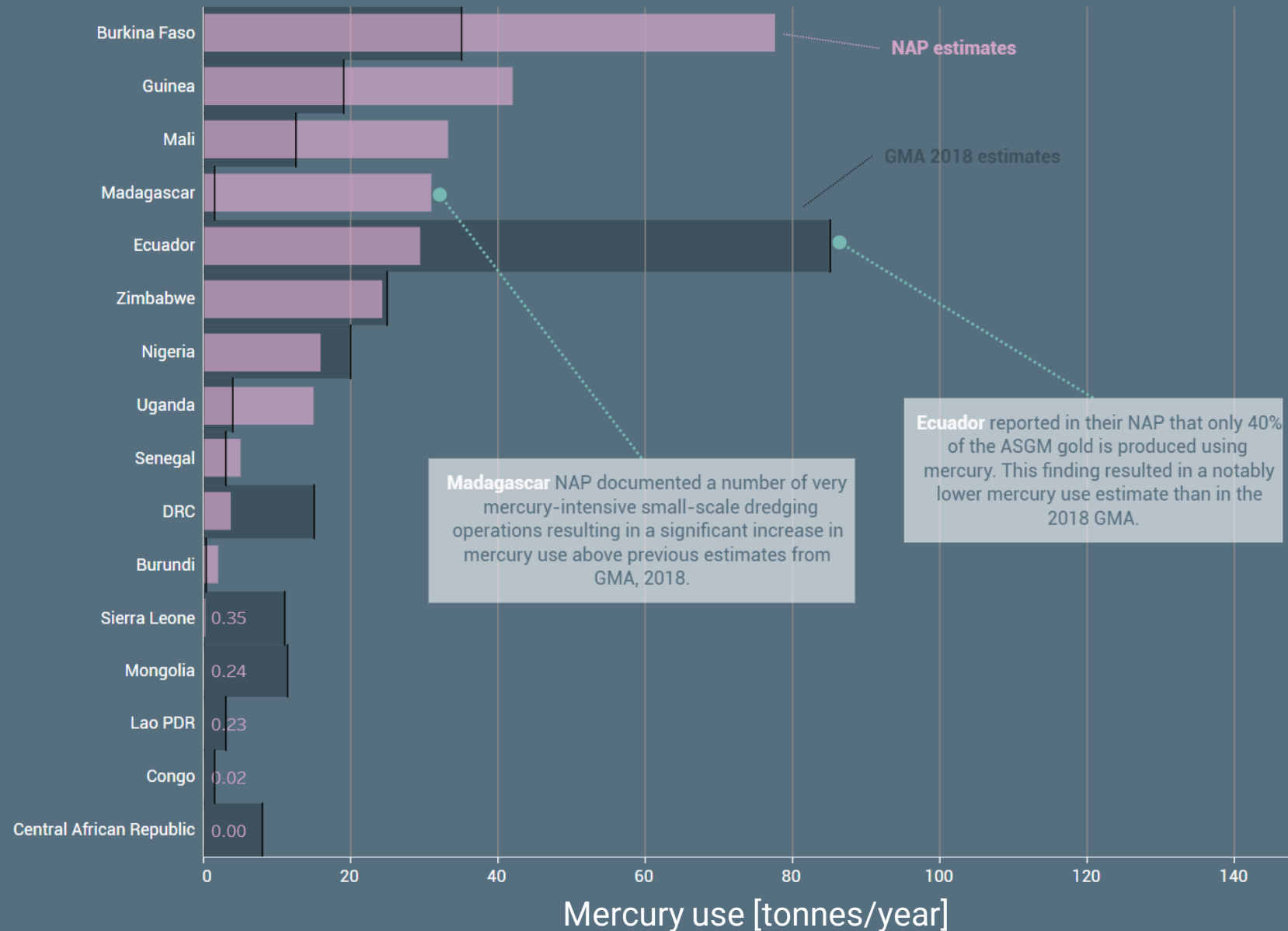
Strategies to provide information

Strategies to prevention of exposure of vulnerable populations

Strategies to involve stakeholders

Estimated cost for NAP implementation

Mercury estimates – National Action Plans vs Global Mercury Assessment 2018



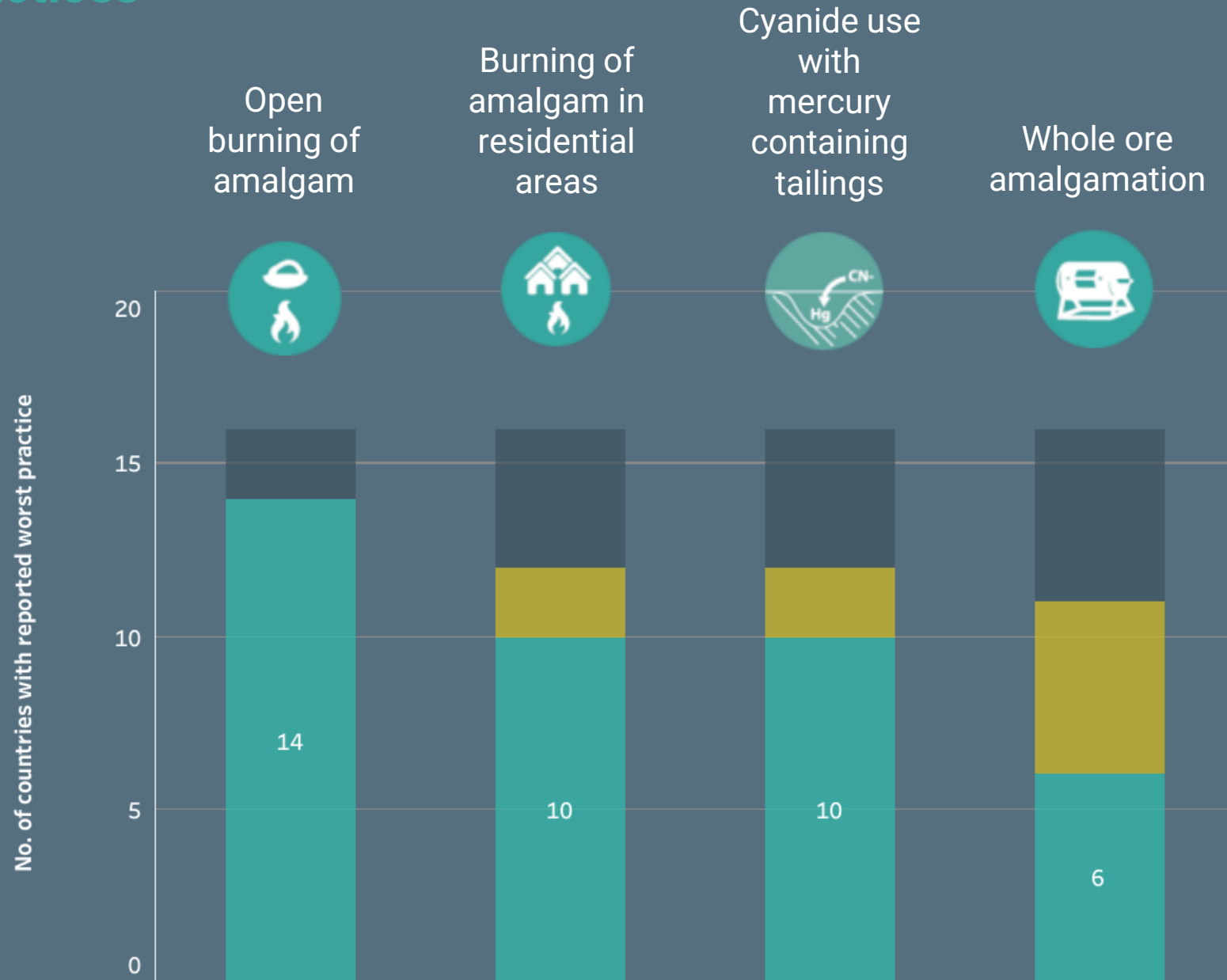
ASGM worst practices

Occurance of a worst practice

no data

no

yes

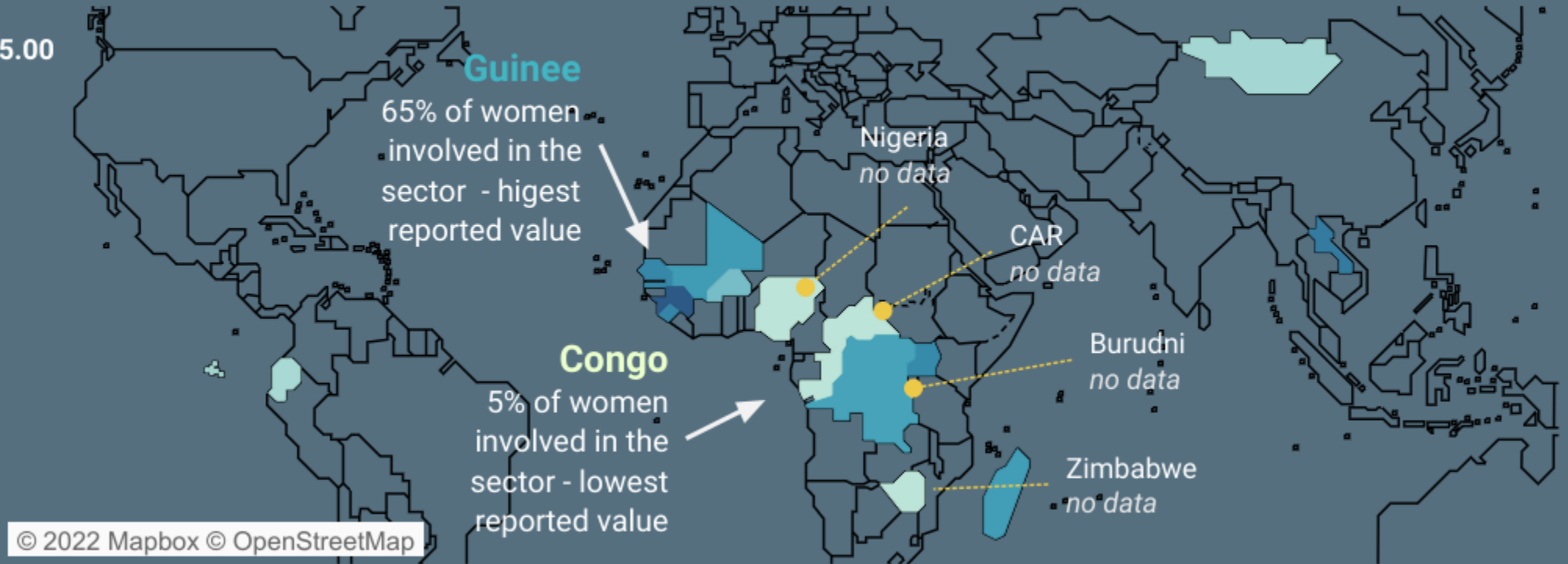


ASGM workforce

Percentage of women involved in the sector

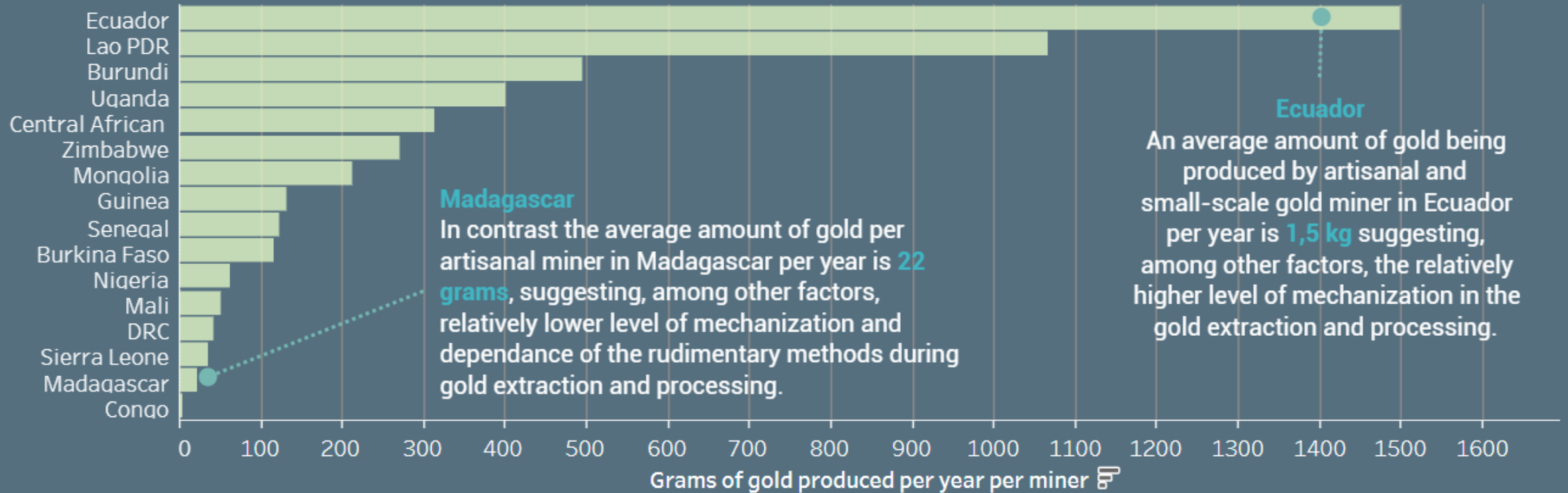
% of women miners

5.00  65.00

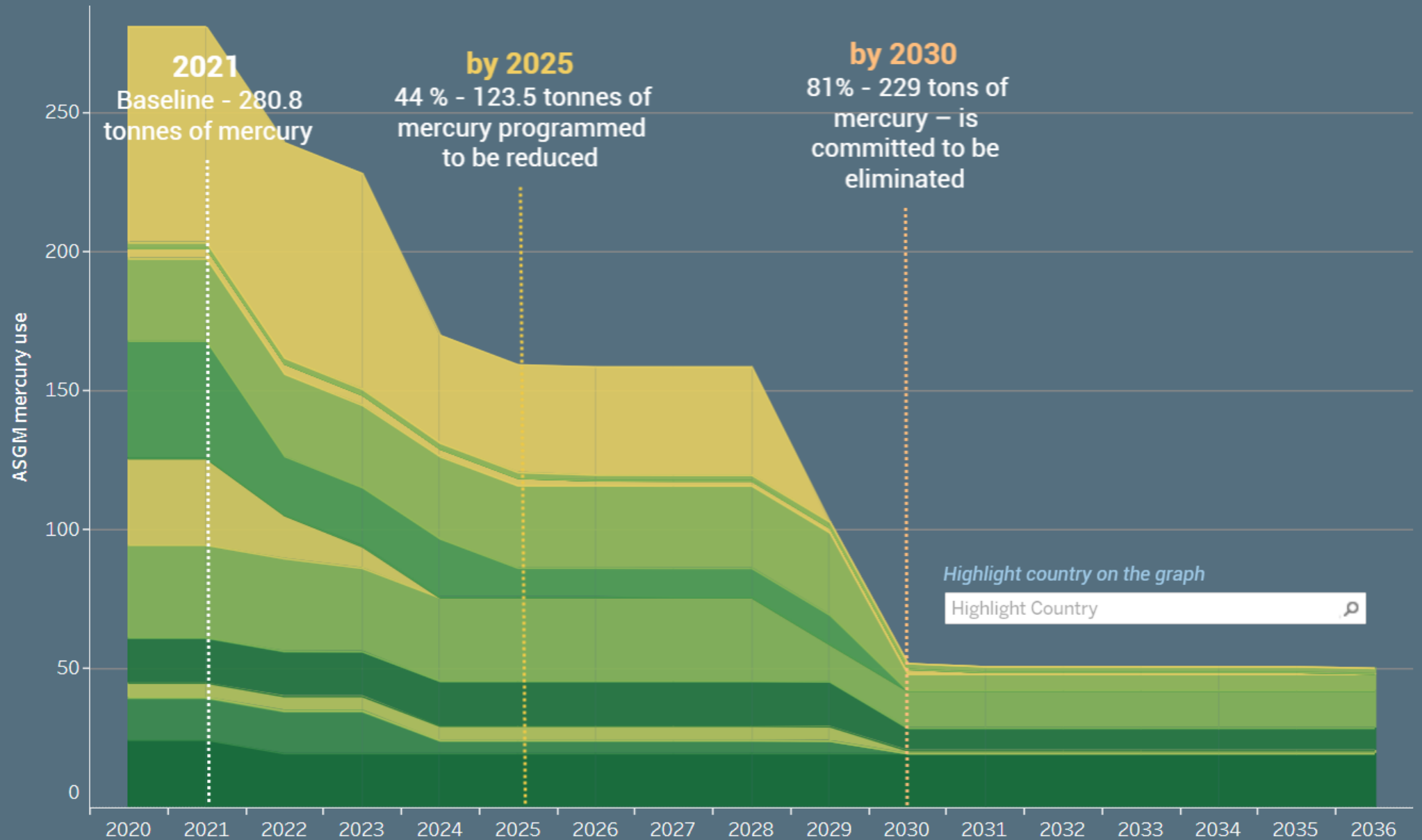


ASGM workforce

Productivity - Grams of gold produced per year per miner



NAP mercury reduction targets



Thank you for your attention!

**For more information about NAP data
mining visit:**

[Exploratory tool with NAP data](#)

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**Translating data into policy for
ASGM – case study from Nigeria
NAP project**
Olubunmi Olusanya
Federal Ministry of Environment of
Nigeria



TRANSLATING DATA INTO POLICY FOR ASGM – CASE STUDY FROM NIGERIA NAP PROJECT

PRESENTED AT THE

*UNEP/UNIDO SIDE EVENT ON MINING DATA FROM NATIONAL ACTION
PLANS FOR ARTISANAL AND SMALL-SCALE GOLD MINING*

BY

MR. OLUBUNMI OLUSANYA

*DEPARTMENT OF POLLUTION CONTROL AND ENVIRONMENTAL HEALTH
FEDERAL MINISTRY OF ENVIRONMENT, NIGERIA*

BACKGROUND

- The National Action Plan (NAP) on the use of mercury in the Nigerian Artisanal and Small-scale Gold Mining (ASGM) sector was approved by the Global Environment Facility (GEF) in 2016 and implemented by the United Nations Industrial Development Organisation (UNIDO). The project was jointly executed by the Federal Ministry of Environment (FMEnv), Ministry of Mines and Steel Development (MMSD) and Federal Ministry of Health (FMoH), supported by World Health Organisation (WHO) through a multi-stakeholder National Steering Group (NSG).
- The NAP Report was developed in line with the requirements of annex C of the Minamata Convention on Mercury.

NATIONAL ASGM BASELINE DATA GATHERING PROCESS

THE EXECUTING AGENCIES

Engaged consultants

CONSULTANTS IN COLLABORATION WITH EXECUTING AGENCIES

- Set survey timeline
- Determined data collection methods
- Prepared questionnaire
- Identified enumerators and target audience
- Developed training materials for enumerators

DATA REVIEW PROCESS

Data were reviewed and validated by National Stakeholders

NAP developed and validated by National Stakeholders

NAP published and Lunched by policy makers

FIELD ACTIVITIES

Enumerators were trained on data collection methods

Data were collected and and submitted for review

Data was collected to provide information on the following areas:

- GEOGRAPHICAL DISTRIBUTION OF ASGM

- GOLD MINING AND PROCESSING INFORMATION
 - i. Annual Gold Production and value.
 - ii. Quantities of mercury used and practices employed in the sector.
 - iii. Health impact of mercury use in ASGM.
 - iv. Baseline consumption of mercury and other harmful chemicals, including cyanide.
 - v. Workforce and active working days.
 - vi. Gender distribution.
 - vii. Available and economically feasible techniques and technologies to replace the use of mercury.

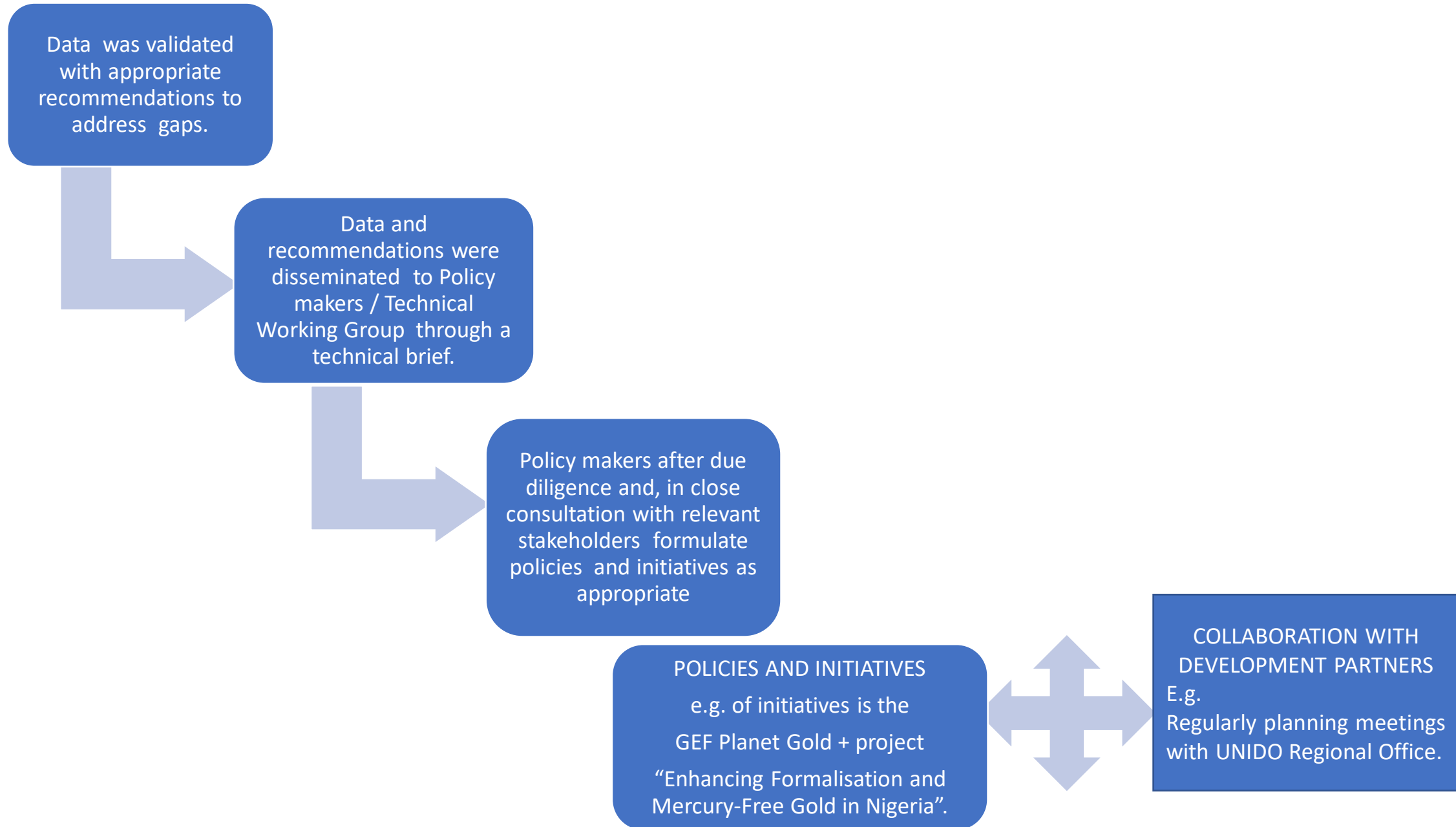
- ENVIRONMENTAL IMPACTS OF ASGM ACTIVITIES

- HEALTH RISKS/ACCESS TO PUBLIC HEALTH FACILITIES

DATA COLLECTION METHODS:

- Interviews, Questionnaires and surveys, Observations, Desktop reviews and Focus groups discussion.

TRANSLATING DATA INTO POLICY FOR ASGM



Case study 1 -ASGM gold production

Data on Official Reported and Study Estimates of Gold Production Per State

S No.	State	2018 Official Reported Gold Production (kg)	Estimated Gold Production (kg).
1	Niger	5.43	2,297.18
2	Zamfara	15.84	8,608.12
3	Osun	39.11	1,922.53
4	Kaduna	0.00	2,476.09
5	Kwara	0.00	355.66
6	Nasarawa	0.00	116.60
7	Kebbi	0,30	484.22
8	Kano	3.32	0.00
	Total	64	16,260.40

Clearly, the Federal Government of Nigeria is losing a lot of revenue from ASGM sector due to the high-level informality and illicit activities in the sector.

POLICY RECOMMENDATION:

-Comprehensive assessment to know why previous Government's efforts to formalize and establish an effective gold buying center failed.

--Technical and financial support to miners to meet the licensing requirements and, once licensed, to continue to improve performance.

-Establish an effective legal, institutional and policy framework for the ASGM sector.

-Build the capacity of the regulatory institutions to improve the present poor regulations and formalization of the ASGM sector.

-Formalize the gold and mercury trade and supply chain (looking into international connections and cross border activities) to enable proper documentations of gold produced and mercury supplied and used per annum.

Pictures: ASGM gold production



Gold panning of river Sediments



Bottle for Measuring Mercury for Sale

Pictures: ASGM gold production



Gold-mercury amalgam



Open burning of Gold-mercury amalgam

Case Study 2 - Mercury use

Annual Estimates of Mercury Use and Gold Production Per State.

#	States	Annual Estimate of mercury used in ASGM sector (kg)	Annual Estimate of Gold produced in ASGM sector (kg)	Mercury / Gold Ratio
1	Niger	2,797.12	2,297.18	1.2:1
2	Zamfara	8,782.24	8,608.12	1.0:1
3	Osun*	-	1,922.53	-
4	Kaduna	3,257.08	2,476.09	1.3:1
5	Kwara	497.92	355.66	1.4:1
6	Nasarawa	151.58	116.60	1.3:1
7	Kebbi	581.07	484.22	1.2:1
National Estimates		16,067.01	16,260.40	

Data gathered revealed that mercury is being used in all the gold mining States except Osun State.

POLICY RECOMMENDATION:

- Comprehensive assessment of ASGM activities in Osun State
- Build the capacity of ASGM sector for improved gold mining and sustainable gold ore processing techniques that are devoid of inappropriate use of mercury, which will lead to progressive reduction in the quantity of mercury use and eventual elimination of mercury use in the sector.
- Develop and propagate sustainable alternative technologies.
- Establish a sustainable sensitization programme effectively reaching out to miners on the hazard of mercury to human health and the environment /alternative livelihood and technology.

Case Study 3- Mercury Trade

Mercury Trade and Demand

Official data on mercury import into Nigeria specifically for use in ASGM sector is not readily available. However, informal and illicit movement of mercury from across neighboring West African countries into Nigeria on syndicated links is not uncommon. Mercury used in the Nigeria's ASGM sector comes mostly from neighboring West African countries.

Findings from the field indicated that occasional illicit supplies come from other sectors such as health (hospitals) or power sectors to the ASGM operators.

POLICY RECOMMENDATION:

- Further studies to fully understand the trading mechanism and supply chain of mercury trade in Nigeria.
- Relevant agencies must work together to eliminate illegal trade in mercury within the ASGM sector.

Case Study 4 - ASGM workforce

Estimates of Numbers of ASGM Workers in Nigeria

S No.	State	No. of Miners directly Involved in ASGM	No. of Miners indirectly Involved in ASGM
1	Niger	58,429	292,145
2	Zamfara	133,492	665,780
3	Osun	20,557	102,745
4	Kaduna	33,803	169,015
5	Kwara	2,281	11,405
6	Nasarawa	2,850	12,750
7	Kebbi	7,600	38,000
Total		259012	1,291,840

State	Niger		Osun	
ASGM Site Name	Galadimakogo	Kpmakpma	Ibodi	ilekki
ASGM worker demographics	Men: 300+	Men: 300	Men: 700	Men: 800
	Women: ~200	Women: 250	Women: 0	Women: 0
	Children: ~150	Children: 100	Children: 0	Children: 60

Though difficult to provide the exact number of miners engaged directly or indirectly in ASGM activities in Nigeria, it is estimated that over 260,000 miners are directly involved in ASGM in Nigeria. Child labour is also predominant in most of the communities, because most don't have basic educational facilities and where they exist, it is either in deplorable conditions or kilometers away.

POLICY RECOMMENDATION

--Periodic creation of awareness on the harmful effect of mercury on human health (especially the vulnerable groups) and the environment .

-Consider reviewing the mining laws and regulations to deter children's participation in ASGM activities.

-Improve accessibility to quality education in ASGM communities.

-Empower the women populations in alternative means of livelihoods to divert them from engaging in ASGM activities.

Case Study 5 - Environmental impacts

Leading themes	Specific issues
Environmental degradation	<ul style="list-style-type: none"> No environmental control of mining activities. Degradation of land due to mining activities. Abandonment of land (no reclamation) after mining activities leading to erosion and flooding. Deforestation and Destruction of farm land, Collapsing terrain , etc.
Use of mercury	<ul style="list-style-type: none"> The use of mercury , open burning of amalgam and indiscriminate disposal of mercury waste .
Contamination of	<ul style="list-style-type: none"> Contamination of soil with toxic chemicals.
Contamination of water	<ul style="list-style-type: none"> Contamination of water bodies use for drinking , washing and irrigation with toxic chemicals (heavy metals).
Contamination of	<ul style="list-style-type: none"> Contamination of air through burning of mercury amalgam.

POLICY RECOMMENDATION:

-Strengthen national environmental monitoring and enforcement programme .

-Develop training module and train ASGM operators on new techniques that reduced or eliminate mercury use in gold processing.

-Develop guidelines for the management of heavy metals contaminated sites.

-Identify and conduct environmental assessment of ASGM sites degraded and contaminated with mercury containing tailings and proffer appropriate remediation solutions.

--Continuous sensitization of miners and communities in local language on the Environment, Occupational Safety and Health impacts of their activities.

Case Study 6 - Health risks

Leading themes	Specific issues	POLICY RECOMMENDATION:
Occupational hazards	<ul style="list-style-type: none"> ▪ Falling in pits by humans (including children) and animals ▪ Collapsing pits , Land slides ▪ Inhalation of dust (leading to pneumonia, silicosis) ▪ Accidents and injuries ▪ Carbon monoxide intoxication from water pump machine in pit ▪ Excessive work and exhaustion , Extreme heat and cold , Vibration , Falling stones 	<p>-Comprehensive assessment of mercury exposure through health data gathering in the ASGM communities.</p>
Factor-related hazards, zoonoses	<ul style="list-style-type: none"> • Malaria, Mining created stagnant waterbodies that become breeding sites for mosquitoes ▪ Spread of Lassa fever 	<p>-Provide health promotion services in ASGM communities.</p>
Chemical hazards	<ul style="list-style-type: none"> ▪ Mercury exposure: inhalation and direct contact ▪ Cyanide exposure ▪ Lead exposure 	<p>-Provide technical assistance to health care facilities in ASGM communities to develop treatment protocols.</p>
Community exposures	<ul style="list-style-type: none"> ▪ Same instruments used to mine and process food. Tailings are used for building houses ▪ Children eat from hand to mouth while soil is contaminated with mercury ▪ Drinking water is polluted with heavy metals ▪ People are bothered about the noise from milling machines 	
Health effects	<ul style="list-style-type: none"> ▪ Symptoms of swollen legs when they stand in the waters/ponds up until the knees (pedal oedema), Swollen face, Eyeball changes ▪ Carbon monoxide poisonings ▪ Injuries: puncture injury in legs, cuts in feet, rocks falling on heads ▪ Drug abuse: leading to overdosing, accidents ▪ Sexually transmitted infections ▪ Headaches ,Dizziness , Body pains , Stiffness , Stomach pains , Malaria , Mental disorders , Pneumonia , Fingernails falling off 	



Nigeria's GOLD+ under the planetGOLD Initiative

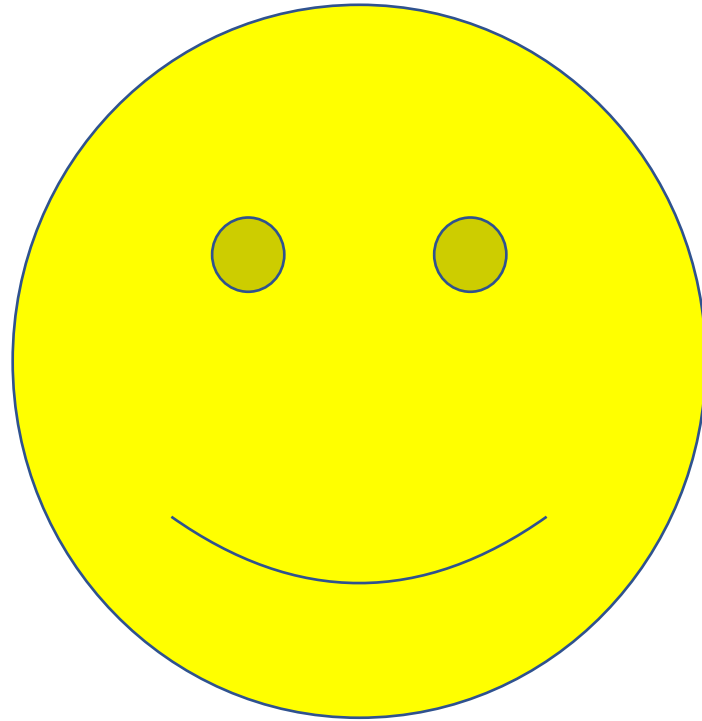
“ENHANCING FORMALIZATION AND MERCURY- FREE GOLD IN NIGERIA”

THE NIGERIA'S GEF GOLD+ : ENHANCING FORMALIZATION AND MERCURY-FREE GOLD

- Subsequent to the development of the NAP and in order to achieve the desired Policy changes early , the Federal Government of Nigeria collaborated with UNIDO to develop the GEF GOLD+ project. The project is structured to enhancing:
- Formalisation in the ASGM sector.
- Access to finance through financial inclusion and responsible supply chains.
- Uptake of mercury-free technologies.
- Knowledge sharing, communication and local capacity building.

APPRECIATION

- The Federal Government of Nigeria use this medium to express her appreciation to the GEF, UNEP and UNIDO for their unwavering technical and financial support.



THANK YOU FOR YOUR ATTENTION



Questions and Answers
Moderated by Jerome Stucki
UNIDO