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Report on activities undertaken within the UNEP Global Mercury Partnership (July 2013 – July 2014)

Note by the Secretariat

The Overarching Framework of the UNEP Global Mercury Partnership outlines that one of the responsibilities of the UNEP Global Mercury Partnership Advisory Group is to report on activities undertaken within the UNEP Global Mercury Partnership.

The UNEP secretariat has drafted a report on activities within the UNEP Global Mercury Partnership, which is set out in the annex to the present note. The current version reflects input received from the partnership area leads.

The Partnership Advisory Group may wish to discuss and provide input on the report on activities.

Annex

I. Introduction

1. The Overarching Framework of the UNEP Global Mercury Partnership specifies that one of the responsibilities of the UNEP Global Mercury Partnership Advisory Group is to report on activities undertaken within the UNEP Global Mercury Partnership. The following document is a report of the partnership activities from July 2013 – July 2014. It reflects input received from the partnership areas.

2. Under the Global Mercury Partnership, eight partnership areas have been established, including: artisanal and small-scale gold mining, mercury cell chlor-alkali production, fate and transport, mercury in products, coal combustion, mercury waste management, mercury supply and storage, and mercury releases from cement industry.

3. This report provides a list of the highlights of partnership area activities over the period of July 2013 to July 2014, per partnership area.

II. Global Mercury Partnership Participation

4. The number of official partners is steadily growing:

a) As of 30 June 2013, there were 118 official partners in the Global Mercury Partnership, including 25 governments, 5 intergovernmental organizations, 48 non-government organizations, and 40 others.

b) On 1 September 2014, there were 131 official partners in the Global Mercury Partnership, including 26 governments, 5 intergovernmental organizations, 54 non-government organizations, and 46 others.

c) Some of the partners are global industry partners that collaborate and represent a large number of national associations. In addition, the Partnership works with a number of stakeholders that have not yet officially joined.

i) Artisanal and small-scale gold mining

5. The United Nations Industrial Development Organization (UNIDO) and the Natural Resources Defence Council (NRDC) are jointly leading the artisanal and small-scale gold mining partnership area.

6. Key activities in this area include:

Priority Action 1: Support governments in setting national objectives/ targets

d) The Partnership assisted UNEP in planning and organizing the second Global Forum to reduce mercury use in ASGM. The forum was held on the 3-5 of September 2013 in Lima, Peru. The report of the meeting is available on the Partnership website.

e) The Partnership also assisted UNEP to organize an Andean forum on ASGM which was held on 20-22 November 2013 in Medellin, Colombia, to encourage regional cooperation among countries in the region on this issue. The report of this meeting is available on the Partnership website.

f) Through UNIDO, SAICM has provided funding to Mali and Cote d'Ivoire to establish an inventory of the extent of the sector in the countries as well as

finalizing their National Action Plan. Mali has produced their NAP, and the work is continuing in Côte d'Ivoire with the first inventories undertaken this year.

g) With support from the GEF, UNIDO and the Artisanal Gold Council (AGC) are working in Burkina Faso and Senegal to develop the national action plans. Work is under way and plans should be produced soon.

h) Through a US State Department grant, the Environmental Law Institute is working in Nigeria with various stakeholders to assess the ASGM sector and develop legal and policy recommendations to assist the Nigerian government to address mercury and lead poisoning issues associated with ASGM.

i) The European Environment Bureau, a member of the Partnership, funded a project entitled *Facilitating and Strengthening National Concerted Effort through "Priority Setting Activities" for Mercury Treaty Implementation in Nigeria*, carried out by SRADEV, a Nigerian NGO. One component is to facilitate activities that will help with the development of a National Action Plan (NAP) on ASGM Activities As part of this project, SRADEV conducted an appraisal of ASGM activities in the State of Osun (one of the ASGM states). On the national level, meetings with the Federal Ministry of Environment (focal point on Mercury Convention) as well as with Director, Ministry of Mines & Mineral Development (Head of ASGM), were held, to try to come to agreement on a way forward for the development of NAP component.

j) USEPA has provided funding to revise the guidance document for National Action Plan formulation. A drafting meeting was organized by NRDC in Washington DC in August 2014 with the participation of the following partners: AGC, Ban Toxic, Biodiversity Research Institute, UNIDO, US State Department and USEPA. A draft has been circulated for comments.

k) NRDC, co-leader of the Partnership, launched the DC Roundtable on ASGM. The group includes more than 50 individuals from all of the major U.S. government and international donor agencies located in Washington, DC that work on ASGM (U.S. State Department, U.S. EPA, USGS, U.S. Department of Labor, USAID, the World Bank, IADB, and various academics and NGOs). The Roundtable has created a space for discussion among organizations to find ways to work together to accelerate progress and to prioritize ASGM on the funding agendas. The group has held quarterly meetings, promoted informal collaborations, created information platforms for ASGM (including a project library and a wiki site), and held special sessions of the Roundtable when ASGM specialists visit DC.

Priority Action 2: Eliminate worst practices and promote alternatives

a) A GEF project, developed in Ecuador and Peru, aims to demonstrate and replicate mercury emission reduction methods and non-mercury gold extraction for the artisanal and small-scale gold mining sectors of located in the Puyango-Tumbes river basin region. The project is implemented by UNIDO with strong involvement of other partners, including INIGEMM, the national counterpart in Ecuador; ALA, the local water authority in Tumbes, Peru; and the University of British Colombia.

b) Ban Toxics together with the Danish NGO, Dialogos, the Department of International Health, Immunology and Microbiology (ISIM) of the University of

Copenhagen (Faculty of Health Sciences), International Committee of Environmental, Occupational and Public Health (Danish Society of Environmental and Occupational Medicine), Geological Survey of Denmark and Greenland, and the Benguet Federation of Small-Scale Gold Miners, Inc. have embarked on a multi-year, multi-pronged project to introduce mercury-free techniques utilizing miner-to-miner, rural health worker trainings, and community information campaigns. The project focuses on indigenous expertise and excellent progress has been made in convincing and motivating miners to move away from mercury, particularly in indigenous communities. At least 1,700 miners have been trained in the project area. Currently the project is beginning to monitor the amount of mercury reduction induced by the project and create local structures that will sustain the achievements long after the project's end. This work has been complemented by a GEF project implemented by UNIDO and executed by Ban Toxics.

c) The US State Department has ongoing demonstration project in Francophone West Africa to develop and implement an intervention model that self-replicates, to reduce and eventually eliminate mercury use in small scale gold mining operations, while improving health, environment and wealth of ASGM communities. The project seeks to improve economic opportunities for miners and their communities, increased knowledge of health safety, and environment, and a measured reduction in mercury use. The implementing agency is the Artisanal Gold Council. To date, the AGC has: developed detailed inventories of 36 different ASGM sites in Burkina Faso; strengthened the Burkina Faso ASGM national estimates and supply chain mapping as a result of the collection of additional information; conducted comprehensive ASGM inventory training of our Burkina Faso representative; and most notably, constructed a community-level mercury-free processing plant, which is both operating well, and serving as a model/training center for surrounding communities. The construction of the plant required developing technical specifications, as well as managing logistical requirements for ordering, importing, assembling, and maintaining materials. These experiences will serve to help with the more rapid construction of future plants. Another plant will be set up in Senegal in the last quarter of 2014.

d) Since 2011, now extended to 2014, the US State Department is funding a sub-regional mercury storage project in the Philippines and Indonesia. This project brought stakeholders together to develop a national approach to the environmentally sound management of mercury, with focus on the storage of mercury from the ASGM sector. The project includes nationwide mercury monitoring in ASGM hotspots, development of technical and non-technical methodologies to identify mercury use, and understanding gender roles in small-scale mining and contribution of women to mercury-free transition in the sector.

e) The US State Department is also supporting a project, implemented by BanToxics and Balifokus, on developing capacity in Indonesia and the Philippines to estimate mercury, trade, use and release in the ASGM sector through training of local governments and stakeholders on conducting mercury inventory studies.

f) UNEP, with funding from USEPA and in collaboration with its project partner (Blacksmith Institute) has been implementing a training and technology transfer project on reducing mercury use in ASGM in Indonesia. The project primarily focuses on technical interventions to significantly reduce mercury emission from

ASGM. Since the inception of the project, ninety retorts, ten sluices (to ore processors) and fifty water-box condenser systems have been distributed, helping in reducing mercury use in specific regions of the country. The project is also working on promoting health awareness, training of miners and outreach through media. During the project, multi-stakeholder workshops were held to promote the development of a national strategic plan. The Government of Indonesia has now produced a draft national action plan for addressing mercury use in ASGM.

g) PLAGBOL (Bolivia) together with Blacksmith Institute, the Danish NGO, Dialogos, Geological Survey of Denmark and Greenland, the Danish NGO ICOEPH and the Federation of Small-Scale Miners, in La Paz Bolivia, embarked on a one year pilot project to introduce mercury-free techniques utilizing miner-to-miner trainings, training of health care workers and awareness raising in mining societies in Bolivia. The project is financed by Empleomin (an EU funded entity in Bolivia) and the Danish Embassy. The project is bringing miners from the Philippines to reach out to Bolivians miners to train them on the adoption of mercury-free techniques. The project is focusing on indigenous expertise that improve upon gravitational methods (e.g. use of sluice box and panning) and the use of direct smelting at the refining stage of the process, as demonstrated in the Philippines project mentioned above. The project has started a mapping of problematic mercury polluted areas and later this year trials with the mercury free method is taking place alongside the trainings and awareness-raising.

h) The US Department of State is funding a project in Nicaragua implemented by AGC to: develop and implement a technical and governance model; reduce and, where feasible, eliminate mercury use in Nicaragua's ASGM sector without diminishing economic opportunity; build capacity and raise awareness on mercury reduced/free technologies, and health and safety; and implement activities to build institutional capacities in ASGM policy development.

i) The US Agency for International Development is working to support the efforts of Colombia´s national, regional and local authorities and local miners' organizations in promoting economic and social development in the gold mining regions of Northern and North-eastern Antioquia, through the formalization of small illegal/informal mining operations. This includes strengthening the capacity of informal miners' organizations in Northern Antioquia to assist members in adopting environmentally sound technologies, accessing legal services and markets that reward best practices (including certification if feasible), and enhancing their ability to negotiate agreements and contracts with formal mining operations on fair and equitable terms; and improving the environmental and economic performance of small-scale mining operations through the generation and transfer of environmental best practices and technologies to lower costs, increase recovery efficiency, and mitigate negative environmental impacts (including pilot initiatives to develop and disseminate alternatives to decrease the amount of mercury per unit of gold produced, as well as the restoration of degraded areas).

j) EEB also funded a project entitled *Mercury Measuring in Educational, Health, Dentistry and Artisanal and Small Scale Mining in Tanzania*, carried out by AGENDA, a Tanzanian NGO. The project objective was to analyze mercury exposure levels within education, healthcare, dentistry, and artisanal and small scale mining centers, and to build understanding of teachers, healthcare workers,

dental personnel, artisanal miners on levels of exposures. The information gathered by the study is to be used for advocacy to push the government to take serious efforts in phasing out mercury use in education, healthcare as well as artisanal and small scale gold mining activities. AGENDA implemented the project in four regions of Tanzania namely Dar-es-salaam, Mbeya, Mwanza and Geita regions. They found high levels of mercury in burning areas (>50,000ng/m3) as well as in open areas near the miners sites. After conducting measurement AGENDA convened a short meeting with miners within the site for information sharing about the results obtained as well as explaining to miners on health effects of mercury and available alternatives that could be used in order to eliminate mercury uses. While miners seemed aware of mercury risks, they were not aware of alternatives and technologies to protect themselves from exposure, but showed interest in receiving adequate and efficient safe technologies to improve their working conditions as well as capturing more gold to improve their livelihoods.

k) The US State Department is developing a series of formalized training modules on appropriate mining technologies to improve efficiency, gold recovery and reduce reliance on mercury among artisanal gold miners in the Andean region.

Priority Area 3: Exploring innovative market-based approaches

a) An UNIDO led project, funded by FFEM (Fonds Français pour l'Environnement Mondial) and GEF is underway in Francophone West Africa (Burkina Faso, Mali and Senegal). Implemented by Alliance for Responsible Mining (ARM) and AGC, the project focuses on transferring technologies that eliminate mercury emissions from the sector and introducing the Fairmined standard at selected sites in the three countries. This project has collected data; initiated discussions on formulating a National Action Plan; distributed, and where feasible, demonstrated the Technical Guidance document, produced by the Partnership, in the field. With a strong focus on formalization, the implementation of Fairmined Standard best practice has led to the formation of the first Miners Cooperative in Burkina Faso, and obtaining of a mining title by an artisanal miners organization in Senegal.

b) A regional project is implemented by ARM and its local partners Red Social, Cumbre del Sajama and ASOMIRCOL in the Andean countries of Latin America (Bolivia, Colombia, Peru). It is funded by Inter-American Development Bank, Fondo Acción Ambiental and Tiffany Foundation and works with over 20 ASM organizations to implement Fairmined Standard best practice, including reduction of mercury.

ii) Mercury cell chlor-alkali production

7. The United States of America is acting as lead in this partnership area.

8. Key activities in this area include:

a) The partnership has completed its update to the global mercury-cell chlor-alkali facility inventory.

b) The partnership is planning to continue to update and improve the global inventory, especially for those facilities where limited data has been available.

c) The partnership continues to share information in the areas of technical cooperation for mercury use and release reduction and on conversions (including storage, management, and financing).

d) The World Chlorine Council submits annual reports to UNEP describing trends in members' mercury use and release, as well as conversions to non-mercury technologies.

e) The partnership has posted a video by Euro Chlor describing best practices for operation, waste management, and decommissioning of mercury-cell chlor-alkali plants.

f) UNIDO is pursuing a project to ensure proper mercury waste management in a converted chlor-alkali plant in Tunisia.

9. Progress:

a) The partnership promotes a reduction in demand to 250 tonnes by 2015. This target presents a 50% reduction in mercury demand by 2015 based on a 2005 baseline of 500 tonnes. The World Chlorine Council, which includes more than 80% of the global mercury-cell chlorine capacity, reported an average mercury use of 170 tonnes per year from 2011-2013. Based on this, it is likely that global demand is already below 250 tonnes per year.

b) In addition, our global inventory shows that global mercury-cell chlorine capacity decreased from 9000 Kt Cl in 2005 to about 5100 Kt Cl in 2013. The number of chlor-alkali facilities also decreased from about 140 in 2005 to 81 in 2013, and conversions and closures continue at a sustained pace. Euro Chlor has committed to closing all their mercury-cell facilities, which represent almost all mercury-cell production in Europe, by 2020. The Minamata Convention includes a requirement for parties to not allow mercury-cell chlor-alkali production by 2025 (although exemptions beyond this date are possible).

10. Future plans of the partnership

a) The partners believe that advances are being made but that challenges remain with regards to conversion and storage. The path forward depends greatly on the establishment of technical and regulatory capacity within the affected countries and regions for surplus mercury management, and on financial capacities within the specific industries.

b) Looking forward, the partnership area will focus on three main areas (specific activities will depend on individual partners and available resources). First, the partnership area will continue efforts to encourage and facilitate conversions of mercury-cell facilities. Partners have previously discussed assisting governments and facilities with accessing financing for conversions through multilateral development banks and similar institutions. Next, we will attempt to assist in ensuring environmentally sound decommissioning of facilities and sound waste management practices. This could include disseminating guidance from a variety of sources, including the Basel Convention, UNEP Mercury Sourcebook, private firms offering waste management services, and environment ministries. Finally, the partnership area is aware of the significant challenge of dealing with large amounts of mercury from decommissioned plants in accordance with the provisions of the Minamata Convention. We will work together with the Supply and Storage partnership area to attempt to provide assistance in this critical area.

iii) Mercury air transport and fate research

11. The CNR- Institute of Atmospheric Pollution Research, Italy is leading this partnership area.

12. The objective of the partnership area (F&T) is to increase global understanding of international mercury emissions sources, fate and transport by accelerating the development of sound scientific information to address uncertainties and data gaps in global mercury cycling and its patterns (e.g., air concentrations and deposition rates, source-receptor relationships, hemispheric and global air transport and transformation and emission sources), by enhancing information sharing among scientists and between them and policymakers and by providing technical assistance and training, where possible, to support the development of critical information.

13. The F&T is primarily engaged in the development of sound scientific information; enhancing sharing of such information among scientists and policymakers; providing technical assistance and training; enhancing the development of a globally-coordinated mercury observation system to monitor the concentrations of mercury species in air and water ecosystems.

14. Key activities in this area include:

In the framework of the project Global Mercury Observation System (GMOS-www.gmos.eu), the following major mid-term results were obtained:

a) Establish of the global monitoring system for mercury with 28 land based monitoring sites (see GMOS website – www.gmos.eu);
b) Completion of oceanographic and aircraft measurement campaigns;
c) Planning and implementation of a centralized repository archive and established advanced web services;
d) Establishment of a database of historical, current and future scenario mercury emissions.

Ongoing activities within the F&T and the GMOS project:

a) Continuing collection of atmospheric mercury species concentrations;
b) Continuing collection of precipitation samples for mercury analyses;
c) Improvement, validation and intercomparison of regional and global scale atmospheric mercury models (the latter with external partners within the GMOS Mercury Modelling Task Force (MMTF);
d) Model application to evaluate source-receptor relationships, temporal trends and