



**South American Workshop on Regional Cooperation to Support National Action
Plans for Artisanal and Small Scale Gold Mining
17-19 March 2015
Lima, Peru
Meeting Report**

I. Background

The Minamata Convention on Mercury, signed in 2013 by over 100 countries, requires that Parties with artisanal and small scale gold mining (ASGM) take steps to reduce, and where feasible, eliminate the use of mercury in this sector. The US State Department Regional Environment Office for South America and the Peruvian Ministries of Environment and Foreign Affairs jointly hosted a workshop on the Minamata Convention requirements related to ASGM. The primary goal was to assist Peru, Ecuador, Colombia and Brazil in developing National Action Plans (NAPs) on ASGM and to identify ways to support the implementation of these plans through regional cooperation.

The Natural Resources Defense Council (NRDC) organized the workshop, which was attended by over 50 participants representing the four Governments, intergovernmental organizations and non-governmental organizations. The workshop, which was conducted in both English and Spanish, provided an opportunity for stakeholders to share information, especially on elements of the NAP that might benefit from regional cooperation. Participants also had the opportunity to interact with representatives from the Global Environment Facility (GEF) to learn about funding opportunities for projects within their regions.

This meeting report summarizes the presentations, discussions and results of the workshop. The names and speakers for all presentations are listed in Appendix 1 and are available at the following website: [LIMA ASGM NAP Meeting UNEP Global Mercury Partnership](#)

II. Opening of the meeting

The opening session of the meeting included welcoming remarks by:

- The Honorable Manuel Pulgar-Vidal, Minister of Environment, Peru;
- The Honorable Brian Nichols, US Ambassador to Peru;
- Liliam Ballon de Amezaga, Ministry of Foreign Affairs, Peru;
- Jordi Pon, UNEP Regional Office for Latin America and the Caribbean; and
- Susan Keane, co-lead for UNEP Global Mercury Partnership, ASGM Partnership Area.

Minister Pulgar-Vidal and Dr. Ballon both described how the growth of artisanal and small scale mining in Peru, particularly in areas of high biodiversity, has become an urgent social and environmental issue. They welcomed the cooperation of the US government, as well as the participation of representatives of other countries in the region who face similar challenges. Ambassador Nichols described the US Government's commitment to assisting the region with the technical, social and environmental challenges arising from ASGM. Ambassador Nichols also highlighted the US Government's strong support of the ratification and implementation of the Minamata Convention, noting that the US was the first country to join the Convention. Mr. Pon and Ms. Keane remarked on UNEP's regional and global efforts to address mercury use in ASGM and emphasized the important role that the South American region can play as leaders on these issues.

All the speakers wished the participants a successful and productive meeting.

III. ASGM Requirements in the Minamata Convention, including National Action Plans

Presentations: UNEP Minamata Convention on Mercury, *Discussion Leader: Jordi Pon, Chemicals and Waste, UNEP ROLAC* ; Guidance for National Action Plans, *Discussion Leader: Susan Keane, NRDC* ; Health within the Minamata Convention, *Discussion Leader: Ana Boischio, PAHO*.

1. In his presentation, Mr. Jordi Pon highlighted Article 7 of the Minamata Convention, which addresses ASGM that uses mercury amalgamation to extract gold. Parties whose territories have such cases of ASGM are subject to this Article and must adopt measures to reduce, where feasible, and eliminate the use and emissions of mercury and mercury compounds from these activities into the environment. Parties with "more than insignificant" ASGM must develop and implement a National Action Plan, as further elaborated in Annex C of the Convention.

2. Ms. Susan Keane of NRDC shared a recent draft guidance document produced by the UNEP Global Mercury Partnership, ASGM Partnership Area, to help countries develop their National

Action Plan (NAP) under Annex C. The first section of the guidance document provides a recommended procedure for developing a NAP (coordination mechanism, national overview, objectives and targets, formulation of strategies, evaluation mechanism and endorsement and submission). The second section of the document provides practical guidance and suggestions on creating the content of the National Action Plan.

3. Dr. Ana Boischio discussed how elements of Article 16 can be used to incorporate health into a country's implementation of the Minamata Convention. Unlike many other environmental conventions, the Minamata Convention directly focuses on protecting health through Article 16. Parties working on health dimensions of implementation are encouraged to work with and exchange information with the World Health Organization (WHO) and the International Labour Organization (ILO). Compliance with Article 16 is recommended but not mandatory for parties; however, Annex C requires the mandatory development of a public health strategy to address mercury exposure of artisanal and small scale miners and their communities. The WHO is now developing guidance for designing a Public Health Strategy for ASGM communities as part of Annex C. The elements of such strategies include:

- training for health personnel to diagnose and treat mercury exposures;
- strengthening health programs; and
- support to prevent, prepare for and respond to chemical emergencies.

IV. Country Status Reports on National Action Plans

Presentations: Colombia, *Miguel Arias, Coordinator of Management Group of Mining Formalization, Ministry of Mines and Energy*; Peru, *Mariano Castro Sanchez-Moreno, Vice Minister*; Brazil, *Edson Mello, Ministry of Mines and Energy*; Ecuador, *Edith Barrera, National Environmental Control of Ecuador*.

4. Mr. Arias reported on Colombia's efforts to develop a comprehensive National Mercury Plan to reduce or eliminate mercury use across various sectors. Under this plan, Colombia aims to phase out the use of mercury in the mining sector by July 2018 and in other industry production areas by July 2023. Each Ministry working on the National Mercury Plan will implement its own action plan in coordination with other institutions and managing actors of mercury. The ASGM plan includes the following action items:

- Upgrading technology and training;
- Education of mining communities;
- Border control strategies;
- Remediation of contaminated sites;
- Investigation and application of information systems; and

- Improvements to the health sector, including promotion and prevention, care and early diagnosis, and programs to protect vulnerable communities.

5. Vice Minister Mariano Castro Sanchez-Moreno of Peru reported almost 11 percent of national gold production comes from artisanal gold miners, however this is an estimate, as there is no adequate record of production. The problem of informal and illegal mining has grown in almost all of Peru's territory and involves an undetermined, but growing, number of people. Peru shares similar ASGM problems with other countries, including land rights, invasion of private properties and protected areas, destruction of forests and impacts on wetlands. The wetlands impacts in Peru are especially severe. For example, approximately 25 percent of wetlands in the Madre de Dios are impacted by mining activities: in 2010 it was reported that miners in Madre de Dios consumed 40.5 tons of mercury which represented at the time the 5.6 percent of global mercury air emissions produced by ASGM. There are several projects underway in Peru to address ASGM issues, including projects to develop inventories, encourage the use of alternative technologies, implement a monitoring system and strengthen the role of regional governments.

6. In his overview of ASGM in Brazil, Mr. Edson Mello reported that small scale mining areas are primarily concentrated in the states of Mato Grosso, Pará, Rondonia and Amapá. Currently there are 1337 small scale mining licenses, all granted by the Brazilian Federal Government, and 87 registered mining cooperatives in the Brazilian Cooperative Organization System. Brazil is currently focused on:

- the ratification of the Minamata Convention;
- the development of the National Action Plan for ASGM; and
- conducting a Mercury Initial Assessment (funded by the GEF).

7. Brazil is taking action on ASGM by working with private stakeholders and legislators, creating initiatives to improve environmental and technical performance and socioeconomic development, and creating an Inter-Ministerial working group.

8. Ms. Edith Barrera reported that Ecuador is in the process of implementing the Minamata Convention and creating a National Action Plan. Ecuador has about 200 working mills under regulation. In the province of El Oro, there are around 85 mills, accounting for 42.5 percent of Ecuador's mining activity. ASGM activity consumes approximately 50 tons of mercury annually. The country has several projects underway with the primary objective of regulating artisanal miners through:

- cooperation and coordination to control illegal mining;

- improvements in environmental management, and occupation and health security and monitoring programs;
- programs and policies that promote innovative financial mechanisms, and
- training and awareness.

Currently the major barriers to implementing a National Action Plan for Ecuador are:

- validation of the plan and commitment of the institutions involved;
- financial availability; and
- inter-agency coordination and monitoring compliance with the NAP.

V. How to access GEF funding for ASGM

Presentations: GEF Support of ASGM under the Minamata Convention. *Discussion Leader: Evelyn Swain, GEF*; GEF Support to the Minamata Convention in the Interim Period and Key Barriers in Implementing ASGM National Action Plans. *Discussion Leader Anil Sookdeo, GEF*; UNEP's Support for Reducing Mercury Emissions, funded by the GEF, *Discussion Leader: Jordi Pon, Chemicals and Waste, UNEP ROLAC*

9. Evelyn Swain shared how the GEF has dedicated resources to support activities which facilitate effective implementation of the Minamata Convention and support other mercury specific activities. Within the Chemicals and Waste Program, the GEF can provide funding for activities such as the Minamata Convention Initial Assessments (MIAs) and ASGM NAPs. NAPs can be submitted through the GEF agency and do not require co-financing. Convention signatories with developing economies or economies in transition are eligible to apply for funding. To apply for NAP funds, the country must also declare to the Convention's Interim Secretariat that ASGM is "more than insignificant."

10. Mr. Anil Sookdeo of the GEF provided more detail on other GEF funds available for medium sized projects, full sized projects and programs to support Minamata-related activities during the interim period (that is, until the Convention goes into force). Under the current GEF replenishment, projects can be submitted under "Program 4" (funding of \$78M) which deals with mercury under ASGM, global trade and sound management of mercury storage. "Program 6" (funding of \$56M) covers enhanced capacity to manage harmful chemicals and regional-level plans for management of harmful waste and chemicals. Medium-size projects are awarded up to \$2M and full-sized projects are for those applicants requesting over \$2M. Full-sized projects must be approved by the GEF Council in a work program. GEF projects can also be conducted under a programmatic approach, which has an objective to interlink projects aimed at achieving large-scale impacts on the global environment.

11. Mr. Sookdeo posed several questions about key barriers in implementing ASGM NAPs, and participants were divided into break-out groups by country to discuss technological, capacity, formalization and financial barriers. Each group then reported back to the general group with identified barriers, plans and next steps, such as:

- Technological and capacity barriers occur when countries lack technical experts, financial resources and training for public institutions;
- Formalization barriers occur due to a lack of common understanding and interpretation of the laws, including land tenure and land rights; and
- Financial barriers occur due to little or no access to financial systems and/or credit, and a lack of incentives for technological upgrades.

12. When commenting on these groups' observations, Mr. Sookdeo noted that through the GEF, parties can apply for grants and can work with the financial sector through risk guarantees/insurance for loans, performance grants and equity payments.

13. Mr. Jordi Pon presented on various regional GEF projects and project proposals that UNEP is currently engaged in, including MIAs. These projects, which are organized at both the national and regional levels, are focused on setting priorities for:

- Developing a national inventory of ASGM;
- Assessment of national capacity, national legislation for the management of mercury;
- Identifying challenges, needs and opportunities; and
- Identifying contaminated sites.

14. Regional projects specifically include a component to exchange information and lessons learned. To date, UNEP has initiated, or is planning to initiate, about 50 regional and national projects in approximately 50 countries in Latin America, Africa and Asia.

VI. Regional Cooperation to Support NAP Implementation

Presentation: Overview of Regional Cooperation to Support National Action Plan Implementation, *Discussion Leader: Jordi Pon, UNEP.*

15. Mr. Jordi Pon described the need for regional cooperation on ASGM and NAP implementation as well as possible opportunities for collaboration. The ASGM sector in Latin America is the main source of mercury emissions, so cooperation on this sector is critical. There are a multitude of ASGM projects and organizations all working towards increasing the capacity of miners, improving environmental remediation, and the legalization and formalization of

ASGM. Unfortunately, communication is inconsistent and activities are rarely shared within the region. Potential cooperative activities within the region include:

- Providing technical assistance;
- Sharing best practices;
- Conducting site visits;
- Mentoring programs; and
- Sharing of information. Governments can look to different sources to exchange information, such as the Global Forum of 2013; expert data bases; scientific studies; webinars and common practices; UNEP website; Artisanal Gold Council's Mercury Watch and Alliance for Responsible Mining's new online training.

VII. Areas for Regional Cooperation, Part I: Managing Mercury Trade

Presentations: Managing Mercury Trade: South American ASGM Mercury Trade Management, *Discussion Leader: Susan Keane, NRDC*; Summary of Mercury Trade in Peru, *Discussion Leader: Giselle Bellido, Superintendent of National Customs and Tax Administration, SUNAT*; Summary of Mercury Trade in Ecuador, *Discussion Leader: Barrera, Ministry of Environment*.

16. Ms. Susan Keane gave a presentation on the Minamata Convention requirements related to trade and ASGM. Article 3 of the Convention lays out the overall requirements for mercury trading and includes provisions that require prior written consent- a powerful new tool for countries to control mercury trade. Similarly, Annex C of Article 7 requires countries to develop strategies to manage mercury trade for ASGM, a "use allowed" only if consistent with the NAP. For example, if Colombia forbids mercury use in ASGM by 2018 under its NAP, then trade for that purpose will no longer be permitted under the overall Convention.

17. To reduce illegal trade, parties are encouraged to cooperate on a regional level, starting with a risk assessment to identify illegal trade hotspots. This assessment can then set priorities for inspection/enforcement and to criminally prosecute offenders. There are a number of opportunities for regional cooperation, such as:

- Developing a model or common licensing systems or forms;
- Enhancing Prior Informed Consent (PIC) procedures to discourage illegal trade;
- Sharing information on smuggling; and
- Holding regional training workshops for customs officials.

18. Ms. Giselle Bellido described the overall strategies of SUNAT to formalize and control the use of chemicals in illegal mining, which focus on:

- Control of the import of chemicals;
- Oversight of mills and operations;
- Commercialization; and
- Exporting.

19. SUNAT controls and monitors the import of cyanide and mercury, with mandatory registration for miners who use those chemicals. However, there are data to suggest mercury may be sold to unregistered users (cross-referenced data). SUNAT also oversees importing and distribution companies to verify that appropriate security measures are met, and limits the amount of mercury that any individual user can store, thus making it easier to track the amounts purchased and sold. SUNAT has established “fiscal routes” which are mandatory control posts where they can track the movement of controlled goods within the country.

20. SUNAT has the authority to take fiscal action against any illegal trade, including the enforcement of tax liability and confiscating mercury- which is then stored. They can also make complaints to the public prosecutor. Other strategies that SUNAT has at its disposal include controlling other inputs essential for illegal mining, such as fuel for powering machinery.

21. In 2014, mercury imports into Peru decreased, potentially due to illegal diversion. Since 2012, Mexico overtook the US and Spain as the lead exporter of mercury to Peru. Currently, no Peruvian government entity has set quotas for imported mercury, so it is difficult to judge what should be allowed as imports.

22. Ms. Bellido summarized the following recommendations to consider when controlling mercury use and trade:

- Monitor all activities from production to final consumption;
- Set usage quotas to importers of mercury [because there is no other entity that authorizes the use of mercury, SUNAT has become this entity];
- Develop powers of oversight of IQBF (Insumos Químicos y Bienes Fiscalizados) (chemical imports and controlled goods) for addressing mercury;
- Create strong legislation to control the market, use and consumption of mercury;
- Control all economic activities related to mercury;
- Establish offenses and penalties in the current regulatory framework; and
- Establish user fees for importers of mercury.

23. Ms. Edith Barrera elaborated on Ecuador's mercury import control system. The Ministry of Environment (MoE) has strengthened Ecuador's legal framework for imports by designating a single public company with the authority to import mercury. The mining company has a fixed quota and distributes only to authorized users, individuals and legal entities for use in activities that meet specific requirements, such as holding environmental permits and mining rights. Any transfers of mercury require monthly reports and consumers (mills and artisanal miners) are required to provide quarterly report updates thereby verifying the activity. The MoE has initiated inspections to verify reports submitted by mine owners. In case of any irregularities, there is an annulment of the grant of transfer and consumption of mercury. Ecuador's border controls are implemented by the national customs service, which conducts regular evaluations on companies that request to import mercury.

24. A break out group was formed to discuss mercury trade issues and to identify potential opportunities for regional collaboration and regional projects. This group reviewed the status controlling mercury trade in the region, and described what would be needed to improve trade controls. The breakout group reported a number of findings and discussion outcomes:

- As of 2013 there are several entities in the region who are working on trade of mercury: OEFA from Peru; IBAMA of Brazil; Ministry of Environment in Colombia; Chile and Paraguay; and the South American Environmental Enforcement and Compliance Network.
- Multiple entities could potentially take charge of carrying out mercury trade projects, including Ministries of Commerce, Mines, or Trade. Peru would involve SUNAT as they are currently overseeing the import and export mercury, while Brazil may involve the environmental agency IBAMA, federal policy and tax authorities. To achieve the political support needed to control the trade of mercury, Parties must have a systematic strategy that is complemented by necessary training which might include technical training and educating on higher policy levels. Measures must be designed within existing or planned public policies, to complement activities under the formalization/regulation of ASGM.
- There is a need to train relevant institutions, specifically Customs Services, for example, on how to complete trade forms required by Minamata. The South American Environmental Enforcement Network is an existing activity that countries should reference for resources.

- Financing new mercury trade efforts could be achieved by including issues into a larger GEF regional project or as a stand-alone project supported by a bilateral donor. Budget needs differ among countries depending on the current status of mercury trade regulation. While Peru already has much of the needed infrastructure implemented, other countries may need experts, training, or equipment, all of which require an increase in budget and technical expert assistance. An example of necessary equipment would be scanners for local police to use during initial arrival of goods or along the fiscal routes mentioned earlier. Each country must assess which activities are applicable to their needs, and if other country-specific activities are necessary- such as the need for Brazil to designate ports of entry.

25. After completing the discussion sessions, the breakout group on trade outlined a proposal for a potential regional project on trade, which included the following elements:

- Conduct a baseline study to understand flows of legal and illegal mercury, for example who are the actors, government institutions, what systems of control exist, etc.
- Hold a regional workshop for information exchange specifically targeting mercury, and generate a shared list of contacts regionally and globally.
- Develop platforms/systems for cooperation, eg:
 - a) Evaluate how the experience and mechanisms of drug traffic prevention could be applied to control contraband of mercury;
 - b) Develop transnational cooperation among customs agencies;
 - c) Create efficient cross-check of documentation presented by importers and exporters of mercury to confirm the legal status;
 - d) Develop methods to trace sources;
 - e) Create model or common import/export licensing systems or forms, including common application of GHS codes;
 - f) Create enhanced PIC procedures and data sharing to discourage illegal trade (i.e., exporter registration/licensing).

VIII. Eliminating Worst Practices and Reducing Exposures to Mercury from ASGM, including Financial Models to Sustain Adoption of New Practices.

Presentation: Case Studies: *Discussion Leader, Paul Cordy, ASGM Expert.*

26. Dr. Paul Cordy covered the specific technical requirements of Annex C to reduce and eliminate mercury use in ASGM. Specifically, Annex C requires that the countries undertake

actions to eliminate whole ore amalgamation, open burning of amalgam, burning of amalgam in residential area, as well as the elimination of cyanide use on mercury-contaminated tailings.

Alternative, cleaner methods to eliminate mercury during the production stage include:

- Improved liberation, so that gold can be more easily concentrated by gravity methods and
- Improved concentration methods, which include various gravity methods and flotation.

27. Dr. Cordy emphasized that the successful adoption of these techniques require:

- Skilled local engineering resources
- Miner training
- Equipment supply and support
- Financing
- Better/direct access to markets

28. He then presented a series of case studies from the region to elaborate on how the presence, or absence, of the preceding factors influenced the success of projects. In a first case study, the lack of a sustained intervention led miners at a Bolivian mine to abandon an improved process (using a shaking table) for a mercury-intensive process (using mercury-coated copper plates). However, a new project is re-introducing gravity methods, and more importantly, providing ongoing support in the form of skilled, local engineers and equipment.

29. A second case study took place in Colombia where, with the help of UNIDO and other groups, 35 processing centers made significant changes to reduce mercury use by 40-50 percent at each center. These results were achieved by ensuring that the project included technical improvements at all stages of mining, including the milling and concentration steps, as well as including mercury capture where still applicable. These changes were further supported through extensive training for the miners.

30. A case study from Peru highlighted how the potential to create a certified gold product, and thus a more profitable product, was an incentive for miners to improve their process. Finally, Dr. Cordy showed several cases where even alluvial mining operations were improved with the proper technical advice and the creation of appropriate market incentives. He also described projects that use improved gold yield and access to markets as incentives for self-replication of better technologies.

31. Breakout groups were formed to discuss potential projects to promote the adoption of cleaner technologies, including the creation of financial mechanisms to support these changes.

One breakout group focused on types of activities that could promote adoption of cleaner technologies:

- Better communication strategies, including increased dialogue among government, miners and civil society workers; more explicit discussion of economic benefits; technical information sharing; and health messaging;
- Identification of mechanisms to promote access to technology and financing, for example, national funds, international funds, facilitation of private markets;
- A regional strategy for control of mercury sales (related to the trade project);
- Identification of social, political, and security barriers to successful execution of interventions;
- Development of robust and reliable networks for equipment supply and technical support.

32. The group noted that governments are concerned about controlling mercury as part of the Minamata Convention, but that governments should also recognize the need to promote cleaner and safer technology at the same time in order to gain support for the transition to mercury-free mining. Governments need to create a formalization solution for mining that does not contain elements that may drive miners away from compliance. Simultaneously increasing restrictions on mercury and the price would make it more difficult for miners to continue traditional methods, further incentivizing miners to transition to clean technologies.

33. A second breakout group discussed two potential projects to transition miners away from mercury use in ASGM:

Proposal 1: Create a self-replicating and sustainable transition away from mercury use in ASGM. Activities under this proposal may include:

- Evaluation of best practices relative to type of ore (for example, what are the best types of equipment to use for various kinds of deposits);
- Develop pilot plants, with technical assistance through local universities, and create financing models for these plants;
- Miner—to-miner training based on actual mining conditions and taking place in actual mine sites;
- Monitoring of mercury – eg monitoring levels in the local environment, and/or monitoring of mercury use to evaluate effectiveness of interventions; and
- Possible epidemiological studies of populations at risk.

Proposal 2: Eliminate mercury use in selected alluvial mining sites in the Amazon basin. The objective would be to train 10,000 miners across the Amazon Basin in 4 years, and

train and equip 300 professionals from various Amazon Nations to operate field training and interventions. The project would include quarterly convention of field personnel for evaluation of progress and experience exchange among national expert teams. The activities under this proposal may include:

- Identification of sources of experts and trainers from universities, vocational colleges, mining communities, NGOs;
- Formation of a group of exemplary miners and technical experts (mining engineering students?) that can operate in the field to promote best practices;
- Development of training and trainer training manuals and lesson support materials.

34. A final breakout group session elaborated some details of a project designed to transition towards clean ASGM technologies. The project would include a comprehensive strategy for transferring technology, training miners and promoting access to funding for technological upgrading. The geographic focus might include Ecuador, Colombia, Peru and Brazil.

35. The project would be a GEF funded project with a programmatic approach (as described in the presentation by Anil Sookdeo), where several projects would be undertaken under an umbrella project with a common theme. Financial assistance and co-financing would come from other interested agencies, research institutions (i.e., CONCYTEC- National Council of Science, Technology and Innovative Technology), ministries and the private sector. Because the project would be a large programmatic initiative, under which subprojects would fall, the proposed budget was approximately \$80 million.

36. The entities in charge of the project would be a GEF implementing agency (for example UNDP/UNEP), and other relevant sectors (Ministry of Environment, Energy and Mines) that have a direct interest in the project. Organized miners should be involved in the implementation and management of such project. Political support is an absolute necessity for a successful project, so it is vital to gain the political will of governments to establish regional public policies and create coordination mechanisms between countries. The project would require several types of institutional resources:

- Legal and regulatory support to develop necessary laws, regulations and programs, including consideration of binational cooperation;
- Technical and administrative capacity to carry out regional and national training; and
- Financial support, including potentially national-level financial support mechanisms that would be accessible to miners.

37. The project would require the coordination of all agencies involved (defense, health, environment, mining, labor, supervisory bodies, research institutes, gold buyers) along with support for civil society initiatives in the territory, including academic initiatives. It may also include specific scientific activities such as satellite monitoring of the Amazon Basin. The program may also include creating binational initiatives with Peru-Ecuador / Peru-Bolivia / Peru-Colombia / Peru-Brazil on illegal artisanal mining.

38. To provide a good basis for these activities, the project would begin by mapping the resources in the countries (mining and natural resources in general and land use); conducting a situation assessment at the national and local level; transferring methodologies for mining surveys based on the experience of Colombia and Ecuador; and developing a baseline on existing technology in the region (cost and providers).

IX. Areas for Regional Cooperation: Strengthening Scientific Capabilities and Data Collection for Monitoring

Presentations: Build Scientific Capacity and Data Collection for Monitoring, *Discussion Leader, Luis Fernandez of CAMEP*; Scientific Needs for Health Under the Minamata Convention, *Discussion Leader Dr. Ana Boischio, PAHO*.

39. Dr. Fernandez presented on how research and data collection and reporting can support various aspects of the Convention. In addition to Article 7 and Annex C, which reference ASGM, he also referred to Articles 16, 19 and 22 which refer to the need to support health research; mercury research, development and monitoring; and effectiveness evaluation, respectively.

40. Within each Article, Dr. Fernandez discussed the collection of data and measurements, analytical laboratory capacity, dissemination of data and information, integration of data and information and political decisions, and data quality control. Participants were then asked to think about the following questions in relation to each topic:

- Who might be involved in data collection - the government, private sector, academy and civil society?
- What are the protocols for this activity within the laboratory, government sector or region?
- Are there regional labs where one can gain access to data?
- What kind of data will be produced and for what audience? (Scientific literature, citizen science, etc.)
- How is the data used and how is it shared?

41. For research associated specifically with health, Parties were encouraged to work with trained experts on mercury, study the routes of mercury exposure and its health impacts. Dr. Fernandez emphasized the importance of involving impacted communities to collect personal feedback on mercury exposure and mitigation activities.

42. Dr. Ana Boischio reported that the World Health Organization has developed tools to begin a health study related to mercury and mining. These tools include:

- development guide that discusses the public health strategy;
- health assessment in mining communities; and
- training health professionals in ASGM areas.

Several suggested research activities include studying health impacts of mercury exposure, conducting surveys on morbidity and health services, and assessing the availability of health services in mining communities.

43. This research can take the form of:

- monitoring the presence of mercury and activity in mercury-exposed areas;
- evaluating health effects;
- conducting literature reviews and the study of population; and
- risk mitigation.

Data from these activities can be included in the country's National Action Plan and also assist with political support needed from countries' ministries who are involved with the NAP.

44. Breakout groups were formed and participants asked to choose one of the topics: (1) laboratory capacity and analytics; (2) data collection and monitoring networks; or (3) integration of data and information of political decisions, and to consider the following questions:

- What are the relevant institutions in each sector?
- Are there adequate systems to develop such QA/QC (quality assurance/quality control) systems?
- Are they suitable to cover the sectors involved in this generation of data? and
- Can these QA/QC systems be share between sectors/countries?

45. The breakout groups decided that the following are needed in their countries:

- Mapping of available laboratories and international certification.
- Standardization of methods and platforms.

- Finance needed for:
 - Training and equipment;
 - Specialized labs, centers of excellence; and
 - Monitoring of mercury impact and its health effects
- Public knowledge networks to report data, in order to minimize politicization of the data.
- Communication and collaboration among academies, state officials, NGOs, governments.
- Increase in monitoring frequency.
- Political decisions/strategy regarding how to conduct regulatory monitoring.

46. There were similar concerns that the breakout groups notes, including that:

- Friction between academia and the state is apparent. The state rejects academic data as being unofficial, and will not release data generated by academia.
- Health agencies and related ministries all generate mining-related data, but do not share information with others or make reports publically accessible.
- Other issues noted were the:
 - Role of the press and how the media generates negative image of ASGM;
 - Lack of coordination among ministries; and
 - Role of NGOs on the ground and what they do with their research.

47. A final breakout group session elaborated a potential project to build science capacity. The project objective would be to create a strategy for public health and environmental monitoring in the region. Participants proposed a four year project to reduce the impact of mercury on public health and the environment. This project focuses on the Amazon basin and has a proposed budget of \$10 million with the Amazon Corporate Treaty Organization (ACTO) as a potential coordinating institute.

48. Expected results of such a project may include:

- Development of capacity of institutions accredited for analysis of mercury measurements;
- Develop an information management and sharing platform to process, analyze and share data (regional laboratory) and regionally focused case studies;
- Institutional framework that articulates an agreement for cooperation between regional health and environment ministries;
- Baseline quantification of the impact of mercury on public health and the environment;

- Standardized protocols for data collection and analysis agreed to by the participating institutions; and
- Action plans for continued monitoring and outreach.

49. It was recommended that participating parties should strengthen capacities and consider regional cooperation through activities such as: (1) the formation of scientific platforms; (2) information sharing across communities and neighboring countries; (3) consensual agreement across countries; and (4) leveraging international frameworks to achieve the quality and use of information.

50. The workshop was closed at lunchtime on March 19, and participants filled out evaluation forms for the workshop.

Appendix 1. List of Presentations by Topic

Below is a list of topic areas, noting the presentations made under that topic (the presentation name is the file name appears on the Internet site), the authors/presenters, and dates for these presentations.

Background on ASGM and the Minamata Convention

- UNEP ASGM under the Minamata Convention
 - Jordi Pon, UNEP Regional Office for Latin America and the Caribbean
- March 17Keane NAP guidance development
 - Susan Egan Keane, NRDC
 - March 17
- PAHO Health and Minamata
 - Ana Boischio, Pan American Health Organization
 - March 17

Country presentations about the status of ASGM and National Action Plans

- Colombia Presentación Planes Nacionales
 - Miguel Ángel Alfonso Arias, Coordinador Grupo de Gestión para la Formalización Minera, Dirección De Formalización Minera, Ministerio de Minas y Energía
 - March 17
- Perú Minería Artesanal Taller ASGM Marzo 2015
 - Mariano Castro Sánchez-Moreno, Viceministro de Gestión Ambiental, Ministerio del Ambiente
 - March 17
- Two files: Brazil NAP presentation and Text to Accompany Brazil Presentation
 - Mr. Edson Farias Mello, Geologist, DSc, Director, Ministry of Mines and Energy, Secretariat of Geology, Mining and Mineral Transformation, Dpt. Of Sustainable Development in Mining
 - Dr. Otávio Luiz Gusso Maioli
Technical Expert
Chemical Safety
Department of Environmental Quality
Ministry of Environment
 - March 17
- Ministerio del Ambiente Ecuador DEF

- Edith Barrera, Técnico de la Dirección Nacional de Control Ambiental
- March 17

How to access GEF funding for ASGM

- Overview of GEF Support to the ASGM Sector Under Minamata March 2015 Lima Workshop
 - Evelyn Swain
 - March 17
- Discussion questions on GEF Barriers to implementing mercury phase out in ASGM
 - Anil Sookdeo, GEF
 - March 17
- Summary of discussion on GEF Barriers to implementing mercury phase out in ASGM
 - Anil Sookdeo, GEF
 - March 18
- Detail on GEF Support to the Minamata in the Interim Period Feb 2015 rev 1
 - Anil Sookdeo, GEF
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- UNEP support through the GEF
 - Jordi Pon, UNEP Regional Office for Latin America and the Caribbean
 - March 19

Regional cooperation to support NAP implementation

- Pon, Overview of Regional Cooperation to Support NAP implementation
 - Jordi Pon, UNEP Regional Office for Latin America and the Caribbean
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Areas for regional cooperation part 1: Managing Mercury Trade

- Keane South American ASGM Mercury Trade Management NRDC sek FINAL v2
 - Susan Egan Keane
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- SUNAT Summary of mercury trade in Peru
 - Alan Peñaranda Iglesias, Gizelle Bellido, SUNAT
 - March 18
- ECUADOR additional information including trade remarks
 - Edith Barrera, Técnico de la Dirección Nacional de Control Ambiental
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Areas for regional cooperation part 2: Eliminating worst practices and reducing exposures to mercury from ASGM, including financial models to sustain adoption of new practices.

- Cordy, Technical Solutions for Mercury Reduction
 - Paul Cordy
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Areas for regional cooperation part 3: Strengthening scientific capabilities and data collection for monitoring

- Fernandez, Build Scientific Capacity and Data Collection for Monitoring
 - Luis E. Fernandez, Stanford University/CAMEP
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- PAHO, Scientific Needs for Health under Minamata
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Project ideas

- Project idea summary from breakouts
 - Susan Keane, NRDC
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ACRONYM LIST

ASGM	Artisanal small-scale gold mining
CAMEP	Carnegie Amazon Mercury Ecosystem Project
GEF	Global Environment Facility
IBAMA	Instituto Brasileiro de Meio Ambiente (Brazil)
ILO	International Labor Organization
IQBF	Insumos Químicos y Bienes Fiscalizados
LSM	Large scale-mining
MIA	Mercury Initial Assessment
NAP	National Action Plan
NGO	Non-government Organization
NRDC	Natural Resources Defense Council
OEFA	Organismo de Evaluación y Fiscalización Ambiental
PAHO	Pan American Health Organization
SUNAT	Superintendencia Nacional de Administracion Tributaria (Peru)
UNEP	United Nations Environment Programme
WHO	World Health Organization