



• PHOTO: GEF •

## GOLDEN OPPORTUNITY: THE GEF AND ARTISANAL AND SMALL-SCALE GOLD MINING

GEF projects and programs in the ASGM sector have adapted over time, learning lessons from past initiatives while constituting one of the most prominent global efforts to reduce mercury in the sector.

### Key findings of evaluation

- Global Environment Facility (GEF) artisanal and small-scale gold mining (ASGM) interventions are highly relevant to the Minamata Convention on Mercury, with many enabling activities helping countries meet convention obligations and larger projects focused on countries that are highly engaged in the convention.
- Postcompletion evaluation of GEF ASGM projects showed mercury reductions were mostly sustained to the present, although the most common replacement for mercury use was cyanidation, which was not a method encouraged by the projects. Miner formalization increased postcompletion showing delayed catalytic impact.
- When miners cannot access financing, they cannot invest in new, nonmercury-based technologies. GOLD, the GEF's ASGM flagship program, seeks to address this by putting financing front and center.
- The GOLD program's global "hub" project is successful in promoting learning and enhancing communication among the program's child projects and creating an online repository of ASGM information.
- Only a third of the GOLD program's targeted mercury reductions are set to come from project activities; the rest should result from dissemination of best practices. It is not clear how the program will monitor and attribute such reductions.
- More recent GEF ASGM interventions do not significantly address environmental issues in ASGM such as deforestation, land degradation, and biodiversity loss or include links with health workers or mercury monitoring programs.



• CHEMICALS AND WASTE •



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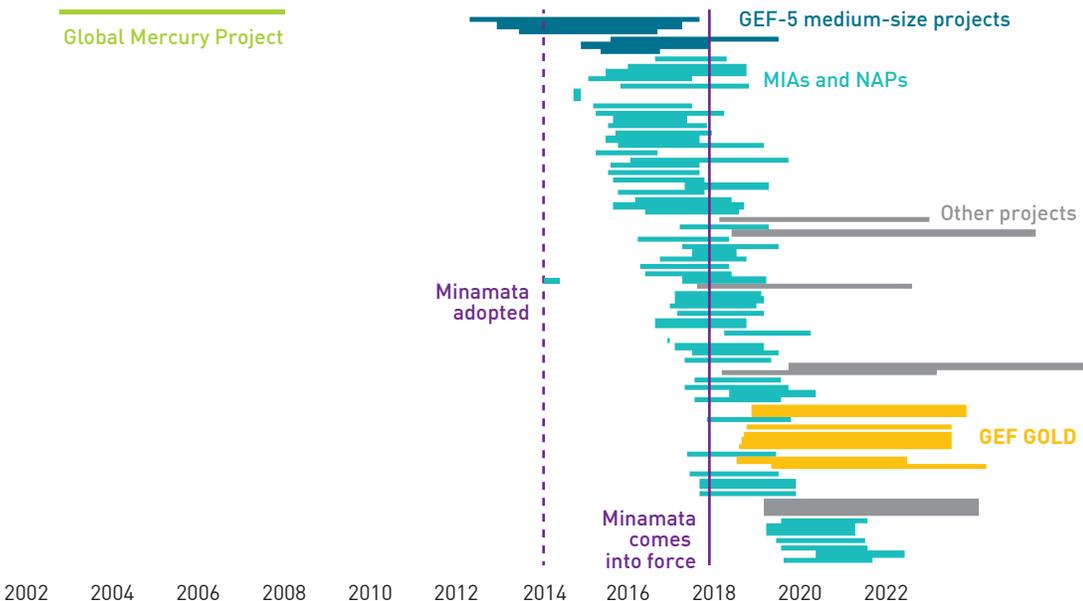
## Not just a gold rush: the diverse ASGM sector

The ASGM sector often conjures up images of a gold rush—a mad dash to achieve riches and great wealth. The reality is much more complex. The 10–15 million ASGM miners across 70 countries often live in poverty and see mining as their livelihood in rural areas where few other economic activities exist. However, along with providing economic opportunity, ASGM is associated with many environmental and social ills. Miners use mercury—a toxic substance that damages the central nervous system, among other ailments—to separate gold from the surrounding ore, much of which is emitted through burning or released into water sources. Natural landscapes such as tropical forests are cleared for mining in some areas, leading to biodiversity loss, increased sedimentation of waterbodies, and greenhouse gas emissions. Additionally, the rural nature of ASGM makes it difficult for governments to monitor, meaning it often occurs illegally and entails social issues such as child labor.

## The GEF in ASGM

The GEF began to implement projects to combat ASGM environmental issues as early as GEF-2 in 2002 with the Global Mercury Project, greatly increasing awareness of growing mercury use in the sector (figure 1). In GEF-5, the GEF began funding the sector in earnest, with a series of projects implemented by the United Nations Industrial Development Organization that piloted nonmercury technologies for gold extraction. With the formulation of the Minamata Convention on Mercury in 2013, the GEF was included in the official financial mechanism for the convention, leading it to significantly ramp up ASGM funding. The GEF

FIGURE 1 Timeline of GEF ASGM interventions



SOURCE: GEF Portal.

NOTE: MIA = Minamata Initial Assessment, NAP = ASGM National Action Plan.

designed the GOLD program in GEF-6, an eight-country program with a global “hub” project to provide coordination, outreach, and knowledge management. Additionally, many enabling activities fund Minamata initial assessments and ASGM national action plans, helping countries meet their convention requirements. A follow-on GOLD+ program is being designed to include another eight countries.

## Performing the evaluation

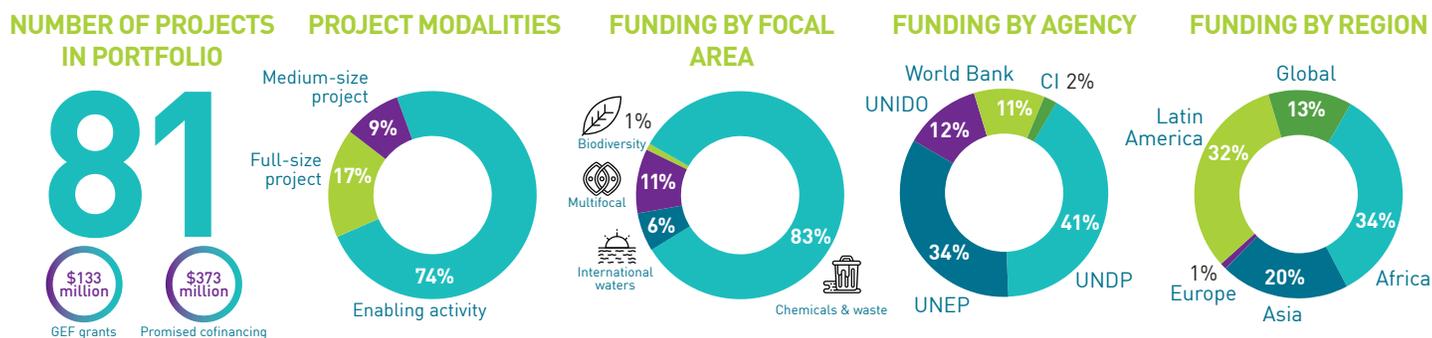
To better understand the sustainability and lessons learned of completed ASGM projects and the design of the GOLD program, three case study geographies were chosen that had completed GEF-5 and GOLD projects: Burkina Faso–Senegal, Ecuador–Peru, and the Philippines. Documents from projects in these countries were reviewed in detail, and extensive interviews were carried out with project stakeholders. Limited field visits were conducted when possible given travel restrictions imposed by the COVID-19 pandemic. Global stakeholders linked to the GOLD hub project along with ASGM sector experts were also interviewed. A quantitative geospatial analysis was performed with mercury use and forest loss data.

## Sustaining success: postcompletion evaluation

Three GEF-5 projects in the case study countries, completed in 2016–17, were evaluated at postcompletion. During implementation, all three had some success in reducing mercury use in their project areas. The projects in Peru and the Philippines also saw some success in creating the groundwork for miner formalization by creating and supporting miners’ associations. In

all countries, GEF projects achieved success in encouraging governments to prioritize mercury use reductions in ASGM.

Viewing these outcomes today shows some encouraging signs of sustainability. Mercury use reductions were mostly sustained or continued to drop since project completion. In Ecuador, mercury use continues on a downward trend, although the replacement technology, cyanidation, is also a contaminant if not properly disposed of. Cyanide is also popular in the Philippines, where mercury use reductions were more sustainable in areas with more notable government presence



SOURCE: GEF Portal. CI = Conservation International; UNDP = United Nations Development Programme; UNEP = United Nations Environment Programme.

and stricter enforcement of mercury use. In West Africa, the installed processing plants were still in partial use, although miners had returned to using mercury for some processes when they lacked replacement supplies or maintenance expertise for project-supported machinery. Formalization had increased substantially in the Philippines and Peru since project completion, where it seems the projects—although not achieving miner formalization during implementation—served as catalysts for future success. Additionally, all the case study countries have ratified the Minamata Convention, showing their commitment to mercury reduction.

### Learning from the past: GOLD program design

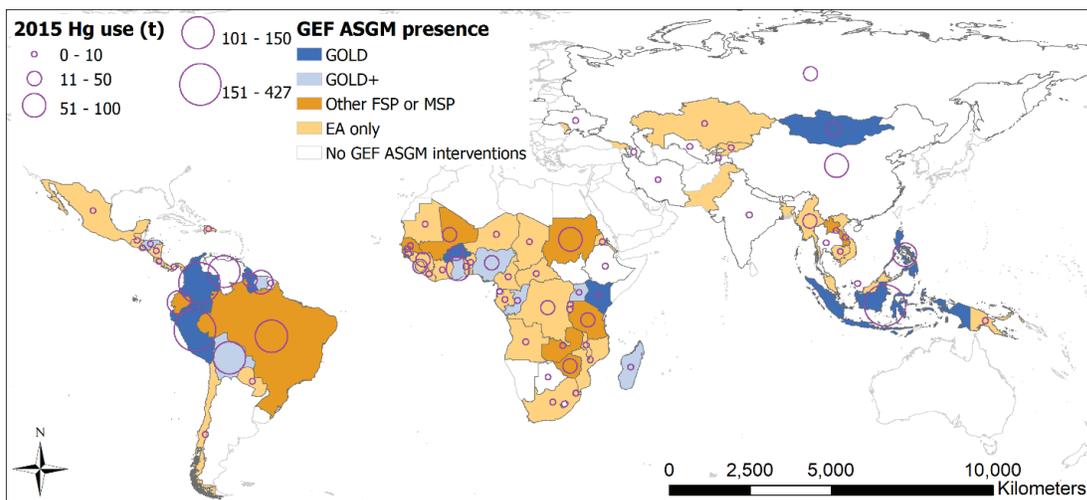
The GOLD program represented a significant scaling-up of GEF investment in ASGM, with over \$50 million in GEF Trust Fund funding and over \$180 million in cofinancing; in comparison, the average GEF-5 project accounted for only about \$1 million in GEF Trust Fund funding and \$2–3 million in cofinancing. The program also signified a shift in strategy within the GEF. Early projects found a major issue in introducing nonmercury technology to miners—since they were mostly operating informally, they had little access to formal markets. This extended to financing. Banks and other formal lenders shied away from working with miners who often had no land tenure or in some cases formal permission to mine. Without financing, miners could not afford new, cleaner technologies that required upfront investment. GOLD responded by investing heavily in access to financing and markets, which makes

up the largest component of the program. At the country level, projects are training lenders to work with miners and designing sector-specific financial mechanisms. The hub project is building bridges with downstream actors in the supply chain, including private refiners, to purchase responsibly produced gold from project sites.

### A strong focus on mercury

The GOLD program’s components were widely seen as relevant and covering the most important areas requiring attention in the sector. Beyond financing, the program addresses formalization, introduction of nonmercury technology, and knowledge management and outreach. Through GOLD and GOLD+, the GEF covers the top four ASGM mercury-use countries and 11 of the top 20 (figure 2). Most of the remaining countries are not eligible for GEF financing because they are not sufficiently involved in the convention. The program aims to reduce over 350 tons of mercury, although only one-third of reductions will come directly

FIGURE 2 ASGM mercury use in 2015 and GEF ASGM intervention presence



SOURCE: Arctic Monitoring and Assessment Programme/United Nations Environment Programme (AMAP/UNEP), “Technical Background Report for the Global Mercury Assessment 2018,” AMAP/UNEP, Geneva, 2019.

NOTE: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the GEF or its partners.

from project implementation; the rest is intended to result from spreading knowledge to nonproject sites in GOLD countries and non-GOLD countries after project completion. It is unclear how the GEF would monitor or attribute such reductions.

The focus on mercury reduction has led the program to be highly relevant to the Minamata Convention. However, it also means GEF ASGM projects do not have a significant focus on other environmental issues related to ASGM. Only the Guyana child project

addresses ASGM-related deforestation by encouraging landscape management plans. None of the projects assist with long-term sediment monitoring or working with ASGM-related fishery or watershed management issues directly. The program developed the planetGOLD criteria, which address environmental and social safeguards, but issues such as child labor and conflicts between ASG miners and indigenous peoples are not focuses of the projects.

## Conclusions

**1** GEF ASGM interventions are highly relevant to the Minamata Convention and national government priorities related to mercury reductions.

**2** Postcompletion evaluation showed that completed project outcomes were sustained with declining mercury use in some areas, and formalization continued to build momentum after project completion.

**3** The GOLD program's design incorporates the lessons learned from past GEF and non-GEF ASGM interventions; its proposed activities align with good practices in the sector.

**4** The GOLD program's global hub child project is successful at promoting collaboration and learning between child projects.

**5** Most mercury reduction targets for the GOLD program are expected to be realized through knowledge dissemination and broader adoption, where monitoring and attribution will be difficult.

**6** GEF ASGM interventions, including the GOLD program, are primarily focused on mercury reductions; few projects include interventions to address other environmental issues associated with ASGM.

**7** With the GOLD program, GEF ASGM initiatives are increasingly adding partnerships and links with downstream stakeholders in the gold supply chain.

**8** The GOLD program addresses policies and safeguards through the planetGOLD criteria and gender through project-level gender analyses.

## Recommendations

**1** The GEF and the Minamata Convention should continue to encourage high mercury use—countries to become more involved in the convention. As countries with ASGM ratify the convention, this will unlock GEF ASGM financing, increasing the global impact of the GEF and the convention.

**2** The GEF should increase project focus on policy interventions that help governments put in place the necessary framework to formalize ASG miners and monitor the sector. Formalization policy interventions will have to assist governments to develop frameworks that create cost-effective monitoring and institutional and engagement structures to apply the policy throughout dispersed ASGM areas.

**3** The GEF should seek opportunities for multifocal area ASGM interventions and measure co-benefits beyond the chemicals and waste focal area. Additionally, as environmental health takes on a higher priority in reflection of the COVID-19 pandemic, ASGM interventions should consider stronger links with government health agencies to build improved environmental health monitoring and education.

**4** The planetGOLD global platform should make results and lessons learned from completed ASGM projects available and provide more detailed information on national action plan and GOLD child projects. The valuable global knowledge management done by the hub project could be enhanced with information and lessons learned on completed GEF (and non-GEF) ASGM projects.



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