

BIODIVERSITY AND ARTISANAL AND SMALL SCALE GOLD MINING FIGURES AND FACTS

Understanding linkages between ASGM and biodiversity is key for sound implementation of relevant Multilateral Environment Agreements (MEAs) and the Kunming-Montreal Global Biodiversity Framework

The Global Literature Review of nearly 120 resources and 27 National Action Plans (NAPs) highlighted the following challenges:

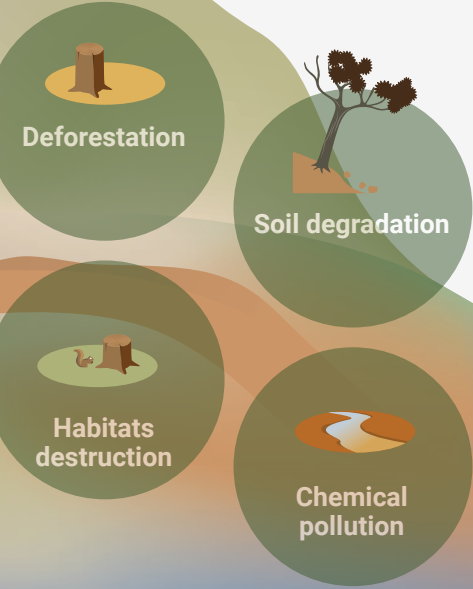
A third of the 27 NAPs and more than 20% of reviewed documents report ASGM activities happening inside or close to protected areas, leading to habitat and wildlife disappearance.

70% of NAPs and 50% of documents reviewed mention the contamination of terrestrial and aquatic ecosystems by chemicals as one of the main consequences of ASGM activities.

The increase of the ASGM sector in recent decades has been identified as a main driver of the reduction of ecosystem services in mining areas.

Inadequacy, insufficiency, or outright absence of legal, institutional, and regulatory frameworks to manage the mining sector and protect the environment and wildlife.

Key observed impacts of informal and poorly regulated ASGM:



ASGM is practiced in more than 80 countries all over the world, mainly in rural areas and is a source of income for over 100 million people.

If managed in a more responsible way, it has the potential to contribute to the development of local communities.

BIODIVERSITY IMPACTS ALONG ASGM STAGES

Pre-mining

Deforestation, soil degradation, leading to direct loss of habitat, biodiversity and forcing species migration.

Mining and processing

Siltation, causing the reduction of light penetration into the water.

Chemicals (mercury, cyanide, other chemicals) pollution of aquatic systems, including drinking water.

Landslides, sedimentation, riverbanks and riverbeds alteration.

Post-mining

Bioaccumulation and biomagnification of Hg in the food web, high trophic level fish consumed by mining communities being the most affected.

Landscape restoration and remediation of contaminated sediments are practically non-existent.

Additional activities



Hunting of wildlife for trade and consumption



Deforestation linked to proliferation of wood fires, and use of the forest species for construction of shelters, roads, camps and mining infrastructure

The interrelationship between ASGM and biodiversity is pervasive at every stage of ASGM operations and generates significant impacts on the surrounding ecosystems, potentially becoming key drivers of biodiversity loss.

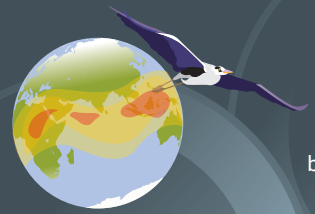
THE WAY FORWARD

OPTIONS FOR REDUCING ASGM IMPACTS AND ENSURING THE PRESERVATION OF BIODIVERSITY

Conclusions



Biodiversity hotspots
ASGM is taking place in key biodiversity areas and protected areas worldwide.



Tropical regions
Threats to wildlife in the tropical zone are often of greatest concern.



Key species affected
include amphibians, freshwater fish, birds, and bats, particularly sensitive to water contamination from mining waste.



Insufficiency and/or lack of adequate policy frameworks
Shortcomings in the legal, institutional, and regulatory frameworks to manage the ASGM sector.



Mapping ASGM impacts on the environment
Remote sensing is a promising tool to map and monitor the extent of ASGM operations and its overlap with biodiversity hotspots.



Limited initiatives for mine closure
including strategies for the sustainable and environmentally friendly closure and restoration/ remediation of abandoned ASGM sites.

Recommendations

Linkages with the implementation of the Convention on Biological Diversity and the new 2030 targets of the Kunming-Montreal Global Biodiversity Framework, with a focus on target 7 on pollution, should be explored.

A better understanding of mercury biogeochemical cycle in tropical ecosystems is fundamental to better understand the transport and fate of mercury emissions from ASGM.

More in-depth knowledge of sensitivity, risk, and threats of contamination to aquatic and terrestrial species by mercury from gold mining is essential.

Identification of key biotic indicators by biome and geographic area of interest will improve assessment and monitoring cost efficiencies.

In-depth assessment and update of policy frameworks, taking into consideration regulations and national strategies on biodiversity and related matters (e.g. through National Biodiversity Strategies and Action Plans under the Convention of Biological Diversity).

Further use of mapping tools to visualize interactions between ASGM, biodiversity and ecosystem services.

Improved research, dissemination, and large-scale implementation of economically viable and sustainable best practices and concepts for decontamination, reclamation, rehabilitation, and restoration of abandoned sites.