

Panelist Abstract

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Name of Session: Session VI: GEF Related Activities in International Waters: Thematic Session

Presentation Title: Mercury/Artisanal Gold Mining

Summary of Key Issues and Best Practices/Lessons Learned

- Mercury is one of the most toxic substances in the world causing significant damage to the environment and those handling it.
- Mercury is used to recover gold by most artisanal miners in Africa, Asia and Latin America in the ratios of 2 to 5 tons of mercury per ton of gold recovered.
- During PDF-B phase of this project, it was revealed that mercury is directly released into rivers and lakes through adding mercury during panning of the alluvial ore or transporting and washing of the hard rock-based ore within the waterbodies.
- The long-term objective of this project is to assist a pilot suite of developing countries located in several key transboundary river/lake basins in assessing the extent of pollution from current activities, introduce cleaner gold mining and extraction technologies which minimize or eliminate mercury releases and develop capacity and regulatory mechanisms that will enable the sector to minimize negative environmental impacts.
- The following transboundary river/lake basins with active artisanal gold mining and processing activities are being target by this project:
 - Gold mining areas in Brazil in the **Amazon Basin**;
 - **Lake Victoria** and adjacent artisanal gold mining areas in Tanzania;
 - Artisanal mining sites along the **River Nile** in Sudan;
 - Small-scale gold mining along the **Zambezi River** and its tributaries in Zimbabwe;
 - River bed gold mining activities along the **Mekong River** in Lao PDR;
 - River bed gold mining activities along rivers in **Kalimantan**, Indonesia draining into the Java Sea.
 - From the available data and that collected during the PDF-B phase preliminary investigations, it is clear that the amount of mercury released to the environment in the above areas are quite substantial and hence require immediate intervention measures;
 - Work done during PDF-B phase of the project identified the following as being barriers to the introduction of cleaner technology:
 - Weaknesses in institutional set-ups;
 - Lack of resources to institute adequate legal and regulatory mechanisms;
 - Lack of technical know-how amongst miners;
 - Poor access to appropriate technology;
 - Limited access to finance;
 - Lack of information and support services;
 - Restrictive marketing systems;
 - Inefficient miners' organization set-ups.
- The work done during the PDF-B phase also enabled the identification of "hot spots" areas which will be used as project demonstration sites in each of the participating countries in order to ensure effectiveness of the envisaged strategies;
- In order to assist the relevant Governments to remove these barriers and hence introduce cleaner artisanal gold mining and processing activities, the project aims to:
 - Train and raise awareness through on-the-job training, awareness campaigns and organizing local and regional workshops;
 - Assess the extent of mercury pollution through geo-chemical sampling, analysis of human and other biological samples and study of mercury migratory patterns;
 - Establish continuous monitoring programmes for surrounding waterbodies and enhance the capacity of local laboratories to conduct the monitoring;

- Demonstrate cleaner technology, its cost effectiveness and build capacity of the local manufacturers for producing such technology;
- Develop and test micro-financing programmes that will enable artisanal miners have easy access to financing and thus enhance their ability to invest in cleaner technology;
- Assist Governments to develop country specific policies and legislation that will lead to implementable standards on the application of mercury and development of enforcement programmes;
- Promote dissemination of project results through local and regional workshops;
- Review opportunities for self-financing of project components and organize a donors' conference.
- The project will be carried out with the participation of different stakeholders including the Government, miners and their associations, relevant NGOs and institutions.
- Execution of the project activities will be enhanced by the task forces that will be formed to carry out regular reviews and give advice on different implementation issues. The task forces include; Global Project Task Force, Basin Project Task Force and the Country Project Task Force.
- The Basin Project Task Force will bring together representatives from member countries of the targeted basin so as to assist in developing strategies for addressing transboundary issues.
- The global coordination of the project implementation will be carried out by a Project Coordination Unit (PCU) which will be located at the UNIDO headquarters in Vienna.
- At the country level, the project will be under the leadership of a senior Government official within the institutions responsible for mining affairs and he will be assisted by an assistant who will be responsible for the day-to-day management of the project activities.
- During the project implementation, a Website will be set-up at UNIDO Headquarters in Vienna, Austria in order to enable easy exchange of information between the participating countries and other interested parties.

Key References

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2. Ikingura, J.R. and H. Akagi, 1996. *Monitoring of fish and human exposure to mercury due to gold mining in the Lake Victoria goldfields, Tanzania*. *The Science of the Total Environment* 191 (1996) 59-68.
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