

CIDA GUYANA ENVIRONMENTAL CAPACITY DEVELOPMENT (MINING) PROJECT GENCAPD

AN APPROACH FOR THE DEVELOPMENT OF REGULATIONS FOR THE PLACER MINING INDUSTRY IN GUYANA

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July 23, 2001

GENCAPD Mining Project

Objectives

GENCAPD was initiated on October 1, 1998, with the signing of a MOU between the governments of Guyana and Canada. Its principal objective is to strengthen environmental management capacities in the GGMC, EPA and GGDMA, with the main emphasis being placed on GGMC.

Project activities are focused on systems and human resources development.

Training and Exposure are the main vehicles for developing human capacity. Training is extended to technical staff from Environmental, Mines and Geological Services Divisions of the GGMC, as well as senior management, and officials/representatives of GGDMA, EPA, UG, IAST, Amerindian Associations

GENCAPD Mining Project

Project Administration and Implementation

The project is administered by CIDA and implemented by Canada Centre for Metals and Energy Technology, CANMET, a Canadian government agency.

CANMET appointed a Field Manager CANMET to coordinate, organize and administer the activities of GENCAPD, and to provide training and technical support to Stakeholders.

Projects and Activities

After consultations and discussions with the principal project beneficiaries, the main projects were defined, viz: *Policy and Regulation, Monitoring and Inspection and Industry Practices.*

The *Policy and Regulation Project* employs field surveys and complementary literature research to provide data and information to inform Mining Environmental Policy and Regulations.

Projects and Activities

The Monitoring and Inspection Project aims at the development of Handbooks, Checklists, Guidelines and Codes of Best Practices for use by Regulators and Miners. It is expected that these will distinguish the different levels of environmental management and monitoring skills required by Miners and Regulators.

Projects and Activities

Industry Practices employs 'hands on' methods to demonstrate environmentally friendly mining methods for Small and Medium gold and diamond mining operations.

An important aspect is the demonstration of techniques for improved recoveries, which should facilitate the application of better environmental practices.

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MULTI-STAKEHOLDER APPROACH

- THE FIRST STEP IN THE DEVELOPMENT OF REGULATIONS WAS THE HOLDING OF A FACILITATED, MULTI-STAKEHOLDER WORKSHOP ON REGULATORY DEVELOPMENT FOR SMALL AND MEDIUM SCALE ALLUVIAL MINES IN GUYANA, IN APRIL 2000.
- SMALL AND MEDIUM SCALE GOLD MINING IN GUYANA IS CHARACTERISED BY MANY 'ITINERANT' OPERATIONS THAT EMPLOY SIMULTANEOUS PROSPECTING AND MINING.
- PRESENT WERE REPRESENTATIVES OF GGMC, GGDMA, EPA, UNIVERSITY OF GUYANA, IWOKRAMA CENTRE AND CANMET.

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MULTI-STAKEHOLDER APPROACH

- A MAJOR PURPOSE OF THE WORKSHOP WAS TO ACHIEVE CONSENSUS ON THE DEVELOPMENT OF A REGULATORY FRAMEWORK FOR PLACER MINING, AND
- THE OBJECTIVES WERE TO IDENTIFY TARGET LIMITS FOR DISCHARGES, DEVELOPMENT OF AN ACTION PLAN TO OBTAIN THE NECESSARY INFORMATION/DATA TO SUPPORT THE DEVELOPMENT OF FINAL REGULATORY STANDARDS AND OUTLINING AN ACTION PLAN TO DEVELOP EIA PROCEDURES FOR PLACER MINES

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MULTI-STAKEHOLDER APPROACH

- THE ACTION PLAN WAS COMPRISED OF (i) COLLECTION OF DATA DESCRIBING MINING OPERATIONS AND THEIR ENVIRONMENT, (ii) EVALUATION OF THE DATA TO ASSESS THE MAGNITUDE AND EXTENT OF ENVIRONMENTAL EFFECTS AND (iii) DEVELOPMENT OF SOLUTIONS TO IMPROVE ENVIRONMENTAL PERFORMANCE OF PLACER MINING IN AN ECONOMICALLY ACHIEVABLE MANNER.
- SOLUTIONS MAY INCLUDE (i) ENFORCEMENT OF EXISTING REGULATIONS, (ii) APPLICATION OF BEST AVAILABLE TECHNOLOGY ECONOMICALLY AVAILABLE, (iii) POLICY DEVELOPMENT OR (iv) REGULATIONS

ENVIRONMENTAL SURVEYS

- STEMMING FROM THE RECOMMENDATIONS OF THE WORKSHOP, ENVIRONMENTAL SURVEYS WERE EXECUTED AT MAHDIA IN OCTOBER 1999, AT ARAKAKA IN APRIL 2000, AND AN ORIENTATION SURVEY WAS DONE IN THE POTARO IN FEBRUARY 2001. THESE SURVEYS WERE CARRIED OUT BY GGMC, EPA AND UG, SSUPERVISED BY CANMET.
- INFORMATION WAS COLLECTED ON STREAM CHARACTERISTICS, SEDIMENT LOAD (SUSPENDED SOLIDS), FISH INVENTORY, AND MERCURY CONTENT OF WATER, SUSPENDED SEDIMENT AND FISH

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CODES OF BEST PRACTICE

- IN OCTOBER 2000, THE PRIME MINISTER APPOINTED A COMMITTEE TO DRAFT MINING ENVIRONMENTAL REGULATIONS, WITH THE INITIAL FOCUS ON MERCURY AND TURBIDITY
- THE DRAFT REGULATIONS MAKE REFERENCE TO CODES OF BEST PRACTICES FOR MERCURY USE; TAILINGS DAMS AND ENVIRONMENTAL MANAGEMENT. THE LATTER INCLUDES WASTE MANAGEMENT; MANAGEMENT OF SEDIMENT LOSSES, EFFLUENT AND CONTAMINATED DRAINAGE; CONTINGENCY AND EMERGENCY RESPONSE PLANS, MINE RECLAMATION AND CLOSURE AND ENVIRONMENTAL MONITORING

GENCAPD Mining Project

CODES OF BEST PRACTICE

- THE ENVIRONMENTAL CODE OF PRACTICE WILL ALSO INCLUDE PROVISIONS OR GUIDELINES FOR SAND AND LOAM MINING AND QUARRYING.
- GGMC IS TO PRODUCE THESE CODES OF PRACTICE THROUGH GENCAPD
- A DRAFT CODE OF PRACTICE FOR MERCURY WAS PRODUCED AS THE PRODUCT OF THE GENCAPD MULTI-STAKEHOLDER WORKSHOP ON MERCURY USE IN MINING IN GUYANA HELD IN MAY 1999
- SAND AND LOAM MINING GUIDELINES HAVE BEEN JOINTLY PRODUCED BY GGMC AND EPA

CODES OF BEST PRACTICE

- UNDER THE PROVISIONS FOR POLLUTION CONTROL, DRAFT MINING ENVIRONMENTAL REGULATIONS REQUIRE LIMITS FOR MINING EFFLUENTS, AS WELL AS MONITORING OF DISCHARGE OF EFFLUENTS AND RECEIVING WATERS
- GENCAPD IS ASSISTING IN THESE ASPECTS, THROUGH LITERATURE SURVEYS AND AND THE APPLICATION OF THE ANALYSIS OF DATA AND INFORMATION GAINED THROUGH ENVIRONMENTAL SURVEYS
- ENVIRONMENTAL AND MINES DIVISIONS OF GGMC ARE WORKING TO FORMULATE STRATEGIES, FORMULAE AND PRACTICAL, AFFORDABLE SOLUTIONS FOR IMPROVED ENVIRONMENTAL MANAGEMENT PRACTICES

GENCAPD Mining Project

CODES OF BEST PRACTICE

- TURBIDITY MEASUREMENTS FROM ENVIRONMENTAL SURVEYS WERE USED TO ESTABLISH INTERIM LIMITS FOR TURBIDITY, AS FOLLOWS:

<u>Base level NTU's</u>	<u>Warning/Alarm</u>	<u>Closure</u>
10-20	40	70
<10	25-30	50-60

GGMC MINES

GENCAPD Mining Project: Achievements and lessons learnt

Highlights of 2001-2 Work Plan

- Support to University of Guyana in Environmental Education and Training
- Training in the practical use of GPS for producing digital maps
- Communications and Awareness Strategy for Environmentally Sound Mining - for miners; to be taught at primary, secondary and tertiary education levels; for hinterland communities and the wider public; at the national policy making/coordination level (NREEAC); at the stakeholder level. Collaboration is proposed with other groups/projects such as Iwokrama Rainforest Project, WWF, CI and hinterland communities.
- Regional Workshop on Environmental Management of Mines

Lessons Learnt

- Awareness and Skills Development, learning to work together
- The importance of consultation - of *listening* to all stakeholders
- The importance of sincerity, and taking into consideration the views and concerns of all stakeholders in decision making
- Solutions have to be homegrown - they must be tailored to suit local situations, and be based on sound scientific principles
- Regulations have to be practicable and enforceable
- The importance of *sustainable outcomes and practical solutions*

Challenges Ahead...

- Development of Codes of Best Practices, Operational Guidelines and Inspectors' Handbooks
- Collection, analysis and interpretation of data and information and the finalization and implementation of monitoring programmes with roles for the miners, regulators and trained hinterland residents
- To move from improved mineral recovery to improved environmental management practices.
- To initiate partnerships with local community representatives

Challenges ahead...preserving our gains

- To foster sustainability in environmental capacity developed
- To promote a culture of compliance and self monitoring on the part of Miners.
- *Undoubtedly, the biggest challenge we face is the adoption and widespread implementation of the new techniques in environmental management, and the effective evaluation, monitoring and enforcement of same.*

GENCAPD Mining Project: Achievements and Lessons learnt

Highlights of 2001-2 Work Plan

- Preparation of Trainers Handbook (Environmental Monitoring)
- Developing partnership with the Ministry of Health to treat with health issues related to mining that may include initially, issues of mercury use and mercury testing in people, water quality and water pollution issues, water borne diseases (malaria etc) resulting from stagnant ponds left by hydraulic mining.
- Initiation of a Medium Scale demonstration of an environmentally sound mining operation
- Provision of a Technical Officer for GGDMA
- Training in database management