**PanAfGeo**

**WP3**

**Workshop on ASM in Ghana and the role of GGSA**

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| **Workshop name** | **FROM STEPPING ON A STONE TO OPENING A MINE** |
| **Approach and Training methods** | The workshop will present and describe in details the methods, tools, procedures and requirements for ASM operation in Ghana.  Further the workshop will discuss the future role of the Ghana Geological Survey Authority (GGSA) in the ASM sector |
| **Timing, duration and number of participants** | The Workshop will be at **City Escape Hotel. Accra**  Date of workshop: **18 to 21 September 2017**  The number of participants will be 40-45 from Ghana selected in corporation with national OAGS representative.  The workshop is aimed at staff from Ghana Geological Survey Authority, Minerals Commission, environmental authorities as well as civil society and universities.  The workshop will have 12-15 representatives from National Geological Surveys in Nigeria, Gambia, Sierra Leone and Liberia who will provide a regional input to the training. |
| **Workshop objective** | The overall objective of the workshop is:   * To train the participants to be trainers for ASM operators in Ghana and in the West Africa sub region * Provide an opportunity for the regulatory agencies and universities involved in the ASM sector to discuss ways forward for managing and assisting the ASM operators * Discuss the role of a national geological survey in the ASM sector * Provide some regional perspectives of the challenges in the ASM sector   The performance target of the workshop is:  **A: After completing the workshop the participants will be able to:**   1. Apply the key terms of mineral exploration 2. Recognize key legislation and issues 3. Describe the socio economics of ASM in the country 4. Recognize key occupational health safety issues related to ASM 5. Weigh~~t~~ different mining options for how best to develop a mineral deposit 6. Identify and apply the different types of methods involved in mineral processing 7. Identify and describe the obligation of the national geological survey and the national ministry of mines 8. Assess the issues related to business planning for ASM 9. Apply the training material   **B: After completing the workshop, the participants have developed a road map for the future involvement of GGSA in the ASM sector in Ghana** |
| **Workshop content**  **Workshop content**  **Workshop content** | **Day one**  **Registration**  **Module 1**: Official opening and welcome:  H.E. John-Peter Amewu Minister of Mines, Lands and Natural Resources  H.E. Zoltan Agai EU-delegation to Ghana  Group photo  Coffee break  **Module 2**: Introduction to the workshop and presentation of participants by *John Tychsen. GEUS – 15 min*  **Module 3**: Obligations of Ghana Geological Survey Authority in ASM sector in Ghana by the D*irector Daniel Boamah. Ghana Geological Survey Authority* – 15 min  **Module 4**: Basic geology as guide on how to discover mineral deposits by *Senior Geologist Seidu Alidu. Ghana Geological Survey Authority* – 45 min  This module will present guidelines on how to identify promising minerals and rock types. This involves description of most common geological environment; geometry of the most frequently mined commodities and the appropriate exploration methods for a follow-up on the deposit type  Lunch Break  **Module 5**: How to organise and develop an ASM mining site by Associate Professor Ishmail Quaicoe. University of Mines and Technology – 45 min  If the discovered commodities indicate that exploitation is viable then next step is planning of the mine site. Planning of a mine site depends on the geometry of the ore deposit as well as the amount of overburden. In near surface deposits it may be worthwhile to rent a bulldozer to scrape off the overburden thus giving immediate access to the ore body. If the ore body is deeper down, the shafts must be sunk and tunnels made to extract the ore. This requires many safety measures including ventilation of the tunnels.  Group work  Introduction to group work by *John Tychsen*  The group work on day 1, 2, and 3 will be a continuous case study, which will be expanded day by day when the participants receive additional information and knowledge.  The results of the group work will be presented and discussed at plenum in the afternoon of day four  **Day two**  **Registration**  **Module 6**: Challenges for ASM sector in Sierra Leone and the role of The Geological Survey and Mines Division by Regional Geologist *Mr. Alhaji Turay* – 30 min  **Module 7**: Mineral processing techniques in ASM by professor Richard Amankwah. University of Mines and Technology. Ghana – 45 min  Some of the techniques used by the ASM can be considerably improved. A detailed description on how to improve the beneficiation in order to increase recovery especially in metallic ASM e.g. gold  Coffee Break  **Module 8**: How can the Environmental Protection Agency support the ASM Sector in Ghana by *CPO Head of Mining Michael Sandow Ali. Environmental Protection Agency. Ghana – 30 min*  **Module 9**: Environmental issues related to ASM in Ghana by *Professor Frank Nyamé. University of Ghana – 45 min*  The first part of the module provides an overview of the ASM relevant parts of the current or existing legislation while the second part focuses on aspects of the main environmental management issues in ASM, the benefits of good environmental management and how best to promote sound and sustainable environmental management practices at ASM sites and/or within the ASM sector. The module, in particular, describes selected key environmental management tools (e.g. EIA, audit, inspection and compliance) that are commonly used in the mining industry and also provides brief but relevant information on mine waste and water management (e.g. waste rock, tailings, spent or waste water), mine closure and environmental remediation including reclamation of mined sites.  Lunch Break  **Module 10**: Health and safety issues related to ASM in Ghana *by Professor Julius Fobil. University of Ghana – 45 min*  This module provides an overview of health safety concerns associated with artisanal gold-mining (ASM) and therefore covers all the relevant health issues from accidents through injuries and health effects of environmental pollution to mercury poisoning which may cause permanent brain damage resulting in dizziness, difficulty in concentration, muscle twitching, poor muscle coordination, memory loss, blurred vision, and numbness in the hands and feet. The module discusses the degree of mercury toxicity which depends on the level of mercury exposure, as shown here in order of decreasing seriousness: a) permanent overt brain damage, b) seizures, c) vision and hearing loss, d) delayed childhood development, e) language disorders, f) deficits in fine motor functions and g) memory issues. Other issues to be addressed include: occupational safety concerns, poor respiratory health, and infectious diseases as well as occupational health hazards such as shaft collapses and dust related lung diseases.    Group work  Introduction to group Work *by John Tychsen*  The group work on day 1, 2 and 3 will be a continuous case study, which will be expanded day by day when the participants receive additional information and knowledge. The results of the group work will be presented and discussed at plenum in the afternoon of day four  **Day three**  **Registration**  **Module 11**: Challenges of ASM sector in Nigeria and the role of The Geological Survey of Nigeria by Assistant Director *Ms. Lucy Adelugba* - 30 min  **Module 12**: Challenges of ASM sector in Liberia and the role of the Liberian Geological Survey by Senior Geologist *Mr. Michael Sabondu* -30 min  Coffee break  **Module 13**: Socio-economic issues related to ASM *by Professor Frank Nyamé. University of Ghana and Professor Julius Fobil University of Ghana – 45 min*  This module provides a presentation of the key socio economic findings from the field work and places these within a broader context of poverty alleviation.  Lunch Break  **Module 14**: Financing – business planning for ASM operators by Senior Finance Officer Mr. Eric Bright Davis*. Minerals Commission. Ghana – 45 min*  The module provides an overview of the steps involved in developing a business plan for an ASM enterprise.  Introduction to group work *by John Tychsen*  The group work on day 1, 2 and 3 will be a continuous case study, which will be expanded day by day when the participants receive additional information and knowledge. The results of the group work will be presented and discussed at plenum in the afternoon of day four  **Day four**  **Registration**  **Module 15:** Challenges of ASM sector in The Gambia and the involvement of The Geological Survey of Gambia by Assistant Director *Mr. Alieu Jawo*    **Module 16**: Plenum presentation of group work by *John Tychsen. GEUS*  **Module 17**: Presentation of the Training Material Pack by *John Tychsen. GEUS*  Some of the participants shall be trainers for ASM operators. The Consultants have developed a draft Training Material Package as a supplement to the Handbook, which should be easy to use in the field.  This material and the presented Handbook are a final draft. It is crucial that the Consultants receive comments, correction and good ideas for improving this material.  **Module 18**: Plenum feedback on Handbook by *John Tychsen. GEUS*  The Handbook and the Training material Pack are a final draft. It is crucial that the auditors receive comments, correction and good ideas for improving this material.  **Module 19***:* Participants fill out Feed-back form  **Module 20**: Ceremony of Course Certification by *Daniel Boamah/John Tychsen*  **Module 21**: Conclusive remarks by *John Tychsen/Daniel Boamah* |
| **Trainer & Lecturer** | PanAfGeo WP-3 Project Manager John Tychsen. GEUS.  Director Daniel Boamah. Ghana Geological Survey Authority.  Senior Geologist Seidu Alidu. Ghana Geological Survey Authority.  Professor Richard Amankwah. University of Mining and Technology. Ghana.  Associate Professor Ishmail Quaicoe.*. University of Mining and Technology. Ghana.*  CPO Head of Mining Michael Sandow Ali. Environmental Protection Agency. Ghana.  Professor Frank Nyamé. University of Ghana.  Professor Julius Fobil. University of Ghana.  Senior Finance Officer Mr. Eric Bright Davis. Minerals Commission. Ghana.  Regional Geologist Mr. Alhaji Turay. The Geological Survey and Mines Division. Sierra Leone  Assistant Director Ms. Lucy Adelugba. The Geological Survey of Nigeria.  Senior Geologist Mr. Michael Sabondu. The Liberian Geological Survey.  Assistant Director *Mr. Alieu Jawo.* The Geological Survey of Gambia. |
| **Approach and Training Methods** | Lecturing  Case Studies  Group and Panel Discussions  Group Work. |
| **Literature and Source Materials** | Draft Handbook  Draft Training Manual |
| **Summary of Recommended Facilities and Equipment** | Conference room  Group rooms  Viewer  Laptop |

JT/UH: 22.08.2017