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'Advancing critical thinking and innovation'

**RISK ASSESSMENT OF THE MINING INDUSTRY IN SOUTH SUDAN: TOWARDS
A FRAMEWORK FOR TRANSPARENCY AND ACCOUNTABILITY**

Peter Adwok Nyaba

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Appreciation and acknowledgement

This study, “**Risk Assessment of the Mining Industry in South Sudan: Towards a Framework for Transparency and Accountability**”, was commissioned by Ebony Center for Strategic Studies. It commenced in the second week of May 2019 and was completed by the first week of June. Mr. Azaria Gillo, a geologist working in the Ministry of Mining was my research assistant and his contribution led to the success of the research work. I thank him very much.

The preliminary report of this study was discussed in an Ebony Centre’s function DPF/TF on Saturday 20 July 2019 attended by more than a hundred participants. The Under-Secretaries of the Ministries of Mining, Forestry and Environment as well as the Director of Environmental and Natural Resources Program in the Sudd Institute were the main discussants. Their technical and professional views were incorporated into the final report.

I want to avail myself of this opportunity to appreciate and acknowledge the assistance rendered to us by the Under-Secretary, Dr. Andu Ezbon Adde, in granting permission to collect information and data from the Ministry of Mining data base and writing letters to the State Governments of Kapoeta and Juba to assist us in the research.

Last but not least, my thanks and appreciation go to Ebony Center for Strategic Studies, for availing me the opportunity to undertake an exercise that is likely to contribute towards strengthening the institutions and instruments of the mining industry in the Republic of South Sudan.

Peter Adwok Nyaba
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EXECUTIVE SUMMARY

Risk assessment survey is a means to document specific risks and threats to commercial and industrial enterprises or other bureaucratic institutions. Risks may be natural catastrophes like earth quakes, landslides, floods, etc., or may result, as it is now in cases of small-scale mining from institutional deficiencies.

The Risk Assessment study was undertaken to gather information of what constitutes a risk in the mineral industry particularly at this early stage of its development. It covered the existing age-old artisanal gold workings (mining) and the more organized sophisticated scientific investigations as in mineral prospecting and exploration.

The Republic of South Sudan is still a young country, and substantial mineral investment ventures are yet to come. There is no mining, in the strictest sense of the word mining, in South Sudan. What has been categorized as gold mining in the records of the Ministry of Mining is essentially ‘artisanal gold workings’ undertaken by the local communities. The ‘artisanal gold miner’ pan gold from stream bed, and also out of their knowledge of auriferous (gold bearing) quartz veins and other rocks, which they break, grind and wash in water to recover gold nuggets, grains and/or dust.

This artisanal gold mining had ever since long time ago been the source of much of the gold traded in South Sudan. In the recent times, investors both locals and foreigners have introduced modern technology like metal detectors, which sense the metal some centimetres or metres beneath the surface, and machinery that process gold from the alluvium in the areas that have been licenced under small-scale mining.

The artisanal gold mining as well as the small-scale mining that employs modern technology have risks embedded in their operations in addition to the major risk due to insecurity. The Mining Act (2012) and the Mining (Mineral Title) Regulations (2015) provide the ground for risk assessment in the mineral business with respect to rights, authority and how these operations and enforcement of the law impinge on the principles of transparency and accountability.

Introduction

Knowledge of minerals and their extraction accrues from the theory and practical experience in geological sciences. South Sudan has never been subjected to systematic geological survey, mineral prospection and exploration. This stems from the huge amount of funding required for surveying, prospecting and mineral exploration. The lack of this information or knowledge in the MoM, consequent to the fact that the area has not been studied geologically, constitutes a risk to investors. Most of investors engaged in what is called small-scale mining or mineral prospecting in licenced areas employ methods focused on gold alone. This inadvertently destroy traces of geological indicators or guides that could lead the discovery of other equally important economic minerals like platinum, nickel, titanium, cobalt, etc.

The investor in small-scale mining in Gorom may not rehabilitate the resultant environmental degradation from huge earth moving equipment and machinery. This because given the fact that they are at running risk due lack of correct and accurate information about the minerals, the business may end up not being economical.

The principles of transparency and accountability are normally built into the geological investigation processes of surveys, mineral prospecting, exploration and mining. The Mining Act and Regulations and the constitutional provision on land, as the most important means of social production, contains several discrepancies that may require reviews. It is imperative and of paramount importance to note that minerals like other natural resources impinge on national security of the country, and therefore their extraction must be subjected to strictest terms of observation and supervision.

Mineral prospection (regional geological survey) exercise undertaken by the government is usually a qualitative process that enlists the distribution and concentration, above the earth's average, of mineral elements in a particular area, and the information and data is cartographed in a map (geological map). When an element concentrates above its earth average (threshold) in an area, it is deemed economic and could therefore be extracted.

The data and information about a particular mineral concentration reveal the geological history of that area, which a prospective mineral investor accesses without difficulty from the Geological and Mineral Resources Department of the Ministry of Mining.

The exploration work, essentially quantitative in nature, follows on the basis of the information from mineral prospection or what comes out in the Mining Act as, reconnaissance stage in mineral resources development. Mineral exploration studies the area

in details; gathering further details of the mineralization by undertaking large-scale (1:10000 or 1:100) sampling of rocks, soil overburden and vegetation for geological, geochemical and biogeochemical analysis. This process is to delineate the two-dimensional extent of the mineralization. This is then followed by sinking bore holes at a given grid to sample the ore deposit in order to determine the concentration and volume of the mineral or metal in the deposit, and to gain a three-dimensional aspect of the deposit. This makes it easy to plan the methods of mining the ore deposit

Thus, before embarking on small-scale mining of the mineral deposit, all information about the mineral deposit or metal would have been known to the investor as well as to the authorities in the Ministry of Mining. It is on the basis of this information and data, that the fees, taxes, royalties, etc, are calculated and levied on the mineral investor.

A cursory view of the applications for exploration licences submitted to the Ministry of Mining reveals an astounding discrepancy in the process. Both the Ministry of Mining and some of the applicants are culpable for lack of transparency and accountability in the granting of exploration licences. The significance of transparency and accountability in the mineral industry cannot be overemphasized particularly with respect that mineral resources are non-renewable and their depletion or misuse could have dire consequences for the future generations.

This study, commissioned by **Ebony Centre for Strategic Studies (ECSS)**, is original and the first of its kind. It was undertaken with the express support of the Ministry of Mining and more particularly the Directorate of Mineral Development, whose responsibility in the domain of granting ‘reconnaissance’, ‘exploration’, ‘mining’ and ‘mineral dealing’ licences also come under scrutiny in the study in the context of enforcing the Mining Act and the Mining Regulations. The department’s diligence in supervision is the only insurance that law will be followed by the mining companies and mineral dealers.

The principal objective of the study is to make recommendations that will constitute a framework for transparency and accountability in the mineral industry in the Republic of South Sudan. This is by no means a simple job given the nature of the industry itself, the security and political context of the country. The principles of transparency and accountability are among those easily and greatly challenged in a situation of civil war.

Methodology

The risk assessment study of the mining industry would entail extensive field visits to the mineral operation areas to gain first-hand information on the manner business is undertaken throughout the successive stages until the extraction. This information would then combine with a review of the existing legislation in order to examine whether or not the parameters of transparency and accountability as defined in the law are being enforced.

Due to insecurity in the areas of interest to the study namely Kapoeta, southern Bari, Kajo-Keji, Yei River state, Luri river basin, it was only possible to visit the vicinity of Juba. The study was therefore largely desk top investigation; entailing a review of the literature on geology and mineralization in South Sudan, review of the reports submitted by the investors, interviews conducted with some investors who were ready to speak out - key informants in the industry - possessors of exploration and small-scale mining licences, key people in the local community, as well as the officials in the Ministry of Mining.

Literature Review

As mentioned above little geological investigation had been undertaken in parts of southern Sudan. The geological survey and mineral exploration competency lies within the docket of the central government in Khartoum, Nevertheless, the High Executive Council (HEC) of the Southern Region then engaged foreign firms: Hunting Geology and Geophysical Ltd (1980) investigated the geology of the area of Juba including the Imatong Mountains. The Belgian Mineral Exploration Project in Southern Sudan (1979) did some work in Kapoeta area. Individual efforts at understanding the geology and gold mineralization in Luri basin and Kapoeta areas included the work of Andu Ezbon Adde (2003). Recent exploratory investigation undertaken by Consolidated Mineral and Energy Resources Investment Co. Ltd in collaboration with Kivu Gold and Equator Gold have yet to conclude and their results published

The literature review covered also the Mining Act (2012) and the Mining Regulations (2015). The most important contribution to the development of institutional and legal dimensions of the mineral industry was the establishment of the Ministry of Mining and its various departments. In addition to this was the establishment of Mining Cadastre Office, which controls the geographic and geodetic information about the licenced areas.

The review also covered the reconnaissance and mineral exploration licences granted by the Ministry of Mining in accordance with the law and the regulations. The study

reviewed the small-scale mining and the mineral dealer' licences. In the two cases of the small-scale mining and mineral dealer's licences certain discrepancies regarding eligibility and other verifiable stringent conditionalities. It was not easy to get information from the individuals and companies that hold small-scale mining or mineral dealer' licences. Most of them were absent.

Study findings

The study finding succinctly confirm that risks exist in the mineral development industry particularly at this early stage of its evolution as an important development component of the South Sudan economy. These risks categorize into: -

Security risks linked to the on-going civil war in parts of Eastern and Central Equatoria, affect the whole industry from artisanal gold mining in Kapoeta, Lobonok, Luri, Yei and Kajo-Keji, the small-scale mining in Gorom and Wundorobu to the mineral exploration in Kapoeta and Luri river basin in terms of accessibility to the licenced areas as well as fear of robbers and highway people..

Insufficient information on the geology, mineralization and mineral occurrences in South Sudan constitute a serious **Business risks** particularly to the investors. The study confirms that in the course of rushing for small-scale mining licences some investor spent huge amounts of money purchasing gold processing equipment. They could have avoided incurring this expense had they solicited the advice of their own geologist, instead, they relied solely on the information provided by the Ministry of Mining; this turned out to be inaccurate.

Physical and mental health risks are a reality in the artisanal gold mining areas; these require a complete review in order to streamline and regulate the industry. The fear has been allayed of environmental deterioration and health risks linked to the use of toxic chemicals like mercury and cyanide in the extraction of gold. The artisanal gold miners do not employ those elements but rely on water and wind to recover their gold.

Smuggling gold involving jumping of legal procedures by investors remains a risk to the industry. This links to the current context in the country whereby there is laxity and complacency at every level.

Linked to the small-scale mining are social risks, environmental degradation risks, business institutional risks, individual responsibility risks, etc. The study discussed all these

risks and made recommendations which include a review of the constitutional provisions on land, the institutions and instruments erected to enforce the law. The idea is to close the loopholes and ensure close supervision and control, and to leverage the business and entrepreneurs in mineral extraction not only into compliance with recognized best practices but also to put on line their institutional reputation.

The Risk Assessment Study benefited and incorporated into the final report some of the discussions and views expressed during the well-attended Ebony Center's DPF/ Transparency Forum function in Juba Grand Hotel on 20 July 2019 in which the preliminary report was discussed by a panel composed of the Under-Secretaries in the Ministries of Mining, and Forestry and Environment, and the Director of Environmental and Natural Resources Program in the Sudd Institute.

I. BACKGROUND

The Republic of South Sudan was part and parcel of the Republic of the Sudan until 9 July 2011, nevertheless, there has never been systematic survey to acquire and build authentic geological knowledge in this part of the country. This was notwithstanding that it was known to be endowed with enormous mineral resources potentials. Therefore, much of the patchy knowledge of mineralization and mineral occurrences in South Sudan have been the work of local and indigenous prospectors undertaking alluvial and fluvial panning of gold and other precious stones.

The High Executive Council (HEC) of the Southern Region (1972-1983) established a department of Mining in the Ministry of Industry and Mining. This was notwithstanding the fact that the competency of issuing prospecting and mining licences was exercised from the Geological and Mineral Resources Department in Khartoum; and that this regional mining department lacked the necessary financial resources, technical and professional expertise and therefore would not undertake geological mapping and mineral prospection. These factors dwarfed and prevented the development of geological and mineral extracting industry at the level Southern Region.

The Regional Government contracted international groups: Hunting Geophysical Group and the Belgian Mineral Exploration Project to undertake geological investigation in Kapoeta area the context of exploiting the limestone and gold deposits in the area; and in Juba area. Nevertheless, individual entrepreneurs carried out mineral extraction with or without proper government licencing.

The subnational entity (2005-2011), the Government of Southern Sudan (GOSS), placed the department of mining under the Ministry of Petroleum. It was only in the Transitional Government of National Unity (TGoNU) 2016 that Mining became and stands as a ministry exercising the competency of issuing licences and leases in accordance with the Mining Act (2012) and the Mining Regulations (2015).

The Republic of South Sudan is emerging from a civil war; therefore, much of mineral extraction occurred while the war raged. Being a young country the principles of accountability and transparency in the mineral industry have not sufficiently been implanted into the business ethos of the companies involved in mineral exploration and extraction. It is possible, therefore, that some unscrupulous business people could have circumvented the

mining rules and regulations in the course of their operations; thus, necessitating risk assessment of the industry.

II. INTRODUCTION

The Republic of South Sudan is a young country. It is one of the least developed countries in the world. Its productive forces remain as potential as is the enormous natural resources. The country has never been subjected to systematic geological survey, mineral prospection and mineral exploration, meaning that there is little accumulated knowledge of its mineral resources although a lot of gold from South Sudan finds its way into gold markets in the region and far afield.

This dearth of knowledge constitutes a risk to mineral development and mining industry in general. Nevertheless, it did not prevent the rush for minerals, particularly gold, in the recent times. On the contrary it pushed many investors to rely, in their search for gold deposits, on artisanal skills and knowledge of gold occurrences.

The small-scale mining operation, particularly in areas that have not been subjected to mineral prospecting and exploration, constitute a risk to future geological investigation of those areas on account of the methods they employ in searching for gold invariably result in environmental degradation, and inadvertently destroy traces or geological indicators of some economically important metals like.

The constitution of South Sudan placed on the state the responsibility and ownership for minerals resources that occur in the sub-crustal or deep in the stomach of the earth. This inevitably suggest that it is government's responsibility to undertake regional geological surveys and mineral prospecting in order to locate and map these mineral resources. The production of the Geological Map of South Sudan in which all information about minerals and their occurrences are cartographed in a manner accessible to interested individuals or companies, is a strategic objective to be achieved by the Ministry of Mining.

However, the Republic of South Sudan does not have technical and professional expertise as well as financial capacity to undertake the necessary geological surveys, mineral prospection and exploration to gain the scientific knowledge of the mineralization and mineral deposits in its territory. This has created a situation in which prospective investor are issued small-scale mining licences without concrete knowledge of the area.

The principles of transparency and accountability are normally built into the geological investigation processes. At the prospecting level knowledge acquired of the minerals and mineralization is essentially qualitative; however, at the exploration stage the information is quantitative and verifiable. The laws and regulations pertaining to mineral prospecting, exploration, development and extraction of necessity must enforce the principles of accountability and transparency. The constitutional provision about land, as the most important means of social production imposes a regime of transparency and accountability and this explains the categorization of land into public, private and community land. It is imperative and of paramount importance to note that minerals like other natural resources impinge on national security of the country and therefore must be managed in the most transparent and accountable manner.

The principles are embedded in all the investigative processes starting from regional geological surveys (small scale 1: 250,000) and mineral prospecting to exploration (large scale 1:100,000 or 1: 10,000 or more], mining and extraction of the mineral (metal) (very large scale 1: 1000 or 1:500). Mineral prospecting (regional geological survey) is a qualitative process undertaken to enlist and cartograph (geological map) the distribution and concentration of mineral elements above the earth's average. When an element concentrates above the earth average in an area, it is deemed economic and could therefore be extracted.

The data and information about a particular mineral concentration reveal the geological history of that area, which a prospective mineral investor accesses without difficulty from the Geological and Mineral Resources Department of the Ministry of Mining. The exploration work, that follows on the basis of the information from mineral prospecting, includes further detailed and large-scale sampling of rocks, soil overburden and vegetation for geological, geochemical and biogeochemical analysis. This process is necessary to delineate the three-dimensional extent of the mineralization.

This is then followed by core drilling to sample the ore deposit to determine its grade (concentration) in gm/ton of the rock enabling an estimation (volume) of the mineral or metal in the deposit to determine its economic viability. Thus, before embarking on the mining process, all information about the mineral deposit or metal content would have been known to the investor as well as to the authorities in the Ministry of Mining. It is on the basis of this information and data that the fees, taxes, royalties, etc, are calculated and levied.

A cursory view of the applications for exploration licences submitted by the investors to the Ministry of Mining reveals an astounding discrepancy. Both the Ministry of Mining and some of the applicants for small-scale mining licences are culpable for lack of transparency and accountability in the granting of exploration licences. The study that some applications which should have been rejected were processed and approved. The applicant or the licensing officer did not know whether the mineral applied for existed in that licenced area.

Applying the principles of transparency and accountability mean that both the licensing officer and the investor must be knowledgeable about the issue at hand. The licensing officer cannot deal with an investor or his representative who is ignorant of fact about the mineral to be extracted. It would be wrong to licence an area the Ministry of Mining is not sure of the information therein.

Given the present context of socioeconomic underdevelopment and cultural backwardness of its people, the development and extraction of minerals must be of great concern to the government as well as to the elites of the communities the social impact and the manner in which investors in mining industry carry out their business in order not to compromise the rights of the future generations.

This study, commissioned by **Ebony Centre for Strategic Studies (ECSS)**, is original undertaken with the express support of the Ministry of Mining and more particularly the Directorate of Mineral Development, whose responsibility in the domain of granting 'reconnaissance', 'exploration', 'mining' and 'mineral dealing' licences comes under scrutiny in the study in the context of enforcing the Mining Act and the Mining Regulations. The department's diligence in supervision is the only insurance that law will be followed by the mining companies and mineral dealers.

The principal objective of the study is to make recommendations towards a framework for transparency and accountability in the mineral industry in the Republic of South Sudan. This is by no means a simple job given the nature of the industry itself, the security and political context of the country. The principles of transparency and accountability are among the greatest challenges in a situation of civil war. A study like this is therefore prone to serious threats even from those who stand to benefit from its findings.

In order to achieve the objective, the study was designed to gather enough information from the existing scanty data base deposited in the ministry by the licence holders. This

included acquisition from the Ministry of Mining and analysis of the reconnaissance and exploration reports and maps in which geological and mineralization information have been cartographed. The plans to visit and gather information from active operations mining sites and quarries necessitated obtaining permission from the state and local authorities on request from the Under-Secretary of the Ministry of Mining. The significance of this methodology stems from the following real-life factors: -

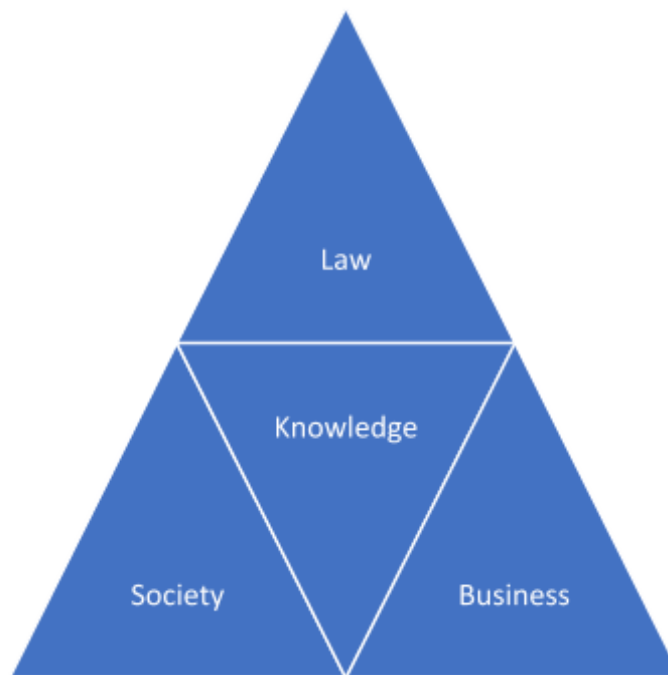
- The lack of scientific knowledge of the geology and hence mineralization in the possession of the Ministry of Mining, the sole licensing body for mineral resources development is a serious risk for the ministry as well as for the investors;
- A discrepancy exists between the constitutional provision on land ownership (TCSS 2011), the Mining Act (2012), the Mining Regulation (2015), authority of the Ministry of Mining, State authority and the role of the communities in the processes of reconnaissance, exploration and mining and their bearing on the principles of transparency and accountability.
- Environmental awareness with respect to mining and mineral extraction is still low in South Sudan. The use of toxic chemicals like mercury, arsenic and cyanide in the extraction of gold, and the danger they pose to human health as a result of their intrusion into the food chain is worrying and will be investigated
- Linked to this is also the environmental deterioration arising from the heavy earth moving machinery particularly in open cast mining and quarrying of dimensional stones as well as in the small-scale mining areas in which the licence holder have setup gold processing plants.
- The need to examine the business ethos of the mining companies and how much they pay attention to their corporate social responsibilities (CSR) with respect to the communities. What form, when and to whom in the community does CSR accrue given that most of these minerals are non-renewable.
- Enforcing transparency and accountability in the industry would mean curbing smuggling and ensuring closer supervision of the industry thus releasing much of the revenue to the state.

The Risk Assessment study, by its nature, situates in the interface between law [constitutional provisions, the Mining Act and the Mining (Mineral Title) Regulations, business [local

and foreign entrepreneurs], society [communities in the cadastral licenced area] and geological knowledge [research undertaken to generate information about the mineralization and mineral occurrence] as it may be represented in a segment pyramid (below) without claiming any domain; but poses the issues of transparency and accountability in the mineral industry.

This conceptual framework on risks that accompany mineral extraction assumes the existence of a social contract between the government of South Sudan and its people; a social contract that upholds and promotes environmental protection and people's livelihoods. In this context, we contextualise risks in the mineral extraction to include the 'risk agents', 'risk bearers' or victims of extraction fallouts and the government agents or policy makers who tend attach importance to 'development' rather than to the people's livelihoods.

Segmented Pyramid illustrating the Risk Assessment Study as the interface [white triangle] between Law, Society, Business and Knowledge.



As a corollary of this protection of people's livelihood is the notion that any company, which, in its mineral extraction operations, must be cognizant of its reputation against litigation for environmental degradation and therefore must adopt best practices in the mineral industry world-wide. In this respect, the company must be accountable and transparent in all its dealings with the government officials and the members of the community in which extraction occurs.

The principles of accountability and transparency, if stringently adhered to in mineral extraction, could be an efficient tool of mutual benefit to the company, the community and to the state. This would mean continuous dialogue between the parties to avoid frictions, tensions, conflict and loss or destruction of property as has occurred in Wundoroba or the latent conflicts in the oil producing areas in Unity and Upper Nile states.

III. METHODOLOGY

The risk assessment of the mining industry would entail examining all the processes leading to sustainable extraction of minerals. This also includes the relations between the mining company and the community in the licenced area. In this respect risk assessment of mining industry in South Sudan presupposed extensive field visits to the mineral operation areas to gain first-hand information and combined with a review of the existing legislation in order to define the parameters of transparency and accountability regime in the industry.

The Under-Secretary, Ministry of Mining, wrote letters (appendix 08) to the State governments of Jubek and Kapoeta to assist the research team in its work. Unfortunately, due to the security situation in the areas of interest to the study, it was not possible to affect a field visit. The study was therefore largely desk top investigation; entailing a review of published reports and studies made available by the Ministry of Mining, interviews in Juba of key informants in the industry - possessors of exploration and small-scale mining licences, key people in the local community, as well as the officials in the Ministry of Mining.

Literature Review

The literature review, notwithstanding the very little systematic scientific investigation had been carried out so far, of the geology of South Sudan involving such details and the mineralization processes would be too technical and indeed unnecessary for the purpose of this study. However, it suffices to mention that a British firm, Hunting

Geology and Geophysics Ltd. (1980) and Belgian Mineral Exploration Project (1979) carried out geological investigation in Kapoeta and Juba areas respectively but no mining activities resulted from the publication of their respective reports.

Constitutional Provisions

The Interim Constitution of Southern Sudan (2005) derived from the comprehensive peace agreement (CPA) between the SPLM/A and the Government of Sudan/ National Congress Party (2005) as well as the Transitional Constitution of the Republic of South Sudan (2011) Art. 28, 170 and 171 provides explicitly for land as the most important means of social production. It is important to note this provision which came in negation of a prior provision in Sudan's constitution 1998 that land belonged to the government.

However, the multiplicity of rights and authority inherent in this constitutional provision read together with the Mining Act (2012) and its Regulations (2015) generate confusion, tensions and conflict between the SSML and EL holders, sometimes leading to loss and destruction of property.

The Mining Act 2012

According to the Act, the purpose was to provide for, encourage, promote and facilitate reconnaissance, exploration, development and production of minerals and mineral products in line with the principles of sustainable development. The principles upon which the Mining Act 2012 was founded may be summarized as follows:

1. Respect for and protection of the environment;
2. That both the government and Mining Industry acknowledge their mutual stewardship of the Mineral Resources and therefore must work in collaboration with the local communities in the development and exploitation of these resources;
3. Sustainability of Mineral extraction

These principles do not explicitly or implicitly mention of the principles of transparency and accountability in the development and extraction of minerals. While, the Act speaks of environmental protection, encouraging the recycling of the mining waste, rehabilitation of land damaged by mining activities, etc., nevertheless, it does not pin responsibility for environmental deterioration accruing from these activities on either the Mining Company, Government or the Community.

In many legislations the world over, mining and quarrying companies take responsibility for the destruction of the physical environment in terms of destruction of land surface, pollution of the air, water and ecological disturbance. In open cast mining of iron, copper or limestone deposits involving huge earth moving machinery, the redress of environmental deterioration is the responsibility of the mining company and this is built into the mining agreement.

It will be imperative to review the mining agreements reached with the different companies to find out whether the principles have been built into the small-scale mining licences granted by the Ministry of Mining. These are central and their non mention in the agreement constitute a loophole that can be exploited by rogue companies or contractors.

The Mining Regulations (2015)

The regulations derive from the Mining Act 2012; they define and clarify the jurisdiction pertaining to mineral development and exploitation in the Republic of South Sudan. The most important aspect of the Mining Regulations with bearings on the principles of transparency and accountability anchors in the establishment of the **Mining Cadastre Office** defined in Fifth Schedule of the Mining Regulations. This office controls the territorial limits of any small-scale mining, reconnaissance, or exploration licence area and therefore the most important institution in the mineral industry. It registers every data and information and issues licences pertaining to mineral prospection, exploration and mining.

Reconnaissance Licence issued by the Mining Cadastre Office in the Ministry of Mining are valid for only two years. They specify the reconnaissance licence area in terms of cadastral units [a cadastral unit is approximately 20 hectares] and the type of minerals (metals) of interest to the licence holder, The Reconnaissance Licence Title Holder submits an annual report to the Mining Cadastre Office describing the reconnaissance activities, the discoveries made and other results.

Exploration Licence (EL) is issued pursuant to the successful completion of the reconnaissance work and the licence holder intends to pursue the development of the mineral to the stage of exploitation (mining) or may be applied for and granted with the applicant not having undertaken a previous work. The process of granting Exploration Licence is clearly explained in the Mining Regulations, which entails Director-General of the Mineral Development Directorate recommending the applicant to the Minister for grant of the

Exploration Licence; the Minister then direct the Under-Secretary to issue the licence prompting the Cadastre Officer to notify the applicant of the grant of licence. The applicant acknowledges in writing the receipt of the notice. This, then, marks the start of the ten-years validity of the Exploration Licence (appendix 06).

Small-Scale Mining Licence (SSML) is issued either on first time application or pursuant to the successful completion of the reconnaissance or exploration investigation undertaken in the area. In either case, the applicant shall seek advice from the State Mineral Resources Advisory Coordination Committee, which grants the approval and the Minister fixes the seal to the licence. The Mining Cadastre Officer then notifies the applicant within specified period of time (77 calendar days).

Minerals Dealers' Licence (MDL) is a licence to enable the business of buying-selling, processing, storing, supplying, transporting or delivering for sale or processing of minerals. The Mining Regulations limits eligibility of Mineral Dealers' Licence explicitly to South Sudanese in addition to fulfilment of other verifiable stringent conditionalities. However, this is a very tricky business and serious challenge to transparency and accountability at all ends of the business.

Key Informant Interview

This was one way of obtaining information from the title holders or their representatives as well as from the Ministry of Mining, Taxation Department, Customs and other government institutions. The study identified seven (7) out of twelve (12) Small-Scale Mining Licence Holder (table 04) and fourteen (14) out of sixty-one (61) Exploration Licence Holders (table 5) for close interviews.

Study Constraints

The study encountered constraints some of which will definite bear on the principles of transparency and accountability in the mining industry.

- The mining industry or mineral industry for that matter, is still at a rudimentary stage of development; the risk assessment at this stage therefore cannot speak to a well-developed mineral and mining industry involving large-scale production of minerals

- The security situation in the country was a principal constraint. It was not possible to access the places where mineral development processes are taking place like the artisanal mining areas in Lobonok, Luri, Kajo-Keji, etc, to assess the risks encountered in the business;
- The existing geological knowledge about South Sudan is sketchy. No systematic geological investigation had been carried out and hence the Small-Scale Mining Licence holders operating mainly in Gorom relied on knowledge of gold occurrence availed by the panniers and artisanal miners.
- The SSML holders in Gorom did not have geologists or technical experts hence it was difficult for the research team to understand how they could embark on such investment without scientific and technical know-how on their part.
- The duration of the study was short in terms of rendering all-round risk assessment of the mining industry in South Sudan.
- A study like this is therefore prone to serious threats even from those who stand to benefit from its findings.

IV. STUDY FINDINGS

The study examined all aspect of the mineral industry in South Sudan beginning from the legislation and the on-going operations for mineral extraction. The Transitional Constitution of South Sudan 2011 has provisions in respect of land. The Mining Act 2012 and the Mining (Mineral Title) Regulations provide for the institutional authority at the national, state and community levels, which create confusion, friction and sometimes conflict.

While the Ministry of Mining exercises the competence of licensing, State Mineral Resources Advisory Coordination Committee under the State Ministry of Finance not only is it advisory but it also a licensing body at the state level under the rubrics of small-scale and artisanal mining licence. Conflict occurs when these licences are issued without the knowledge of the Ministry of Mining, which controls the Mining Cadastre Office.

1. Artisanal gold mining

The operations categorized as mining as in the artisanal and small-scale mining licences are not mining operations *sensu strictu*. There are two types of artisanal gold mining in South Sudan. The first one, consists of individuals or groups of men, women and sometimes children armed with spades, shovels and panning disc working on alluvial deposits and stream sediments to process for gold nuggets and grains done in the simplest manner [Appendix 07 from 01 - 07 illustrate that operation]. The panniers as they are called turn up most of the gold traded in the gold market in South Sudan

The second type of artisanal gold mining consists of the miners attacking with chisels and hammers the auriferous (gold carrying) quartz veins to break off rocks, which they grind to separate gold. The indigenous knowledge of auriferous quartz veins is handed down over the decades and as somebody said the current artisanal gold miners are perhaps the sixth-generation miners suggesting that this occupation of gold mining in those parts of South Sudan is very old.

Most of the artisanal gold mining now occur in Kapoeta, Torit, Juba and Yei. However, traditionally, gold has been mined (panned) from river beds draining the western slopes of the Ethiopian highlands in Boma, Dago-Kigele and Kurmuk.

2. Small scale Mining.

The Ministry of Mining has registered nine (9) Small-Scale Mining Licences plus three (3) still under process of registration (appendix 03). These licences are concentrated in Gorom area, which lies thirty (30) km south-west of Juba State. In South Sudan, there is no mining operation *sensu strictu*, in terms of employing large mechanical devices that drive huge shafts into the bottom of the earth to extract minerals. Even the so-called small-scale mining is not mining operations in the strictest sense of the word mining. These essentially are processing of the subsoil to extract gold nuggets and grains. workings on the subsoil to process for gold nuggets.

As mentioned above, the study identified seven (7) out of twelve (12) SSML holders, only the Lucky Friends Trading Construction Co. Ltd, MED Construction and Development, Kano for Trading and Investment, 4MB Gorom Mining and the Korean Venture Partners Co. Ltd, accepted to answer our telephone calls. Among these five, only three namely 4MB

Gorom Mining, Kano for Trading and Investment and MED Construction and Development divulged sufficient and satisfactory information.

Most of the companies holding small-scale mining licences (SSML) in Gorom have not started their operations. Inquiry into the causes of delay, which the research time did with the representative through cell phone interviews, yielded responses from which the study deduces the following:

- Some of the companies acquired small-scale mining licence without having their independent knowledge of the mineral configuration of the licenced area apart from the hearsay and what was verbally communicated by the Ministry of Mining. When they realized that Kano for Trading and Investment was not successful, they developed cold feet.
- Some companies particularly the South Sudanese licence holders did have 'start up' capital to start their operations. This suggests lack of seriousness on their part as investors.
- Some licence holders could have been brokers, or individuals speculating for licences which they would sell to big capital once the operations by Kano for Trade and Investment and/or Gorom Mining proved successfully economical.

It was not fair that the Ministry of Mining would engage in the licence negotiations, and then issue small-scale mining licence to companies that did not employ geological experts. The example of Kano for Trade and Investment Co. Ltd as well as that of 4MB (Gorom Mining Ltd) is sufficient to prove the lack of transparency and accountability on the part of the Ministry of Mining. The fact that both companies had not employed geologist, who would have advised of the risks involved in operations in an area without sufficient geological knowledge and information, suggests adventurism on their part and were ready for under the table deals. The example of the two companies epitomize cases of investment based on hearsay and general information, but not on concrete geological and geo-chemical knowledge of the area.

In our view, 4MB's operation is impressive in terms of the well-constructed infrastructure, which clearly represents a significant investment. As can be seen, [pictures 4, 5 & 6], the company's objective is to construct a massive infrastructure, which can process huge volume of alluvium and eluvium. The operation is set to start any time with the coming

of the rains and the filling of the artificial lake that has been constructed. A considerable stockpile of alluvium, colluvium and effluvium has been created ready for processing.

However, it is apparent that there has been no systematic sampling programme, which must represent a risk for such a significant investment. Assuming that the average recoverable grade of 0.5g/t gold would yield approximately 1500oz (50kg) of gold from the two stockpiles, around \$1.8M at today's prices. However, if the recoverable grade of either stockpile is lower than expected, then this value could be considerably lower and the operation would prove uneconomical.

To offset this eventuality, the company must bring in alluvium from the surrounding areas to meet the company's goal of making profit from its investment. This has already caused tension with the neighbouring SSML Holders according to an informant who wanted to remain anonymous.

There is also a simmering uncertainty over the Gorom Mining Limited's business title, because under the Mining Act 2012 and the Mining (Mineral Title) Regulations 2015, the small-scale Mining Licence was granted to 4MB on the basis of a partnership agreement with a South Sudanese national, who has long parted with the Director of **4MB**, and there is already a court case. This uncertainty in the future of the company links to another discrepancy. Under the law, small-scale mining licence area cannot exceed 5 Cadastral Units (less than 1 km²). This means that 4MB objective of generating huge volume of alluvium would sooner than later run into trouble unless it has to buy off some of the neighbouring companies to enable it generate that volume of alluvium.

It will require much efforts and considerable amount of fund to rehabilitate the land that will definitely be turned into waste land and dry lakes at the end of the operation although in a conversation with him, Mr. Yoram Moussaieff believe that nature will regenerate itself quickly in terms of growth of trees and soil deposition.

As for **Kano for Trading and Investment co. Ltd**, it had set up a similar structure in Gorom with the intention of processing gold from the alluvium. According to its Director, Mr. Philip Ajang, they started off the business of gold processing only on the strength of information given by the Ministry of Mining that there was gold in Gorom. They therefore purchased the processing equipment for commercial production of gold. The company contacted the local community through their chiefs and sealed a Memorandum of Understanding (MoU) committing the company to its Corporate Social Responsibility (CSR).

The company assembled the Gold Processing Equipment and indeed began to process alluvium. “To our surprise, we were not producing economic results from our operation”, said Mr. Ajang, prompting the company to complain to the Ministry of Mining. “The Ministry attached to our operation a geologist, who seemed not to have concrete geological knowledge of the area”, he said. “We had to resort to seeking assistance from the local artisanal panniers to access material for our processing plant”.

It is now obvious, according to the study findings, as to why most of the SSML holders did not start their operation. This has to do with the poor results accruing to Kano for Trading and Investment Co. Ltd, which had made sufficiently huge investment. It is likely that they will keep their licence in speculation for rich buyers or renters.

3. Mineral Exploration

The study revealed that the borderline between what is small-scale mining and mineral exploration is very thin or does not exist. There are fifty-eight (58) Mineral Exploration Licences registered and three applications for mineral exploration under processing by the Ministry of Mining (appendix 01). According to an official in the Ministry, most of the Small-Scale Mining Licence had initially applied for mineral exploration licences. They, however, shifted to the small-scale mining licences to avoid the tedious research work and heavy expenses involved in mineral exploration.

None of the sixty plus Exploration Licence Holders was present for interview. However, the study was able to access the reports of Consolidated Mineral and Energy Resources Investment Co. Ltd [CMERIC-Kivu-Equator Gold] geological investigation in Upper Luri Basin since 2008. This involved applying for Provisional Prospecting Licence (PPL) (appendix 05) to undertake geological mapping, collection of rocks, soil [alluvium and eluvium] and the production of the large-scale geological map of the area (appendix 07). The company is at a stage of drilling to complete the exploratory work.

The CMERIC-Kivu-Equator Gold [Provisional Prospecting Licence 2008] in Luri river basin and New Kush Exploration and Mining Co. Ltd [Exploration Licence 01, 2015 (Kapoeta) and Exploration Licence 04-2015 (Kajo-Keji) had sufficient financial resources to undertake a thorough scientific investigation in their licence areas. The study could not access New Kush Exploration and mining Co. Ltd.; the owners had travelled to South Africa and attempts to call them could not bear results.

However, for the purpose of this study, the geological work undertaken by CMERIC Ltd is sufficient to demonstrate the stages necessary in the mineral resource development. The amount of geological work estimated about US \$ 2 Million indicates the seriousness of the investment. The maps attached present the different stages of development of the licenced area in terms of collecting information from the regional (small) scale to the target area (large scale) as the geological investigation zeroed in to the auriferous (gold-carrying) quartz veins. CMERIC-Kivu-Equator Gold did responsible geological work in the Upper Luri basin and were transparent to avail their reports to the Ministry of Mining.

Table 1 **Summary of the legal provisions of the Mining Act and Mining Regulations**

Type of Licence	Duration	Area in km²	Extension
Reconnaissance	2 years	Maximum 25,000 Minimum 10	Not renewable
Exploration	5 years	Maximum 2,500 Minimum 10	Renewable for 2 terms of 5 years Each
Small-Scale Mining	10 years	1 km ²	Renewable for 10 years
Retention	5 years Exploration licence + 6 years of mining	Same as in Exploration licence area	Not renewable
Artisanal mining	No limit – is meant only for the local communities	1 km ²	Must be renewed annually.

4. Dealing in Minerals

In accordance with the Mining Act 2012 and the Mining Regulations 2015, Gold Dealers License enables an individual or a company to deal in minerals (metal gold). This is approved and issued by the Under Secretary of the Ministry of Mining for a period of one year (appendix 06)

The Ministry of Mining started issuing Provisional Gold Dealers Licence in 2016 (appendix 06). Since then, only twenty-three (23) licences were issued but all, with the exception of one licence, expired and have not been renewed; while two licences had no information about them in the records (appendix 03).

The expiry of the Provisional Gold Dealers Licences did not mean the end of gold dealing in South Sudan. However, the fact that the licence holders did not renew must be sought in either the prevailing insecurity in and around Juba or prefer to operate clandestinely to avoid taxes and other fees, albeit under the rubric of small-scale mining licences (SSML) introduced by the Ministry of Mining in 2018.

From the information acquired from the Ministry of Mining, it was not possible to trace any of Gold Dealers. In gold dealing [buying, selling or exporting to another country, a gold dealer is expected to come back to the ministry to be issued with a letter (export certificate) to indicate origin of gold they have purchased or have mined. The letter or certificate of origin of the metal would be presented to the Custom officers at the port of export. It would also indicate the fees and taxes that have been paid. The study could not access this information for nearly the twenty-three dealers except one. In 2016, one dealer came to the Ministry of Mining; declared that he had purchased 600 grams (only six hundred), which he wanted to export. Accordingly, was issued a letter to enable him export his gold after paying the required fee to the Taxation Department.

This lack of transparency in the gold dealing in South Sudan or elsewhere in the region is promoted by some authorities in the region. obvious. In 2018, a neighbouring country, which does not have operational gold mines commissioned a gold refinery plant. It is most probable that the bulk of gold panned from alluvial and fluvial sources in Kapoeta, Southern Bari and Luri area finds its way out of the country without the necessary documentation especially for those dealers who want to avoid government taxation. This lack of transparency constitutes a serious risk as can be gleaned from the fake gold scandal involving loss of \$400 M to some people in a neighbouring country.

The Central Bank of South Sudan ventured into gold buying from local artisan miners in Kapoeta area. However, the continued depreciation of the South Sudan Pound against the dollars or regional currencies rendered untenable gold buying as the Somali gold dealers offered the local artisan better prices than what the Bank offered. Notwithstanding the heavy-handed intervention of the security agencies the Central Bank could not continue the invest in this risky business.

Table 2. **Summary of Licences issued by MoM**

Licence Type	No. of Licences issued	Validity	Minerals	Remarks
Reconnaissance Licence	Nil	-	-	Most of them went straight for SSML
Mineral Exploration Licences	61	Most of them are valid until 2022	Au, Ag, Cu, C, Pb, U,	Only two companies have undertaken commendable geological investigation
Small-Scale Mining Licence	12	Most of them valid until 2028	Au	
Mineral Dealer Licence	23	All licences expired in 2018	Au	Shifted to underground operations?

5. Risks associated with Mineral Industry

The study revealed that the business of mineral development and extraction in South Sudan is shrouded in multiple risks. This requires measure to mitigate their impact on life, environment and business. However, risks linked to natural processes like earthquake, landslides, floods, etc., are difficult to quantify, regulate or control. The risk assessment study identified and classified the risks associated with mineral exploration and extraction include but not limited to the following: .

The artisanal mining - this is the largest sector in the mining industry; and the risks range from miner's physical health, social and family cohesion to child delinquency. The risk to miner's physical health ranges from death and fatal injuries consequent to the collapse of the underground shafts and tunnels they construct to access the gold bearing rocks. The artisanal gold mining areas, more often than not, attract illicit hanger-on, brewing of alcohol and prostitutes who come to hang around for handouts from the artisan miners consequently physical violence and fist fights are a common occurrence which lead to fatalities in the artisanal mining areas.

In Lobonok artisanal mining area the study learnt that children come to hang around and also engage in artisanal mining of their own instead of going to school [appendix 7 (03)]. Further, some artisan miners ostensibly attached to the trade and other social attractions remain in the mining area for very long period of time leading to collapse of family relations. This a serious social risk with serious consequences for the industry.

The artisanal mining is not regulated or controlled; this is a risk since it is the only source of gold to the gold dealers who engage in buying and selling. Without legal control in the area, artisanal gold mining and gold dealing is therefore prone to illicit transactions which challenge transparent and accountable business. It is obvious that much of the gold mined is smuggled across the borders to neighbouring countries.

The *Small-scale Mining* and *Mineral Exploration* processes although governed and regulated by law, nevertheless have risks either linked to situation of war, or to the law itself, which provide for multiple authority between the national, state and community levels in the management in the mineral industry.

Risks for investors: The risk to the investor in small-scale mining and in mineral exploration lies in their inability to access their concessions areas due to the resurgent conflicts in the country. It is possible that the five years duration could expire without having done substantial work; many of them have been stopped from declaring force majeure yet according to the law, they will have to relinquish 50% of their concessions or even face revocation because of the expiry of the five years licence period. This is serious risk to the investor.

Another risk to the investors in small-scale mining and the mineral exploration is the apparent lack of primary geological information on the mineral deposits in South Sudan. Investors enter into business at great risk particularly for the small-scale miners in Gorom who have started operating gold processing plants at zero knowledge of the area.

There was fear of risk to the environment accruing from the use of toxic chemical in the extraction of gold. It was found out that the Artisanal gold miners in Kapoeta, Juba, Yei and other areas employ only water and wind in the recovery of the metal. This therefore allays any fear of environmental contamination by mercury, arsenic or cyanide. However, the fact that these reagents are now not being used does mean being complacent about them. On the contrary, the study warns that stringent observation and control must be enforced to prevent abuse as in the oil fields.

The lack of geological information is a serious risk to the Ministry of Mining as well as the SSML and EL holders. It is possible that these companies would not oblige to act transparently in recording their expenditures and the results of their exploration work. This is particularly critical when such exploration companies discover economic minerals not

included in the licence. In this case they could begin the processes of extraction without the knowledge of the ministry.

6. Companies, Communities and Corporate Social Responsibility

The Mining Act and the Mining Regulations provide for the relationship between the Reconnaissance, Small-Scale Mining, Mineral Exploration Licence Holders on the one hand, and the MoM, the State Authorities as well as the Community on the other hand. The multiplicity of rights and authority inherent in this relationship is either not usually properly understood or deliberately ignored out of expedience as it hinges on the principles of transparency and accountability. This has led to misunderstanding, tension and conflict between the investors and the community leading to loss or destruction of property. The study has marked out a case involving a Chinese investor and a community:

The Great Ramciel International, it is a Chinese company issued with SSML in Wundorobu, Jubek State. The company is co-managed by a South Sudanese citizen by name Nelson Mandela Jacob hailing from Wundorobu community. The company had meetings with the Payam administration, the chiefs and other leaders to work out a MoU, allowing the company to mine gold in Togolo and other sites. An advocate by name Becu Pitia Lagu provided the legal expertise in the negotiations and worked out the document which both sides signed. With the MoU the communities and Payam Administration accepted the company to come and mine.

The MoU covers the period from 2011 to 2024. The communities and the Payam Administration agreed that the company uses the land and water need for their operations. The company agreed to pay rent for the land, make sure that insurances cover potential risks, employ locals and invest directly in a number of infrastructure projects for the benefit of the Payam. The projects are specified as follows, but no numbers are given in the MoU:

- Period 2011 – 2017: Guesthouse, Coordinator's office, Katigiri Secondary School
- Period 2018 - 2021: Boreholes, Roads, Power, Schools, Health Centres, Churches
- Period 2014 – 2024: Scholarships (from the time the company operates)

The land lease was fixed at 360.000 US\$ for a period of 10 years (as from 31.07.2013) for 6 square miles (but apparently with no clear demarcation of the land to be used).

The MoU was signed 03.07.2013 by Hon. Luka Lukudu, Chief Gordon Sasa, Chief Lukudu Lotole, Landlord John Lemi Stephen (Woke), Landlord Kenyi Margu (Mengele), Fato Lemi

Sominda (Chair of Development Committee), Wilson Kiri Lado (Elder) all representing the communities and Chen Yun Goi, Guo Qi Rui as well as Mendela Nelson Jacob for the company. In addition, it was agreed that two members of the community are elected into the board of directors / trustees.

After sometimes, the community in Mengele felt that they would benefit more with a separate MoU and the company agreed for additional negotiations and also signed a MoU with this particular community. In this MoU the company agreed to fund additional community projects to this particular community and to pay annual lease of 4000 US\$ for land used from this community.

The company put up containers and machinery in Togolo, opened a small road to get quicker access to the mining site in Togolo coming directly from Juba and started mining. According to the report of the company who stayed in Togolo for about 5 months of which they only mined during one month the company has found 3 kg of gold. The Payam administrator estimates that the company has found 6 – 10 kg of gold. The ministry has sent a mining engineer to be with the company.

The project finally failed and the company pulled out in 2014 for three reasons:

- After the first MoU was signed the Coordinator met the Central Equator State Director of Industry and Mining to advocate for a license for Ramciel International. But the company and his advocates failed to get the official license from the Directorate.
- In 2014 Mundari cattle rustlers broke the containers of the company in Togolo. They took food items and some tools. Later other people came and took away what can be taken away so the place was completely looted. The company estimated the loss to be 3 million USD.
- The second agreement with Mengele that, according to the Payam administrator, contradicts the MoU signed with the representatives of the Payam. These additional negotiations confused the process and broke the unity of the Payam.
- After the fall out the company apparently shared that there is not enough gold to make profit and has decided to not come back. For the Payam the only achievement is the road to Juba which is not yet frequently used. According to the Payam administrator no lease was paid yet.

This case between the Chinese investor and the community in Wundorobu warrants serious insight into the process of awarding exploration or mining licences and the nature/character of the Companies' Corporate Social Responsibility.

The communities in the licenced area require sufficient level of conscientization. First, while the mineral resource deposit is situated in their locality, the responsibility and authority for licencing the exploration and extraction of the mineral lies with the central authorities in the Ministry of Mining. The investor pays all fees and royalties to the central authorities and commits to meet its corporate social responsibility to the community in form of common services like schools, health care centres, water wells and feeder roads.

The conflict between the community and the investor arise when certain individuals in the community fraudulently try to take for themselves what is meant for the community. This underscores the need for community conscientization. Mineral exploration essentially is research work involving massive sampling for investigation. Some elements of the community sometimes begin to think that the company is taking away something important and therefore begin to agitate against the company. CMREIC had a similar experience in Ganzi east of Wundorobu in 2010, when it sampled the area and sent to Juba rock and soil samples for shipment to South Africa for analysis.

The process of conscientization is a common task to be shared between the Ministry of Mining, the State, County and Payam authorities. The idea is for people to understand and distinguish between exploration stage, which essentially is research work. At this phase of mineral development the Mineral Exploration Licence holder spend huge amounts of money sampling for analysis rock, soil and biogenic material in order to establish the economic potential of the deposit. This phase is different from the production phase, whereby actual mining processing and production takes place.

Conscientization also defines the stage in the development of the mineral deposit when it becomes incumbent on the investor to implement the commitment to corporate social responsibility. Further, it should be known and clear to all that CSR is in form of common services and goods to the community. It would be illegal for an individual, no matter how powerful in the community, to (mis) appropriate the company's corporate social responsibility meant for service to the community.

The case of Wundorobu would underscore the need to review the legislation in order to streamline the relations between the national and state level authority in the mineral licensing and control of information and data.

V. RISKS ASSESSMENT STUDY: A DICUSSION

There is no mining industry *sensu strictu* in the Republic of South Sudan. If anything, and for the purpose of the study, what is categorised as mining industry are small artisanal operations undertaken by the local communities with or without government licence or control. The artisanal mining operations are the oldest mineral workings and have been indicators and/or guides to gold mineralization in different parts of the country. The artisanal mining activities currently concentrate in Lobonok, Kapoeta, Udabi (Yei), Kajo-Keji and Luri in Eastern and Central Equatoria states.

The artisanal gold mining is a risky business undertaken with traditional tools like shovel, spade, chisels and panning disc by the local communities employing indigenous knowledge. The risks include incidences of miners getting buried and killed when the ground above their mining shafts collapses over them. The artisanal gold miners operate individually and singularly without insurance against injury or death, and this puts them at great risk. Linked to health and safety of the artisanal miners is the spread of communicable and water-borne diseases that occur consequent to large number of people converge to form a settlement around the small artisanal gold mining place without functioning health care or sanitary facilities and security.

The artisanal mining is an important economic activity, which if regulated could generate employment and create economic growth. This would require the intervention of the Ministry of Mining as well as the State government to undertake the following.

- Registration, provide a Cadastral number and turn the artisanal gold mining area into a community artisanal mining enterprise organized on cooperative basis. This would make it possible to regulate and control the mining activities therein including security and insurance of the miners.
- The organization of the Artisanal Miners would help formalize their business making them tax-payers to the state, which in turn would provide social service in education, health, communication and other benefits found in a modern economy.
- The formalization of the artisanal operations would contribute to stabilization of security in the artisanal mining area, and makes it easy to combat criminal and illicit dealings like smuggling and tax jumping.

This brings us face to face with the risk involved in small-scale mining and in mineral exploration. The Mining Act and the Mining Regulations restrict the Small-scale mining licence to local entrepreneurs. However, many of the current SSML holders started off as mineral prospection licence (MPL) and mineral exploration licence (MEL) holders. For reasons linked to lack of concrete geological information, insecurity and/or sufficient funding, they shifted to SSML holders only 2018. This was to avoid requesting *force majeure* as the insecurity in the area would force them to. However, this gave them the easy leeway of extracting gold from the alluvium in their licenced areas. It would have been better for the MoM to accept a *force majeure* than permitting the companies to operate under the SSML, which most would not legitimately be issued. However, this risk due the insecurity is not insurmountable.

The revitalized agreement on the resolution of the conflict in South Sudan (R-ARCISS) provides for peace and stability and social harmony in the foreseeable future. The implementation of R-ARCISS would enable the government to curb insecurity in the country. This would help build investors' confidence and start mineral prospection and exploration. Further, the Ministry of Mining has already contacted friendly government to assist in the complete regional geological surveys and mineral prospecting of the whole of South Sudan. This would provide important data and information to prospective investors to boost investment in the minerals of South Sudan.

As mentioned above, the Mining Act and the Mining Regulations provide for multiplicity of rights and authority over the licenced area. The contradiction inherent in this multiplicity of rights and authority constitutes a risk as may be gleaned from the conflict between the Chinese company the Great Ramciel Investment and the community in Wundoroba. It impinges and challenges the enforcement of the principles of transparency and accountability because of lack of clear guidelines, role and responsibilities of the different levels of government. At times, the state authorities cut deals with investor and issue SSML or EL without knowledge of the Mining of Mining. On the other hand, the local community may raise questions about the licences issued by the Ministry of Mining, and therefore the licence holder has to obtain another permission from the state authority making it cumbersome to undertake mineral development. The case cited above involving the Chinese investor, Great Ramciel International as well as the less report standoff between the people of

Ganzi and CMERIC Ltd epitomize the discrepancy that occurs when more than one authority manages a project.

The law is clear that the minerals occurring in the subsoil and below in the crust are the responsibility of the state, which authorizes their development and extraction. All the mineral royalties accrue to the sovereignty of the South Sudan state. In addition to the royalties, the investor commits to corporate social responsibility (CSR) in the form of common goods and services to the community in the vicinity of the mineral deposit.

Certain hitches occur in the practice in managing the relationship between the investor and the local community and the local authorities that certain individuals in the community or in the state government take it upon themselves to misappropriate these goods and services and this results in tensions and conflict between the community and the investor leading to destruction and loss of property. This requires a complete review and revision of the Mining Act and the Mining Regulations in order to streamline the processes in the mineral industry and to embed accountability and transparency in the industry.

The review of the Mining Act and the Regulations would provide for better standards and best practice in enforcing transparency and accountability on the parties involved. The approval and issuance of licences would be undertaken in accordance with laid down guidelines, rules, regulations and threats of retribution in case of default.

The lack of transparency and/responsibility (accountability) or perhaps complacency on the part of the officials in the Ministry of Mining comes out clearly in the issuance of an exploration licences (EL). In appendix 01, a foreign company was issued EL for the following metallic deposits: Ag, Al, Au, Cr, Cu, Py, Sb, U and Zn in an area measuring 11348 Cadastral Units [approximately 10 km²] in area. From a geological point of view, it is difficult, if not impossible for these minerals deposits to be found within the proximity of so small an area. This is because they form under different geological environments. There is no possibility for them to be found together as required by the EL application. The licensing official should have advised the ignorant foreign investor, who most probably did not employ a geologist.

This risk assessment study of the mineral industry in South Sudan did not include risk analysis, risk management, institutional risk, risk agents and risk bearers or victims of environmental degradation. This stems from the lack of clear understanding or existence of a contract between the government of South Sudan and the people of South Sudan. The

environmental disaster in the oil field; the deforestation taking place consequent to felling of plantations and natural forests in the hands of foreign investors, demonstrate that the political elite at all levels of state power care less about the people. Because these elite benefit from the foreign companies exploiting the natural resources, they sometimes apply repressive means to silence people complaining about the destruction of the environment.

The greatest risks accruing to the people in the mining areas therefore emanates from the ignorance or lack of concern for their security and safety exhibited by the ruling elite. This lack of concern now finds expression in the demand to change the constitutional provision that land belongs to the government rather than the people. It is meant to silence them for ever against encroachment on their rights. In this respect, the urge for accountability and transparency in mineral industry or in the other extractive industries link up with the struggle for democracy and good governance in general.

The demand for accountable and transparent business in the extraction industry is nothing more than rendering the extraction profitable for all. The government plays two important roles: Through the Ministry of Mining it undertakes scientific investigations for the discovery of the mineral resources; and through the Ministry of Justice, it promulgates laws, rules, regulations and guidelines to be followed and executed by the extraction industry. The extraction industry in turn meets its obligations to the state and to the community.

Therefore, transparency and accountability are the only basis for a sustainable development of the mineral resources in the Republic of South Sudan.

VI. SUMMARY AND CONCLUSION

The Republic of South Sudan is endowed with enormous potential in minerals. This stems for the little knowledge of the geological configuration of the country and the presence of Archean and pre-Cambrian rock formation occupying large parts of Equatoria and parts of Upper Nile subregions. These minerals remained potential consequent to lack of systematic geological investigation and hence did attract investments to develop and extract them.

Although there is no mining, in the real sense, in South Sudan to warrant risk assessment, nevertheless, the study assess risks in the mineral industry could not have come at an opportune time. The study revealed weak points in the emerging industry and therefore makes it easy, now or in the long run, to rectify, through review of the legislation and strengthen the observance of transparency and accountability regime in the industry.

It goes without saying that minerals make enormous contribution to economic growth and improvement in the lives of the people. Their extraction provide employment and, therefore, it is necessary to assess those risks, especially those that impinge on transparency and accountability involving, individuals and institutions in government, companies and the traditional authority in the communities. Minerals are non-renewable and therefore their development and extraction should be undertaken in a manner that does not compromise the rights of the future generations.

The study identified risks in the artisanal mining, small-scale mining and in the mineral exploration endeavours. There is no legal requirement even at the state or local level to undertake artisanal gold mining in the form of a licence, regulation or rules. This condition notwithstanding that the bulk of gold traded in South Sudan come from the artisanal mining ventures. In the absence of rules, regulations and state control in general, much of this gold extracted in South Sudan is smuggled out of the country. This means that the artisanal miners and gold dealers jump the law that requires payment of fees, taxes, etc. This makes it absolutely necessary to review the Mining Act 2012 and the Mining (Mineral Title) Regulations 2015 to enforce strict enforcement ensuring closer supervision of the artisanal mining practices, and to curb smuggling.

The review of the Mining Act and Regulations would provide not only for strict observance of the impact on the environment consequent to activities linked to the small-scale mining, it would also ensure the culpability of the companies by placing on line

of good business the company's institutional reputation. The review should empower the people to defend their rights in face of unpatriotic attitude and greed of the political elite, and the capriciousness of the mineral extraction companies, who refuse to adhere to accountable and transparent business ethos but cut deals through political channels to get their way. The review of the law would confirm the sole responsibility of the licence holder to rehabilitate the land and river courses disturbed and destroyed by the operations.

The Mining Act 2012 must have been informed by the government mining or mineral extraction policy. The study could not trace this mining policy because the Ministry of Mining was first established as a department in the Ministry of Petroleum and issues of minerals and the processes for extraction were completely eclipsed by oil as the main revenue source to the government of South Sudan.

The mining policy must of necessity link to the question of land ownership. The confusion about land ownership, which was politically generated and engineered to encourage hegemony of a particular social class in the context of land speculation for foreign investment in large-scale mechanized agricultural production and livestock ranching, created conflict and inter- and intra-communal feuds. The review would clarify land according to ownership into government land, the community land and private individual's land. Nevertheless, this classification will not stop undertaking geological investigation or any other scientific study of the land

In conclusion, this study, risk assessment of the mineral industry in the Republic of South Sudan, has been a kind of eye opener. The discussion with the authorities in the Ministry of Mining proved useful in understanding the difficulties associated with the promulgation of the Mining Act at the time the ministry was dominated by the oil exploitation as the main source of revenue for the government. The study alerted some of the small-scale mining licence holders particularly those who did not employ geological experts, and made investment without having concrete and correct information about gold mineralization in the areas they had applied for. It was also a criticism against the officials of the Ministry of Mining for engaging with lay people in issues that required scientific knowledge.

The preliminary report of the study was subjected to a lively discussion by a panel made up of the Under-Secretaries of the Ministries of Mining, and Forestry and Environment and the Director for Environmental and Natural Resources Program in the Sudd Institute, in

the well-attended Ebony Centre's DPF/Transparency Forum on 20 July 2019. It is hoped that the Ministry of Mining and the Ministry of Justice to take note of the findings and recommendations of this study in order to expedite an earlier review of the legislations.

VII. RECOMMENDATIONS

The importance of minerals to socioeconomic development and industrialization of South Sudan cannot be over emphasized. Minerals, particularly coal and iron, were the backbone and drivers of the industrial revolution. The all-out development of South Sudan can only take place when its mineral potentials are developed and extracted contributing to its revenue basket, and a factor in the socioeconomic planning processes. It is therefore imperative that much attention be attached to the study of geology of South Sudan in order to gain scientific knowledge of its minerals and mineralization.

The risk assessment of the mining industry and the discussion of the research findings reveal astounding challenges requiring immediate intervention to close the gaps and loophole in the issuance of mineral licences particularly the small-scale mining and mineral exploration licences. The study therefore makes recommendations that hinge on entrenching the principles of transparency and accountability in the mineral industry. The recommendations, therefore, constitute ground to formulate a framework for transparent and accountable business in the development and extraction of minerals in the Republic of South Sudan.

1. There is urgent need to review of the Mining Act 2012 and the Mining (Mineral Titles) Regulations 2015 with the intention of ensuring closer supervision of the industry to build the capacity of the Ministry of Mining to enforce transparency and accountability in the industry. We recommend the following: -
 - Licence the artisanal gold mining in order to organize and regulate its activities, and make it contribute to the growth of the national economy. This requires among others
 - Improving the condition of work and equipment of the artisanal miners to increase their production;
 - Register their production; and
 - Enforce law to curb smuggling and criminal activities in the artisanal gold mining areas.
 - Clarify and differentiate the role and responsibility of the central authority (Ministry of Mining) from that of the State, County or Payam

administration in the issuance of the artisanal gold mining licences in order to avoid conflict.

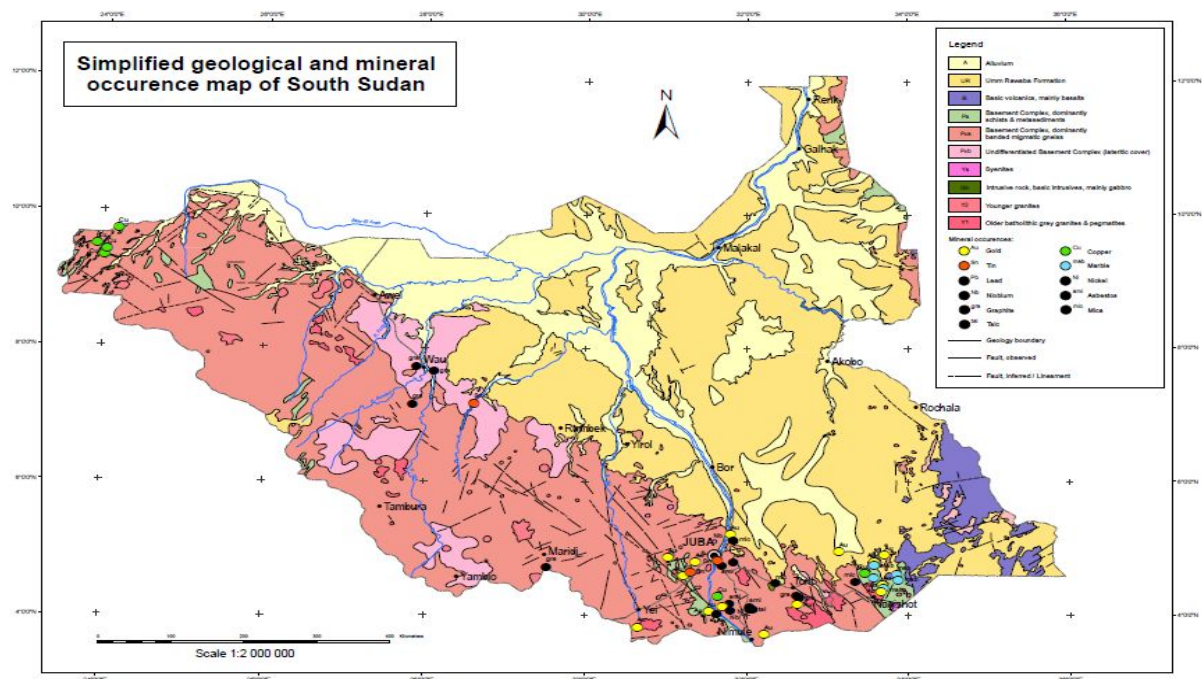
2. The Ministry of Mining should issue small-scale, or mining licence for that matter, only after the completion of the exploratory work, whence the parameters of the mineral deposit and associate mineralization of other rare earth elements have been completely known and documented. This may mean revoking some of the small-scale mining licences which have not started operation.
3. Develop the technical and professional capacity of the Ministry of Mining
 - First, to enable it to scientifically validate the data and information availed by the mineral exploration licence holders; and
 - secondly, construct and equip a chemical laboratory and a geophysical laboratory to examine the duplicate samples the licence holders would be required to avail to the Ministry of Mining for validation.
4. Linked to above is the technical and professional training of the geologists and technicians in the Ministry of Mining to meet their functions and duties in the development of the mineral industry;
5. The Ministry of Mining to accelerate the on-going talks and discussions with foreign governments (China and Belarus) to expedite the regional geological survey and the production of the geological map of South Sudan. It is hoped that this would be undertaken in the next five to ten years such that the mineral resource potential of South Sudan is classified.
6. Minerals resources are non-renewable and therefore should be extracted with the hindsight for the future generations. Apart for the royalties, fees, taxes, corporate social responsibility, there is urgent need to look at best practices elsewhere in the world. In developing their huge deposits of oil, the Norwegians put aside money to be saved for the future generation. In the same

vein, legislation should be promulgated that part of the royalties paid to the state should be reserved, conserved or saved for the generation of South Sudanese fifty or hundred years from now.

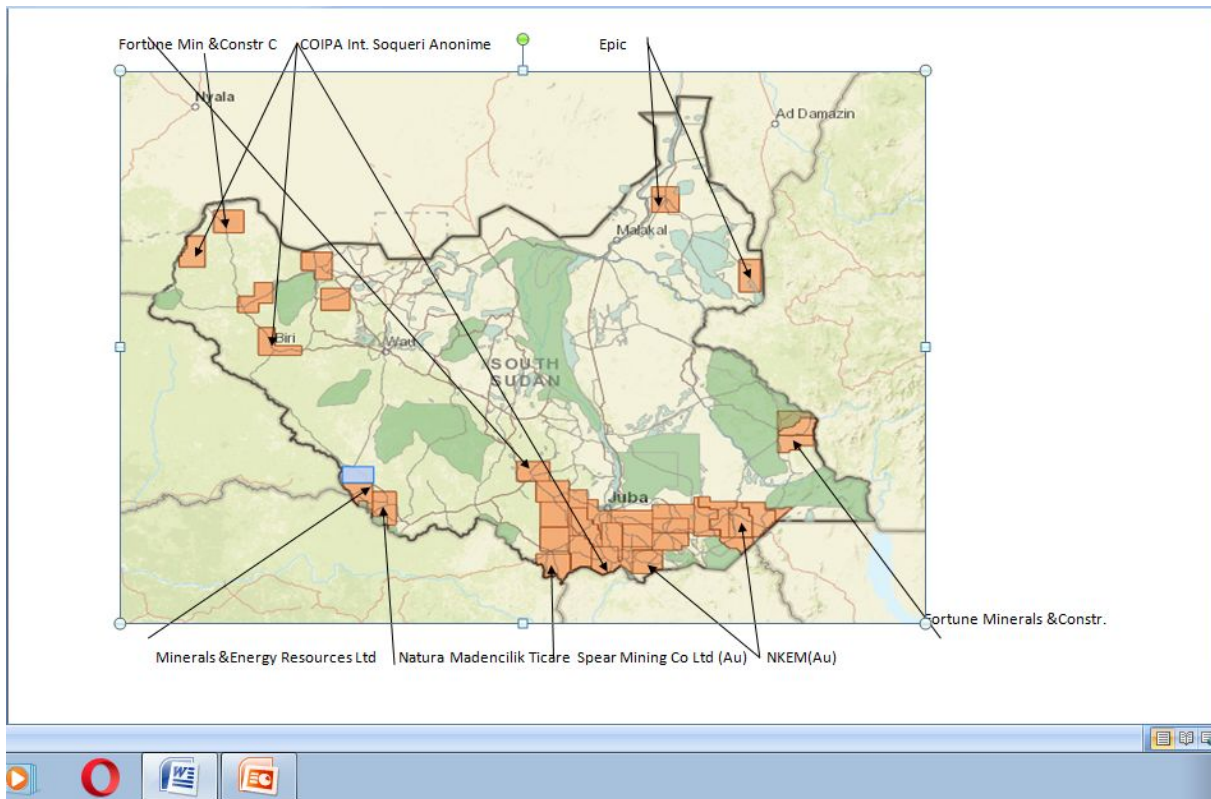
7. The protection of the environment is a shared responsibility, nevertheless, the mining licence holders carries the most responsibility in terms of rehabilitation of the land, rivers and streams affected by the mining activities. The Mining Act and Mining Regulation provides for responsibility for strict observance of environmental impact of mineral activities.
8. Starting large mining activity in any areas in South Sudan should only be approved after a thorough environmental impact assessment (EIA) of the enterprises. The experience of South Sudanese communities in the oil development areas of Paloich (Northern Upper Nile) and Pan Aru (Unity state) where development preceded proper EIA must be an eye opener to the development of minerals.
9. Adherence to the EIA and a business regime that enforces the accountability and transparency in its operation is an absolute necessity. The rules have now changed that litigation may be brought anywhere in the world against a company that ignored its responsibility towards the people and the environment. In this respect, risk to institutional reputation must be entrenched in the Mining Act and in the Mining Regulations.
10. The review of the Mining Act should include provisions that allows the people to litigate against the company and demand compensation in case of violations of their rights or destruction of their land, water sources and forests.

Appendices

Map. 01 A simplified Geological Map of South Sudan
Sudan Geological Survey (1980)



Map 02 South Sudan Cadastre Portals (Explorations Concessions)



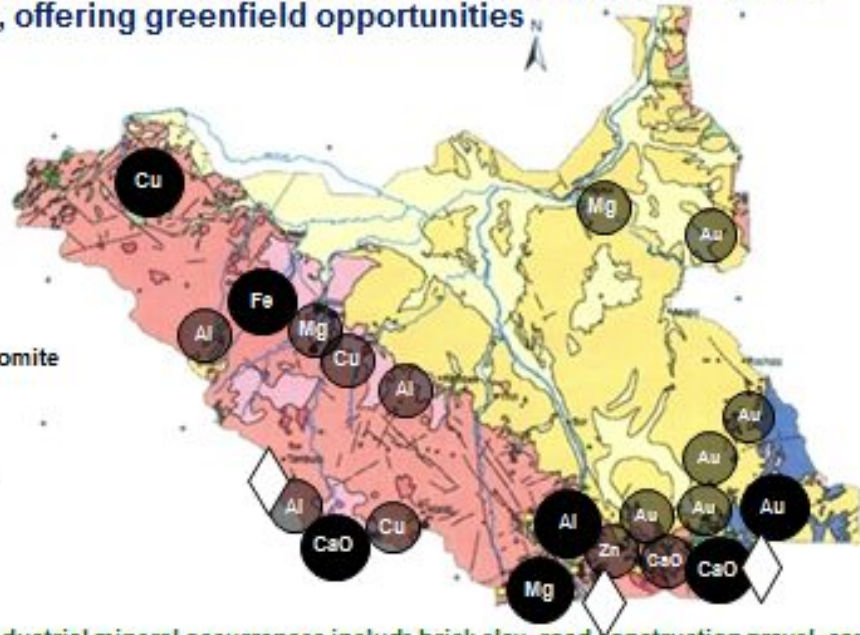
Courtesy Azaria Gillo (2019)

Map 03 Mineral occurrences in South Sudan



The mineral wealth of South Sudan is in the very early stages of exploration, offering greenfield opportunities

Al: Aluminum
Au: Gold
CaO: Marble/Dolomite
Cu: Copper
Fe: Iron
Mg: Manganese
Zn: Zinc
◊: Gemstones



Additional industrial mineral occurrences include brick clay, road construction gravel, sand, kaolin, and talc. Other minerals include rare earth minerals, tin & tungsten, nickel, niobium, uranium, and iron ore.

Appendix 01

**REGISTERED MINERAL EXPLORATION COMPANIES OPERATING IN THE
REPUBLIC OF SOUTH SUDAN****Updated: 22.01.2019**

S/N	Company			Concession		Mineral (s)	Date of license
	EL Code	Name	Nationality	Location/State	Size in Cadastral Units		
01	EL 01 2015	New Kush Exploration & Mining Co. Ltd	South African	Kapoeta/ Namurnyang	11722 CUs	Au	20/05/15
02	EL 02 2015	Consolidated Mineral and Energy Resources Investment Co. Ltd	South Sudanese	Luri Jubek	1107 CUs	Au, Ag	20.05.15
03	El 03 2015	Spear Mining Co. Ltd.	South Sudanese	Morobo Yei River State	11743 CUs	Au	02.06.15
04	EL 04 2015	New Kush Exploration and Mining Co. Ltd.	South African	Kajo-Keji Yei River State	11528 CUs	Au	03.06.15
05	EL 05 2015	Epic Exploration Pty Ltd.	Australian	Kapoeta Namurnyang	11348 CUs	Ag, Au, Al, Cr, Cu, P, Sb, U, Zn	22.07.15
06	EL 06 2015	Epic Exploration Pty Ltd.	Australian	Mundri Amadi State	11581 CUs	Au, Ag, U, Cu, Cr, Ni, An, C	22.07.15
07	El 07 2015	Epic Exploration Pty Ltd.	Australian	Melut NUN State	11554 CUs	Fe, Mn, U	22.07.15
08	EL 08 2015	Epic Exploration Pty Ltd.	Australian	Maiwut Maiwut	11760 CUs	Al, Au, Cu, Mn	22.07.15
09	El 09 2015	SASS Minerals and Petroleum (Pty) Ltd	South African and South Sudanese	Lianya Yei River State	11536 CUs	Au	05.08.15
10	El 10 2015	Equatoria Mining Inc.	South Sudanese	Lobonok Jubek	11368 CUs	Au, Cu, Fe, Sn Ta, W	25.08.15
11	El 11 2015	Zhonghao Exploration & Mining Co. Ltd	Chinese	Lobonok Jubek	9116 CUs	Au	20.08.15
12	EL 12 2015	SASS Minerals and Petroleum (Pty) Ltd.	South African South Sudanese	Juba Jubek State	7235 CUs	Au	19.08.20
13	El 13	Sky Gold Co. Ltd.	Lebanese	Juba	10934 CUs	Au	19.08.15

	2015			Jubek State			
14	EL 14 2015	Black Stone for Mining Co. Ltd.	South Sudanese	Budi Namurnyang	5748 CUs	Au, Cu, C, Zn	05.11.15
15	EL 15 2015	Mineral and Energy Resources Ltd.	South Sudanese	Ezo Budwe State	8094 CUs	Au, Cu, C	07.10.15
16	EL 16 2015	Lucky Friends Trading	South Sudanese	Torit Imatong	9930 CUs	Au	01.12.15
17	EL 17 2016	Coipa International	Italian	Nimule Imatong	10925 CUs	Au, Cu, C, Ni, Zn	13.01.16
18	EL 01 2016	Jok Bell International Trading Co. Ltd.	South Sudanese	Aweil Aweil State	11707 CUs	Ag, Au, Cu, C, Mn, U	01.04.16
19	EL 02 2016	Jumana for Petroleum and Mining	Sudanese	Magwe Imatong State	5148 CUs	Au, GAT , GAZ	01.04.16
20	EL 04 2016	Natura Madencilik Ticaret A. S.	Turkish	Kapoeta Namurnyang State	11148 CUs	Au, Ag, Cu, C, Ni	11.05.16
21	EL 05 2016	Natura Madencilik Ticaret A. S.	Turkish	Lafon Imatong State	9300 CUs	Au, Ag, Cu, C, Ni	11.05.16
22	EL 06 2016	Natura Madencilik Ticaret A. S.	Turkish	Kapoeta Namurnyang State	10408 CUs	Au, Ag, Cu, C, Ni	11.05.16
23	EL 07 2016	Natura Madencilik Ticaret A. S.	Turkish	Ezo Budwe State	10885 CUs	Au, Ag, Cu, C, Ni	11.05.16
24	EL 08 2016	Natura Madencilik Ticaret A. S.	Turkish	Mundri Amadi State	11648 CUs	Au, Ag, Cu, C, Ni	11.05.16
25	EL 09 2016	Jumana for Petroleum and Mining Ltd.	Sudanese	Tambura Budwe State	8662 CUs	Au, Ag, GAT, GAZ	
26	EL 10 2016	Manajem Co. Ltd	U.A. E	Torit Imatong State	8680 CUs	Au, Fe, M	24.06.16
27	EL 11 2016	Manajem Co. Ltd	U. A. E	Aweil Aweil State	10416 CUs	Fe, M	24.06.16
28	EL 12 2016	Manajem Co. Ltd	U. A. E	Boma Boma State	8408 CUs	M, Au, Fe	24.06.16
29	EL 13 2016	Panda Trading & Investment Co. Ltd	South Sudanese	Raga Lol State	11328 CUs	Al, Cu, C, Au, Mn, Ag, U	08.07.16
30	EL 14 2016	Fortune for Minerals and Construction Ltd.	South Sudanese & Chinese	Kapoeta Namurnyang	2285 CUs	Au, C, Cu, D, GS , Hg, MM . Ni	18.08.16
31	EL 15 2016	Fortune for Minerals and Construction Ltd.	South Sudanese & Chinese	Amadi Amadi State	10836 CUs	Au, C, Cu, D, GS , Hg, MM , Ni	18.08.16

32	EL 16 2016	Fortune Minerals for and Construction Ltd.	South Sudanese & Chinese	Raga Lol State	11210 CUs	Au, C, Cu, D, GS, Hg, MM, Ni	19.12.16
33	EL 17 2016	Fortune Minerals for and Construction Ltd.	South Sudanese & Chinese	Boma Boma State	7527 CUs	Au, C, Cu, D, GS, Hg, MM, Ni	19.12.16
34	EL 18 2016	Fortune Minerals for and Construction Ltd.	South Sudanese & Chinese	Lafon Imatong	11246 CUs	Au, C, Cu, D, GS, Hg, MM, Ni	19.12.16
35	EL 19 2016	Manajem Co. Ltd.	U. A. E.	Luri Jubek State	7695 CUs	Au, DA	08.07.16
36	EL 20 2016	Kaligaam Investment Co.	South Sudanese	Pibor Boma State	7085 CUs	Au, Cu, D, GS, Zn, Pb, Ni	02.12.16
37	EL 21 2016	COIPA International	Italian	Deim Zubier Lol State	11558 CUs	Al, Au, Cu, D, Ni, Zn	02.12.16
38	EL 22 2016	COIPA International	Italian	Hofrat en Nahas Lol State	11712 CUs	Al, Au, Cu, D, Ni, Zn	02.12.16
39	EL 01 2017	4M.B. and Dove Mining Ltd.	USA	Kapoeta Namurnyang	4183 CUs	Au	23.01.17
40	EL02 2017	AG Vision Construction	Nigerian	Kapoeta Namurnyang	5525 CUs	Au, Cu, Ag, Zn, Pb, Mo,	20.12.20
41	EL 03 2017	BP Minerals Ltd.	South Sudanese	Juba Jubek State	1406 CUs	Au	26.01.18
42	EL 01 2018	Marina Investment Co. Ltd.	South Sudanese	Kapoeta Namurnyang	376 CUs	Al, Cu, D, GS, Au, Fe, H, G, Ni, W, U	25.01.18
43	EL 02 2018	Dove Equipment and Machinery	South Sudanese	Ezo Tambura	5590 CUs	Au	18.01.18
44	EL 03 2018	Dove Equipment and Machinery	South Sudanese	Juba Jubek State	2509 CUs	Au	26.01.18
45	EL 04 2018	Harmony International Co.	South Sudanese	Kapoeta, Jonglei Buma	4328 CUs	Au, D	08.03.18
46	EL 05 2018	Kano Exploration-Lanya	South Sudanese	Lianya Jubek/ Yei	6328 CUs	Au	04.04.18
47	EL 06 2018	Queen Minerals Lanya	South Sudanese	Lianya Yei River State	6102 CUs	Au	05.04.18
48	EL 07 2018	Al Cardinal Mining Ltd.	Sudanese	Gorom Jubek State	1395 CUs	Au	11.06.18
49	EL 08 2018	Shepherd Bushiri Investments	South African	Jubek, Terekeka, Mundri	7070 CUs	Au	02.07.18
50	EL 09 2018	Al Cardinal Mining Ltd	Sudanese	Lobonok Jubek	9116 CUs	DA, Au, W, V, U	08.08.18

51	EL 10 2018	Al Cardinal Mining Ltd	Sudanese	Jubek Torit	11246 CUs	DA, Au, W, V, U	07.08.18
52	EL 11 2018	Al Cardinal Mining Ltd	Sudanese	Kapoeta Namurnyang	4104 CUs	DA, Au, W, V, U	29.10.18
53	EL 12 2018	Al Cardinal Mining Ltd	Sudanese	Kapoeta Torit	6810 CUs	DA, Au, W, V, U	29.10.18
54	EL 13 2018	Al Cardinal Mining Ltd	Sudanese	Buma	7385 CUs	DA, Au, W, V, U	29.10.18
55	EL 14 2018	RAK Mining Co. Ltd.	South Sudanese	Buma	2376 CUs	Cu, Au, D, Ag	25.10.18
56	EL 15 2018	MED Construction for Development	South Sudanese	Gorom	1318 CUs	Au	14.12.18
57	EL 16 2018	MED Construction for Development	South Sudanese	Gorom	91 CUs	Au	17.01.19
58	EL 01 2019	Iryel General Trading Co. Ltd.	South Sudanese	Aweil	10100 CUs	Cr, Cu, D, Au, Fe, Ag	25.02.19
59	EL 02 2019	Newcrest Mining Services	South Sudanese	Maiwut	10276 CUs	Au	
60	EL 03 2019	Thazin Mining (SS) Co. Ltd	Norwegian South Sudanese	Terekeka	4626 CUs	Au	
61	EL 04 2019	Doud International for Trading Co. Ltd.	South Sudanese				

Appendix 02

LIST OF SMALL-SCALE MINING COMPANIES REGISTERED IN SOUTH SUDAN Updated 21.01. 2019

S/N	Company			Concession		Mineral
	SSML Code	Name	Nationality	Location State	Cadastral Units	
01	SSML 01 2018	Kano for Trading and Investment Co. Ltd	South Sudanese	Gorom Jubek State	5 CUs	Au
02	SSML 02 2018	Kano for Trading and Investment Co. Ltd.	South Sudanese	Gorom Jubek State	5 CUs	Au
03	SSML 03 2018	Queen Minerals Enterprise	South Sudanese	Gorom Jubek State	5 CUs	Au
04	SSML 04 2018	Gorom Mining Ltd.		Gorom Jubek State	5 CUs	Au
05	SSML 05 2018	Korea Venture Partners Co. Ltd.		Gorom Jubek State	5 CUs	Au

06	SSML 06 2018	Gorom Mining Ltd.		Gorom Jubek State	5 CUs	Au, Ag, Cu
07	SSML 07 2018	Al Cardinal Mining Ltd.	Sudanese	Gorom Jubek	5 CUs	Au
08	SSML 08 2018	MED Construction for Development	South Sudanese	Gorom Jubek State	5 CUs	Au
09	SSML 09 2018	Lucky Friends for Construction & Trading Co. Ltd	South Sudanese	Gorom Jubek State	5 CUs	Au
10	SSML 10 2019	Canaan Mining Co. Ltd.	South Sudanese	Gorom Jubek State	5 CUs	Au
11	SSML 11 2019	Frontier Mining Ltd.	South Sudanese	Gorom Jubek State	5 CUs	Au
12	SSML 12 2019	Frontier Mining Ltd	South Sudanese	Gorom Jubek State	5 CUs	Au

Appendix 03

**COMPANIES / INDIVIDUALS GRANTED PROVISIONAL GOLD DEALERS
LICENCE IN SOUTH SUDAN**

Updated 23.01.2019

S/N	COMPANY			Licence Date	Expi
	Licence Code No	Name	Nationality		
01	0001				
02	0002				
03	0003	New Land International Mining & Investment Co. Ltd		10.02.2015	09.02
04	0004				
05	0005	Minerals and Energy Resources Ltd.		14.05.2015	13.05
06	0006	Sue for Construction and Water Resources Engineering Co. Ltd.			
07	0007	Jokolo Mila Co. Ltd		05.08.2015	04.08
08	0008	John Trading and Investment Co. Ltd.		26.08.2015	25.08
09	0009	Spear General Trading Co. Ltd.		14.09.2015	13.09
10	0010	Pioneer for Mining Investment & Trading Co. Ltd.		16.09.2015	15.09
11	0011	Eagle Natural Resources Ltd.		14.12.2015	13.12
12	0012	Pure for Mining Co. Ltd		22.01.2016	21.01
13	0013	All Energy Investment Ltd.		27.01.2016	26.01
14	0014	Gold Stone Mining Co. Ltd.		27.01.2016	26.01
15	0015	Buziga General Investment Co. Ltd.		24.02.2016	23.02
16	0016	JPL Gold & Diamond Co. Ltd.		01.03.2016	29.02
17	0017	Speke Construction & General Supply Co. Ltd.		11.03.2016	10.03
18	0018	Harmony International Company Ltd.		12.05.2016	11.05
19	0019	United Oil, Gas, Mining & Energy Co. Ltd		03.06.2016	02.06
20	0020	Kaligam Investment Company Ltd.		26.07.2016	25.07
21	0021	Mop General Trading Ltd.		27.07.2016	26.07
22	0022	AHA Travel, Tourism & Transport Co. Ltd.		27.11.2016	26.11
23	0023	Unison for General Trading and Investment Co. Ltd.		06.03.2019	05.03

Appendix 04

LIST OF SMALL-SCALE MINING LICENCE HOLDERS MARKED FOR INTERVIEW

1. Korea Venture Partners Co Ltd.

Small-scale mining operation

Gorom, Jubek State.

Name of Company	Korea Venture Partners Co Ltd.	SSLM 05
Company registration No:	No: 29,585, juba	
Authorized Person	Daewon Kim	
Physical address	Hudson Apartments; Hai Malakal, Juba, Jubek, SS	
Title/Position	Mining Director	
Tel:	0924444959	
Email address	kidwon@naver.com	
Witness Number		
Witness name		Approx area: 1sq. km.
Small Scale Mining Area	Gorom?	
Small Scale Mining licence granted	25/05/2018	Duration: 10years
<i>Exploration license area</i>		
<i>Cell</i>	+21192444958	Approx. Exp area: ?
<i>Email</i>	<i>Kidwon777@gmail.com</i>	Coordinates??

Note.

Telephoned Mr. Daewon Kim on 27 May requesting him for an interview

He showed that he was not understanding me properly because of the English language; however, he said he would call me back. A certain South Sudanese who seemed to have a language problem called me later. I explained to him the purpose of my study. He said they would call be back after consulting with his Korean colleague. He never called. On Wednesday 28 May, I called the same number four times and was never answered suggesting they were not interested in the interview.

2 Cardinal Mining Ltd.
SSML for gold
Gorom.

Name of Company	Cardinal Mining Ltd. Sudanese Comp	SSLM 07
Company registration No	27.751	
Authorized Person	Sief Eldin Mekk Eltahir	
Qualifications	B. Sc. In Geology; M. Sc in Geology; Ph D in Geology.	
Physical address	Juba-Nyak 3 – Rock City, Near Toyota Co. Juba, Jubek, SS	
Title/Position		
Tel:	+211922088888/+211922200000	
Email address	seifsom@gmail.com	
Witness Number		
Witness name		Approx area: 1sq. km.
Small Scame Mining Area	Gorom?	
Small Scale Mining licence granted	14/03/2017	Duration: 10years
<i>Exploration licence area</i>		
<i>Cell</i>		Approx. Exp area: ?
<i>Email</i>		

Note

We made several calls to Mr. Sief el Din Mekk El Tahir but to no avail; there was respond or call back to the caller.

3. 4MB/Gorom Mining Ltd

Small Scale Mining operation in Gorom

Name of Company	Gorom Mining Ltd	SSLM 06
Company registration No	29,239	
CEO/Chairman	Mr. Yorom Moussaieff	
Cell:	?	
Authorized Person	Isaiah Ajang Deng	
Qualifications	geologist	
Address/Physical address	Hai Malakal, Juba, Jubek, S. Sudan	
Title/Position	D/Managing Director	
Tel:	0928744474/0916699315	
Email address	Isaiah.ajang72@gmail.com	
Name of Legal Representative	Pier & Co. Advocates	
Address	Hai Malakal, Juba, Jubek	Approx area: 1sq. km.
Witness	Nial Kur	
Small Scale Mining Area	Gorom	
Small Scale Mining license granted	04/06/2018	Duration: 10years
<i>Commercial Representative in South Sudan</i>	<i>Equity Bank Ltd S. Sudan, Hai Amarat, Juba, CE/Jubek</i>	Coord: phot (9) with Gorom...
<i>Email of Comp Rep</i>	James.kiarie@equitybank.co.ke	
<i>Exploration license area</i>		
<i>Cell</i>		Approx. Exp area: ?
<i>Email</i>		
<i>Shares</i>	<i>69% Yarom Moussaieff 31 %Isaiah Ajang Deng Garang</i>	

Mr. Yorom Moussaieff was interviewed

4. Kano for Trading & Investments Comp (Ltd).

Name of Company	Kano for Trading & Investment Comp. (SS) Ltd.	SSLM 02
Company registration No	639	
Authorized Person also Legal representative	Philip Ajang Nyibong	
Qualifications	Lawyer?	
Address/Physical address	Juba Main Market, Juba Raha Camp	
Title/Position	Manager general	
Tel:	+211928888801	
Email address	philipjang@gmail.com	
Witness Number	Lupisally Germalili Roman	Coord: captured
Witness name	Athiang Ibrahim Khalifa	Approx area: 1sq. km.
Small Scame Mining Area	Gorom Area, Jubek state	
Small Scale Mining license granted	02/03/2018	Duration: 10years
<i>Exploration license area</i>		
<i>Cell</i>		Approx. Exp area: ?
<i>Email</i>		Coordinates?

Interviewed Mr. Philip Ajang

- Kano for trading and Investment purchased gold processing equipment on the strength of the information given by the Ministry of Mining, which turn out to inaccurate
- \the company lost money

5. Queens Minerals Enterprise.

SSLM 01

Gorom Area, Jubek

Au

Name of Company	Queens Minerals Enterprise	SSLM 01
Company registration No	1980, Juba	
Authorized Person	Lucia Yai Deng	
Qualifications		
Address/Physical address	KCB – Buluk Plaza – Juba, Jubek state, South Sudan	
Title/Position		
Tel:	+211928555554	
Email address		
Persons & Qualification	Alijok Abosh Ajang Degree in geophysics	
Legal Person attested	Anthony Arop Laa	Approx area: 1sq. km.
Address	KCB - Buluk Plaza, Juba, Jubek, SS	
witness		COORD: CAPTURED
Small Scale Mining Area		
Small Scale Mining license granted	23/02/2018	Duration: 10years
<i>Exploration licensed area</i>		
<i>Cell</i>		Approx. Exp area: ?
<i>Email</i>		Coordinates?

Neither Lucia Yai Deng nor Anthony Arop Laa cared to pick up their telephones nor did they come back to the caller.

6. MED Construction for Development
Small Scale Mining Licensed Area. Gorom (gold), Rejaf County, Jubek.

Name of Company	MUD Construction for Development Co. Ltd	SSLM 08
Company registration No	28085	
Authorized Person	Noah Abakar Noah	
Qualifications		
Address/Physical address	Jebel Check Point, Juba, Jubek, SS	
Title/Position	B. Sc Geology & Mining; MEC.MP mining sector.	
Tel:		
Email address		
Attesting Person/ Date	Pagan Ocayi Tipo /17/07/2018	
Tell	+211927095947; Email: ocaigan@gmail.com	Approx area: 1sq. km.
Small Scale Mining Area		
Small Scale Mining license granted	17/06/2018	Duration: 10years
<i>Exploration licence area</i>		
<i>Cell</i>		Approx. Exp area: ?
<i>Email</i>		

Note

Had an interview with Brig. Gen. Pagan Ochayi Tipo

- Mobile Engineering Dynamics (MED) Construction for Development is unit of the SPLA Production Department;
- The unit acquired small-scale mining licences in several areas in Jubek state
- It was not able to procure the necessary finances for starting the operations
- It is in contact with foreign firms in Belarus and China

7. Lucky Friends, Trading Construction Co. Ltd.
Small Scale Mining license (gold). Gorom, Rejaf County, Jubek, SS.

Name of Company	Lucky Friends, Trading Constr. Co. Ltd	SSLM 09
Company registration No	??	
Authorized Person	Fred Kigeriugu	
Qualifications	Senior geologist	
Address/Physical address	Custom Bus Park, Juba, Jubek, SS	
Title/Position		
Tel:	0922592947/0916692517	
Email address	luckyfriendstrade@yahoo.com	
Legal Representative	Mr Jungo, John Idris	
Tell		Approx area: 1sq. km.
Small Scale Mining Area		
Small Scale Mining license granted	17/06/2018	Duration: 5 years
<i>Small Scale Mining Area Coordinates</i>		
<i>Exploration licence area</i>		
<i>Cell</i>		Approx. Exp area: ?
<i>Email</i>		

Note

Had telephone conversation with Mr. Jungo John Idris on 27 May.

- The company has not started operation;
- The Director Mr. Fred Kigeriugu was in Kampala
- Not sure when the mining operations would begin.

Provisional Prospecting licence

Government of Southern Sudan
Ministry Of Energy , Mining & Industry
Under Secretary's Office



حكومة جنوب السودان
وزارة الطاقة - التعدين والصناعة
مكتب الوكيل

Date :- 16/01/2008

Ref : MEM&I/GoSS/24.A.1

Director
Consolidated Mineral & Energy Resources Investment Co.LTD.

Ref: Provisional prospecting License for Upper Luri Area.

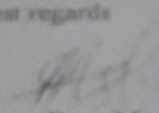
Reference to letter of Intent to Invest in Mineral Exploration in Upper Luri Area.

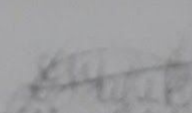
Approval is hereby given to prospect for gold and associated minerals in the said area for a duration of one year effective from 01/01/2008 to 31/12/2008.

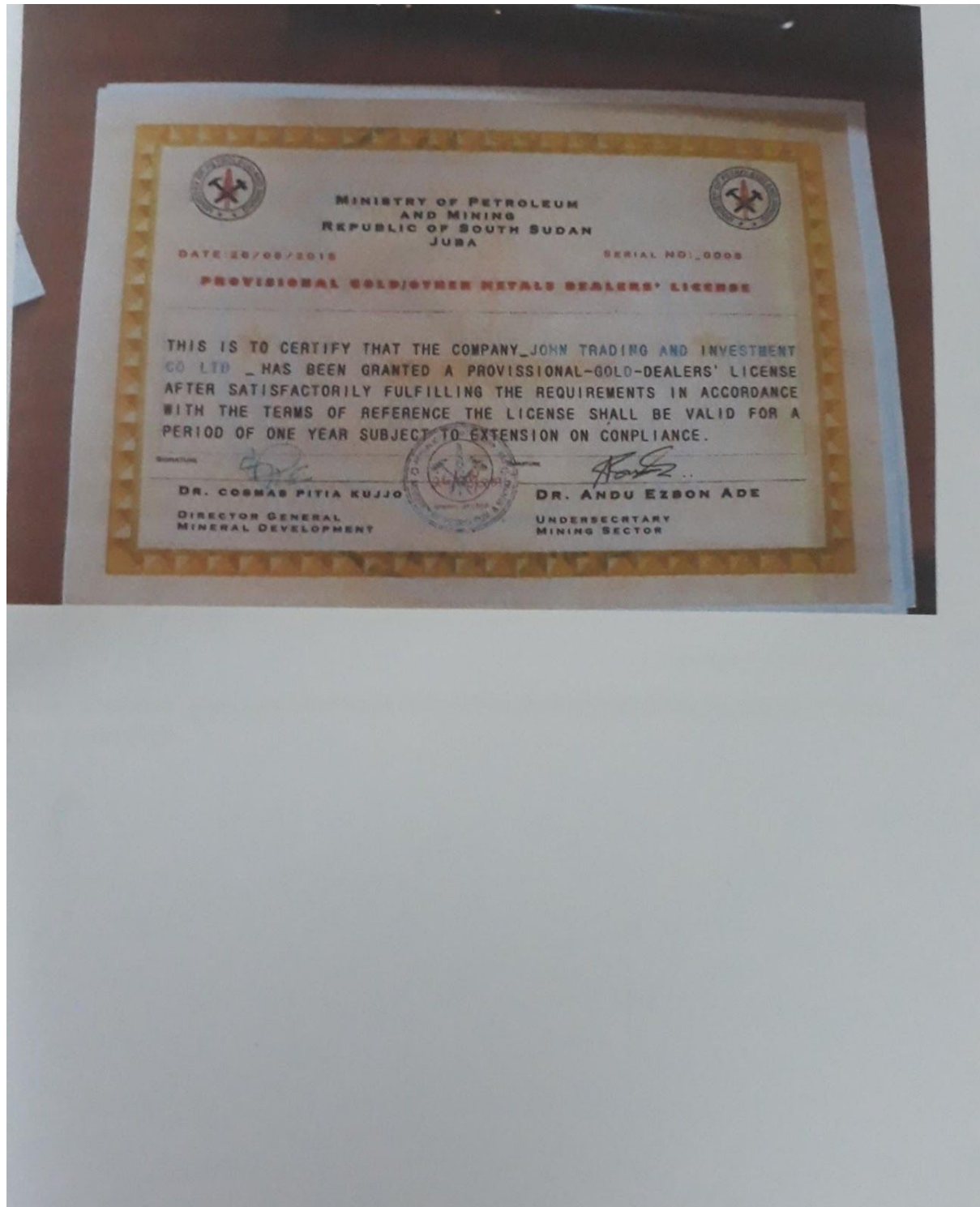
The licence could be renewed when requested for, Mining concession will be negotiated when the company carries out successful exploration.

By this license, Consolidated Mineral and Energy Resource Investment Co.LTD can bring in their equipment to facilitate their work.

Best regards


Chuor Deng Mareng
Under Secretary
Ministry of Energy, Mining & Industry
Survey
Government of Southern Sudan/Juba.
Sudan/Juba


David Loro Gubek
Director General
Directorate of Mineral & Geological
Government of Southern



Picture 1 Artisanal Miner



Courtesy of Azaria Gillo

A risky operation. More often the walls of the mine shaft collapses burying the artisanal gold miner to his death.

Picture 2 **Artisanal Gold miner's weighing machine**



Courtesy Azaria Gillo

The artisanal gold miners are meticulous in their innovations. The weights they use for weighing the gold nuggets or grains are surprisingly accurate.

Picture 3 (a) Artisanal miners' kids at Lobononk's mining sites



Courtesy Azaria Gillo

This is unintended consequences of an industry that does not have social security instruments.

Picture 3 (b) **Lobonok Artisanal gold mining area**



Courtesy Azaria Gillo

Note the number of would be school-going children who are not attending school. In fact, some of the children seen in this picture are artisanal gold miners.

Picture 4 Constructing Processor's Foundation at Gorom



Courtesy Yoram Moussaieff

Picture 5 Gold processor installed



Courtesy Yoram Moussaieff

Picture 6. An artificial lake to store water for processing gold



Courtesy Yoram Moussaieff

Artisanal Gold Mining in Kapoeta

7. (a) Metal detector



Picture 7 (b) Artisanal gold miners



Courtesy Azaria Gillo

The artisanal gold miners follow the metal detector, which is tuned only to gold. Once it makes a sound, the miners start scooping the soil as well as rocks. Note the presence of shovels and spades in the background.

Picture 7 (c) Typical gold panning activity



Courtesy Azaria Gillo

Appendix 08



REPUBLIC OF SOUTH SUDAN
MINISTRY OF MINING



Unders

21st May 2019

Date:

Ref:

Secretary General of the State Government
Jubek State

Subject: Introduction of Prof. Peter Adwok Nyaba team to Jubek State Government
Authorities

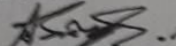
Dear sir,

This letter serves to introduce Prof. Peter Adwok Nyaba and Mr. Azaria Gillo Emilio who are undertaking a research work entitled: Risk Assessment of the Mining Industry in South Sudan: Toward a Framework for Transparency and Accountability, commissioned by the Ebony Centre for Strategic Studies.

The team will be visiting some artisanal and small scale gold mining sites in your state.

Your facilitation and usual cooperation is highly appreciated.

And thanks


Dr. Andu Ezbon Adde
Under secretary
Ministry of Mining
RSS/Juba



Cc: Hon. Minister of Mining
Cc: Hon. Governor Jubek State
Cc: Prof. Peter Adwok Nyaba
Cc: Azaria Gillo Emilio
Cc: File

APP 08