THE UNITED REPUBLIC OF TANZANIA

MINISTRY OF ENERGY AND MINERALS

TANZANIA MINERALS AUDIT AGENCY (TMAA)

REPORT ON MINERALS ROYALTY FORMS AND RATES APPLICABLE IN THE MINING INDUSTRY

December, 2009

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EXECUTIVE SUMMARY

The formulation of the Mineral Policy of Tanzania in 1997 and the Mining Act of 1998 boosted investment in the mining sector, which resulted into the opening of the following seven major gold mines: Golden Pride Mine in 1998; Geita Gold Mine in 2000; Bulyanhulu Gold Mine in 2001; North Mara Gold Mine in 2002; Buhemba Gold Mine in 2002; Tulawaka Gold Mine in 2005; and Buzwagi Gold Mine in 2009. These seven major gold mines boosted gold production from 1 ton of gold achieved in the 1990's to over 50 tons in 2009.

Despite the above achievements, the public has been complaining that the mineral sector is not contributing enough to the national economy. Generally, the Government is expected to benefit from the operations of the major gold mines through payment of corporate tax, mineral royalty, local levies and other direct and indirect benefits. However, most of the major gold miners have not started paying corporate tax; instead they only pay royalties, local levies and other taxes. The public has therefore been suggesting that the Government should consider increasing royalty rates on minerals produced so as to boost Government revenue. This suggestion has also been shared by different committees formed by the Government to review the performance of the mineral sector (Kipokola's Committee - 2004, Masha's Committee - 2006, and Bomani's Committee - 2008).

TMAA thought it necessary to study royalty forms and rates applicable in different countries so as to establish the best form and rate to be adopted in Tanzania for the ultimate goal of attaining a win-win situation.

This study has revealed that there are mainly five forms of royalty applicable worldwide, which are Flat Rate Unit of Production, Gross Revenue, Net Smelter Return, Net Proceeds and Profit Based.

The study has revealed that Gross Revenue form of royalty is mostly applicable in many countries (Annex A). This is due to the fact that it is easy to calculate, collect, monitor, inexpensive to administer and has low risk to the Government or State.

Tanzania practices Net Smelter Return form of royalty with applicable royalty rates of 5% for diamonds, 5% for raw gemstones, 0% for cut and polished gemstones (gems), and 3% for other minerals.

The study recommends that Tanzania should adopt Gross Revenue form of royalty and increase royalty rates to 4% for precious and base metals and 6% for diamonds and gemstones; 7% for uranium and 3% for other minerals. These rates are internationally competitive.

SCOPE

The study focuses on:

- applicable laws and regulations with regard to minerals royalty;
- royalty forms applicable in different countries; and
- applicable mineral royalty rates in different countries.

1.0 METHODOLOGY

In order to arrive at the findings and recommendations of this study, a comprehensive literature review was undertaken as well as data collection and analysis.

2.0 BACKGROUND INFORMATION

Tanzania is rich of mineral resources with high economic potential. It has a long mining history since 1930's. Economic minerals produced include gold, diamond, coal, copper, silver, building materials, dimensional stones, tanzanite and other varieties of gemstones. Most of the mines are wholly owned and operated by private companies and individuals with the role of the Government being regulating, promoting and facilitating private investment. The Government benefits from the mining industry through royalties and taxes paid by the mining operators.

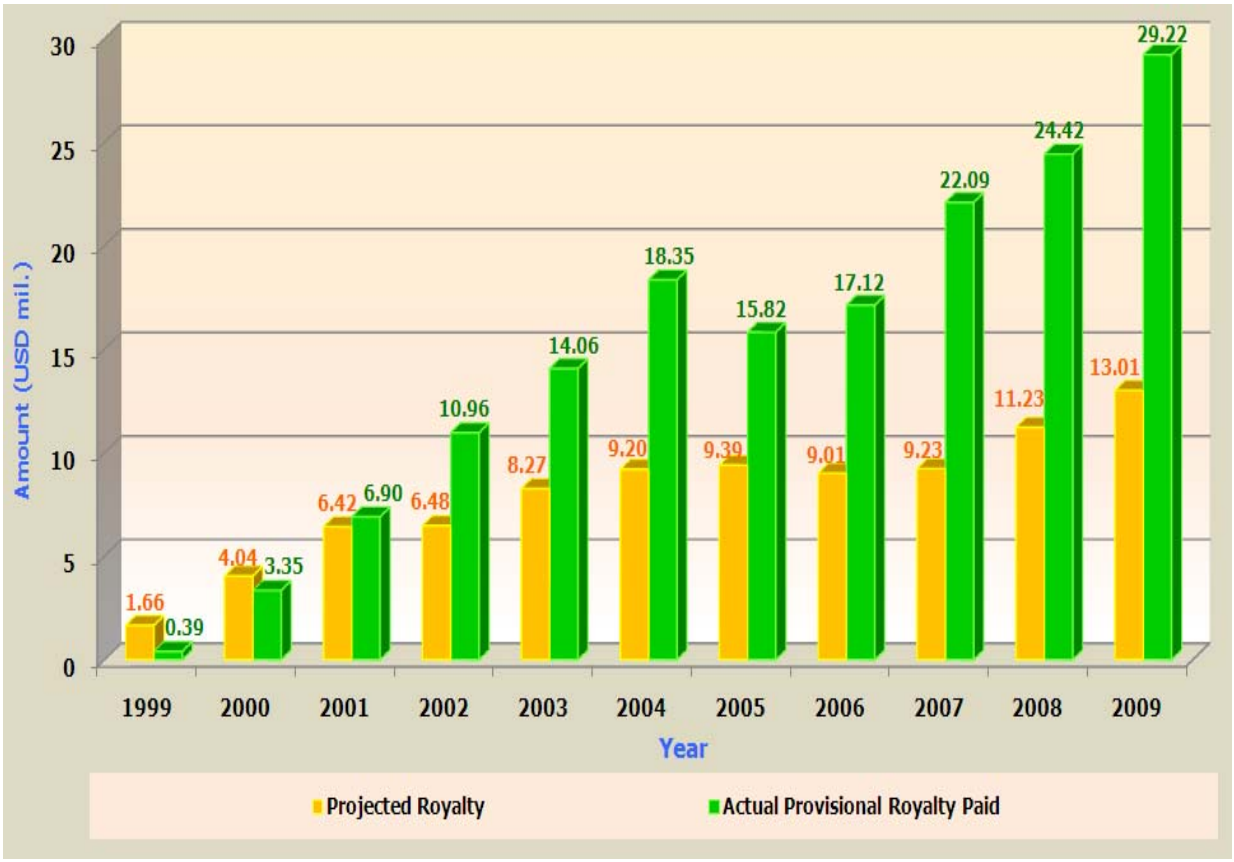
Minerals royalty is a payment made by the mining operator or prospector to the Government on minerals exploited. It is an economic compensation paid to the State (as the owner of the minerals) by the mining operator for the exploitation of non-renewable resources.

Minerals royalty is manifested in a wide variety of forms. It is commonly based on the quantity and value of minerals produced and sometimes based on profitability. Many nations are currently reforming their fiscal regime so as to maximize benefits from the mineral sector. Royalty forms and rates are being re-examined as part of the reform.

Section 86 of the Tanzania Mining Act, Cap. 123, stipulates that every authorized miner shall pay to the Government of the United Republic of Tanzania a royalty on the netback value of minerals produced at the rate of 5% for diamonds and uncut gemstone, 0% for gems, and 3% for all other minerals. Salt producers using renewable resources and who possess evidence of paying environmental protection levy are exempted from payment of royalty.

Figure 1 provides statistical data on minerals royalties paid to the Tanzania Government by major gold miners from 1999 through 2009.

Figure 11: Projected Vs Actual Royalties Paid by Major Gold Mines (1999 - 2009)



3.0 MINERAL ROYALTY FORMS

The study has revealed that there are mainly five forms of mineral royalty applied worldwide, which are:

- Flat Rate Unit of Production;
- Gross Revenue;
- Net Smelter Return;
- Net Proceeds; and
- Profit Based.

3.1 Flat Rate Unit of Production Form of Royalty

This form of royalty is determined through a fixed amount of money that the Government or state have agreed to be paid by the mining operator for each ton, pound or ounce of minerals produced or sold from the owner's property. This form of royalty is commonly applicable in building materials.

Computation Method

Suppose the Government charges a royalty of TZS 1,000 per ton of gravel produced by the mining operator. If the operator produces 20,000 tons of gravel per month, royalty to be paid will be TZS 20,000,000. Table 1 provides computed revenues to be generated by the mining operator through sales of gravel against royalty to be paid to the Government based on variation of commodity prices.

Table 1: Computed Revenue and Royalty Based on Variation of Commodity Prices

Gravel Produced (ton)	Commodity Price (TZS/ton)	Revenue generated by the operator (TZS)	Royalty to be paid to the Government (TZS)
20,000	10,000	200,000,000	20,000,000
20,000	15,000	300,000,000	20,000,000
20,000	25,000	500,000,000	20,000,000
20,000	5,000	100,000,000	20,000,000
20,000	1,000	20,000,000	20,000,000

From Table 1, it is clearly demonstrated that Flat Rate Unit of Production form of royalty does not take into account inflation as well as commodity price changes.

The Advantages and Disadvantages of Flat Rate Unit of Production Form of Royalty

ADVANTAGES	DISADVANTAGES
• It is easy to compute, collect and monitor. • It is transparent and inexpensive to administer. • It is certain to be paid when production takes place. • It meets the objective of providing revenue in the early years of the project.	• Marginal producers may become uneconomic. • It encourages over-mining of high grade resources. • It does not respond to market conditions and can affect decision about whether to mine or to discontinue mining.

Considering the fact that prices of minerals has been increasing in the world market at a rapid pace, applying this form of royalty will cause the Government to lose its revenue, hence it is not recommended to be adopted in Tanzania.

3.2 Gross Revenue Form of Royalty

This form of royalty is determined by multiplying a known royalty rate by the gross revenue of the minerals sold with no deduction for any cost paid by the mining operator.

Royalty = (Royalty Rate) x (Gross Revenue of Minerals Sold)

The Advantages and Disadvantages of Gross Revenue Form of Royalty

ADVANTAGES	DISADVANTAGES
• It is easy to calculate, collect and monitor. • It is inexpensive to administer and implement. • It is certain to be paid all years when production takes place. • It provides more revenue to the Government or State.	• It is a disincentive to investment in the sector especially when the royalty rate is high.

It can be observed that the advantages outweigh the disadvantages. Hence, this form of royalty is suitable to be adopted in Tanzania.

3.3 Net Smelter Return Form of Royalty

This form of royalty is determined by multiplying a known royalty rate by the gross revenue of the minerals sold less allowable costs such as transport, insurance, handling, smelting and refining costs. Tanzania is currently practicing this form of royalty.

Royalty = (Royalty Rate) x (Gross Revenue – Allowable Costs)

The Advantages and Disadvantages of Net Smelter Return Form of Royalty

ADVANTAGES	DISADVANTAGES
• It meets the objective of providing revenue in the early years of the project. • It is certain to be paid all years when production takes place. • It encourages investment in the sector since it favors mining operators.	• It delays payment of final royalty, which is subject to transaction time for establishment of sales value of minerals and allowable costs. • It creates room for inflating allowable costs in order to pay less royalty. Hence, the Government may lose substantial amount of revenue.

Due to difficulties in verifying allowable costs, the Government may lose substantial revenue through false declarations of allowable costs by the mining operators. Hence, this form of royalty is not suitable for Tanzania.

3.4 Net Proceeds Form of Royalty

This form of royalty is determined by multiplying a known royalty rate by the gross revenue of the minerals sold less allowable production costs. Production costs which are allowed to be deducted from the gross revenue of minerals sold are normally described in the mining license to eliminate future disagreements on payable royalty.

Royalty = (Royalty Rate) x (Gross Revenue – Allowable Production Costs)

The Advantages and Disadvantages of Net Proceeds Form of Royalty

ADVANTAGES	DISADVANTAGES
• It gives higher royalties from mines with higher profits. • It captures significantly higher royalties in boom times of commodity prices. • Royalty calculation does not require segregation based on mineral type, grade, or level of processing and one rate could be applied to all mineral categories.	• It is difficult to administer. • High collection risk for Government because royalties vary with profits. • Deductable production costs may be inflated purposely by the mining operator to pay less royalty.

The disadvantages of this form of royalty clearly outweigh the advantages. Therefore, this form of royalty is not suitable for Tanzania.

3.5 Profit Based Form of Royalty

This form of royalty is determined by multiplying a known royalty rate by the gross revenue of the minerals sold less capital and operating expenses.

Royalty = [Royalty Rate] x [Gross Revenue – (Capital & Operating Expenses)]

In periods of high mineral prices, Profit Based form of royalty may provide the Government or State with an attractive payment level since mineral production costs do not vary substantially as the case with mineral prices. In periods of low mineral prices, Profit Based form of royalty payments may become quite small or vanish.

The Advantages and Disadvantages of Profit Based Form of Royalty

ADVANTAGES	DISADVANTAGES
• It gives higher royalties from mines with higher profits. • In case of a profit making mine, it captures significantly higher royalties in boom times of commodity prices.	• It is difficult to administer. • Deductable capital and operating expenses may be inflated purposely by the mining operator to pay less royalty and taxes.

This form of royalty is complex to administer on the side of the Government especially when the mining operator is not a truthful taxpayer. In such a situation, the Government will get less or no royalty from the operator.

Since large scale mines normally take long time to break-even and considering the fact that the Government needs revenue each year to finance its activities, collecting revenue based on this form of royalty will be disadvantageous to the Government. Hence, this form of royalty is not suitable for Tanzania.

4.0 SENSITIVITY ANALYSIS OF ROYALTY FORMS

Sensitivity analysis is hereby performed on royalty forms taking into consideration some controllable variables such as mineral production quantity, mineral prices, allowable costs, production costs and total operating costs. Testing of each form of royalty was done based on the following initial assumptions:

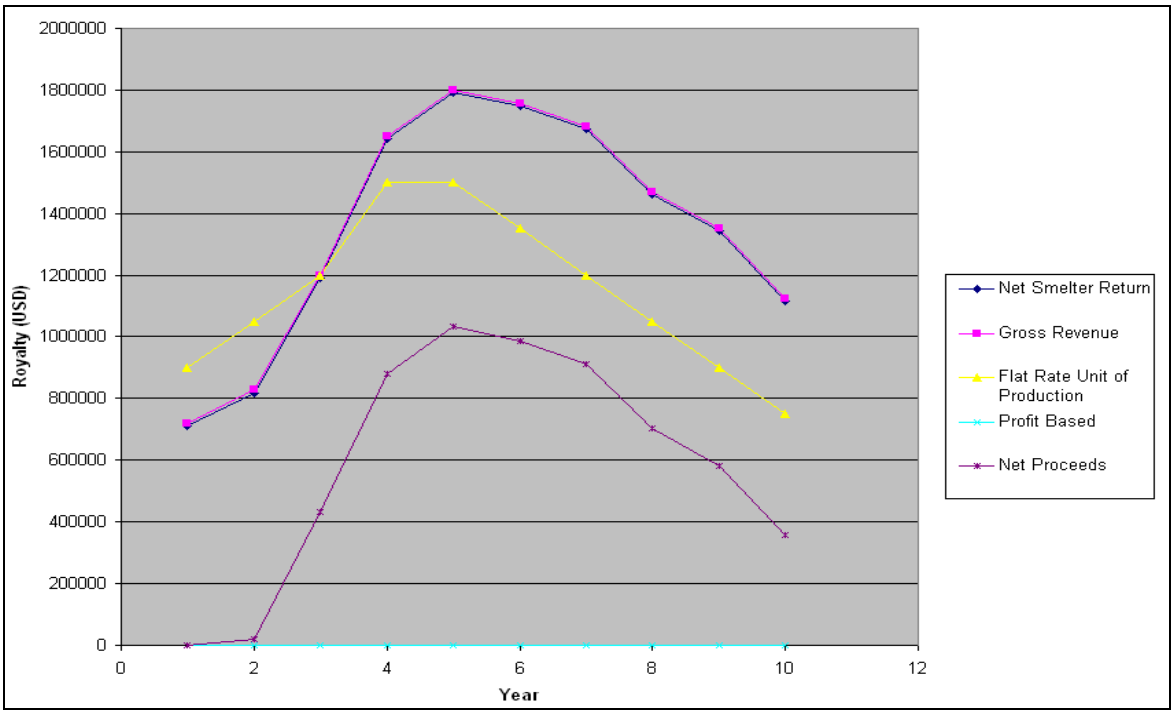
- Gross Revenue = 3% x (gross revenue of the minerals sold)
- Net Smelter Return = 3% x (gross revenue - allowable costs)
- Net Proceeds = 3% x (gross revenue – allowable production costs)
- Profit Based = 12% x [gross revenue – (capital and operating expenses)]
- Flat Rate Unit of Production = USD15 x (troy ounces of gold produced)

Annex B presents nominal data used for Royalty Form Sensitivity Analysis.

Case 1

Figure 1 presents values of computed royalties per each form of royalty based on nominal data provided in Annex B.

Figure 2



Observations:

1. In the early years of mine life, Flat Rate Unit of Production form of royalty yields higher royalty than the other forms of royalty.

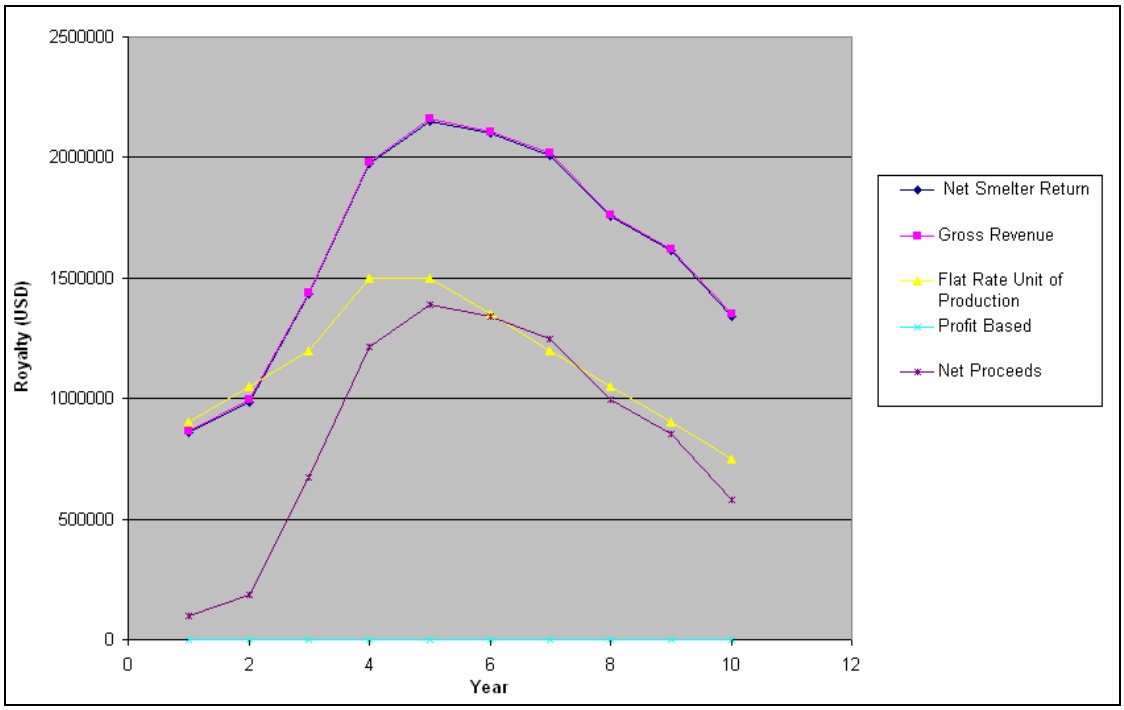
2. Royalty based on profit is zero for the entire mine life.

3. In overall, Gross Revenue yields higher royalties than the other forms.

Case 2

Figure 2 presents values of computed royalties per each form of royalty based on nominal data provided in Annex B – with a 20% yearly increase of gold price.

Figure 3



Observations:

1. All forms of royalty are sensitive to price change except Flat Rate Unit of Production.

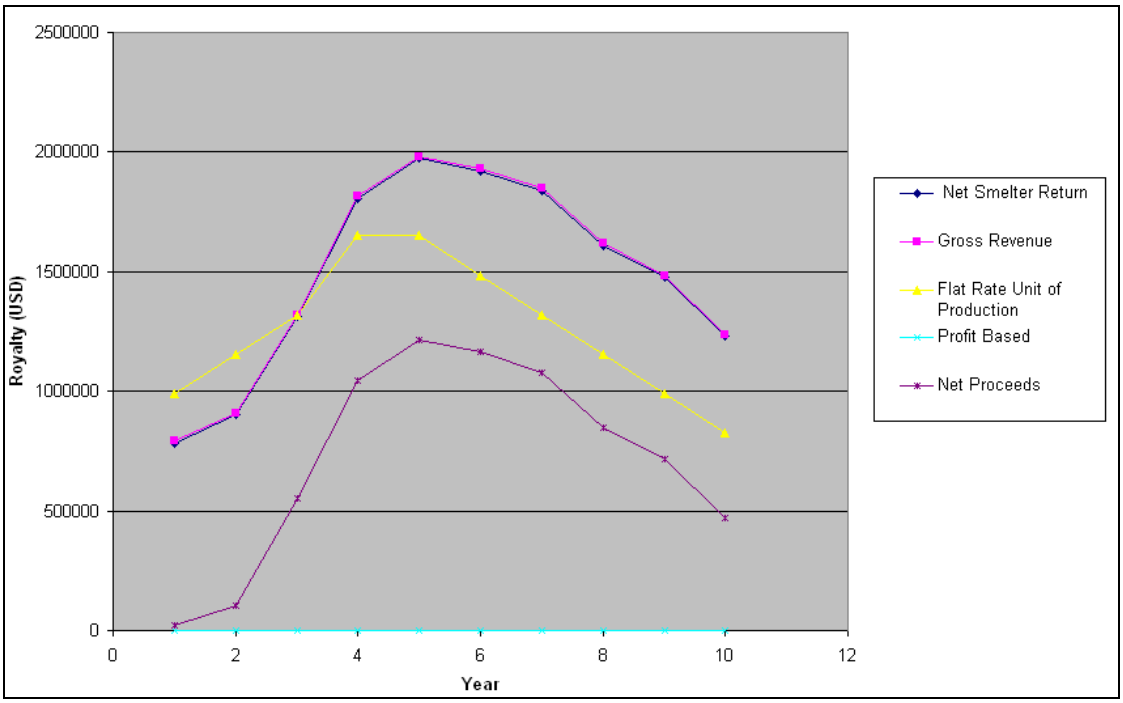
2. Royalty based on profit is zero for the entire mine life.

3. Gross Revenue form of royalty gives higher royalty payments than the other forms.

Case 3

Figure 3 presents values of computed royalties per each form of royalty based on nominal data provided in Annex B – with a 10% yearly increase in gold production.

Figure 4



Observations:

1. All forms of royalty are sensitive to increase in production.
2. Royalty based on profit is zero for the entire mine life.
3. In overall, Gross Revenue yields higher royalties than the other forms.

Summary of Results

Form of Royalty	Ranking			
	Case 1	Case 2	Case 3	Overall
Flat Rate Unit of Production	3	3	3	3
Gross Revenue	1	1	1	1
Net Smelter Return	2	2	2	2
Net Proceeds	4	4	4	4
Profit Based	5	5	5	5

Based on the analysis conducted by varying gold prices and production, Gross Revenue is the highly ranked form of royalty in comparison with the other forms.

4.1 Lessons from other Countries on the Subject Matter

- In an effort to increase Government revenues, **Zambia** decided in 2007 to change the royalty and tax regime to generate more income for infrastructural spending and other development programmes. These changes were made in spite of strong opposition from foreign companies. The government hiked taxes and mineral royalty rates for mining companies, effective April 2008. The changes include an increase to the mineral royalty from 0.6% to 3.0%, an increase in the rate of corporation tax from 25% to 30%, and the introduction of windfall taxes to be triggered at different price levels.

- **Ghana's** Minerals Act stipulates a mining royalty of 'not more than 6% or not less than 3% of the revenue generated through sales of minerals. However, the Government of Ghana had a concern in 2008 that mining companies, whether big or small were only paying 3% (the lowest rate to the government) despite the fact that gold, a major source of foreign exchange for Ghana was selling at an all time high price of over USD 1,000 an ounce during the year. Based on the strong performance of gold in the international market, in 2007 the Minerals Commission of Ghana decided to put in place measures that would ensure that Ghana benefits from the sales of the minerals. Ghana's Minerals Commission came up with a new legislation which requires mining operators to pay an exact percentage of their total revenue from the minerals produced or sold. The bill also looks into how communities can benefit from the royalties paid to

the Government. The move makes Ghana the latest in the growing list of African countries that are increasing royalties and other taxes for the mining industry.

- The Republic of **South Africa (RSA)** is introducing payments of royalty on minerals produced. The Bill was drafted in 2007 to impose royalty on mineral resources. The Bill requires each person that wins or recovers a mineral resource must pay a royalty for the benefit of the RSA. Royalty payable is determined by multiplying the royalty rate by the aggregate gross sales for that assessment period exceeds the amount of allowable deductions for that assessment period. All mining operators were expected to start paying royalty on minerals produced starting March 2009. Royalty rate shall be computed using the following formula:

  Royalty rate = [(earnings before interest, taxes, depreciation and amortization)/ (aggregate gross sales for the assessment period *12.5)] *100%.

Based on the lessons learnt from Zambia, Ghana and South Africa, it has been observed that changes of the fiscal regime for the mining industry, particularly hiking of royalty rates were received by strong opposition from foreign mining companies active in the sector. They generally argued that it would reduce investor's confidence for the country, which generally never happened when the bill was ratified.

5.0 CONCLUSION AND RECOMMENDATIONS

The public has been complaining that the mineral sector is not contributing enough to the national economy and has therefore been suggesting to the Government to, among other things, consider increasing royalty rates on minerals produced so as to boost Government revenue. This suggestion has also been shared by different committees formed by the Government to review the performance of the mining sector.

In order to advise the Government on the best form and rate of minerals royalty to be adopted in Tanzania, TMAA conducted a study which has revealed that there are mainly five forms of minerals royalties used worldwide, which are: Flat Rate Unit of Production, Gross Revenue, Net Smelter Return, Net Proceeds and Profit Based. The study has also revealed that, royalty rates vary from 2% to 18% depending on the type of mineral and computation method used.

Out of the five forms of minerals royalty universally applied, it has been concluded that Gross Revenue form of royalty is the best form as far as the Government or State is concerned. This is due to the fact that it is easy to calculate, collect, monitor and inexpensive to administer. Adopting Gross Revenue form of royalty simplifies royalty calculation since it is based on few documents, and it is computed once at the point of export within the country. This form of royalty also eliminates disputes between the Government and mine operators resulting from royalty reconciliation.

The study recommends Gross Revenue form of royalty to be adopted in Tanzania, in tandem with increasing royalty rates from 3% to 4% for precious and base metals; from 5% to 6% for diamonds and gemstones; introduce a 7% royalty rate for uranium; and maintain a rate of 3% for other minerals.

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ANNEX A: Royalty Forms and Rates Applicable in Selected Countries

Country	Legislation	Royalty Computation Method	Applicable Royalty Rates
Angola	National law	Levied on the value of the mineral resources extracted at the mine site or on the value of concentrates when the resources are processed.	Precious metals and stones- 5% Semi-precious stones – 4% Metallic minerals -3%
Argentina	Provincial law	Royalties are net profit interest and not exceed 3% of the mineral value at the pit mouth.	Gold and copper-3%
Australia (Western)	Provincial law	2-7.5% of realized value; rates vary by mineral and with sustained market value. Royalty may be flat rate, ad valorem or profit based. Profit based royalty are apply in Tasmania, Victoria and Northern Territory, Queensland, New Southwales, Western Australia and South Australia impose ad valorem royalty.	Gold-average 2% Diamond – 7.5% Copper:concentrate-5% Semi-precious stones-7.5% Silver-2.5%
Azerbaijan	National law	Royalty tax is calculated base on flat rate unit of production as certain ratio of the conventional financial unit per cubic meter of the mineral. Mining Tax (Royalty) 3% - 26%	Crude oil-26% Natural gas-20% Mining natural resources: All types of metals -3%
Bolivia	Provincial law	Royalty of 1-7% of sales revenue-deductible against income tax.	Silver (Oz)- 3% - 6% Zinc (Lb)- 1% - 5% Lead (Lb)- 1% - 5%
Botswana	National law	It is charged on gross market value payable on minerals.	10% for precious stones. 5% for precious metals. 3% for all other minerals or mineral products.
Brazil	National law	Royalty is calculated based on sales revenues of the raw mineral. Transportation, sales tax and insurance costs are deductible.	Rates vary from 0.2% to 3% depending on the mineral type 3% is levied on aluminum, manganese and potassium; 2% is levied on iron, fertilizers, coal and other mineral substances; and 1%is levied on gold.
Canada	Provincial law and National regulation	10-18% of net profits interest in all provinces (Quebec - 12%; Ontario -10%; British Columbia - 13%; Manitoba - 18%; Yukon - 13%; Nunavut - 13%; NWT - 13%; Saskatchewan -10%; Alberta - 12%); Minimum tax in some provinces established through additional minimum taxes (British Columbia -	Gold-15% (British Columbia)-18%(Ontario) and 20% Quebec of taxable income

Country	Legislation	Royalty Computation Method	Applicable Royalty Rates
		2% of net after immediate operating expenses; Alberta - 1% of gross; New Brunswick - 2% of net profit interest similar to Net Smelter Return; Nova Scotia - 2% of net)-all are creditable against profit taxes.	
Chile	National law	royalty based minerals sales revenues	Gold and diamonds-3% Coal-1% Iron ore and copper-2%
China	National law	4% of gross sales revenue based	4% is levied on gold, diamond Coal-1% 2% is levied on copper and iron ore
Georgia	National law and local government	It is computed based on flat rate unit of production	Silver – GEL 0.015 per gram Gold – GEL 0.9 per gram Iron – GEL 0.008 per ton
Ghana	National law and negotiated agreements	It is charged of gross revenue sales revenue as well as profit-based	It generally ranges from 3% to 12% 3% for gold
Guyana	National law		5% of gross sales of gold 3% of gross sales of diamond
Indonesia	National law	It is computed as % of FOB sales price per ton or kg of metal exported or as contained in exported concentrates.	It generally ranges from 3% to 5%of sale price per ton or kg. Copper – 4% of sale price per ton Gold – 3.75% of sale price per kg. Silver – 3.25% of sale price per kg.
Ivory Coast	National law	2.5-3% of mine mouth value – rates vary by mineral. Computation based on Net Smelter Return.	Royalty on precious metals is 3.0% of the sale value of the metal after deduction of the costs of refining and transport
Kazakhstan	National law	Computation based on sales revenue payable on the value of extracted mineral resources.	For hydrocarbons it ranges from 2% to 6% depending on the amount of extracted resources The rates on other mineral resources is established by the Government
Mexico	National law	Royalties are payable in the case of bidding processes on national mining reserves. Royalties may also be payable to a private individual if it is the owner of the concession. Royalty is normally based on net smelter return. It ranges between 3% and 7%	

Country	Legislation	Royalty Computation Method	Applicable Royalty Rates
Mozambique	National law	It is charged on sales revenue of payable minerals.	10-12% for diamonds 3-8% for all other minerals.
Namibia	National law	Computation based on sales revenue of payable minerals.	Uncut precious stones 10% of market value, Dimension stones 5% of market value Other minerals max. 5% of market value
Papua New Guinea	National law	2% Net Smelter Return on nickel and copper: Typically the Realized Value less the cost of any processing, transportation and marketing); 2% ad-valorem tax on limestone; 2% realized FOB on gold; additional 4% production levy on gross sales -deductible for income tax purposes	2% on nickel, copper 2% on limestone; 2% on gold;
Peru	National law	The mining royalty is calculated by applying a 1% rate to the annual sales revenue of concentrates under US$60million, 2% to the excess over US$60million up to US$120million, and 3% to the excess over US$120million.	The royalty rate shall be either 1% or 2% of the Net Smelter Return, dependent on the gold price at the time of the exercise of the Option
Philippines	National law	Based on Gross sales value	1%for salt, stones, sands and similar minerals 12% for unpolished natural Diamonds
Poland	National law and Local Government law.	Gross sales of payable minerals	10% contained metal value for gold; 2% gross sales of coal; 3% ore value based on LME for copper; 3% ore value based on LME for zinc
Russia		It is charged on sales revenue of payable minerals.	6%- on gold 6.5%- on other precious metals including silver. 8%- is applied to extraction of most base metal ores.
South Africa	National law	The royalty imposed equals the royalty rate multiplied by the “excess” of aggregate gross sales less allowable deductions. The charge applies per assessment period (i.e. per six months). This fluctuating rate essentially	

Country	Legislation	Royalty Computation Method	Applicable Royalty Rates
		depends on the operating profit.	
Tanzania	National law	Royalties are chargeable on the netback value of mineral produced under a license.	Diamonds- 5% Gemstone-5% Gems-0% All other minerals -3% Salt produced from renewable resources-0%
USA	Provincial law	Alaska and Nevada-net proceeds royalty, California, Arizona, New Mexico, South Dakota, Utah and Washington- Gross royalty Montana- Net Smelter Return Wyoming case by case	Nevada it ranges from 2 to 5% depending upon the ratio of Net proceeds to Gross proceeds. Alaska 3% Net proceeds royalty on minerals taken from lands owned by the state.
Uzbekistan		Based on Gross sales value	Mined gold 5% Mined silver 8% Tungsten 8% Lead, Zinc and molybdenum 1%
Venezuela	National law	Royalties are charged based on mineral exploitation.	Gold, silver, platinum and platinum related mineral 3% of fair market value. Diamonds and other precious gems-4% of fair market value. Other minerals-3% of fair market value.
Zambia	National law	Mineral royalty is calculated based on the gross revenue of mineral produced.	3% of base metals produced. 5% for gemstone and precious metals produced 2% for other minerals

ANNEX B: Nominal Data Used in Sensitivity Analysis of Royalty Forms

Year	1	2	3	4	5	6	7	8	9	10	Total
Production Ounces	60,000	70,000	80,000	100,000	100,000	90,000	80,000	70,000	60,000	50,000	760,000
Price/ Ounce	400	400	500	550	600	650	700	700	750	750	
Gross Revenue US $ Million	24,000,000	27,600,000	40,000,000	55,000,000	60,000,000	58,500,000	56,000,000	49,000,000	45,000,000	37,500,000	452,600,000
Allowable Deductions US $	260,000	260,000	260,000	260,000	260,000	260,000	260,000	260,000	260,000	260,000	2,600,000
Operating Costs	25,600,000	26,880,000	25,600,000	25,600,000	25,600,000	25,600,000	25,600,000	25,600,000	25,600,000	25,600,000	257,280,000
Corporate overhead	6,000,000	6,900,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	60,900,000
Operating profit	-7,860,000	-9,039,000	8,140,000	23,140,000	28,140,000	26,640,000	24,140,000	17,140,000	13,140,000	5,640,000	
Capital Expenditure during the year	120,000,000	138,000,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	258,800,000
15% additional capital allowance on unredeemed capital	0	0	-20,700,000	-22,569,000	-22,468,350	-21,602,603	-20,831,993	-20,320,792	-20,782,911	-21,914,347	
Unredeemed capital expenditure	-120,000,000	-138,000,000	-150,460,000	-149,789,000	-144,017,350	-138,879,953	-135,471,945	-138,552,737	-146,095,648	-162,269,995	-1,423,536,628
Gross Revenue-Allowable costs(USD)	23,740,000	27,301,000	39,740,000	54,740,000	59,740,000	58,240,000	55,740,000	48,740,000	44,740,000	37,240,000	449,961,000
Net Profit	-127,860,000	-147,039,000	-142,320,000	-126,649,000	-115,877,350	-112,239,953	-111,331,945	-121,412,737	-132,955,648	-156,629,995	-1,294,315,628
Net Smelter Return 3%	712,200	819,030	1,192,200	1,642,200	1,792,200	1,747,200	1,672,200	1,462,200	1,342,200	1,117,200	13,498,830
Gross Revenue 3%	720,000	828,000	1,200,000	1,650,000	1,800,000	1,755,000	1,680,000	1,470,000	1,350,000	1,125,000	13,578,000
Flat rate 15 USD per Oz	900,000	1,050,000	1,200,000	1,500,000	1,500,000	1,350,000	1,200,000	1,050,000	900,000	750,000	11,400,000
Profit Based 12%	-15,343,200	-17,644,680	-17,078,400	-15,197,880	-13,905,282	-13,468,794	-13,359,833	-14,569,528	-15,954,678	-18,795,599	-155,317,875
Net Proceeds 3%	-48,000	21,600	432,000	882,000	1,032,000	987,000	912,000	702,000	582,000	357,000	5,859,600