

THE UNITED REPUBLIC OF TANZANIA
MINISTRY OF ENERGY AND MINERALS



TANZANIA MINERALS AUDIT AGENCY



ANNUAL
REPORT 2015

ABOUT TMAA

Tanzania Minerals Audit Agency (TMAA) is a semi-autonomous institution established on 2nd November, 2009 under the Executive Agencies Act, Cap. 245. The Establishment Order was published on 6th November, 2009 under Government Notice No. 362. The Agency aims at maximizing collection of Government revenues from the mineral sector.

VISION

To be a centre of excellence in monitoring and auditing of mining operations.

MISSION

To conduct financial and environmental audit as well as auditing of quality and quantity of minerals produced and exported by miners in order to maximize benefits to the Government from the mining industry for sustainable development of the Country.

CORE VALUES

- Integrity
- Excellence
- Customer Focused
- Teamwork

MESSAGE FROM THE CEO



Eng. Dominic Rwekaza
Chief Executive Officer

Dear Readers,

It is a privilege to present the 2015 Tanzania Minerals Audit Agency (TMAA) Annual Report. During the last 12 months, we focused on continually improving our performance, which provided more significant achievements contained in this report. Realization of such achievements was made possible through a supervisory role by the Ministry of Energy and Minerals (MEM) and exemplary collaboration from key stakeholders notably, the Minerals Division under MEM and Tanzania Revenue Authority (TRA).

In 2015, the Agency in collaboration with key stakeholders and other Government institutions highly focused on comprehensive monitoring and auditing of mining operations across the country. This enabled the Agency to record the following key achievements:

- Major mines paid to the Government a total of **USD 65.8 million** and **TZS 104.9 billion** as royalty and corporate tax respectively. Additionally, a total of **TZS 276 billion** was paid as other taxes and levies for the period under review.
- Strategic audit conducted countrywide in collaboration with the Minerals Division facilitated collection of **TZS 6.2 billion** as royalty from the audit of production and sales of building materials and industrial minerals.
- Audit of mineral processors who use “vat leaching technology” to recover gold from tailings in Mwanza, Geita and Mbeya regions facilitated collection of royalty amounting to **TZS 3.6 billion**.
- Audit of environmental issues continued to trigger improvements in compliance to environmental management best practices in mining areas.
- Monitoring of mineral exports at the major airports enabled interception of smuggled minerals worth **USD 1,512,186.61** and **TZS 34,670,794** in 25 separate incidents.

On another development, in March 2015 TMAA Laboratory located in Dar es Salaam obtained international recognition on standards by being accredited with **ISO/IEC 17025** by the Southern African Development Community Accreditation Service

(SADCAS), international accreditation body based in Gaborone, Botswana. The laboratory delivers high quality mineral sample analysis services. I therefore make a business call to all stakeholders in the mining industry to utilize this laboratory effectively.

I would like to thank all staff at TMAA for their efforts and dedication in delivering outstanding performance during the year. Their skills, knowledge and ideas have been instrumental to our progress in terms of achievements, as they will be to our future success. As we go into 2016, I remain optimistic about more success in ensuring that the Government maximizes its benefits from the mineral sector.

For more details on the achievements outlined above, and other aspects of TMAA's work, we encourage you to read the Annual Report in full.



Eng. Dominic Rwekaza
Chief Executive Officer

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GLOSSARY OF TERMS

AA	Arusha Airport	NCM	Ngaka Coal Mine
BGM	Bulyanhulu Gold Mine	NMGM	North Mara Gold Mine
BZGM	Buzwagi Gold Mine	NOx	Nitrogen Oxides
Cap.	Chapter	NYMEX	New York Mercantile Exchange
CME	Chicago Mercantile Exchange	PAF	Potentially Acid Forming
EMP	Environmental Management Plan	PAYE	Pay As You Earn
EPP	Environmental Protection Plan	PGM	Platinum Group Metals
FDI	Foreign Direct Investment	RAPI	RapNet Diamond Index
GGM	Geita Gold Mine	SA	Songwe Airport
GGML	Geita Gold Mine Limited	SADCAS	Southern African Development Community Accreditation Service
GIA	Gemological Institute of America	SBM	Stamigold Biharamulo Mine
GPM	Golden Pride Mine	SDL	Skills Development Levy
IEC	International Electrotechnical Commission	SOx	Sulphur Oxides
ISO	International Organization of Standardization	TAA	Tanzania Airports Authority
JNIA	Julius Nyerere International Airport	TMAA	Tanzania Minerals Audit Agency
Kg	Kilogram	toz	Troy Ounce
KIA	Kilimanjaro International Airport	TRA	Tanzania Revenue Authority
lb	Pound	TSF	Tailings Storage Facility
LBMA	London Bullion Market Association	TTM	TanzaniteOne Tanzanite Mine
LME	London Metal Exchange	TZS	Tanzanian Shilling
MA	Mwanza Airport	USA	United States of America
MCP	Mine Closure Plan	USD	United States Dollars
MEM	Ministry of Energy and Minerals	VAT	Value Added Tax
MMP	Mwadui Mpya Pit	Vs	Versus
n/a	not available	WAD	Weak Acid Dissociable
NAL	New Alamas	WDL	Williamson Diamonds Limited

DISCLAIMER

This annual report presents data on minerals production and sales collected by the Agency from its physical audits. The report also presents data on royalties and taxes as collected by the Agency from reliable sources. Historical data are also presented and analyzed as collected from different sources as outlined in the report.

The information contained in this report has not been subjected to independent verification. No promise, guarantee, representation, warranty or undertaking, expressed or implied, is made as to, and no reliance should be placed on, the fairness, accuracy, reliability, completeness or correctness of the information or opinions contained herein. Neither TMAA, nor its advisors, nor any of its directors, officers or employees or any representatives of such persons, shall have any responsibility or liability whatsoever (in negligence or otherwise) for any loss arising from any use of the information or any other information or material discussed.

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KEY AUDIT OUTCOMES 2015 AT A GLANCE

Gold exports by major miners	Value of minerals sold by major gold miners	Royalty paid by major gold miners	Total taxes paid by major gold miners
1.37	1.63	63.2	355.33
million troy ounces	USD billion	USD million	TZS billion
Diamond exports by WDL	Value of diamonds sold by WDL	Royalty paid by WDL	Taxes paid by WDL
191,407	53.3	2.3	25.5
carats	USD million	USD million	TZS billion
Building materials & industrial minerals sold	Value of building materials & industrial minerals sold	Royalty payable for building materials & industrial minerals	Royalty payable (2015 vs 2014)
12.96	206.92	6.2	48.7%
million tonnes	TZS billion	TZS billion	(2014: TZS 4.17 billion)
Gold output by vat leaching operators	Value of gold produced by vat leaching operators	Royalty payable for gold produced	Royalty payable (2015 vs 2014)
1,393	89.19	3.6	56.5%
kilograms	TZS billion	TZS billion	(2014: TZS 2.3 billion)
Elution plants audited	Regions audited on building materials & industrial minerals	Intercepted minerals smuggling incidents	Value of intercepted minerals during smuggling incidents
56	21	25	1.5
(2014: 38)	(2014: 20)	(2014: 27)	USD million

TARGETS FOR 2015

Table 1 summarizes operational activities which were set for implementation in the year 2015.

Table 1: Targets for Year 2015

Function	Targets
To monitor and audit quality and quantity of minerals produced and sold by large, medium and small-scale miners.	<ul style="list-style-type: none"> ▪ Stationing full time Auditors at all major mines to witness and record daily production, weighing, packaging and sealing of minerals. ▪ Taking gold samples and performing logistics of shipment of collected samples from the mine sites to the Agency's laboratory in Dar es Salaam for assaying. ▪ Determining quantity and provisional value of minerals produced using Agency's laboratory results and market prices. ▪ Conducting royalty reconciliation by comparing mines versus TMAA assay results. ▪ Conducting strategic audits on medium and small scale mines. ▪ Strengthening efforts to counteract minerals smuggling and royalty evasion practices at key exit points and strategic mining sites.
To audit revenue generated, capital investment and operating expenditure of the large and medium scale mines for the purpose of gathering taxable information and providing the same to the TRA and other relevant authorities.	<ul style="list-style-type: none"> ▪ Verifying the authenticity of revenue declared, capital investment and operating expenditure incurred by the mining companies in the course of mineral production and other supportive operations. ▪ Examining tax accounting of mining companies in order to determine whether accounting methods used were appropriate and in compliance with statutory provisions. ▪ Consolidating annual financial projections based on future projections received from the large and medium scale miners. ▪ Reviewing annual costs incurred by the mining companies and performing cost-benefit analysis of the activities undertaken by the mines in particular year of expenditure.
To monitor and audit environmental management, environmental budget and expenditure for progressive rehabilitation and mine closure.	<ul style="list-style-type: none"> ▪ Reviewing Environmental Management Plans (EMPs), rehabilitation programs and reports from mining companies submitted to the relevant Government institutions. ▪ Conducting physical inspection at the mine site on environmental management activities. ▪ Assessing adequacy of funds allocated for environmental management and progress on the implementation of the environmental programs. ▪ Compiling environmental audit queries (compliance and financial) and outstanding issues (if any) and communicating the same to the client for response and action.

1.0 KEY ACHIEVEMENTS

The Agency has continued to record achievements resulting from comprehensive audits covering large, medium and small scale mines as outlined below.

1.1 Achievements in Year 2015

Function: To audit revenue generated, capital investment and operating expenditure of the large and medium scale mines for the purpose of gathering taxable information and providing the same to TRA and other relevant authorities.

1. Audit of financial records and tax review conducted by TMAA in collaboration with the Tanzania Revenue Authority (TRA) has helped to accelerate and/or increase payments of corporate tax by Geita Gold Mine Limited (GGML) - operating Geita Gold Mine (GGM) and owned by AngloGold Ashanti Limited. GGML paid corporate tax amounting to **TZS 103.9 billion** for year 2015. Cumulatively, the company has paid corporate tax amounting to TZS 502.7 billion since it started paying corporate tax in year 2009.
2. Audit of financial records and tax review conducted by TMAA in year 2015 resulted into collection of unpaid Government revenues as itemized below:
 - i. Withholding tax amounting to **TZS 284.3 million** which was not paid from payments made to mining technical services providers.
 - ii. Royalty amounting to **TZS 645.1 million** and empowerment fund amounting to **TZS 336.7 million**.
 - iii. Annual rent amounting to **TZS 165.3 million**.
 - iv. Alternative Minimum Tax amounting to **TZS 374.7 million**.
 - v. Service Levy amounting to **TZS 343.2 million**.
3. Regular financial audits conducted by TMAA have enhanced financial record keeping and compliance by major mining companies.

Function: To monitor and audit quantity and quality of minerals produced and sold by large, medium and small-scale miners.

1. Minerals produced and exported by all major gold, diamond and Tanzanite mines were successfully audited. This ensured availability of accurate and reliable data on minerals produced and exported by the respective miners and contributed to promote voluntary compliance by the mining companies. The audit witnessed mineral sales/exports worth USD 1.68 billion and facilitated collection of royalty to the tune of **USD 65.8 million** from eight major mines during the year under review.

2. TMAA continued to maintain accreditation status of **ISO/IEC 17025** for its laboratory after surveillance assessment conducted by SADCAS in November 2015.
3. TMAA in collaboration with the Zonal Mines Offices in Central, Eastern, Lake Nyasa, Lake Victoria (East), Lake Victoria (West), Northern, Southern, South Western and Western zones facilitated collection of royalty amounting to **TZS 6.2 billion** in year 2015 as a result of monitoring and auditing of production and sales of building materials and industrial minerals worth TZS 206.9 billion. This is equivalent to **48.7%** increase as compared to TZS 4.17 billion realized in year 2014. The audit covered 21 regions namely, Arusha, Coast, Dar es Salaam, Dodoma, Geita, Iringa, Kagera, Katavi, Kigoma, Kilimanjaro, Lindi, Manyara, Mbeya, Morogoro, Mtwara, Mwanza, Rukwa, Ruvuma, Simiyu, Singida and Tanga.
4. Auditing of gold production from vat leaching sites and elution plants in Geita, Mwanza and Mbeya regions enabled the Government to collect royalty amounting to **TZS 3.6 billion** from 1,393 kilograms of gold worth TZS 89.2 billion, which was produced by the mineral processors. This is equivalent to **56.5%** increase as compared to TZS 2.3 billion realized in year 2014.
5. TMAA in collaboration with the Minerals Division, Tanzania Airports Authority (TAA), Police and TRA managed to apprehend minerals worth **USD 1,512,186.61 and TZS 34,670,794** which were in the process of being smuggled out of the country in 25 incidents. The offenders were dealt with in accordance with the Mining Act of 2010.

Function: To monitor and audit environmental management, environmental budget and expenditure for progressive rehabilitation and mine closure.

1. There was significant improvement in environmental management in the large and medium scale mining operations. During the year under review there were 29 major environmental restorations conducted by major mines.
2. Auditing of environmental budget and expenditure, mine closure plan and mine closure liability was conducted. Mine closure costs/ liability for 10 major mines is estimated at USD 260 million.

1.2 Key Achievements since TMAA Establishment (2009 - 2015)

1. Financial audit and tax review conducted in collaboration with TRA facilitated collection of a total of **TZS 680.5 billion** as corporate tax from major mines.
2. Strategic audits conducted in collaboration with the Minerals Division facilitated collection of **TZS 13.4 billion** as royalty from production and sales of building materials and industrial minerals.
3. Audit of mineral processors who use “vat leaching technology” to recover gold from tailings in Mwanza, Geita and Mbeya regions facilitated collection of royalty amounting to **TZS 7.2 billion**.
4. Close monitoring of major gold mines by the Agency enabled the Government to obtain accurate data on mineral production and exports which resulted to the collection of royalty amounting to **USD 390.3 million**.
5. Improved environmental compliance on large and medium scale mines. For example, from year 2010 to date there were over 100 major environmental restorations on large scale mines whereby mine operators spent a total of **USD 28 million** to rectify shortfalls noted by TMAA. Cost involved in restoration on large scale mines is as follows:
 - Buzwagi Gold Mine – USD 25,298,560;
 - Geita Gold Mine – USD 1,870,467.71;
 - Bulyanhulu Gold Mine – USD 460,000;
 - New Luika Gold Mine – USD 256,225;
 - TanzaniteOne Mine – USD 244,000; and
 - Tulawaka Gold Mine – USD 200,000.
6. Since establishment of TMAA’s airport desks in July 2012, various minerals worth USD 10.8 million and TZS 1.1 billion were intercepted in 89 separate incidents of mineral smuggling and royalty evasion for the period from inception to December 2015. The offenders were dealt with in accordance with the Mining Act of 2010.

2.0 AUDITING OF MINERAL PRODUCTION AND SALES

The auditing of minerals produced and exported by major gold mines conducted by TMAA in 2015 was aimed at ascertaining the quantity and quality of gold, silver and copper production and exports by each mine. This audit is vital so as to provide the Government with a precise account of exportable gold-containing products, for the purpose of confirming the amount of revenue generated from the exported mineral products and royalty due.

TMAA Auditors witnessed each and every smelting session performed during the year in their respective gold rooms. This includes the pouring, marking, weighing, and sampling of ingots. The Auditors also witnessed the weighing and loading of the copper concentrates in containers for export and took samples of the material. All samples were transported by secure means to the TMAA laboratory in Dar es Salaam where they were analyzed to determine the amount of fine gold, silver and copper contained.

2.1 Minerals Produced by Large and Medium Scale Mines in 2015

1. Gold production (gold bars and Copper Concentrate products) by major gold mines increased by 7.1% from 1.27 million troy ounces in 2014 to 1.36 million troy ounces in 2015. The increase was mainly contributed by higher gold output at GGM and BGM. GGM was the leading gold producer in 2015, which contributed 38.6% of total production, while SBM was the least gold producer with 1.5% of total production.
2. Total mineral exports (gold bars and Copper Concentrate) by the six major gold mines comprised of: 1.37 million troy ounces of gold, 13.8 million pounds of copper and 497,152 troy ounces of silver. Total value of these exports was USD 1.63 billion.
3. Mineral royalty paid by the six major gold mines to the Government during the year decreased by 3.3% to USD 63.23 million compared to USD 65.42 million realized in 2014.

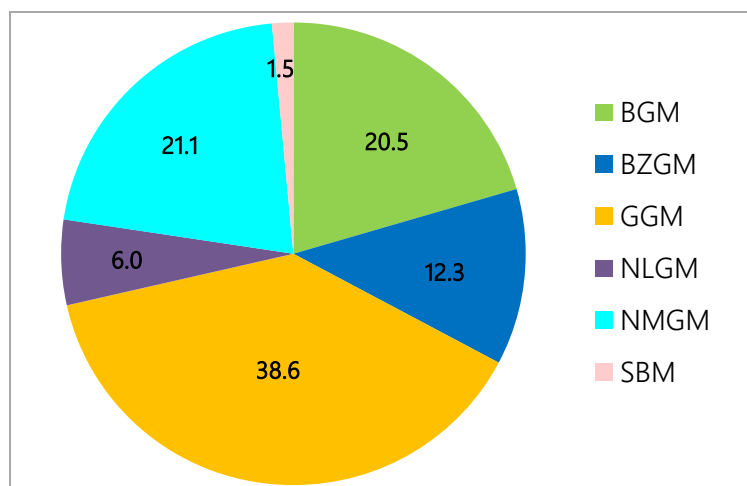
Table 2 summarizes the quantity of gold bars and Copper Concentrate produced by major gold mines in 2015 as audited by TMAA. Figure 1 presents total gold production contribution by each mine.

Table 2: Mineral Production Quantity, 2015

	2015	2014
Number of Gold Bars Produced	2,412	2,221
Number of Copper Concentrate Containers Loaded	2,296	2,531
Gold Quantity (toz)	1,363,611.30	1,272,822.70 *
Silver Quantity (toz)	508,629.61	466,349.67 *
Copper Quantity (lb)	14,258,865.33	12,824,121.03

* updated figures

Figure 1: Total Gold Production – Percentage Contribution by Mine, 2015



2.2 Sample Analysis

A total of 3,302 mineral samples were collected from the major gold mines for laboratory analysis of which 936 were for gold bars and 2,366 for Copper Concentrate.

TMAA Laboratory provides mineral analysis services to individual customers so as to facilitate decision-making among stakeholders during production and mineral trading. During the year, a total of 2,797 samples of assorted minerals were analysed (1,897 samples in Dar es Salaam, 551 samples in Mwanza and 349 samples in Mbeya office).

TMAA Laboratory is ISO/IEC 17025 accredited by SADCAS since March 2015. The laboratory delivers high quality mineral sample analysis services.

2.3 Minerals Exported by Major Gold Mines in 2015

Tables 3 and 4 summarize the quantity and value of minerals exported by major mines in 2015 as audited by TMAA.

Table 3: Mineral Sales/Exports by Major Mines, 2015

Mine	Gold (toz)	Silver (toz)	Copper (lb)	Diamonds (ct)	Rough Tanzanite (g)	Coal (ton)	Total Value (USD mil.)
BGM	273,412	149,843	6,023,185	-	-	-	332.16
BZGM	164,066	119,383	7,733,913	-	-	-	207.51
GGM	544,113	70,644	-	-	-	-	630.13
NLGM	81,132	119,366	-	-	-	-	96.07
NMGM	281,290	35,676	-	-	-	-	334.80
SBM	21,236	2,240	-	-	-	-	24.67
WDL	-	-	-	191,407	-	-	53.34
TTM	-	-	-	-	2,395,548	-	4.48
NCM	-	-	-	-	-	260,628	11.87
Total	1,365,249	497,152	13,757,098	191,407	2,395,548	260,628	1,695.03

Table 4: Mineral Exports by Major Gold Mines (2014 versus 2015)

	2015	2014*
Gold Quantity (toz)	1,365,249	1,268,282
Silver Quantity (toz)	497,152	439,704
Copper Quantity (lb)	13,757,098	13,540,369
Gross Value (USD)	1,625,341,463	1,647,062,503
Royalty Payable (USD)	65,013,659	65,882,500
Royalty Paid (USD)	63,230,480	65,420,143

* updated figures

Figures 2 to 7 present historical data on mineral production, exports and royalty payments by major mines operating in the country, including comparison of the later with other African countries.

Figure 2: Historical Gold Exports by Major Mines (2001 – 2015)



Figure 3: Historical Mineral Export Value by Major Gold Mines – Gold, Silver & Copper (2001 – 2015)

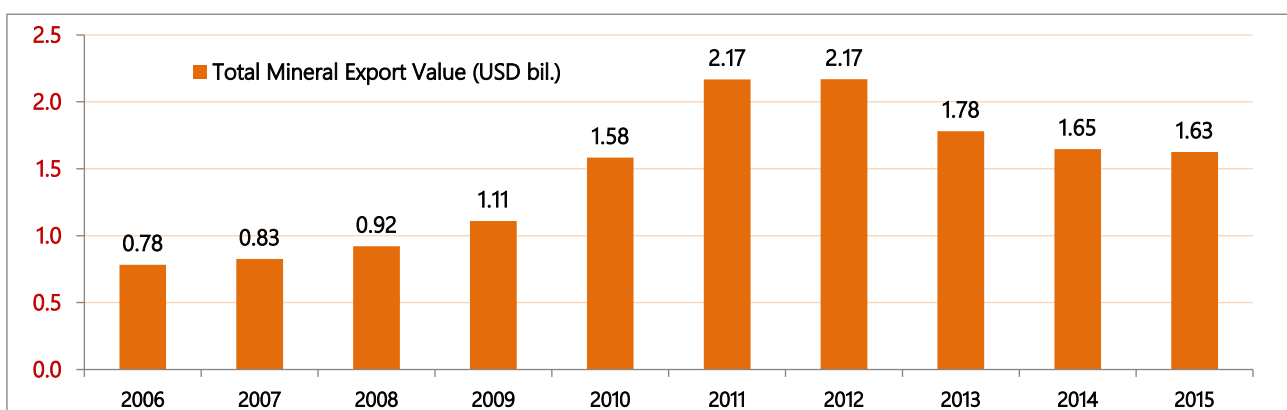


Figure 4: Total Gold Export Value – Percentage Contribution by Mine, 2015

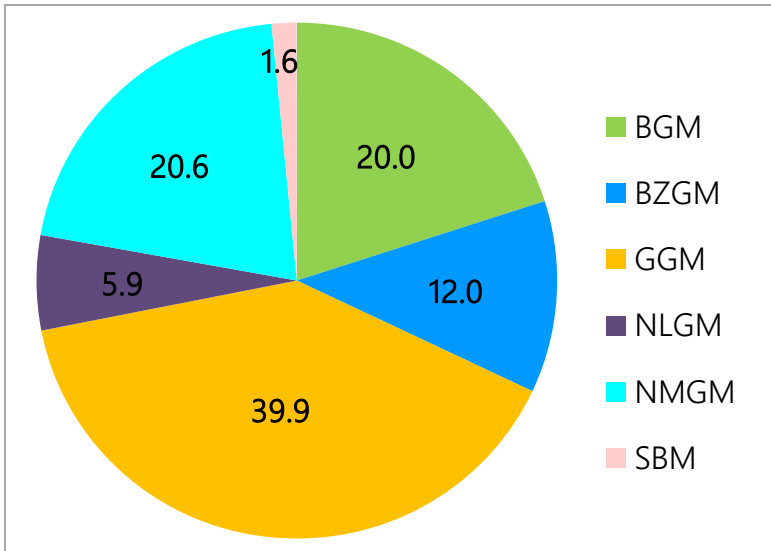


Figure 5: Monthly Provisional Royalty Payments by Six Major Gold Mines – 2015

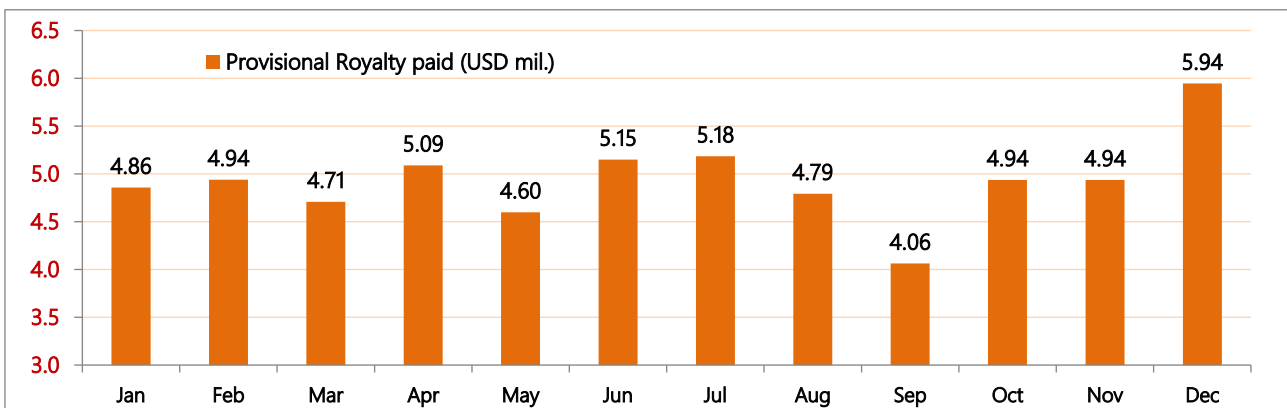


Figure 6: Historical Royalty Paid by Large Scale Gold Mines (2001 – 2015)

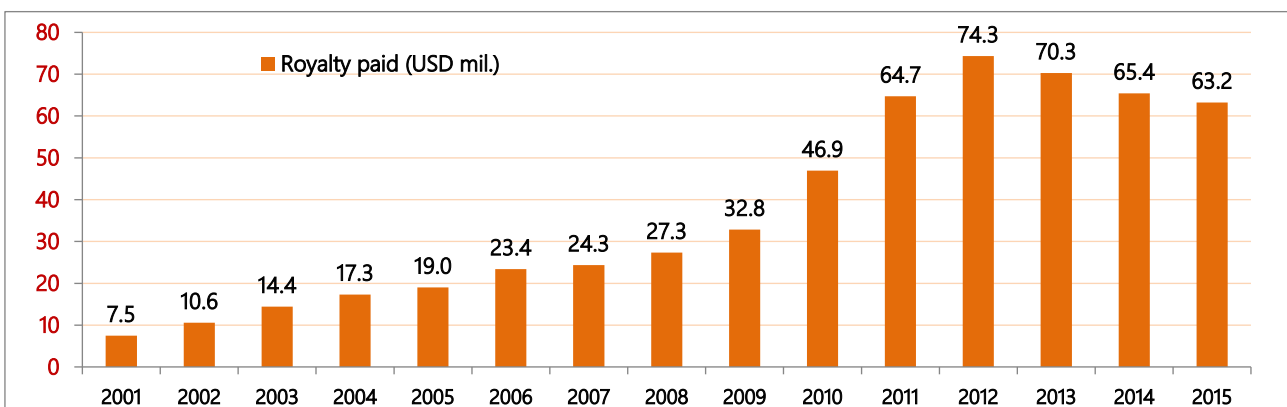
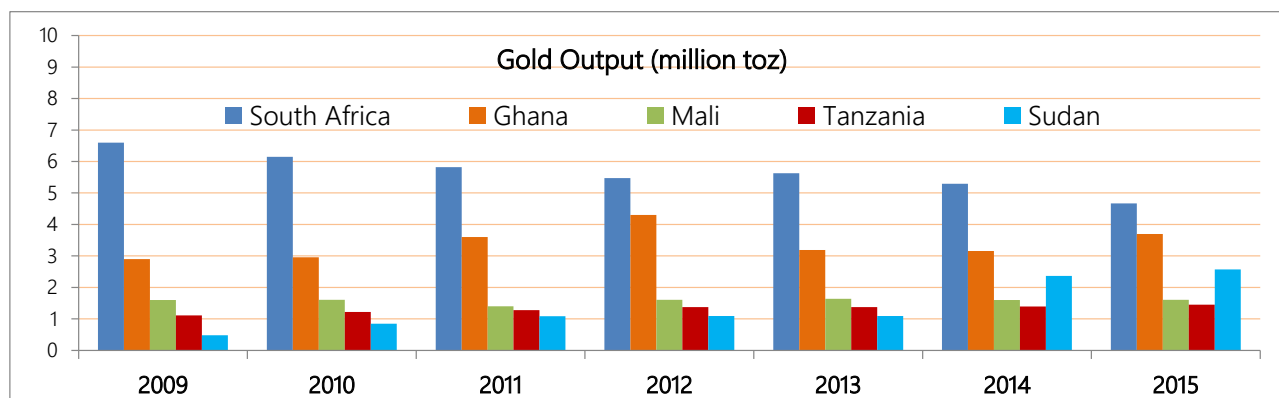


Figure 7: Africa's Top Five Gold Producing Countries (2009 – 2015)



Source: www.mining.com, www.mineweb.com, www.miningweekly.com

2.4 Diamonds Production and Exports

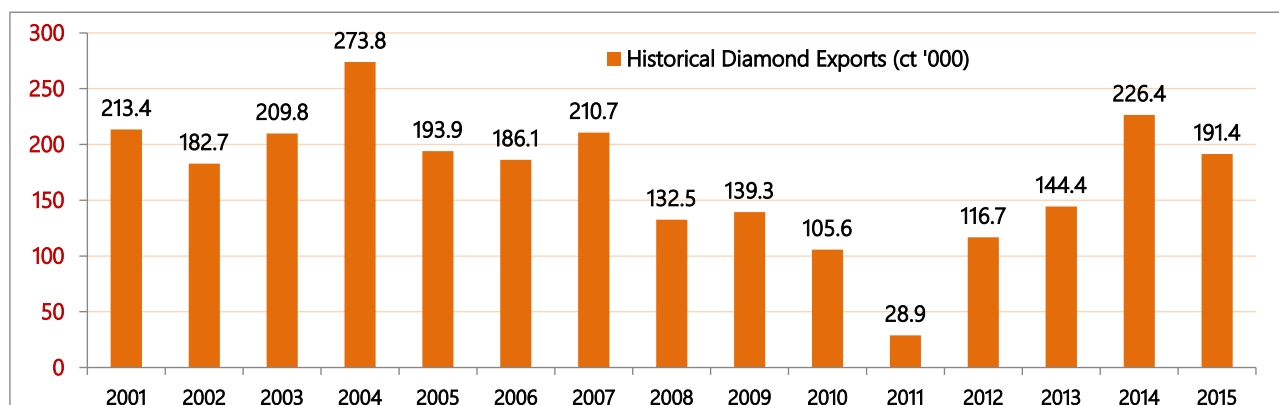
Mining at Williamson is undertaken using a conventional open pit mining method. Old tailings dump material is also being re-processed. Mined kimberlite and tailings materials are screened into size fractions and the material concentrated using dense media separation. The diamonds are cleaned using dilute hydrochloric acid before being exported. Table 5 summarizes quantity of diamonds produced and exported by WDL in year 2015 as audited by TMAA.

Table 5: Diamonds Production and Exports, 2015

	2015	2014
Quantity Produced (carat)	196,256	203,786
Quantity Exported (carat)	191,407	226,351
Average Price (USD/carat)	278.67	325.24
Export Value (USD)	53,339,352	73,617,469
Royalty Paid (USD)	2,298,144	3,438,841

Figures 8 to 10 present historical diamond export quantity, export value and historical royalty payments by WDL for the period from year 2001 to 2015.

Figure 8: Historical Diamond Export Quantity (2001 – 2015)



Note:

- Diamond production and exports dipped in 2011 due to suspension of operations for plant refurbishment, followed by flooding.

Figure 9: Historical Diamonds Export Value (2001 – 2015)

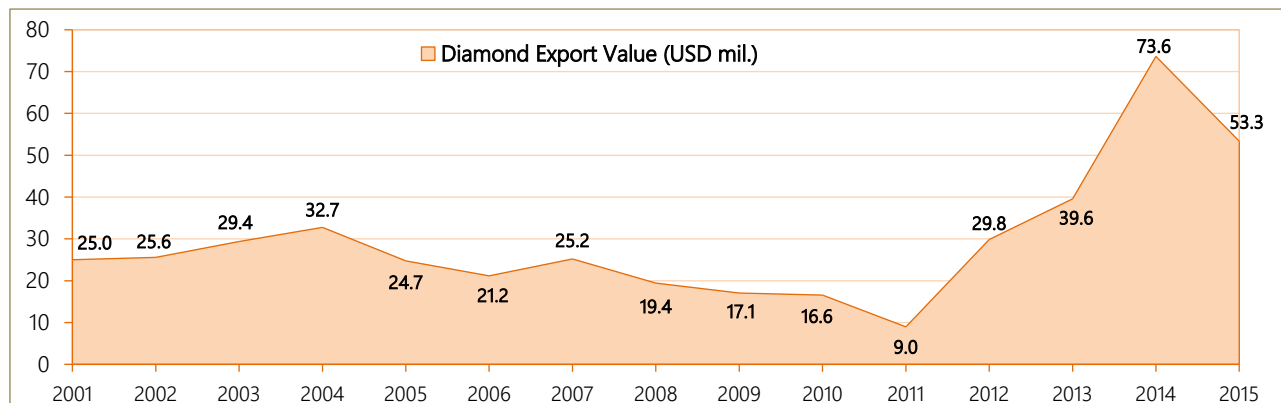
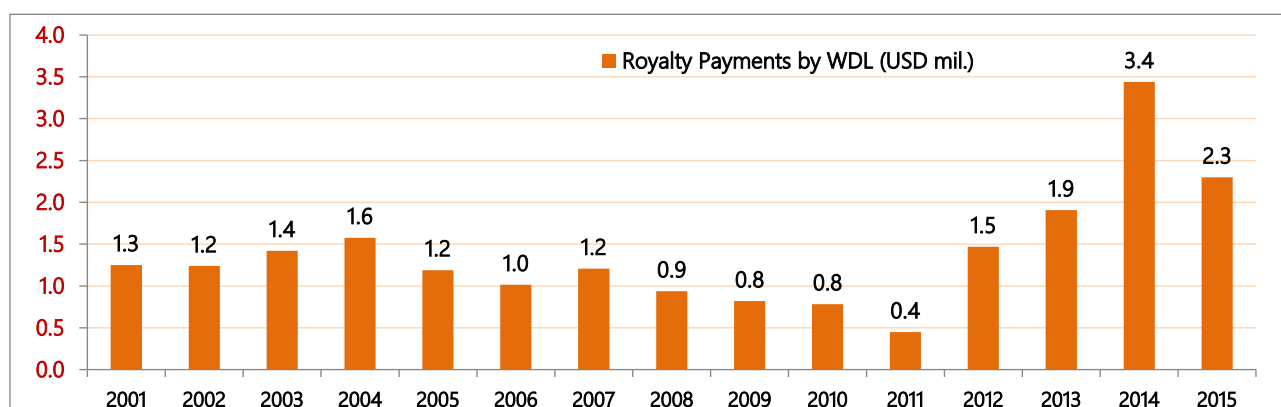


Figure 10: Historical Provisional Royalty Payments by WDL (2001 – 2015)



2.5 Tanzanite Production and Exports

TMAA continued to monitor Tanzanite production and exports activities undertaken by TanzaniteOne Tanzanite Mine (TTM). Table 6 summarizes the quantity of Tanzanite produced and exported by TTM in year 2015 as audited by TMAA.

Table 6: Tanzanite Production and Exports by TTM, 2015

	2015	2014*
Quantity Produced – Grade A – I (g)	186,370	759,680.57
Quantity Produced – Face Picking (g)	178,920	n/a
Quantity Sold – rough (g)	2,395,548	4,064,936.65
Quantity Sold – cut (ct)	0	77,078
Export Value (USD)	4,480,093	9,658,706
Royalty Paid (USD)	223,979	268,905.50

* Updated figures

2.6 Coal Production and Sales

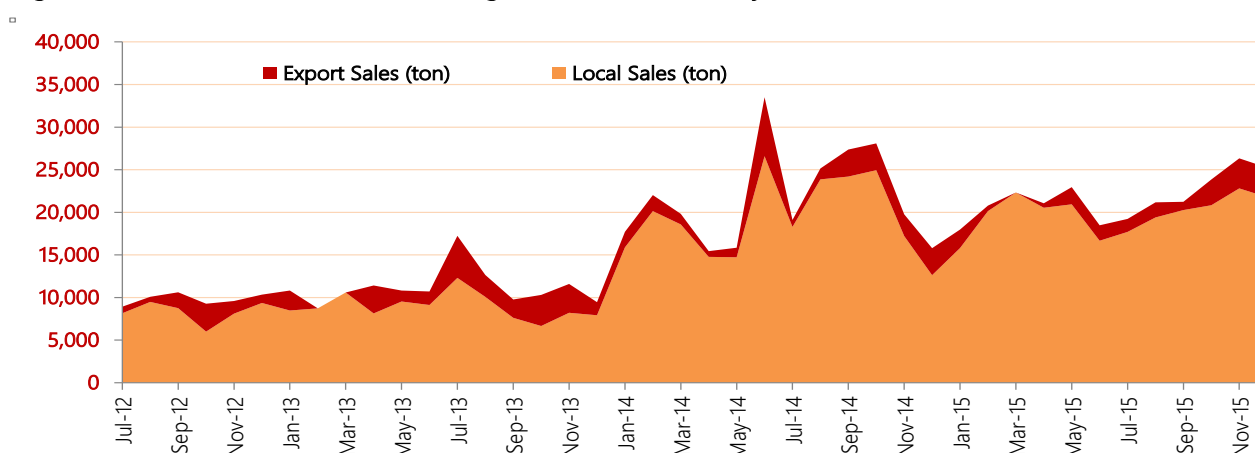
TMAA continued to monitor and audit coal production and sales activities at Ngaka Coal Mine (NCM). During year 2015, the mine produced 255,884 metric tons and sold 260,628 metric tons of coal worth USD 11.9 million. Total royalty paid to the Government was USD 356,367 (Table 7). Figure 11 shows historical coal sales made by the mine.

Table 7: Coal Production and Sales at Ngaka Coal Mine, 2015

	2015	2014*
Quantity Produced (ton)	255,884	249,495
Quantity Sold - Local (ton)	239,179	231,828
Quantity Sold – Export (ton)	21,449	27,776
Sales Value (USD)	11,866,894	12,118,686
Royalty Paid (USD)	356,367	359,969

* Updated figures

Figure 11: Historical Coal Sales – Ngaka Coal Mine (July 2012 – December 2015)



2.7 Building Materials and Industrial Minerals

TMAA in collaboration with the Minerals Division continued to monitor and audit production and sales of building materials and industrial minerals in the country by using "Sales Vouchers". During year 2015, TMAA conducted audits in 21 regions namely Arusha, Coast, Dar es Salaam, Dodoma, Geita, Iringa, Kagera, Katavi, Kigoma, Kilimanjaro, Lindi, Manyara, Mbeya, Morogoro, Mtwara, Mwanza, Rukwa, Ruvuma, Simiyu, Singida and Tanga. The audits aimed at ensuring that the Government collects maximum royalty from mining activities.

During the reporting period, a total of 12.96 million tons of building materials and industrial minerals worth TZS 206.92 billion were produced and sold by licensed miners in the audited areas. Payable royalty amounted to TZS 6.2 billion, which is 48.7% higher compared to TZS 4.17 billion realized in year 2014.

Table 8 summarizes minerals produced and sold by licensed miners in areas audited by TMAA. It also shows royalty payable.

Table 8: Building Materials and Industrial Minerals Production, 2015

	Region (Zone)	2015	2014
Quantity produced & sold (mil. ton)	1. Coast, DSM, Morogoro and Tanga (Eastern)	6.16	5.88
	2. Bariadi and Kyerwa (Lake Victoria - East)	0.69	0.00
	3. Bukoba, Geita and Mwanza (Lake Victoria - West)	0.84	0.83
	4. Dodoma and Singida (Central)	0.78	0.72
	5. Arusha, Kilimanjaro and Manyara (Northern)	3.24	2.73
	6. Mbeya (South Western)	0.52	0.10
	7. Kigoma, Mpanda and Sumbawanga (Western)	0.10	0.05
	8. Lindi and Mtwara (Southern)	0.58	0.11
	9. Ruvuma (Lake Nyasa)	0.05	0.06
		Total	12.96
Sales Value (TZS mil.)	1. Coast, DSM, Morogoro and Tanga (Eastern)	98,224.87	77,993.95
	2. Bariadi and Kyerwa (Lake Victoria - East)	655.83	127.43
	3. Bukoba, Geita and Mwanza (Lake Victoria - West)	14,630.86	12,290.59
	4. Dodoma and Singida (Central)	11,513.23	8,647.12
	5. Arusha, Kilimanjaro and Manyara (Northern)	49,541.39	21,780.49
	6. Mbeya (South Western)	16,005.00	6,779.95
	7. Kigoma, Mpanda and Sumbawanga (Western)	3,547.26	3,030.86
	8. Lindi and Mtwara (Southern)	10,359.21	6,487.80
	9. Ruvuma (Lake Nyasa)	2,438.12	1,141.04
		Total	206,915.77
Royalty Payable (TZS mil.)	1. Coast, DSM, Morogoro and Tanga (Eastern)	2,935.17	2,339.82
	2. Bariadi and Kyerwa (Lake Victoria - East)	20.15	0.00
	3. Bukoba, Geita and Mwanza (Lake Victoria - West)	441.75	368.72
	4. Dodoma and Singida (Central)	345.19	259.41
	5. Arusha, Kilimanjaro and Manyara (Northern)	1,508.64	666.43
	6. Mbeya (South Western)	479.72	213.40
	7. Kigoma, Mpanda and Sumbawanga (Western)	106.42	90.93
	8. Lindi and Mtwara (Southern)	285.18	195.51
	9. Ruvuma (Lake Nyasa)	73.08	33.15
		Total	6,195.30

2.8 Gold Produced and Sold by Elution Plant Operators

TMAA continued to monitor and audit gold producers who use vat leaching technology to recover gold from tailings in Geita, Mbeya and Mwanza regions. During the year 2015, a total of 56 elution plants were audited from which 1,392.61 kilograms of gold worth TZS 89.19 billion were produced. Total paid royalty amounted to TZS 3.6 billion, up by 56.5% as compared to TZS 2.3 billion realized in year 2014 (Table 9).

Table 9: Gold Produced at Vat Leaching/ Elution Plants in Mwanza, Geita and Mbeya Regions, 2015

	2015	2014
Number of Elution Plants Audited	56	38
Weight of Gold Bars Produced (kg)	1,392.61	1,006.83
Value (TZS mil.)	89,185.66	50,836.77
Royalty Paid (TZS mil.)	3,572.31	2,301.16

2.9 Gold Produced and Sold by Small Scale Miners

TMAA continued to monitor and audit small scale gold miners in Chunya, Geita, Kahama and Mufindi districts. During the year 2015, a total of 54.82 kilograms of gold and 11,485 bags of gold ore worth TZS 4.3 billion were produced and sold. Total paid royalty amounted to TZS 185.63 million (Table 10).

Table 10: Gold Produced by Small Scale Producers in Chunya, Geita, Kahama and Mufindi Districts

	2015	2014
Gold Produced (kg)	54.82	n/a
Gold Produced (bags)	11,485	n/a
Total Value (TZS mil.)	4,306.55	n/a
Royalty Paid (TZS mil.)	185.63	n/a

2.10 Combating Minerals Smuggling and Illegal Trading

TMAA continued to counteract minerals smuggling and minerals royalty evasion by stationing auditors at three major airports in the country in order to inspect and verify minerals transported to and out of the country via Arusha Airport (AA), Julius Nyerere International Airport (JNIA), Kilimanjaro International Airport (KIA), Mwanza Airport (MA), and Songwe Airport (SA). This exercise is conducted in collaboration with relevant Government bodies, mainly the Minerals Division, Tanzania Airports Authority, Tanzania Police Force, Tanzania Revenue Authority and Immigration Department.

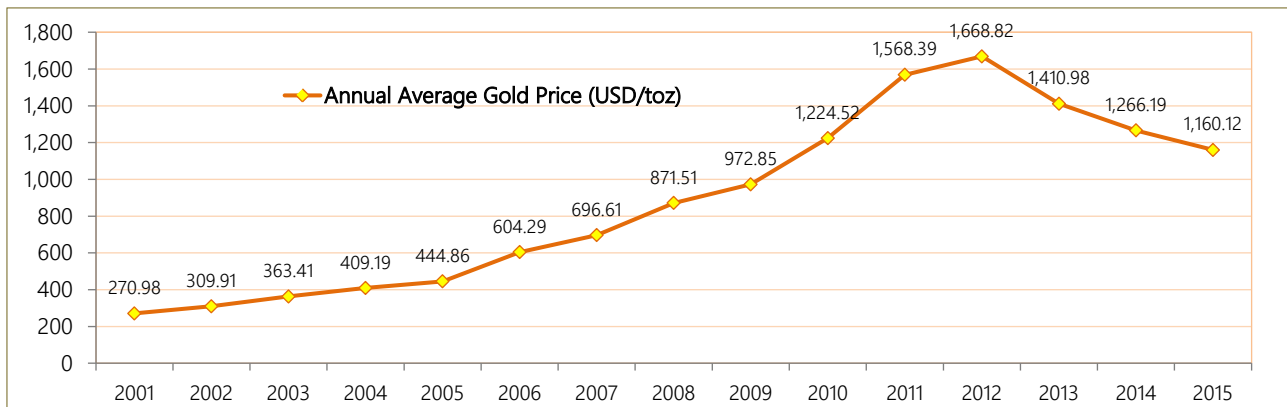
During year 2015, minerals worth USD 1,512,186.61 and TZS 34,670,794 were seized in 25 minerals smuggling attempts at JNIA, KIA and MA. The events were reported to responsible Government bodies for legal actions. Since July 2012 to December 2015, minerals worth USD 10,768,677.91 and TZS 1,141,104,892.47 were seized in eighty nine (89) different minerals smuggling incidents at the three airports. The offenders were dealt with in accordance with the Mining Act of 2010.

2.11 Historical Mineral Prices

GOLD

Annual average gold price per troy ounce decreased by 8.4% from USD 1,266.19 in 2014 to USD 1,160.12 in 2015 (Figure 12) mainly as a result of stronger US dollar against other major currencies, China's economic slowdown and soft global economic growth which slowed demand for the metal.

Figure 12: Historical Gold Price Trend (2001 - 2015)

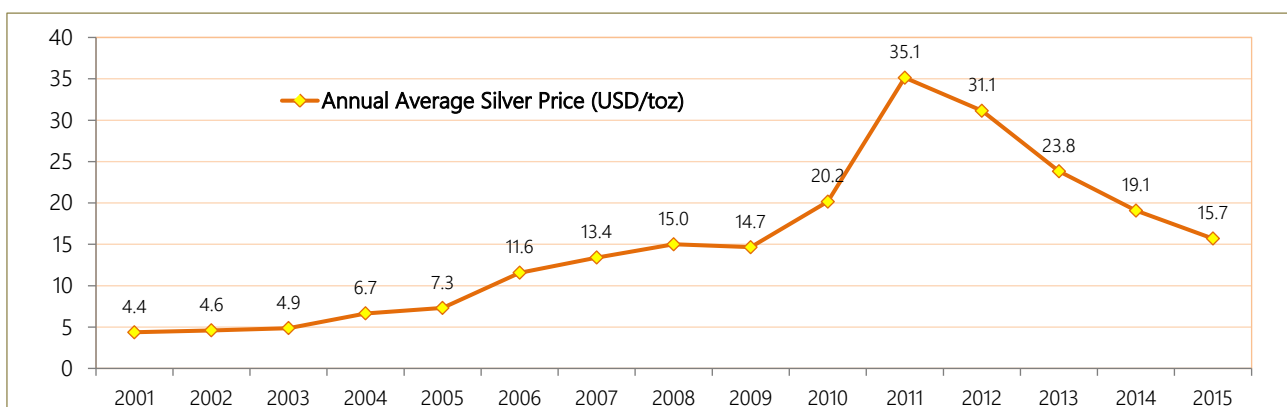


Source: LME/LBMA Official Gold Prices (USD/toz, PM Fix)

SILVER

Annual average silver price per troy ounce decreased by 17.7% from USD 19.08 in 2014 to USD 15.70 in 2015 (Figure 13) mainly as a result of stronger US dollar against other major currencies, China's economic slowdown and soft global economic growth which slowed demand for the metal.

Figure 13: Historical Silver Price Trend (2001 - 2015)

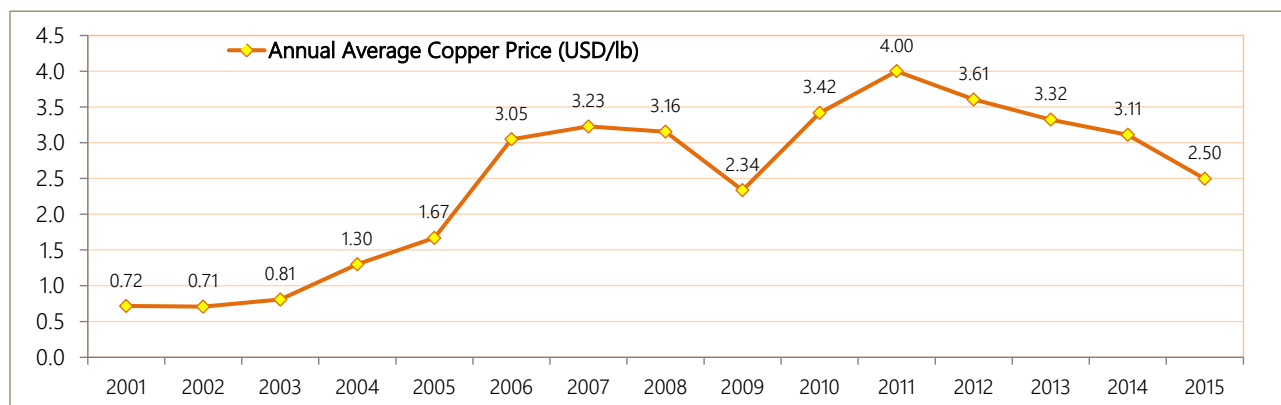


Source: LME/LBMA Official Silver Prices (USD/toz, PM Fix)

COPPER

Annual average copper price per pound decreased by 19.6% from USD 3.11 in 2014 to USD 2.50 in 2015 (Figure 14) mainly due to slowing economic growth in China, which is responsible for 45% of global copper demand.

Figure 14: Historical Copper Price Trend (2001 - 2015)

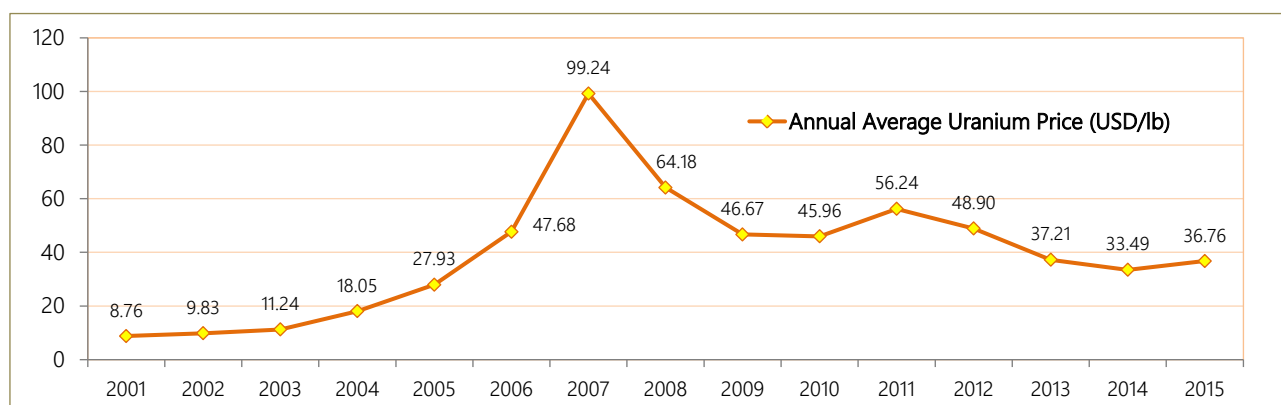


Source: LME Official Copper Prices (USD/lb, Cash Seller)

URANIUM

Year 2015 was a pivotal for the uranium market as Japan restarted its first two nuclear plants since the March 2011 Fukushima Daiichi nuclear disaster. However, the market is still characterized by excess of supply over demand. Annual average uranium price per pound increased by 9.8% from USD 33.49 in 2014 to USD 36.76 in 2015 (Figure 15).

Figure 15: Historical Uranium Price Trend (2001 - 2015)

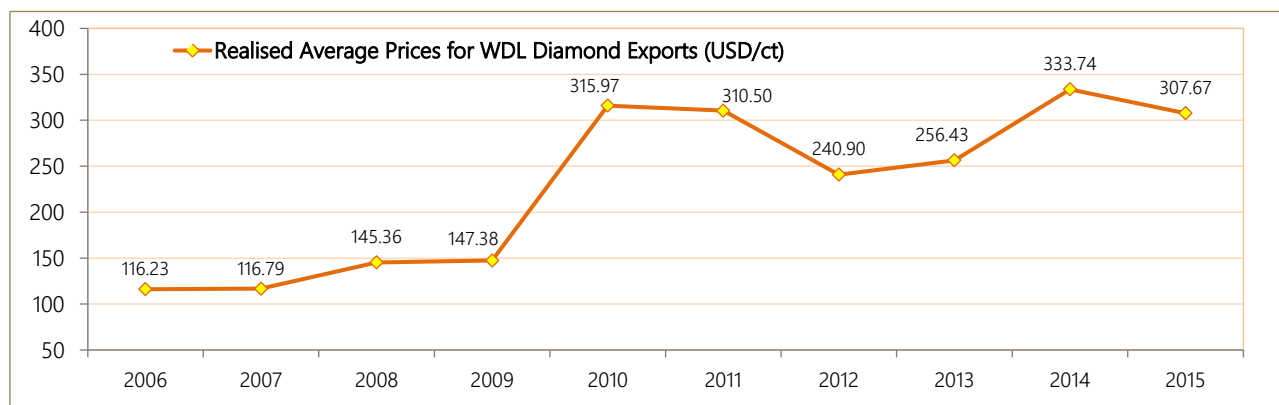


Source: NYMEX, CME Group

DIAMONDS

During the year 2015, prices of rough diamonds fell by 15%, while the RapNet Diamond Index (RAPI) for 1-carat, GIA-graded polished diamonds fell by 5.8% due to: sluggish consumer demand in emerging markets, especially China which saw economic growth slowdown; strong dollar against other global currencies; and high rough prices relative to the resulting polished diamonds (Figure 16).

Figure 16: Average Realised Prices for WDL Diamonds (2006 - 2015)



Source: TANSORT

2.12 Tanzania Mineral Reserves

Tanzania is endowed with conducive geological environment representing all the known stratigraphic formations in the world ranging from Achaean to recent. These geological formations host a variety of minerals, mainly metallic minerals such as gold, tin, nickel, iron ore, rare earth element, copper, PGM and lead; gemstones including tanzanite, diamonds, emerald, ruby and sapphire; industrial minerals including limestone, gypsum, phosphate, kaolin, bauxite and graphite; building materials such as sand and gravel; and energy minerals (coal, uranium). Table 11 presents mineral reserves for selected major mining projects as of December 2015.

Table 11: Mineral Reserves for Selected Major Projects, December 2015

Project Name, Location	Type of Minerals	Project Owners	Mineral Resources/ Ore Reserves	Project Status
Buckreef Gold Project, Geita	Gold	Tanzanian Royalty Exploration Corporation (55%) & STAMICO (45%)	60 Mt @ 1.26 g/t Au for 2.4 Moz (measured & indicated)	Exploration
Buhemba Gold Project, Butiama	Gold	STAMICO	0.61 Moz (indicated) & Tailings grade 0.827Mt @ 1.6g/t for 50 Koz	Exploration
Bulyanhulu Gold Mine, Kahama	Gold	Acacia Mining	9.5 Moz (proven & probable)	Active Mining
Buzwagi Gold Mine, Kahama	Gold	Acacia Mining	0.9 Moz (proven & probable)	Active Mining
Chilalo Graphite Project, Nachingwea	Graphite	IMX Resources Ltd	18.1 Mt @ 6.2% TGC for 1.12 Mt graphite (inferred)	Pre-feasibility
Dutwa Nickel Project, Mwanza	Nickel, Cobalt	Blackdown Resources (UK) Ltd	106.7Mt at 0.91% Ni (indicated)	Feasibility

Project Name, Location	Type of Minerals	Project Owners	Mineral Resources/ Ore Reserves	Project Status
Epanko Graphite Project, Ulanga	Graphite	Kibaran Resources Ltd	10.9 Mt @ 8.6% graphite (proven & probable)	Bankable Feasibility
Geita Gold Mine, Geita	Gold	Ashanti Gold	7.47 Moz (indicated)	Active Mining
Handeni Gold Project, Handeni	Gold	East Africa Metals Inc. (Formerly Canaco)	0.721 Moz (indicated)	Exploration
Imweru Gold Project, Singida	Gold	Kibo Mining Plc, Ireland	0.1 Moz (indicated)	Definitive Feasibility
Kabanga Nickel Project, Ngara	Nickel	Barrick Gold Corp. (50%) & Xstrata Plc (50%)	0.98 Mt (measured & indicated)	Feasibility
Kitongo Gold Project, Mwanza	Gold	Rift Valley Resources Ltd	7.8Mt @ 1.5 g/t for 0.37 Moz	Exploration
Liganga Iron Ore Project, Ludewa	Iron Ore, Titanium, Vanadium	Sichuan Hongda Group (80%) & NDC (20%)	Iron Ore: 219 Mt Titanium: 175 Kt, Vanadium: 5 Kt (proven)	Feasibility
Lindi Jumbo Graphite Project, Lindi	Graphite	Walkabout Resources Ltd	15.3 Mt @ 10.1% for 1.542 Mt flake graphite (inferred)	Exploration
Mahenge Graphite Project, Mahenge	Graphite	Black Rock Mining Ltd	131.1 Mt @ 7.9% graphite (40% indicated)	Scoping study
Manyoni Uranium Project, Manyoni/Bahi	Uranium	Magnis Resources Ltd (formerly Uranex)	29 Mlb U3O8 (measured) @100ppm cut off	Feasibility
Mbeya Coal to Power Project, Rukwa	Coal	Kibo Mining Plc	71.3 Mt (indicated), 38 Mt (inferred)	Feasibility
Mchuchuma Coal Mine, Ludewa	Coal	Sichuan Hongda Group (80%) & NDC (20%)	159 Mt (proven)	Feasibility
Miyabi Gold Project, Mwanza	Gold	Rift Valley Resources Ltd	7.1Mt @ 1.7g/t for 0.387 Moz (Indicated)	Exploration
Mkuju River Project, Namtumbo	Uranium	Mantra Resources Ltd	124.6 Mlb (measured & indicated)	Feasibility
Mwadui Diamond Mine, Kishapu	Diamonds	Petra Diamonds (75%) & Tanzania Govt. (25%)	33.1 Mct (indicated & inferred)	Active Mining
Nachu Graphite Project, Ruangwa	Graphite	Magnis Resources Ltd	156 Mt @ 5.2% for 8Mt graphite (66% measured & indicated)	Pre-feasibility

Project Name, Location	Type of Minerals	Project Owners	Mineral Resources/ Ore Reserves	Project Status
Namangale Graphite Project, Lindi	Graphite	Mozambi Resources Ltd	179 Mt @ 5.1% graphite (inferred)	Pre-feasibility
New Luika Gold Mine, Chunya	Gold	Shanta Gold Ltd	2.65 Mt at 5.9 g/t for 506 Koz	Active Mining
Ngaka Coal Project, Mbinga	Coal	Intra Energy Corporation (70%) & NDC (30%)	167 Mt (measured & indicated)	Active Mining
Ngualla Rare Earth Project , Chunya	Rare Earth Elements	Peak Resources Ltd	20.7Mt @ 4.54% for 941 Kt Rare Earth Oxides (proved & probable)	Pre-feasibility
North Mara Gold Mine, Tarime	Gold	Acacia Mining	2.0 Moz (proven & probable)	Active Mining
Ntaka Hill Nickel Sulphide Project, Nachingwea	Nickel	IMX Resources Ltd	0.12 Mt (measured & indicated)	Exploration
Nyanzaga Gold Project, Sengerema	Gold	Acacia Mining	4.1 Moz (indicated)	Pre-feasibility
Panda Hill Niobium Project, Mbeya	Niobium	Cradle Resources Ltd	69 Mt @ 0.53% Niobium pentoxide (measured & indicated)	Feasibility
Saza-Makongolosi Gold Project, Chunya	Gold	Helio Resource Corp, Canada	9.4 Mt @ 2.07g/t for 0.63 Moz (indicated)	Exploration
Singida Gold Mining Project, Singida	Gold	Shanta Gold Ltd	0.55 Moz (measured & indicated)	Definitive Engineering Study
Stamigold Biharamulo Mine, Biharamulo	Gold	STAMICO	0.32 Moz (proven & inferred)	Active Mining
TanzaniteOne Mine, Simanjiro	Tanzanite	STAMICO (50%) & Richland Resources Ltd (50%)	109 Mct (measured)	Active Mining
Wigu Hill REE Project, Morogoro	Rare Earth Elements	Montero Mining and Exploration Company (81%)	3.3 Mt @ 3 - 5% Light Rare Earth Oxides (inferred)	Exploration

Key: **Koz:** Thousand troy ounces
Moz: million troy ounces

Mlb: million pounds
Mt: million tonnes

Mct: million carats

3.0 FINANCIAL AUDIT AND TAX REVIEW

One of the roles and functions of TMAA is to audit capital investment and operating expenditure of the large and medium scale mines for the purpose of gathering taxable information and providing the same to the Tanzania Revenue Authority (TRA) and other relevant authorities.

3.1 Financial Audit and Tax Review Results for Year 2015

Audit of revenue generated, capital and operating expenditure during the year 2015 was conducted on WDL, BGML and GGML; thirteen medium scale mines (Lake Cement Company Limited, Sea Salt Limited, Tanzania Portland Cement Company Limited, Tanzania Gypsum Limited, Premix Concrete Limited, Malaki Mathias Mbanya, Kioo Limited, Skol Building and Contractors Limited, Highland Estates Limited, Tembo Tiles Limited, Maseyu Quarries Limited, Fainy Mining (T) Limited and Badri East African Limited) and twenty road construction projects carried out by construction companies (Sino Hydro Corporation, China Communication Construction Company Ltd, China Henan International Cooperation Group Co. Ltd, Strabag International GmbH, Dott Services Ltd, China Civil Engineering Construction Corporation, China Railway Seventh Group Co. Ltd, Jiangxi Geo-Engineering (Group) Corporation and Sichuan Road & Bridges (Group) Corporation Ltd and China Sichuan International Cooperation Company Limited).

A number of queries were raised during the audit and communicated to the respective auditees for responses. The received responses were reviewed and clearance meetings held to discuss the same. Unresolved queries emanated from the discussions were forwarded to TRA for consideration and action. In general, queries which were common from one entity to another are as summarized in Tables 12 and 13.

Table 12: Unresolved Queries Communicated to TRA (2015)

Item	Amount (USD)
1. Disallowable items claimed as allowable expenses	46,096,634
2. Payments of mining technical services, management fees, non-technical services and dividends for which tax was not withheld	96,687,245
3. Unqualified capital expenditure deductions	95,236,673
4. Payments which were not Subjected to Pay As You Earn (PAYE) and Skills Development Levy (SDL)	1,278,444
TOTAL	239,298,996

Table 13: Unresolved Queries Communicated to the Commissioner for Minerals and Local Government Authorities (2015)

Item	Amount (TZS)
1. Unpaid royalty	7,791,709,388
2. Unpaid service levy	2,482,540,381
TOTAL	10,274,249,769

3.2 Achievements Resulting from TMAA's Financial Audits

Key achievements for the year 2015 which resulted from TMAA's financial audits and tax reviews conducted on mining entities in collaboration with the MEM's Minerals Division, TRA and Local Government Authorities are as follows:

Minerals Division

- Payment of royalty amounting to TZS 645.1 million.
- Payment of empowerment fund amounting to TZS 336.7 million.
- Payment of annual rent at the tune of TZS 165.3 million.

Tanzania Revenue Authority

- GGML paid a total of TZS 103.9 billion in the year 2015 as corporate tax. Cumulatively, the company has paid corporate tax amounting to TZS 502.7 billion since it started paying corporate tax in year 2009.
- Withholding tax amounting to TZS 284.3 million which was not paid from payments made to mining technical services providers.
- Alternative Minimum Tax amounting to TZS 374.7 million.

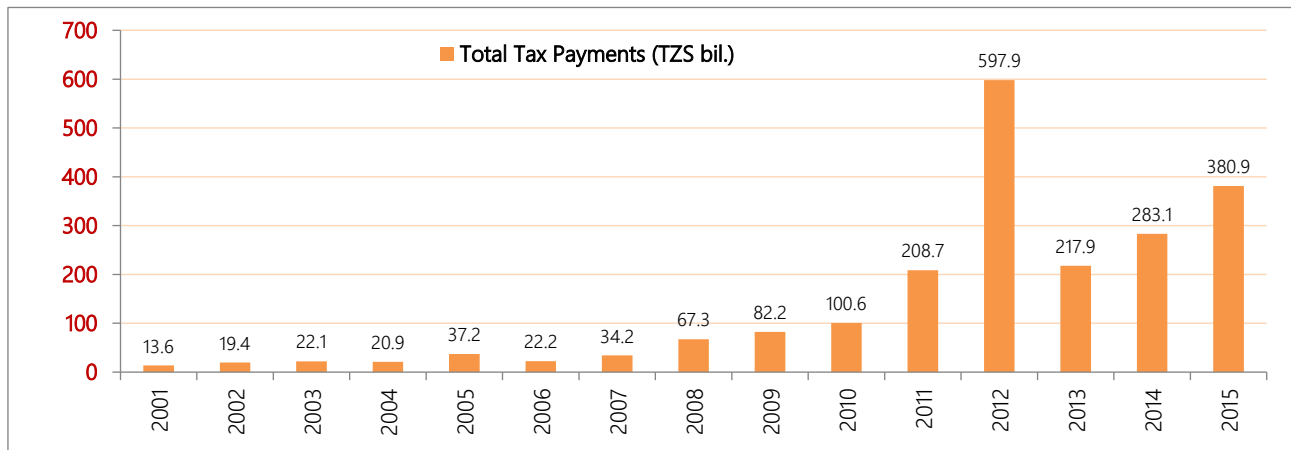
Local Government Authorities

- Payment of service levy amounting to TZS 343.2 billion to the Local Government Councils hosting the mining entities.

Also, regular financial audits conducted by TMAA have enhanced financial record-keeping by major mining companies as well as self-compliance in tax payment.

Figure 17 presents historical taxes paid by large scale mining entities for the period from year 2001 to 2015. Figure 18 shows composition of taxes paid by large scale mining entities for the year 2015.

Figure 17: Historical Taxes Paid by Large Scale Mining Entities (2001 - 2015)



NB: Total tax payments include: Corporate Tax, Value Added Tax, Pay As You Earn, Skills Development Levy and Withholding Tax.

Figure 18: Composition of Taxes Paid by Large Scale Mining Entities for the Year 2015 (TZS bil.)

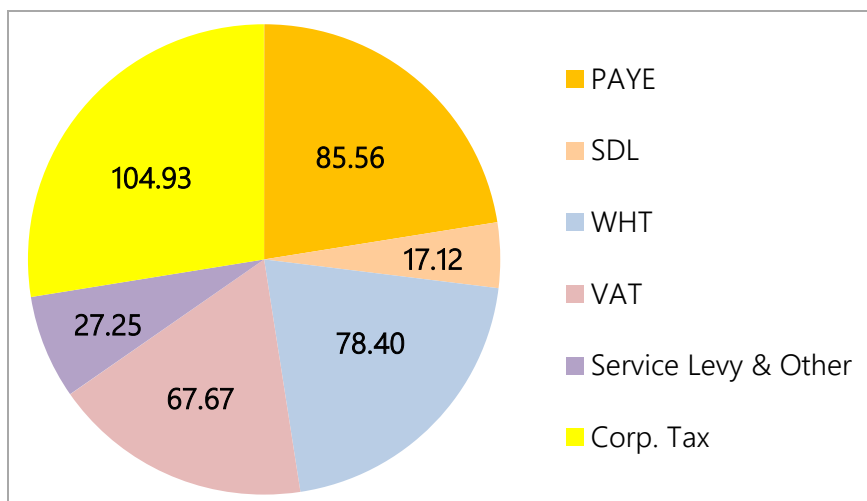


Figure 19 presents historical expenditure in procurement of goods and services by large scale mines. Table 14 presents status of employment for local and expatriates in major gold mines.

Figure 19: Procurement of Goods and Services by Large Scale Miners (2001 – 2015)

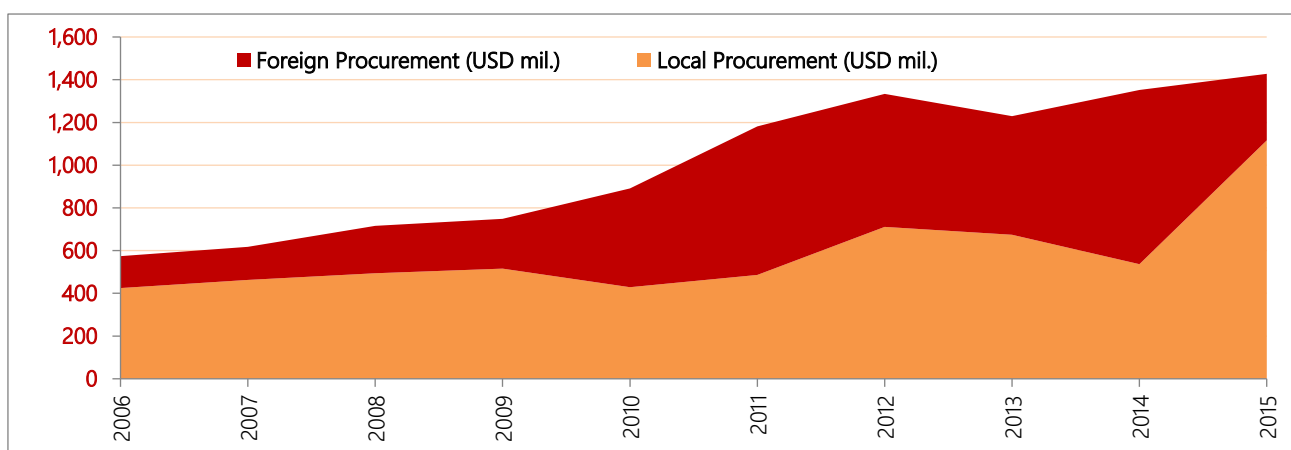


Table 14: Status of Employment in the Major Gold Mines – Number of Locals Vs Expatriates

Mine	Category	2009	2010	2011	2012	2013	2014	2015
BGM	Local	2,012	2,266	2,430	2,535	2,290	2,028	1,755
	Expatriates	185	181	195	181	167	138	125
	Total	2,197	2,447	2,625	2,716	2,457	2,166	1,880
BZGM	Local	671	746	875	1,064	787	934	899
	Expatriates	49	105	132	104	49	19	10
	Total	720	851	1,007	1,168	836	953	909
GGM	Local	1,814	1,792	1,601	1,610	1,560	1,518	1,568
	Expatriates	121	86	82	77	78	67	71
	Total	1,935	1,878	1,683	1,687	1,638	1,585	1,639
GPM	Local	238	266	297	304	333	0	0
	Expatriates	27	34	37	42	23	0	0
	Total	265	300	334	346	356	0	0
NLGM	Local	0	0	0	0	270	313	421
	Expatriates	0	0	0	0	30	29	36
	Total	0	0	0	0	300	342	457
NMGM	Local	621	703	876	971	926	976	968
	Expatriates	127	138	157	148	92	68	57
	Total	748	841	1,033	1,119	1,018	1,044	1,025
TTM	Local	613	648	643	630	645	574	1,166
	Expatriates	29	33	32	37	25	16	23
	Total	642	681	675	667	670	590	1,189
WDL	Local	610	584	558	534	551	558	558
	Expatriates	4	8	8	10	10	11	11
	Total	614	592	566	544	561	569	569
TOTAL	Local	6,579	7,005	7,280	7,648	7,362	6,901	7,335
	Expatriates	542	585	643	599	474	348	333
	Total	7,121	7,590	7,923	8,247	7,836	7,249	7,668

4.0 ENVIRONMENTAL MONITORING AND AUDITING

TMAA continued with environmental monitoring and auditing activities in mining areas aiming at ensuring sound environmental management during life of mines and after closure. Environmental monitoring and audits were conducted by checking compliance with legal requirements on environmental management; assessing implementation of commitments made in the Environmental Management Plans (EMPs); and ascertaining whether the mines set out adequate environmental budgets for progressive rehabilitation and mine closure.

During 2015, the Agency audited environmental matters on 8 major mines comprising 5 gold mines, 2 diamond mines and 1 cement plant site. Additionally, the Agency audited 14 medium scale mines, 28 small scale mines, 76 vat leaching and 63 elution plant sites.

Audit reports with recommended remedial actions were communicated to auditees for corrective actions. All major mines and some of medium and small scale mining operations owners rectified most of the noted shortfalls. Table 15 highlights environment restorations made by major mines in line with TMAA's environmental audit recommendations.

Table 15: Summary of Environmental Restorations Taken by Major Mines

Mine	Environmental Measures Taken
Bulyanhulu Gold Mine	<ul style="list-style-type: none"> • Construction of secondary containment bund at the emulsion storage tank. • Replacement old pipe carrying diesel from fuel farm to the gold process plant to fix ground diesel leakage. • Commencement of de-silting of plant site return water pond trench clogged with mud and sediments. • Placed liner sheet beyond incineration area for temporary storage of chemical and hydrocarbons contaminated materials.
Geita Gold Mine	<ul style="list-style-type: none"> • Installation of incinerator for burning hazardous waste produced onsite. • Construction of new and improved bioremediation facility. • Reduction of hydrocarbons traces in the wash-bay ponds as a result of upgrade of oil water separator. • Improvement in air quality monitoring by installation of a monitoring station at RC centre in Geita Town; Nyakabale and Nyamalembo; and equipment for SO_x and NO_x monitoring. • Completed hydro-geological and geochemical studies for the pits including Kukuluma and Matandani. • Lowering WAD cyanide levels discharged at the Tailings Storage Facility (TSF) to below 50ppm which is deemed safe for wildlife by the International Cyanide Management Institute (ICMI).

Mine	Environmental Measures Taken
Buzwaji Gold Mine	<ul style="list-style-type: none"> • Removal of used carbon bags on unpaved ground and storage of the same in containers. • Construction of secondary containment bunds at Atlas Copco and Rhino yards for storage of drums containing hydrocarbon. • Construction of four concrete bunkers for storage of steel balls previously stored randomly on ground. • Construction of waste management centre with partitions according to the waste types generated. • Construction of containment bund for temporary storage of spilled slurry from the plant. • Reduction of Weak Acid Dissociable (WAD) cyanide level concentration for year 2014 below the International Cyanide Management Code standard (≤ 50ppm) due to effective functioning of detoxification plant.
Williamson Diamonds Mine	<ul style="list-style-type: none"> • Installation of new incinerator for burning of oil rags, filters and other hazardous wastes. • Inclusion of radioactive materials disposal, social closure criteria and post closure monitoring of contaminated sites during Mine Closure Plan (MCP) review. • Construction of containment bund at NAL Plant area to prevent sediments washout to the environment. • Improvement in supervision at Caspian and MMP yards to ensure all machine and vehicle maintenance are undertaken on a protected ground.
North Mara Gold Mine	<ul style="list-style-type: none"> • Construction of drainage and spills collection sump at chemical storage sheds. • Removal of weeds and sediments from process water pond. • Construction of surface runoff trench and sediment traps at Nyabirama heavy mining equipment workshop. • Construction of earth retaining bund to protect surface runoff to the environment and divert the same to Gokona PAF waste Dump. • Improvement in hazardous waste management through sorting and incineration.
Stamigold Biharamulo Mine	<ul style="list-style-type: none"> • Construction of containment bund around chemical storage sheds. • Upgrade of sewage management system including construction of waste water stabilization ponds and paved sewage drainage channels. • Construction of containment bund for storage of waste oil and chemical containers at salvage yard. • Improvement in solid waste sorting at the salvage yard.

Some of the environmental measures taken by gold processing plants, elution plants, medium and small scale mining operations owners as a result of TMAA's audits include:

- Construction of secondary containment bunds for storage of hydrocarbons;
- Pavement of sluicing and amalgamation ponds for gold processing using mercury chemicals;

- Acquisition of chemical use and storage permits;
- Construction of drainage channels sediment traps to intercept sediment loads carried with surface runoff at vat leaching plants;
- Construction of tanks for storage of waste water contaminated with chemicals from elution plants;
- Improvement in solid waste management by providing disposal facilities;
- Preparation of Environmental Protection Plans (EPPs); and
- Construction of drainage channels and catchment pond for collecting spills from Asphalt plant.

Major Shortfalls on Environmental Management Noted at Large and Medium Scale Mining Operations

1. Improper discharge of slimes from the Process Plant due to absence of designed infrastructures



2. Improper management of chemicals



3. Lack of progressive rehabilitation on disturbed and waste rock dumping areas due to absence of progressive rehabilitation plans



4. Absence of/Inadequate drainage system around the plant site



5. Improper management of TSF



6. Poor management of solid waste due to disposing of hazardous materials in the landfill



Major environmental management shortfalls noted at small scale mining, vat leaching and elution plant sites include:

- Inadequate management of chemicals;
- Inadequate management of treated tailings;
- Improper handling of hydrocarbons;
- Improper management of solid waste;
- Improper disposal of tailings;
- Non barricading of barren solution tanks;
- Abandonment of old mine workings;
- Improper disposal of contaminated sludge;
- Discharge of contaminated waste water to the environment;
- Air emissions from chemicals and dust; and
- Absence of environmental protection plan.

Major Shortfalls on Environmental Management Noted at Small Scale Mining Operations and Vat Leaching Mine Sites

1. Improper management of chemicals



Cyanide bag placed on wet floor

2. Inadequate management of waste rocks



Random dumping of waste rocks

3. Improper management of solid waste



Open burning of hazardous waste and random dumping

4. Inadequate management of tailings



Tailings overflow from tailings dam

5. Improper handling of hydrocarbons



Hydrocarbon spillages

6. Abandonment of old mine workings



Abandoned old mine working / shaft

7. Air emissions from dust



Dust emissions from quarry site

CONCLUDING REMARKS

Gold production (gold bars and copper concentrate products) by six major gold mines (Bulyanhulu, Buzwagi, Geita, New Luika, North Mara and Biharamulo) increased by 7.1% from 1.27 million troy ounces in 2014 to 1.36 million troy ounces in 2015. The increase was mainly contributed by higher gold output at Geita Gold Mine (GGM) and Bulyanhulu Gold Mine (BGM). GGM was the leading gold producer in 2015, which contributed 38.6% of total production, while Stamigold Mine (SBM) was the least gold producer with 1.5% of total production.

Total mineral exports by these mines comprised of 1.37 million troy ounces of gold, 13.8 million pounds of copper and 0.5 million troy ounces of silver, with total value of USD 1.62 billion. Mineral royalty paid to the Government during the year decreased by 3.4% to USD 63.2 million (as of 31st December, 2015) compared to USD 65.4 million realized in 2014.

Diamonds output at Williamson Diamonds Limited (WDL) during the year amounted to 196,256 carats, down by 3.6% compared to 203,525 carats produced in 2014. The mine sold 191,407 carats of diamonds worth USD 53.3 million in 2015, compared to 226,350.84 carats worth USD 73.6 million sold in 2014.

Rough Tanzanite output (Grade A-BLI and SI-I) at TanzaniteOne Tanzanite Mine (TTM) decreased by 75.5% to 186,370 grams in 2015, compared to 759,681 grams produced in 2014. The mine exported 2.4 million grams of rough and preform Tanzanite worth USD 4.48 million, down by 53.6% compared to USD 9.66 million realized in 2014.

Total value of mineral exports (gold, diamonds and Tanzanite) by the mines mentioned above decreased by 1.2% to USD 1.63 billion, as compared to USD 1.65 billion realized in 2014.

A total of 12.96 million tons of building materials and industrial minerals worth TZS 206.92 billion were produced and sold by miners in the audited areas countrywide. Payable royalty amounted to TZS 6.2 billion, which is 48.7% higher compared to TZS 4.17 billion realized in year 2014. This rise in royalty collection was mainly contributed by the increase in number of audited licensed miners.

A total of 1,392.61 kilograms of gold worth TZS 89.2 billion were produced and sold by mineral processors who use vat leaching technology in Geita, Mbeya and Mwanza regions. Payable royalty amounted to TZS 3.6 billion, which is 56.5% higher compared to TZS 2.3 billion realized in 2014. The increase was mainly contributed by strengthened mineral audits by the Agency in the regions.

Monitoring of mineral exports through major airports mainly Julius Nyerere and Kilimanjaro International Airports enabled interception of smuggled minerals worth USD 1,512,186.61 and TZS 34,670,794 in 25 separate incidents. The incidents were reported to responsible Government bodies for legal actions which included confiscation of minerals.

Audit of revenue generated, capital and operating expenditure during the year 2015 was conducted on three large scale mining entities, thirteen medium scale mining entities and twenty road construction projects. Major mines paid to the Government a total of TZS 104.9 billion as corporate tax and TZS 276 billion as other taxes and levies for the period under review.

Monitoring and auditing of environmental compliance, budget and expenditure was conducted on 8 large scale, 14 medium scale and 28 small scale mines. Also, 76 vat leaching and 63 elution plant sites were audited. Audit reports with recommended remedial actions were communicated to auditees for corrective actions.

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TMAA Laboratory Services

TMAA has a modern laboratory which provides commercial services to mineral explorers, miners, mineral traders, buyers and exporters.

We receive different sorts of mineral ores, concentrates, bullions, rock and soil samples from individuals as well as corporate entities to ascertain mineral(s) content.

We also provide identification and grading of diamonds and coloured gemstones.



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