



NATIONAL BUREAU OF STATISTICS

Nigerian Mining and Quarrying Sector

SUMMARY REPORT: 2010-2012



NATIONAL BUREAU OF STATISTICS

JANUARY 2015

Mining and Quarrying Data

The Mining and Quarrying data used in this report was obtained from the National Bureau of Statistics Survey of Establishments conducted in 2013. It covers formal establishments, which are defined as those which are registered and have audited accounts.

SECTION ONE: Mining and Quarrying in Nigeria

History of the Nigerian Mining and Quarrying Sector

Mining and quarrying are the processes of extraction of naturally occurring stone or minerals such as coal, ores, crude petroleum and natural gas from the earth. In Nigeria, solid minerals are discussed separately to that of petroleum and natural gas (coded as division 11 of the ISIC), in view of the latter's significance to the Nigerian economy.

Mining is one of the oldest economic activities and can be traced back to when early mankind extracted clay, and later other metals, for the production of cosmetics, crude implements and utensils. In Nigeria, extraction of tin dates as far back as 500 BC, where the Nok culture of the Benue/Northern Zaria areas of Nigeria were understood to have knowledge of Iron smelting. More famously, however was the rise of the Benin Bronze casting in Ile-Ife around 1400 AD, under the rule of Oba Ogunta, the Sixth king of Benin¹.

Later, early European explorers located and informally mined tin, galena, gold, and other minerals that could be traded internationally. Yet, records show that organised exploration activities in Nigeria did not commence until 1903 and 1904, when the Secretary of State for Colonies conducted mineral surveys of the Southern and Northern Protectorates respectively. The principal mineral deposits discovered by the survey teams included lignite at Asaba, widespread lead and zinc ore deposits, tin and columbite in the

¹ Nigerian USA Embassy
<http://www.nigeriaembassyusa.org/index.php?page=culture-tourism> (accessed 31/10/2014)

south-east and monazite, limestone and lead-zinc ores at Abakaliki district. Other examples are coal at Enugu, brine springs at Arufu and Awe, Galena in Jos plateau, iron ore deposits in Niger and Kwara districts and marble deposits in Jakura. Beyond the exploration stage, organised Mining and Quarrying, commenced in the country in 1915, with the production of coal at the Enugu mines.

Prior to the commercial production of oil in the late 1950's, agricultural production and the utilization and trade of the solid minerals that were known at the time, including coal, tin, columbite and gold, sustained Nigeria's economy. Coal, for example, met fully the needs of the railway system and electricity supply while tin yielded substantial foreign exchange earnings for the nation. In addition, the extraction of these minerals also offered employment opportunities.

However, the oil boom of the 1970's saw attention rapidly turn away from these more traditional sources of revenue, and towards the extraction of crude, so that the rapidly growing economy relied almost solely on this one, lucrative commodity. Throughout this period there was a government drive for indigenization of companies, which, combined with the civil war, which began in the late 1960's, led to the evacuation of many foreign mining experts. At the time, this was not felt, due to the excess oil revenues bringing money into the country.

The bountiful period of the 1970's was, however, short lived; falling oil prices in the 1980's and the economic downturn that ensued, coupled with the introduction of the Structural Adjustment Programmes (SAP), necessitated a radical change in policy. Focus was turned to the diversification of economic activities and the promotion of their privatization and commercialization.

In 1994, Government canvassed a private sector-led economic revival programme in solid minerals, agriculture and manufacturing as a means of diversifying the economy. This programme recommended the establishment of a Ministry of Solid Minerals Development, the creation of which was subsequently announced by the Head of State, Gen. Sani Abacha, in his 1995 Annual Budget Speech.

In 1999 the Federal Minerals and Mining Act was created, which was followed by a drive for the privatization of the then majority state-owned mines.

Improved geological mapping over the years has revealed that Nigeria is endowed with numerous deposits of industrial, metallic and non- metallic minerals. There are about thirty-four [34] minerals that have been identified in the country.

The availability of these minerals opens up opportunities in the following areas:

- . [a] Exports and use in domestic industries for generation of foreign exchange and internal revenue.

- . [b] Emergence of new industrial and downstream products.
- . [c] Increased employment of Nigerians, particularly in the rural areas where the minerals are found. The multiplier benefits to the local economy are also beneficial in this regard.
- . [d] Technology transfer and development.
- . [e] Development of infrastructure, especially in the rural areas [roads, hospitals, rail, schools and housing].

Nonetheless, as Figure 1.0 shows, the mining and quarrying activity (excluding crude petroleum and natural gas) has not significantly contributed to GDP between the 1980-2012 period, peaking at 1.12% of total GDP at 1990 constant basic prices in 1982.

Mining and Quarrying Contribution to GDP at Constant Basic 1990 Prices

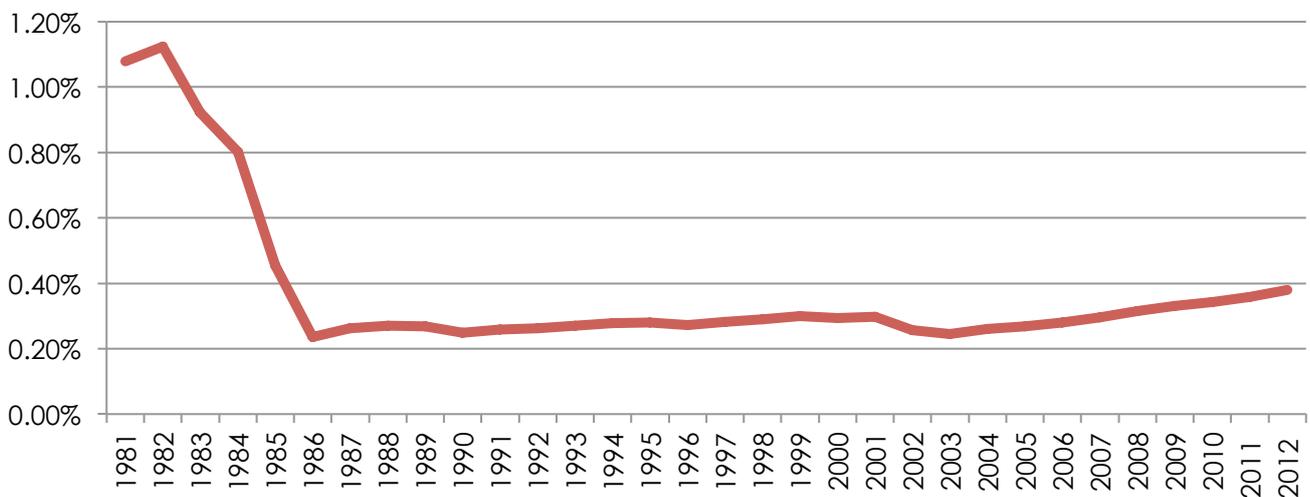


Figure 1 Change in Mining and Quarrying Contribution to GDP

Mining and Quarrying in the Nigerian Economy Today

Again, excluding the Crude Petroleum and Natural Gas activity, Mining and quarrying, activities of Coal Mining, Metal Ores and Quarrying and Other Minerals jointly contributed about 0.09% to the national GDP in the period covering 2010-2012. As shown in Figure 2, this was a steady rise over the period; from the N51,877.80 million recorded in 2010, output grew by N7,691.54 million or 14.83% in 2011 to reach N59,569.34 million that year. In 2012 it grew by N11,920.06 million or 20.01% to N71,489.39 million.

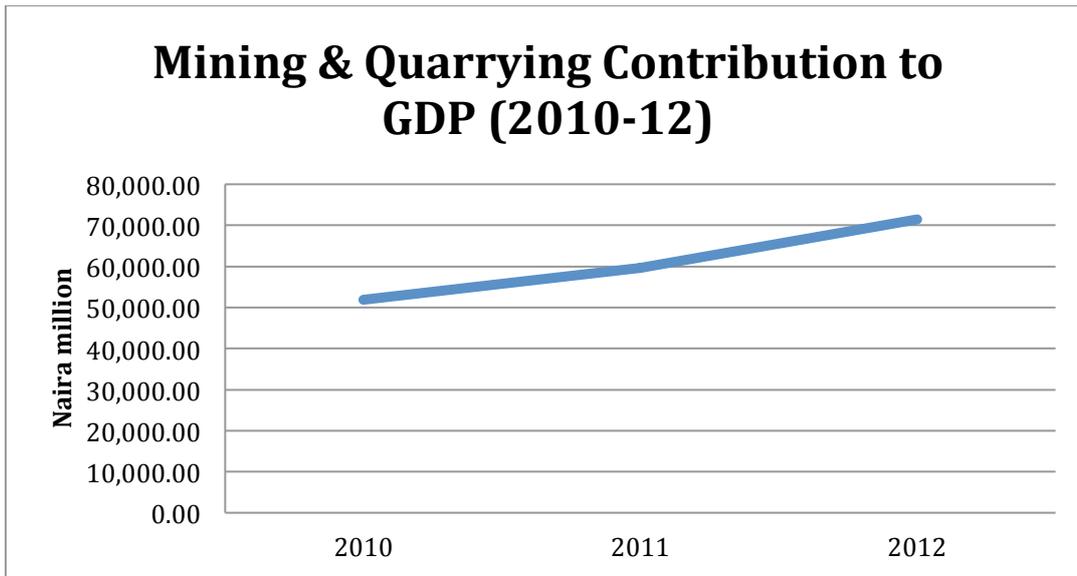


Figure 2 Mining and Quarrying contribution to GDP at current basic prices

SECTION TWO: The Formal Mining and Quarrying Sector Post Rebasing

Total Formal Sector Output

Total formal sector output in the mining and quarrying sector grew at a high and steady rate over the period of review. Totalling N73,009.77 million in 2010, it increased by N12,805.30 million or 17.54% in 2011 to reach N85,815.07 million that year. Growth went up even higher in 2012, with an increase of about N17,420.90 million or 20.30%, so that total output reached N103,235.97 million that year.

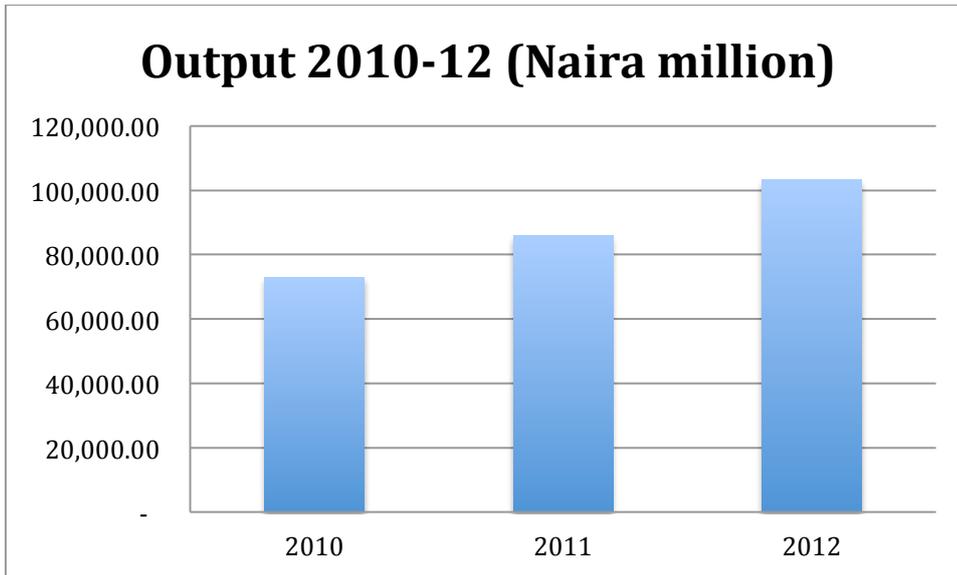


Figure 3 Total output of mining and quarrying sector

Coal

At N5,916.48 million, in 2010 it made up 8.10% of the total for the activity. Output increased by N1,304.16 million or 22.04% in 2011, reaching N7,220.64 million, which was 8.41% of the total Mining and Quarrying Output. Growth slowed marginally the following year, with an increase of N1,380.59 million or 19.12%. The total 2012 total therefore stood at N8,601.23 million, 8.33% of total sector output.

Mineral Ore

Mineral ore was the lowest contributor to output in all years observed, maintaining a declining positive growth. In 2010, it stood at N3,285.21 million or 4.50% of the total. Growing by N518.68 million or 15.79% in 2011, it represented N3,803.89 million or a marginally lesser 4.43% of the sector total. The year 2012 saw a slight slow down in growth, to 7.47%, with the increase of N284.14 million generating total of N4,088.03 million of output from the Mineral Ore activity, which, in turn was 3.96% of the total mining and quarrying output in the formal sector.

Other Minerals

At N63,808.08 million in 2010, 'Other minerals', which includes examples of clay and sand quarrying, stood as the highest contributor to the Mining and Quarrying Activity in 2010, holding 87.40% of the annual total. With growth of N10,982.46 million or 17.21% in 2011, at N74,790.54 million it retained this position, holding 87.15% of the Mining and Quarrying total for that year. The year 2012, saw a

further rise of N15,756.17 million or 21.07%. At 103,235.97 million, this marginally increased its share of the total to 87.71%.

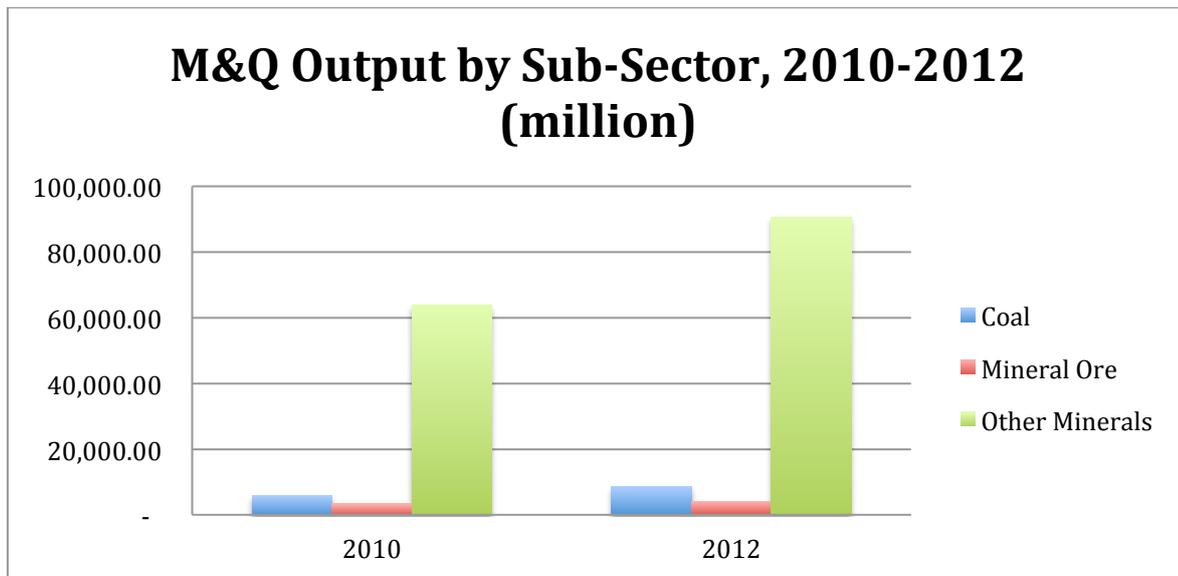


Figure 4 Mining and quarrying output by activity

Employment Size

Total number of employees in the mining and quarrying sector had a steady growth between 2010 and 2012. In 2010, the total number of employees stood at 1,031,033, which increased by 131,042 or 12.71% to 1,162,075. By 2012 it went up by 16.93% to a combined total of 1,358,795 employees.

Nigerian males made up the highest number of employees for 2010, 2011 and 2012. In 2010 they were 61.37% of the total number of employees, which went up by 67,658 or 10.69% from 632,693 to 700,352 in 2011, capturing 60.27% of the total employment size for that year. By 2012, Nigerian males held 60.65% of the total employee labour force with 824,096 employees, showing an increase of 17.67% from the previous year.

Nigerian females made up the second highest group of employees with a share of 38.15%, 39.36, and 38.97% for 2010, 2011 and 2012 respectively. The Nigerian female workforce in the sector stood at 393,335 in 2010, which increased by 16.27% to 457,345 in 2011. There was slower growth in 2012 with an increase of 72,245 or 15.80% to a total of 529,590 Nigerian women in the sector's workforce.

Non-Nigerian employees share to total workforce was negligible for the sector, making up 0.48% in 2010 and falling to 0.38% for 2011 and 2012. The total number of non-Nigerians which was 5,004 in 2010 fell by 12.50% to 4,379 in 2011, but saw an increase by 730 new employees, which was a 16.67% increase resulting in 5,108 non-Nigerian employees in 2012.

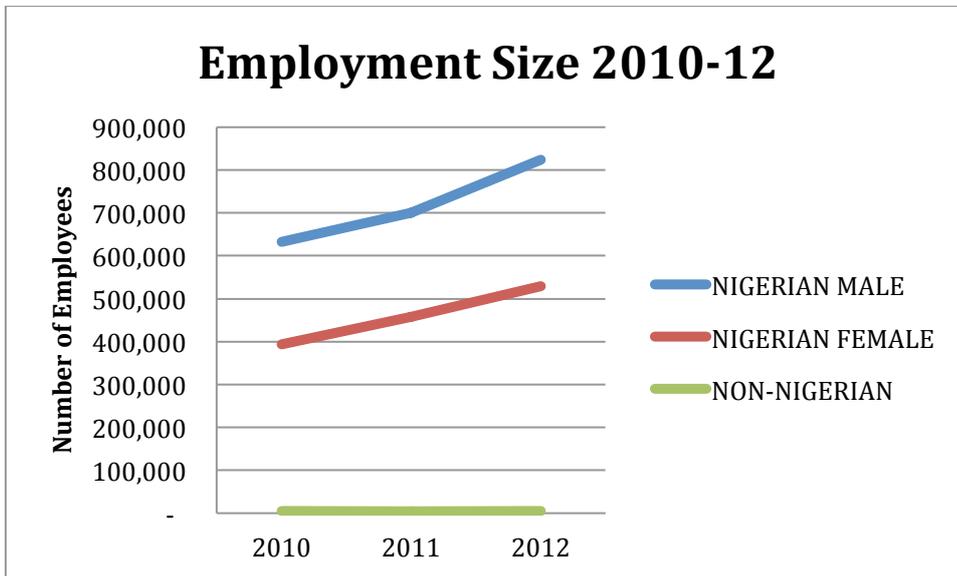


Figure 5 Mining and quarrying employment size

Employee Compensation

Total employee compensation, in the form of wages and salary, Other benefits (excluding per diem) and Social security contributions, summed to N24,358.39 million in 2010. Overall, it rose steadily throughout the period, increasing by N4,985.20 million or 20.47% to reach N29,343.59 million in 2011. There was a greater increase of N5,160.86 million or 17.59% in 2012, with total employee compensation in the Mining and Quarrying sector of N34,504.45 million.

In all three years, Wages and Salary dominated employee compensation, and this dominance increased steadily over the period. In 2010 it represented N12,547.89 million or 51.51% of the total for that year. It was followed by Other Benefits, which at N11,583.95 million made up 47.56% of the total; the remaining 0.93% was taken by Social Security contributions at N226.55 million.

Wages and salary showed persistent positive growth over the period, increasing by N6,228.84 million or 49.64% in 2011 and by N9,414.56 million or 50.14% in 2012. In 2011 therefore, the N18,776.73 million paid in wages and salary represented 63.99% of the total, which increased even further to 81.70% of the total employee compensation in 2012, at N28,191.29 million.

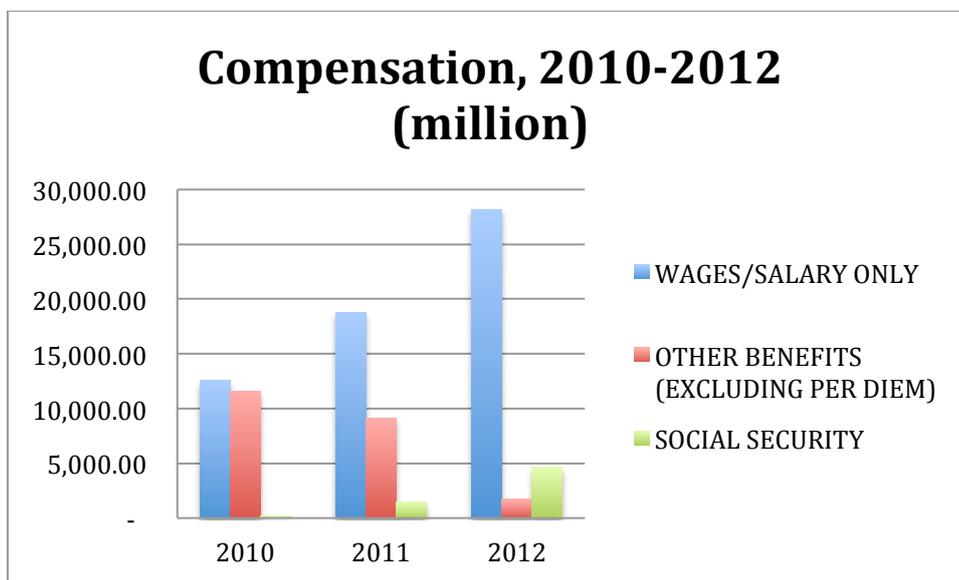


Figure 6 Composition of Employee Compensation

Other benefits on the other hand, showed negative growth in both 2011 and 2012. From the N11,583.95 million recorded in 2010, there was a decline of N2,497.04 million or 21.56% in Other benefits paid in 2011, to N9,086.91 or 30.97% of the total. The negative growth accelerated in 2012, with declines of N7,386.92 million or 81.29%, so that the N1,699.99 million of other benefits represented the smallest portion of the total at 4.93%.

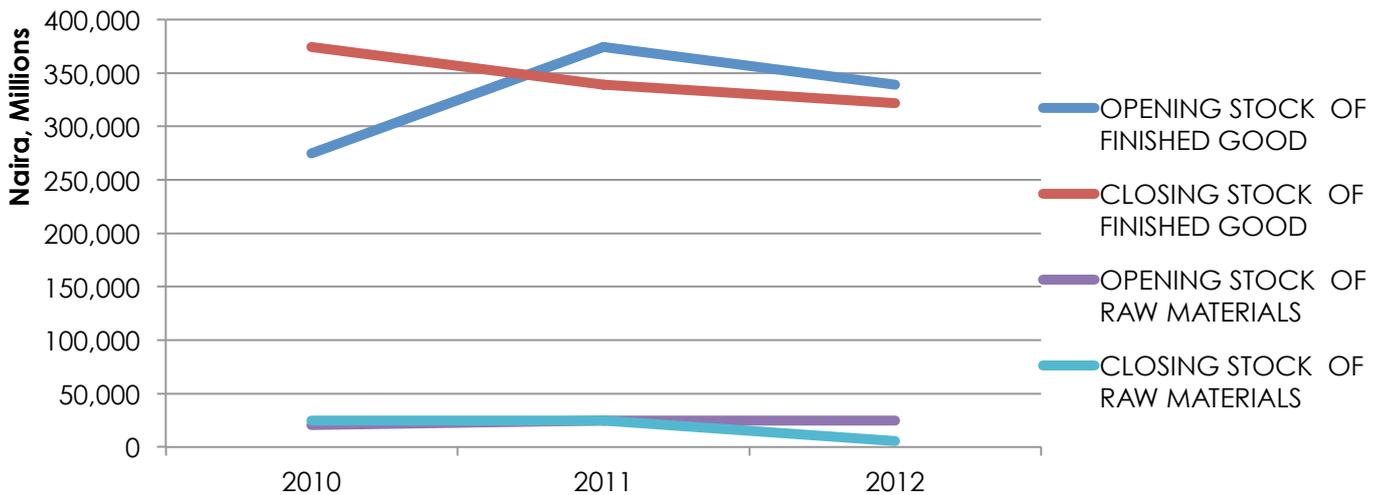
With overall compensation increasing, it must be the case that where other benefits declined, social security payments have increased. Indeed, from the N226.55 million recorded in 2010, there was a sharp increase of N1,253.40 million or 553.25%, reaching a total of N1,479.95 million or 5.04% of the total, as benefits shifted from Other to Social Security, perhaps due to ease of employers entering such schemes. This share increased in 2012 to 13.37%, where the N4,613.17 million of social security payments represented an increase of N3,133.22 million or 211.71%.

Inventory

In 2010, the opening stock of finished goods in the Mining and Quarrying Sector stood at N274,724.24 million. Closing in 2010 (and hence opening in 2011) at a value of N374,305.86 million, the stock of finished goods grew by N99,581.62 million or 36.25% in 2011. However, in 2012, finished goods saw a decline of N35,364.37 million or 9.45% to reach N338,941.49 million at the close of 2011 and open of 2012. The closing stock of finished goods in 2012 was valued at an even lesser N321,764.33 million, showing a N17,177.16 million or 5.07% decline within the year.

Opening and Closing Stocks of Finished Goods and Raw Materials

Opening and closing stocks of finished goods and raw materials



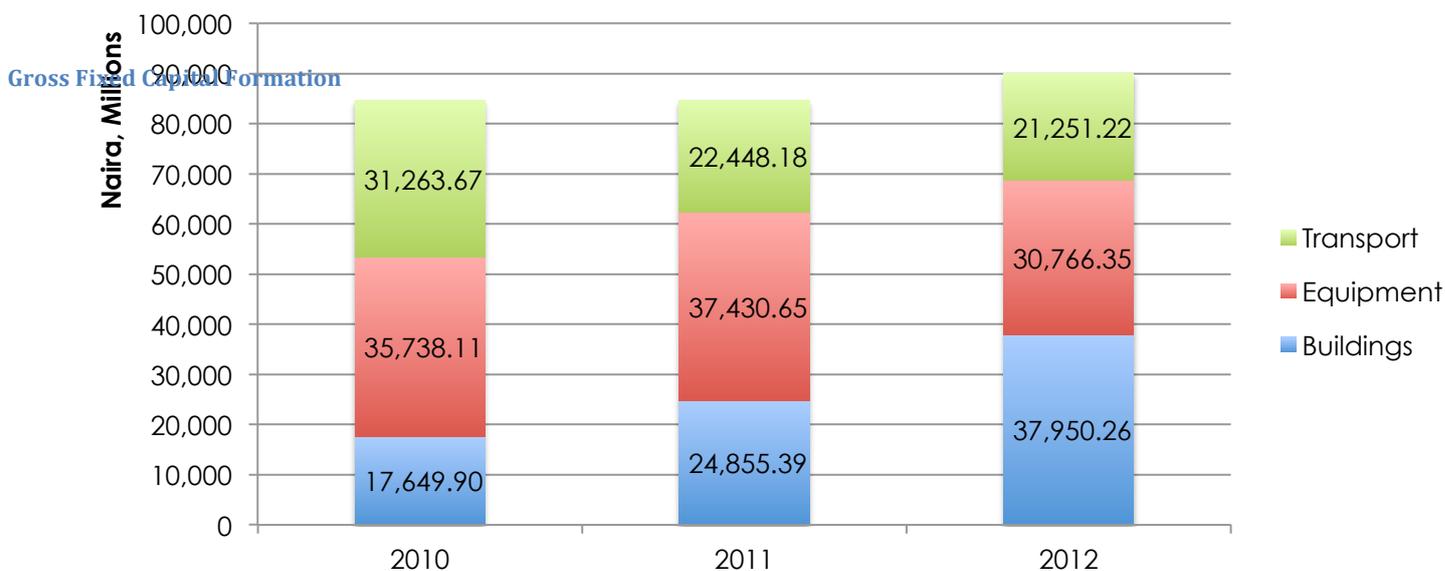
The value of raw materials was far smaller than that of finished goods in the Mining and Quarrying Sector, yet their stocks still showed growth in the same direction as that of finished goods. From the N20,504.20 million opening stock of 2010, there was an increase of N4,034.59 million or 19.68% to the closing stock for 2010 and opening stock of 2011, valued at N24,538.79 million. Mirroring the stock of finished goods, there was negative growth in 2012, although this time it was a marginal N89.98 million or 0.37% so that the closing 2011 stock and opening 2012 stock was valued at N24,448.81 million. The negative growth in raw materials over the 2012 period was far greater than the declines experienced in the finished goods inventory, with a decline of N18,905.40 million or 77.33% so that the closing stock in of raw materials in 2012 was valued at N5,543.41 million.

Gross Capital Formation and Depreciation

Gross capital formation (GCF) consists of assets acquired within the accounting period; it includes three broad categories of buildings, equipment and transport. Gross capital formation in 2010 totaled N84.65 million. It grew marginally by N82,547.66 or 0.10% in 2011 to N84.73 million and by a moderate N5.23 million or 6.18% to reach N89.97 million in 2012.

The greatest of the three gross capital formation categories was Equipment in 2010, with N35.74 million or 42.22% of the total GCF for that year. It then increased by N1.69 million or 4.74% to reach N37.43 million or 44.17% of the total in 2011. In 2012 however it declined by N6.66 million or 17.80% to reach N30.77 million or 34.20% of the total; a decline of 9.98% points.

Gross Fixed Capital Formation



The second greatest contributor was Transport, which at a value of N31.26 million took 36.93% of the total in 2010. However, it showed a rapid decline over the period; first by N8.82 million or 28.20% to reach N22.45 million in 2011 and then by a lesser N1.20 million or 5.33% to the N21.25 million recorded in 2012. These values represented 26.49% of the total in 2011 and 23.62% of the total in 2012, making it the smallest of the GCF sectors in each year.

The smallest of the sub-categories in 2010 was buildings, which had GCF valued at N17.65 million or 20.85% of the total. This then increased by N7.21 million or 40.82% to N24.86 million or 29.33% of the total in 2011. The main driver of this growth was the Non-residential buildings category, which

increased by N3.66 million or 49.00% from N7.48 million in 2010 to N11.14 million in 2011. The Buildings category experienced even faster growth the following year, of N13.09 million or 52.68% to reach N37.95 million or 42.18% of the total in 2012, making it the largest of GCF categories in this year. This growth was again driven by non-residential buildings, which increased in GCF value by a further N6.33 million or 56.83% to N17.47 million.

Depreciation totaled N2.05 million in 2010, declining by N0.31 million or 14.99% in 2011 to N1.74 million, only to increase by N0.730 million or 41.93% to N2.47 million in 2012.

Intermediate Inputs

The total amount spent on the mining and quarrying sector in 2010 was N32,804.46 million. This increased by 19.44% the following year to N39,183.24 million and increased even further by 20.22% to N47,106.47 million in 2012.

The greatest expense for all three years was for equipment purchase and other materials, which in 2010 was worth 53.68% of the total or N17,610.87 million. In 2011 it fell by 15.12 percentage points to 38.56% share of the total and in 2012 it dropped by another 15.31 percentage points to 23.25% share of the total for the year. In 2011, it went down by 14.20% to N15,110.46 million and by 27.52% the following year to N10,952.19 million.

The second highest share of 2010 went to transportation charges, and this included loading charges, which was N5,868.89 million, holding 17.89% of the total. There was an increase of N1,136.33 million or 19.36% in 2011 to N7,005.22 million, which fell by 48.60% to N3,600.72 million. It also held the second highest share position in 2011 with 17.88% of the total intermediate input for the year.

Some noteworthy changes between years can be seen in medical expenses to staff at work, which in 2010 cost N23.81 million and went up by 815.53% to N218.01 million in 2011 and by a further 228.75% to N716.69 million in 2012. Another major change was seen in the cost of explosives, which was at N324.40 million in 2010, but went up by 882.95% to N3,188.72 million

Taxes and Subsidies

Taxes on Production in the Mining and Quarrying Sector



Taxes on production are fees levied by the government on the production, sales and importing of goods and services, increasing the cost of production to beyond that which would be determined by the market. They exclude taxes on profit or other incomes. Taxes are often introduced by government as a way of generating revenue or controlling levels of production. Taxes on production in the mining and quarrying sector totaled N1,739.23 million in 2010 and increased by N251.22 million or 14.44% in 2011 to reach N1,990.45 million. In 2012, they increased by a further N430.83 million or 21.64% to N2,421.27 million. There were no subsidies recorded in the sector in the period under review.

SECTION THREE: Mining and Quarrying Sub-Sectors

Employee Compensation

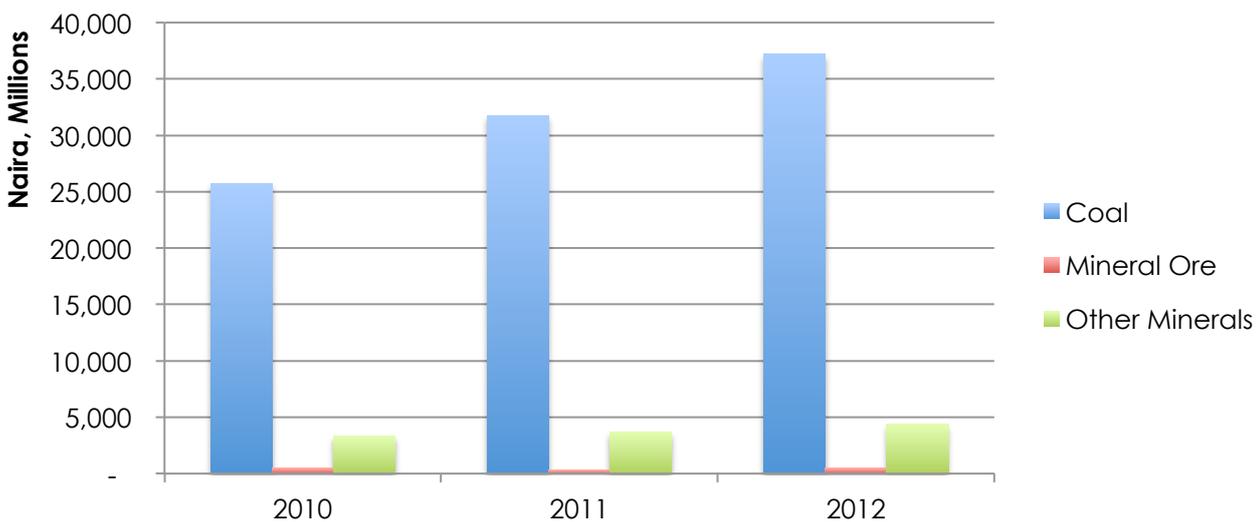
As would be expected, the sector with the greatest formal sector output, coal, also had the highest value of employee compensation throughout the period. In 2010, it totaled N25,757.90 million, which was

87.02% of the mining and quarrying sector. With growth of N5,999.30 million or 23.29%, the N31,757.21 million that the sub-sector represented in 2011 was 88.69% of the activity total in 2011, whilst the growth of N5,451.65 million or 17.17% in 2012 brought the total to N37,208.85 million or 88.43% of the Mining and Quarrying total for Employee compensation.

Similarly, as the second greatest contributor to output, Other Minerals was also the second greatest contributor to employee compensation; the N3,312.94 million that it represented in 2010 was 11.19% of the total employee compensation for mining and quarrying that year. Despite growth of N653.32 million or 10.32% to N3,695.64 million in 2011, the share of the total declined to 10.32%. The share increased marginally in 2012, to 10.34%, having grown by N653.32 million or 17.68% that year to reach N4,348,96 million.

With the smallest contribution to employee compensation, Mineral ores recorded both the fastest and the slowest growth rates throughout the period. The N529.29 million or 1.79% of the total for mining and quarrying in 2010, saw negative growth of N175.96 million or 33.25% in 2011, so that the total of N353.23 million represented 0.99% of the total; 0.80% points less than in the preceding year. In 2012 however, growth in employee compensation picked up, at N165,31 million or 46.79%, although the N518.64 million of 1.23% of the total it represented was still less than was recorded in 2010.

Employee Compensation by Sub-Sector



Inventory

The greatest values of opening and closing stocks of finished goods and raw materials, were contributed by the Coal sub-sector, with over 99.99% of the value in all years. Its growth pattern, therefore is near identical to that of the sector as a whole.

For the other two sectors of Other Mining and Mineral Ores, the growth story is more mixed. For Mineral ores, there was an increase in all stock in 2011. The highest growth was recorded in the closing stock of the raw materials, which increased from N43.71 million in 2010 by N53.89 million or 123.31% to N97.60 million in 2011. This was followed by the 2011 closing stock, which at N1,353.05 million had grown by N693.45 million or 105.13% from the N659.59 million recorded in 2010. However, the following year, closing stocks of both raw materials and finished goods declined in 2012, by N75.47 million or 77.33% to N22.13 million and by N68.56 million or 5.07% to N1,284.48 million for each respectively.

For Other minerals, the opening stock of raw minerals in 2011 showed positive growth of N113.75 million or 20.96% from N542.72 million in 2010 to N656.47 million in 2011, whereas it declined by N9.35 million or 1.42% to N146.73 million in 2012. For the opening stock of finished goods, from the value of N7,271.58 million recorded in 2010, there was an increase of N2,635.79 million or 36.25% in 2011 to a value of N9,907.36 million. In 2012 this increase continued, albeit at a slower pace, of N834.74 million or 8.43%, reaching N10,742.06 million.

Intermediate Inputs

Coal Mining Activity

With a value of N2,698.25 million, the coal mining activity contributed 8.23% of the total intermediate inputs for the mining and quarrying sector for 2010, and stayed at a similar level of 8.51% and 8.49% for 2011 and 2012 respectively. The sector saw sustained growth of N638.01 million or 23.65% in 2011 to reach N3,336.26 million and by N665.43 or 19.95% to N4,001.69 million in 2012.

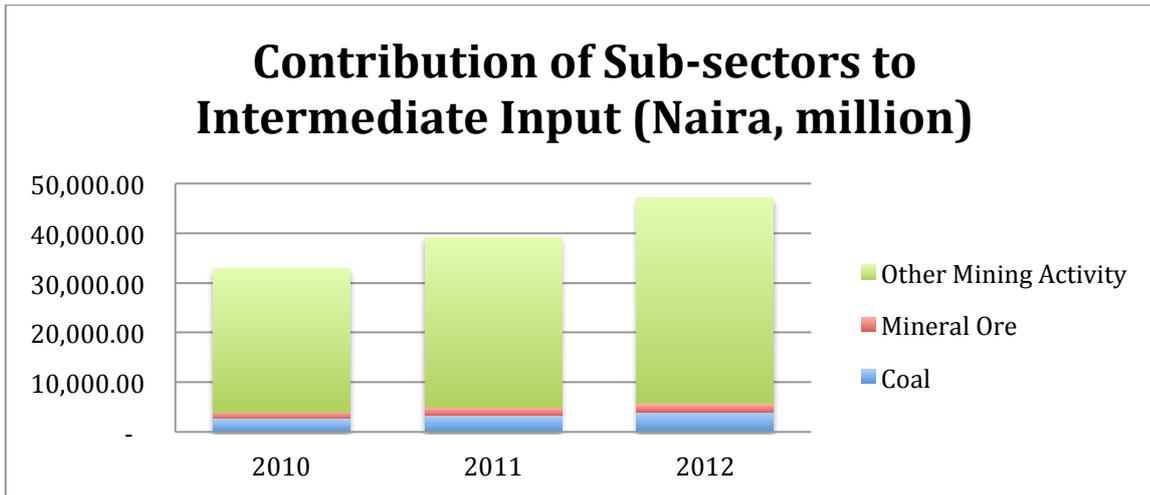


Figure 7 Contribution of sub-sectors to Intermediate Inputs

Mineral Ore Mining Activity

The smallest of the sub-sectors, Mining Mineral Ores had a value of intermediate inputs of N1.38 million in 2010, which represented 4.22% of the value for the mining and quarrying sector. In 2011, this increased by N216.58 million or 15.66% to reach N1,599.79 million, maintaining its share of the total at 4.08%. However, 2012 saw a slow in the growth in value of these inputs, with an increase of N123.18 million or 7.70%, so that the total of N1,727.97 million represented a decline of 0.42% point in its share of the total, at 3.66%.

Other Mineral Mining Activity

Other mineral mining activity contributed the greatest share to the mining and quarrying sector's total value of intermediate inputs in 2010, 2011 and 2012 with 87.56%, 87.40% and 87.85% share respectively. It showed a steady rise over the years, starting off at N28,723.00 million and rising by N5,524.19 million or 19.23% to N34,247.19 million into 2011. It rose by another 20.83% to N41,381.81million in 2012, marking a N7,134.62 million rise.

APPENDIX I

Table 1 Intermediate Input for Mining & Quarrying, 2010-2012 (Naira million)

INTERMEDIATE INPUT	2010	2011	2012
ELECTRICITY BILLS	361.78	561.33	2,648.35
EXPENSE ON FUEL USED BY GENERATOR	1,025.03	1,636.88	1,948.94
WATER BILLS	21.27	49.26	194.25
MINOR REGULAR REPAIRS AND MAINTENANCE	439.52	635.15	6,396.40
MEDICAL EXPENSE TO STAFF AT WORK	23.81	218.01	716.69
PER DIEM/ TRAVELLING ALLOWANCE DURING PRODUCTION	333.23	1,693.00	655.11
SPECIALIZED CLOTHING USED MAINLY AT WORK	34.28	31.28	175.09
RENTALS / EQUIPMENT LEASING	266.76	937.01	3,227.03
RENTALS ON REPLACEMENT OF MINOR SPARE PARTS USED	118.89	108.94	303.16
COST OF REPLACEMENT OF MINOR SPARE PARTS USED	95.69	199.61	4,848.55
TRANSPORTATION CHARGES INCLUDING LOADING/ OFF LOADING CHARGE	5,868.89	7,005.22	3,600.72
TELECOMMUNICATION/INTERNET CHARGES	1,520.20	2,024.16	2,980.36
EXPENSES ON PRINTING & STATIONERY	922.13	592.43	667.36
AUDIT FEE/ LEGAI FEE	545.69	826.88	2,147.66
COST OF EXPLOSIVES INCLUDING DETONATORS/ ACCESSORIES E.T.C F	324.40	3,188.72	2,413.01
OTHER COST	3,292.01	4,364.91	3,231.59
EQUIPMENT PURCHASE & OTHER MATERIALS	17,610.87	15,110.46	10,952.19
TOTAL	32,804.46	39,183.24	47,106.47

Table 2 Sub-Sector Contribution to Intermediate Input 2010-12 (Naira '000)

Gross Capital Formation (Asset)	2010	2011	2012	2010	2011	2012	2010	2011	2012
	COAL			MINERAL ORE			OTHER MINING ACTIVITY		
Residential building	1,547,268	2,705,491	3,147,473	1,547,268	2,705,491	3,147,473	2,206,653	2,705,491	3,147,473
Non-residential building	2,096,236	3,687,198	6,057,108	2,623,744	3,764,251	6,144,997	2,755,621	3,687,198	5,266,102
Major repairs and renovations	1,624,369	1,353,068	3,679,876	1,624,369	1,353,068	3,679,876	1,624,369	2,894,130	3,679,876
	5,267,873	7,745,757	12,884,457	5,795,381	7,822,811	12,972,347	6,586,643	9,286,819	12,093,452
Computer	1,659,592	2,802,506	2,767,543	2,837,557	3,393,064	2,767,543	1,659,592	2,802,506	2,767,543
Other equipment.	4,384,560	4,824,284	3,208,064	4,384,560	4,330,657	2,858,741	4,384,560	4,824,284	3,208,064
Other equipment.	1,708,965	1,367,443	1,297,102	1,708,965	1,578,450	1,297,102	1,708,965	1,367,443	1,297,102
Office Furniture	3,766,930	2,219,278	3,099,181	3,766,930	3,746,827	3,099,181	3,766,930	4,173,906	3,099,181
	11,520,048	11,213,511	10,371,890	12,698,013	13,048,998	10,022,566	11,520,048	13,168,139	10,371,890
Transport: van	2,466,275	1,922,305	2,650,086	3,873,192	2,821,518	3,364,045	2,466,275	1,922,305	2,650,086
Transport: car	3,258,941	2,458,891	1,981,421	3,258,941	2,458,891	1,981,421	3,258,941	2,458,891	1,981,421
Other transport equipment	4,227,035	2,502,057	1,738,273	4,227,035	2,502,057	1,738,273	4,227,035	3,401,270	3,166,191
	9,952,250	6,883,253	6,369,780	11,359,167	7,782,466	7,083,739	9,952,250	7,782,466	7,797,698
GROSS CAPITAL FORMATION	26,740,171	25,842,521	29,626,127	29,852,561	28,654,274	30,078,652	28,058,941	30,237,424	30,263,039

