

UNIVERSAL ACTIVITIES OF COPPER PRODUCTIONS

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ABSTRACT

Every country having many sources which is nature based sources in the earth. The resources are improved the country incomes and promote the Industry and company availability of sources namely gold, silver, copper, metal and so on. Most of the people are required to buy the commodity for trading and personal use. The most of the study were concentrating to the selected commodity but meagre research article only done in the copper. That is the reason the researcher to take the copper of mine production in the world wide as well as refined production of copper in world wide. The theoretical also support to this research article regarding the universal activities of copper productions.

Keywords: *Copper, Mine production of Copper and refined production of copper.*

1. Introduction

Copper is a relatively soft. It is reddish metal that conducts heat and electricity well. It is roughly the 25th most abundant chemical element in Earth's crust. It is found throughout the world, from the Andes Mountains of Chile to the craggy Cornish coastline in England. The Canada, United States, Poland, Zambia, Peru, and Australia are also important place for copper-producing nations in the world.

The metals are different types such as aluminum and titanium. The copper is sometimes found in its raw form, mixed into rocks with other metals such as gold, silver, and lead, as well as in copper-containing minerals like chalcocite, chalcopyrite and bornite. Although much of the copper is mined from the earth, it increasing amounts are produced from recycled materials such as obsolete electrical equipment[1].

2. Objectives of the Study

1. To understand the theoretical backgrounds of copper.
2. To evaluate the mine production of copper in world wide.

3. To measure the refined production of copper in world wide.

3. The Performance of Copper in World Wide

Copper is traditionally known as the “red” metal and it is natural colour. However, it is also known as a “green” metal for the green patina that it acquires due to weathering. Indeed, patinized copper is the architectural focal point of many modern buildings for its natural look. The copper can truly be cited as the “green” metal both for its role in protecting the natural environment. It used in energy saving applications for the achievements, which have been realized in the production of metals in an environmentally sound manner.

The energy efficiency resulting from the use of copper in high efficiency motors, electrical transformers, underground power lines, air conditioning and refrigeration equipment and electric vehicles. It has a significant impact on the release of greenhouse gases resulting from the generation and use of fossil fuel based electrical power. Likewise, newly developed, high efficiency automobile radiators reduce fuel consumption by being smaller, lighter and having a lower pressure drop than their aluminum counterparts[2].

The production of copper, as in the utilization of any other natural resource, has an impact on the environment. This cannot be avoided since the earth must be disturbed in order to extract copper from it. The object of the copper mining industry has been to make this impact as small as possible[3]. Significant improvements have been made in environmental impact as new technologies have been applied to the production of copper. Great strides have been accomplished in the conventional treatment of copper ores, such as at the Bingham Canyon mines, in Utah and the adjoining copper smelters.

4. Mine Production of Copper

The ICSG (International Copper Study Group) publishes an up-to-date version of this Directory twice yearly. The Directory highlights current production capacity and provides a five year outlook of forecasted capacity for around 1000 existing and planned copper mines, smelters and refineries on a country by country basis, including separate tables for SX-EW (solvent extraction and electro winning) plants. Salient details for each operation are included and the Directory separates operations between Operating & Developing and Exploration & Feasibility stages[3].

Table – 1

MINE PRODUCTION OF COPPER (in '000 MT)

SL. No	Year	2013	2014	2015
1	Africa	1841 (10.17)	1941 (10.42)	2273 (11.09)
2	North America	2393 (13.22)	2660 (14.28)	2892 (14.11)
3	Latin America	7556 (41.74)	7691 (41.29)	8294 (40.45)
4	Asean - 10	1898 (10.49)	1763 (9.46)	2209 (10.77)
5	Asi ex Asean/CIS	2080 (11.49)	2225 (11.94)	2443 (11.92)
6	Asia - CIS	582 (3.22)	573 (3.08)	606 (2.96)
7	EU 27	855 (4.72)	851 (4.57)	850 (4.15)
8	Europe Others	897 (4.49)	924 (4.96)	937 (4.57)
Total		18101 (100)	18628 (100)	20503 (100)

Source: International Copper Study Group (ICSG)

Table.1 shows that production of mine regarding the copper and denoted by '000 Metric Ton (MT). The vertical wise analysed based on MT due to Latin America (7556 MT) is the top most mine production in the year of 2013. The second place were occupied by North America (2393 MT) and followed by Asean-10 (1898). The Asean-10 association countries are as follows namely Indonesia, Malaysia, Philippines, Singapore, Thailand, Brunei, Vietnam, Laos, Myanmar and Cambodia. The Asia-CIS (582 MT) was performed in meagre mine production were compare to all reputed countries regarding mine production of crude oil. In addition to that 2014 and 2015 also performed the same situations about the mine production of copper. The first and second place took Latin America and North America in the year of 2014-15. The little bit improvement was made in the mine production of copper compare to previous year production such as except the EU 27 (850 MT).

The contribution was measured by researcher regarding mine production of copper. The contributions are decided and allocated the Rank based on mine productions. Out of 100 Latin America (41.74 percent), North America (13.22 percent), the same cadre of Africa (10.17 percent), Asean-10 (10.49 percent) and last three positions were got Europe (4.49 percent), EU 27 (4.72 percent) and Asia-CIS (3.22 percent) in the year of 2013. In addition to that mine productions were immediate in the next years (2014-15). In 2015 also dominated the mine production sectors namely first countries Latin America (40.45 percent). The second place was dominated the North America (14.11 percent) and followed by Asi ex Asean/CIS (11.92 percent) and Africa (11.09 percent). Others are produced the mine production of the copper due to insufficient of natural sources and also not able to compete the competitors.

5. The Refined Production Copper in World Wide

The refining copper is called the hydrometallurgical process. This process begins with oxidized copper ores or oxidized copper wastes. The oxidized material is leached with sulfuric acid from the smelting process[4]. The sulfuric acid is percolated through piles of oxidized metal and collected with acid resistant liners.

TABLE - 2

THE REFINED PRODUCTION COPPER IN WORLD WIDE (in '000 MT)

SL. No	Year	2013	2014	2015
1	Africa	1275 (6.05)	1383 (6.24)	1566 (6.74)
2	North America	1717 (8.68)	1838 (8.30)	1965 (8.46)
3	Latin America	3405 (17.21)	3331 (15.04)	3346 (14.41)
4	Asean - 10	972 (4.91)	1028 (4.64)	1125 (4.84)
5	Asi ex Asean/CIS	9550 (48.27)	10385 (46.89)	10964 (47.21)
6	Asia - CIS	436 (2.20)	353 (1.59)	368 (1.58)
7	EU 27	2658 (13.44)	2769 (12.50)	2799 (12.05)
8	Europe Others	1046 (5.29)	1060 (4.79)	1091 (4.70)
Total		21059 (100)	22147 (100)	23224 (100)

Source: International Copper Study Group (ICSG)

Above the Table -2 show that refined productions of copper were performed in world wide. In 2013, the first place took the Asi ex Asean/CIS (9550 MT). The Latin America (3405 MT) was refined the production of copper in second place of copper production. The next place taken by EU 27 (2658 MT) and followed by North America (1717 MT), Africa (1275 MT). Europe others (1046 MT) and last one is Asean-10 (972 MT).

Similarly were keeps in refined productions of copper another year of 2014-2015. Out of the production based mentioned the different countries namely Asi ex Asean/CIS 10385 MT at the time of contribution of 46.89 percent and second place to dominated at Latin America 10964 MT in 47.21 percent of 2014-15.

The copper refined productions were categorized in 2014-15. In additions to supported the small statistical tools like contribution of copper. The contribution was 47.21 percent in Asi ex Asean/CIS and 14.41 percent of Latin America. Because more sources are available in our nations of Latin America and Asi ex Asean/CIS. The least sources are available in the following countries like Asean-10, North America, Africa, Asia-10, Europe Others and Asia-

CIS. Hence these countries are not able competitive in the top most copper production countries in the world.

6. Conclusion

The copper is vital role for every human being activities like even electricity process through copper. The copper industry with a tool that makes the extraction of copper from its ores significantly more environment friendly than by the use of the conventional smelting process. The copper processing industry refines copper from metal ores or scrap copper. The leading consumers of copper are wire mills and brass mills, which used the copper to produce copper wire, copper alloys and so on. End uses of copper include construction materials, electronic products, and transportation equipment. Once refined, copper can be used as a powder in automotive, aerospace, electrical and electronics equipment. Compounds of copper include fungicides, copper plating, wood preservatives, pigments, electronic applications and specialized chemicals.

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