

A Study into Steel Processing and Recycling Industry in Kenya

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## ABSTRACT

The main objectives of the study were to determine the consumption patterns of steel and availability of iron ore, and establish the efficiency of the Kenyan steel industry.

Currently, most of the information available is outdated and scattered over several sources, making it unreliable and inaccessible. The study was carried out on steel consumption patterns, efficiency of the local steel industry, and mechanical properties of steel obtained from local scrap.

The effects of the government policies and regulations, i.e., environmental policies, regulations on scrap metal dealership, taxation regimes on importation of raw steel and labor laws on the industry were also investigated. The various metal forming processes adopted in the country were also studied. The efficiencies of these processes were compared with the global practice.

Data was collected by use of questionnaires and interviews. Selected firms were visited so as to obtain specific industry information. The mechanical properties of the steel obtained from steel scrap were compared with the standard specifications for the products. This provided information on the suitability of the steel to the local application.

The results of this study show that the consumption of steel in 2008 was 0.9 million metric tons. It was projected that in 2030 the consumption will be 2.9 million metric tons. This projection was used in determining the size of the proposed steel plant.

It was also observed that the mechanical properties of steel obtained from scrap satisfy the statutory requirements. Existing environmental policies and regulations that impact directly on the steel industry were also established. The study also revealed that the Kenyan steel industry lags behind the global practice in terms of capacity utilization and efficiency. Global average capacity utilization rate was 72% while in Kenya it was only 46% on average.

The study also revealed that iron ore exists in sufficient quantities for commercial exploitation. In particular, 78 million tons of ore exist in Kithiori Area of Tharaka District, with an iron content of 62.35%.

During the study, it was assumed that the average gross domestic product growth would be at least 5% per annum. It was also assumed that no new materials will be developed that will substantially replace iron and/or steel in the identified sectors.

The results of the study will provide both existing and potential investors in the steel industry with information on the dynamics of the Kenyan steel market. Existing investors will be able to compare their efficiencies against the global practice, hence improve their competitiveness, while potential investors will have information on the viability of establishing steel plants, their sizes and locations in the country.