学位論文内容の要旨

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学位論文題名

Development of the mining industry in Congo: The copper industry in Katanga, 1906-2012

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Humans have been using mineral resources to maintain a certain standard of living throughout history of civilization. The equipment and devices such as automobiles, aircrafts, computers, and IPhone that make our daily life comfortable are produced from minerals. The existence of mineral resources upon and under the earth itself is not sufficient to transform the living standard of people who claim to possess rights and sovereignty over these resources. Normally, mineral deposits belong to the country in which they are found. But, during the colonization era of Congo, the property rights over mineral resources were appropriated by the Belgian colonialists. After decolonization, the leaders of the new independent nation made efforts to restore sovereignty and property rights over mineral resources, but these efforts were futile.

The production of metals requires huge investment and high technology that are beyond the reach of indigenous Congolese competence. Most of the time, the developing countries do not possess the financial resources and technology to undertake the production process. Generally, developing countries rely mainly on foreign investment in terms of capital, technology and human expertise to develop mining projects.

The central African copper belt is an area long of 300 kilometers that contains in excess of 10 percent of the world‘s known copper resources and about 34 percent of global cobalt deposits. The DR Congo is well known for the abundance of mineral resources that include minerals such as cobalt, copper, zinc, tin, diamonds, gold, oil, manganese, niobium and tantalum. The presence of huge mineral deposits in Katanga has attracted the Belgian FDI in order to exploit the economic opportunities. The Belgian King Leopold II established the Union Minière du Haut Katanga (hereafter UMHK) to extract mineral resources of Congo. Since the colonial era, the UMHK produced the major metals of copper, cobalt and zinc. In

addition, the UMHK produced uranium ore to make the first atomic bombs dropped on the Japanese cities of Hiroshima and Nagasaki during the Second World War. During the inter war period, the Katanga region became important source of non-ferrous metals for the world market.

This doctoral dissertation analyzes the development of the mining industry in Congo especially the copper industry in Katanga province from 1906 to 2012. In order to achieve the goal of this study, I collected a complete series of archives of UMHK, Gecamines, Sodimico, and data from the Ministry of mines for historical analysis. This thesis combined both qualitative and quantitative methods to analyze the data. Qualitative method focused on statements from in-depth interviews conducted with miners and managers of mining companies during the fieldworks. Quantitative methods were used to analyze data of production, workers, managers, accidents, and environmental pollution.

Historical evidence shows that the industrial production of copper and its related metals generated sufficient revenue to finance the economic growth of Belgium during the colonial era. After nationalization, Gecamines continued to provide an average of 11% of revenue to the Congolese GDP. In 1980s, the production of copper and cobalt made the DR Congo to rank as the fifth and leading supplier respectively on the global market. Mining companies that produced non-ferrous metals in the Katanga region from the colonial era to the present played an important role on both global market and national economy.

Gecamines invested steadily in human resources training to promote Congolese managers in the managing board of the company. The success story of gradual managerial shift from Europeans to Congolese shows the need of training for local employees instead of expatriate supervision to reduce the management cost. From the early 1990s, Gecamines and Sodimico entered into business cycle of losses and underperformance. They made joint venture projects with private investors to survive while searching for solutions for recovery.

Mining employment in the underground operations is known as one of the most hazardous work environments in the world. The overall results of 51 years of accidents show that Gecamines has improved safety in mining operations by reducing the level of the frequency, severity, and number of fatalities by 1976. The comparison of Gecamines's experience with related industries in Western Australia, Canada, and United States shows that miners of Gecamines were more exposed to the risk of accidents than their foreign colleagues in metals and nonmetals industries.

The result of water samples from rivers of Katanga analyzed shows the evidence that the mining industry is the main cause of environmental pollution in Katanga province. From 2006, the recovery of non-ferrous metals output was good signal for economic growth, however, it hides environmental degradation that affects negatively the living

species around the mining sites.

This study reveals that the development of copper industry depended principally on inflow of foreign investment, managerial expertise, and demand of metals on global market in long historical perspective.