THE SALTPETRE INDUSTRY IN THE BENGAL PRESIDENCY (1793 – 1814)

THESIS
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Introduction

Saltpretre was a unique industry which was totally depended on environment. The entire organization of production of saltpetre was carried on with the help of favourable season, weather and environment. Without the support of congenial climate, soil or earth and environment, collection of raw materials, filtration of crude saltpetre and boiling of brine were impossible. Geographically Bihar was the ideal place for such type of soil. The earth impregnated with the materials or salpetre possessed various types of chemical substances. The earth of soil of some parts of Bihar contained such chemical substances for making slatpetre. The saltpetre was produced in a soil which contained a large proportion of saline matter such as nitrate of potash, nitrate of lime, sulphate, and nitrate of soda and carbonate.

But before proceeding further, a few words are essential about the term 'Saltpetre'. This term enolved from the medieval Latin terms *salpetre* and *sal petrate*. Petras, in ancient greek, meant rock, stone. Saltpetre therefore means 'salt of the rock'. Egyptians referred to saltpetre as ntr. In Biblical Hebrew it was nitre. In chemistry, saltpetre is known as KNO_3 or potasium Nitrate. It is an essential ingredient for making gunpowder. However, saltpetre was used for medicinal and antiseptic purposes like preservation of fish and meat, in glass making, bleaching, washing and cooling purposes.

Like opium and salt, saltpetre was another example of monopoly industry under the East Indian Company. However, unlike salt and opium manufacture, it was a government monopoly for a limited period only. The monopoly was effective between 1793 and 1811 and again between 1813 and 1814. Therefore the time frame of the present search project has been selected from 1793 to 1814. The Province of Bihar was

the principal centre of this industry. Trihut, Chapra, Singhia, Saran were some of the important centres of saltpetre production in Bihar. Patna was one of the busiest marts in India for export of saltpetre. As saltpetre was an essential ingredient for gunpowder manufacture, it attracted the attention of the European Companies like the Dutch, the French and the English for the purpose of war. They considered saltpetre as a force behind the empire. The idea of monopoly in saltpetre at first came in the mind of Robert Clive. In 1757 – 58 Clive secured from Mir Jafar the sole right of the East Indian Company to the manufacturer of saltpetre in Bihar. Finally in the wake of the French Revolutionary war when saltpetre had great demand in England, the monopoly on saltpetre was imposed on 11 June, 1793 by the Governor General in Council with the advice of the Court of Directors of the East India Company. The monopoly was ended in 1814.

Review of the Existing Literature

No full-scale research has yet been done on this subject except a small chapter written by Prof. H.R. Ghesal in his book 'Economic Transition in the Bengal Presidency'. A few historians have only touched upon the subject. For example, J.C. Sinha (Economic Annals of Bengal) Uieburn (Oriental Commerce), Jagadish Narayan Sarkar (three short articles on saltpetre trade in 17th Century India), K.K. Datta (Studies in the History of Bengal Subah), Amales Tripathi (Trade and Finance in the Bengal Presidency), N.K. Sinha (Economic History of Bengal Vol. II). In fact, the main focus of study of these historians was on saltpetre trade, not on mechanism of manufacture of saltpetre and organization of production. No historian has dealt with the various aspects of salpetre production from environmental point of view.

Central Question of the Thesis : Impact and Role of Environment on Saltpetre Industry.

The production of saltpetre was totally depended on environment. Without the support of congenial climate, soil and environment, collection of raw materials, filteration of crude saltpetre and boiling of brine were impossible. Nitre, an important ingredient of raw material was abundantly available in clear frosty weather. In a moist state of atmosphere the formation of nitre either did not take place or went on very slowly. Raw materials for manufacturing saltpetre were collected in different seasons and by different methods.

Methodology

The present research was conducted with the help of source materials preserved in the State Archives of West Bengal and the National Archives, Delhi, the Asiatic Society of Bengal, the National Library. Francis Buchanan's Purnea Report, and Patna – Gaya Report were very much helpful for my study. I have much benefitted by consulting some valuable articles as primary sources. I have also used some articles and books as secondary sources.

CHAPTERISATION

The dissertation has been divided into six chapters.

Chapter – I : Historical Background of Saltpetre in India.

This brief chapter has tried to trace the history of saltpetre trade in India from 13th to 18th century.

Chapter II : Methods of Manufacturing Saltpetre in Contemporary European Countries.

Some Europoean countries like France, Russiam Sweden and Switzerland produced saltpetre. In producing this commodity these countries also took the advantage of environment. However, their dependence on environment was partial, whereas India and particularly Bihar depended totally on environment.

Chapter III : Environmental Deposit of Saltpetre

The saltpetre workers were called as Nunias. They collected raw materials by three different methods. In each method their main attention was to collect raw materials impregnated with nitre without which making of saltpetre was impossible.

First Method : Impact of Nature and Environment

In the collection of raw material, the first method was totally depended on environmental situation because it was formed by dint of nature. It was naturally produced. The Nunias collected raw materials from old mud walls of the villagers. During a particular season, specially in winter or in the month of November, a laire of nitre, essential for saltpetre

making, were usually stored on these walls due to ecological factors of a particular geographical area. Purnea and Tirhut were particualtly important for collection of such type of raw mayterials. In the month of November, the Nunias commenced their operations by scraping the surface off from old mud heaps, mud buildings, waste grounds where the crude saltpetre was developed itself in a thin white efflorescence, resembling forest rind. In Tirhut, Saran, Patna, Gaya, Monghyr, Bhagalpore and Purnea, saline matter was found in the neighbourhood of old houses and also in old mango groves. The formation of raw materials in these places depended on dry weather. It was again reappeared quickly. Therefore the Nunias had to scarp it again and again resulting in collection of a large amount of raw materials. There was a definite connection between the natural production of nitre and the state of atmosphere. The efflorescence took place only in the exterior of the wall. A frosty, clear and dry state of the atmosphere was particularly favourable to the natural production of nitre.

Secord Method : Impact of Cow's Urine

The Second method was very interesting. According to Francis Hamilton Buchanan, the raw materials for production of saltpetre were also collected from specific type of soil impregnated with cow's urine. The soil were of three types – black, yellow and white. However the black soil was mostly favoured. To assemble a large number problematical. During the whole season, where the soil was favourable and wherever cows were kept, it effloresced on the surface. The only thing required was a day soil, which prevented the animal matter from being suddenly absorbed.

Third Method : Impact of Earth or Soil

The Nunias also collected raw materials from the earth or soil by building up farm yards. Between the middle of July and the middle of September,

they repeatedly ploughed a plot of ground, threw on its surface all earth, from which saline matter had been separated by filtration. This earth was called 'Sithi'. They then daily collected as many cattle upon the plot as they could and kept them there as long as possible. About the end of October the nitre began to effloresce and the surface of the plot might be scraped once in four days, as long as the fair weather continued.

Chapter IV : Technology in Making Saltpetre : After collection of raw materials the next important task of the manufacturers was filtration and boiling which ultimately produced crystallized saltpetre. But the technology followed in performing this crucial task was very much indigenous. The whole operation of filtering and boiling was performed in the open air. The filtration was done by a large mud filter. It was a round hollow basin in shape resembling the top of a well from 6 to 8 inches in diameter. The brine procured by filtering water through earth was called 'Ras'. The second process was to evaporate the saltpetre liquor to a crystallise state by boiling the brine. The boiling continued till the liquor was evaporated to crystallising point.

Chapter V : Condition of the Saltpetre workers (Nunias) and their Resistance to British Monopoly :

The condition of the Nunias was very poor. Under the monopoly of the East Indian Company they were oppressed in various ways. Their economic condition was depended on the demand of saltpetre. In war time there was a great demand of saltpetre. At that time they were economically benefitted. But in time of absence of war, many nunias were bound to become idle. Many of them were thrown out employment. Not only that the Nunias were forced to supply saltpetre on a very reduced price by Company's officials. The Nunias of Bihar submitted a petition to the Board of Trade praying for an increase of the price of the article.

Chapter VI : Saltpetre Trade in India in Pre-Monopoly period and in the Bengal Presidency in Monopoly period under the East India Company : Saltpetre was extensively used in pre-colonial India. Patna, Golkonda, Surat, Masulipatam, Agra, Ahmedabad were important trade centres. In the first half of the 18th Century or before the establishment of the British monopoly, the saltpetre trade was mainly dominated by the English, the Frence and the Dutch. After the installation of Mir Jafar as the Nawab of Bengal, the English established absolute control over saltpetre trade of Bihar. The English East Company established their monopoly in saltpetre trade on 11th June, 1793 During Company's monopoly the volume of trade and production of saltpetre varied according to the needs or situation of the war.

Conclusion

By its special characteristics, Saltpetre was totally different from other important industries in India like cotton, silke, opium, indigo and salt. As these industries were sources of revenue, they had economic importance during the British rule in India. But saltpetre on the other hand, had military importance. It was an essential ingraidient for making gunpowder. However the growth and development of this industry was depended on the exigency of war. Therefore, the fortune of the saltpetre produces was also fluctuated during times of war and peace.

Finally it would not be irrelevant to mention a significant remark of William Shakespeare. In his famous drama 'Henry IV' (Act 1, Scene 3, 1598, Note 1) he qualified salpetre with the term 'Vilainous'. Perhaps he was very much shocked to know that the harmless earth which gives us food for livelihood, it also at the same time is utilized by the war monogers for making gun powder required for guns and canons leading to death of the soldiers. This remark also explores how much of saltpetre was known in the world.

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