

Study on Application Potential of Ultra Modern Technology for Profit Maximization in Ceylon Cinnamon Industry

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Introduction

Cinnamon at present is the dominant spice in Sri Lanka in terms of the foreign exchange earnings. Further, Sri Lanka is the major and also the only true or genuine Cinnamon (*Cinnamomum zeylanicum*) producer and exporter to the world market. However, the Sri Lanka is still earning high foreign exchange from Cinnamon industry exporting traditional Cinnamon products with little or without any value addition. The major export product out of Cinnamon is the Cinnamon Quills which was accounted for about 8,468 million rupees during year 2009 and bark and leaf oil exports were comparatively insignificant as only income of 133 and 143 million rupees, respectively generated in the same year. Since the attention to extract Cinnamon bark oil is less, a large portion of the Cinnamon tree is being discarded without any economical use.

In the current practice, use of technology is very low and very primitive. Traditional methods and equipment are being used in this industry. In the attempt of promoting the value addition in the Ceylon Cinnamon industry, technology has been the major stumbling block. There have been some important technologies and modern machineries developed around the world which have potential use in the Cinnamon industry. Therefore, it is vital to introduce those technologies if it is needed to promote the value addition in the Cinnamon industry. The Selected ultra modern technology for this study is extraction of water soluble Polyphenolic type A compound from oil extracted Cinnamon bark which has anti diabetic effect.

Polyphenol type A polymer is a water soluble compound and it is not found in the spice oils sold as food additives. It is believed that Cinnamon makes fat cells much more responsive to insulin, the hormone that regulates sugar metabolism and thus controls the level of glucose in the blood (Anderson, 2004).

This compound can be extracted from oil extracted Cinnamon bark leading to the production of value added product of Cinnamon. This study determines the possibility of applying that ultra modern technology for profit maximization in Ceylon Cinnamon industry.

Methodology

The technical feasibility and the financial viability of the proposed ultra modern technology were studied to determine the overall feasibility of the technology. The technical feasibility was studied gathering the information related to the production process, required machineries & equipment, utilities, support services etc. The financial viability was studied by analysing the market demand and applying financial project appraisal techniques for a pilot scale plant. Market feasibility was determined by studying the product, demand

trends, market prices, and competitors. Financial feasibility was determined by making cash flow projections and calculating relevant financial ratios.

Results and discussion

The originated country of this technology is United States of America and this water soluble compound of Cinnamon was tested as a natural remedy for Diabetes through various researches. This is a water soluble compound extraction method and filtration of large molecules of compound using Reverse Osmosis system. This has been a proven technology and the study revealed that there are Sri Lankan companies who could fabricate a production facility successfully.

Polyphenolic type A compound is a product which has high demand and high market value. Liquid form of Polyphenol polymer is the main product being sold in the market. The market price of product is changed according to the extraction ratio and concentration of Type A polyphenol and it is usually around Rs. 30,000 – Rs 50,000 per litre. There are demand trends for pharmaceuticals, Ayurvedic medicines, beverages and food items. China and India are the only main exporter of Cinnamon bark water extract. In Sri Lanka, there are not leading companies which are exporting Cinnamon bark water extract. USA, UK, Germany, France, Spain and Italy are the main importing countries.

According to the financial feasibility analysis conducted for a pilot scale plant with an annual production capacity of 300 litres with seven years of cash flow projections, NPV was around Rs.45 millions and Rs. 36 millions at 10% and 20% discount rates respectively.

Conclusions

Extraction of Polyphenolic type A polymer from oil extracted Cinnamon bark is a proven technology and it is locally available technology.

There is a good market demand for the product and the India and China are the sole exporting countries. Further, the demand shows upward trend with raising consumer awareness and interest towards healthy food and healthy life.

It would be financially feasible to have a production facility with a capacity of 300 litres of Cinnamon bark water extract per annum.

References

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