

UNIVERSITY OF GHANA
LEGON

**‘SUSTAINABLE INDUSTRIAL MARKETS FOR
CASSAVA’ PROJECT**
FINAL REPORT 1 ON PROJECT YEAR 2 ACTIVITIES

**MARKET POTENTIAL OF INDUSTRIAL
ALCOHOL IN GHANA – AN ANALYSIS OF
IMPORT/EXPORT DATA**

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Summary

Cassava is one of the richest sources of fermentable substances for the production of industrial alcohol. About 400 - 420 litres of ethanol/tonnes of cassava flour can be produced. The purpose for this quarter's activity was therefore to investigate the imports and exports figures for alcohols available in order to know the size of the market. Data were collected from the Ghana Statistical Service and collated. It was realised that about 9,580,169 kg of total alcohols were imported into Ghana in 2002. However, the export value was about 929,400 kg for the same year. The balance sheet is therefore 8,650,769 kg. The market therefore is large enough to encourage local production of alcohol.

1.0 Introduction

Ethyl alcohol, or ethanol ranks second only to water as the most widely used solvent in chemical industry, and as these industries have expanded, so the demand for industrial alcohol has increased. Alcohol acts as a solvent for an immense range of industrial products, including paints, lacquers, dyes and oils; in addition, some is used as a raw material in chemical synthesis and a little in the form of fuel. It is can be used by alcohol industries for production of potable alcohol and also by schools, universities and hospitals as reagent and sterilizer. The projected demand of ethanol to the tune of 800 - 900 million litres during 1995 - 2000 AD from the existing 600 - 700 million litres produced from molasses, which is in short supply, created a situation to depend on cassava as an alternative source of ethanol. Fermentation of saccharified starch could yield ethanol varying from 400-420L/ton of cassava flour.

Large quantities of cassava are produced in Ghana but, despite a considerable effort, there is at present no commercially proven industrial alcohol from cassava industry. It was reported that about 8.1 million tonnes of cassava were produced in 2000 in Ghana. Ghana's present production of over 8 million metric tonnes per annum is reported to be leaving a surplus of over 3 million metric tonnes per capita consumption volumes. This therefore provides the way for industrial processing of cassava, especially into alcohol for both local and export market, since almost all alcohols available in Ghana are imported.

The purpose for this quarter's activity was therefore to investigate the imports and exports figures for alcohols available in order to know the size of the market for the industrial alcohol from cassava.

2.0 Methodology

Data on the total import and export values (Quantities and Fob/CIF values) were collected from the Ghana Statistical Service. The data were collated and analysed using Microsoft Excel Version 2000.

3.0 Results

The data obtained from the market survey is presented in Figures 1 - 14 below. Generally, alcohols import increased over the years and the maximum import value was recorded in 2002, which supported the fact the demand for the alcohols and for that matter ethyl alcohol is so high. Therefore there is a need to locally produced alcohol for the end users who depend on import. If this is done, the country's foreign exchange will be improved. The quantity imported in 2002 was 9,580,169 Kg

as compared to that of export, which was 929,400 Kg for the same year. However, these values were mostly contributed by *Ethyl alcohol and other denatured spirits of any strength*.

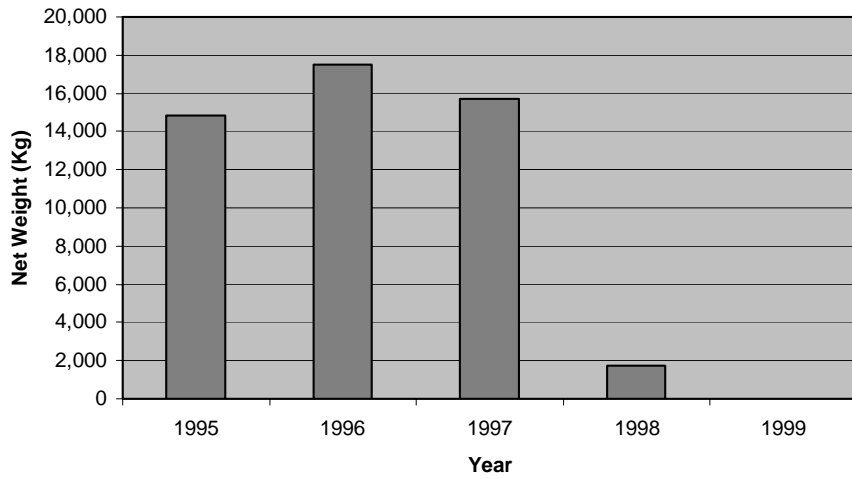


Fig. 1 Import Figures for ethyl alcohol for laboratories or compound drugs from 1995 - 1999

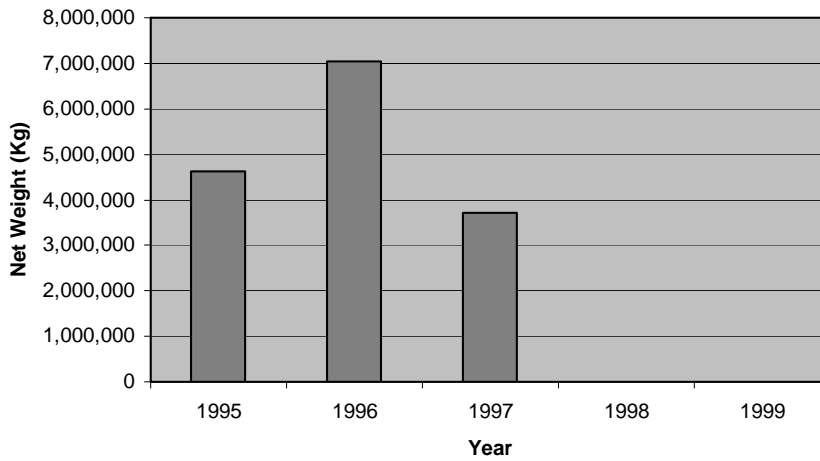


Fig. 2 Import Figures for Ethyl alcohol for other uses from 1995-1999

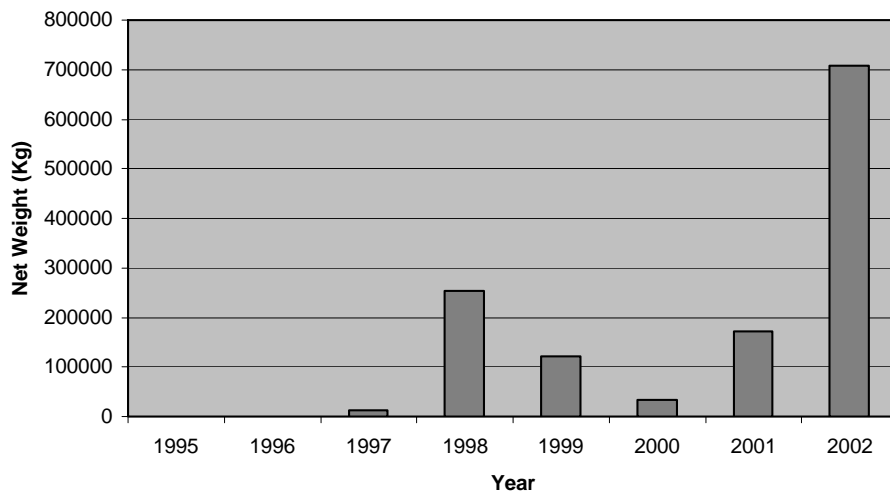


Fig. 3 Import Figures for undenatured ethyl alcohol for medical, pharmaceutical/scientific purposes from 1995-2002

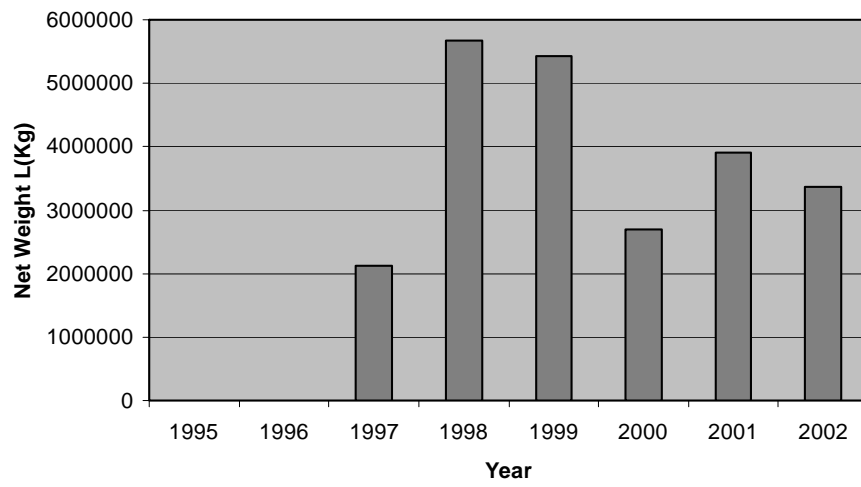


Fig. 4 Import Figures for other (Undenatured ethyl alcohol) from 1995-2002

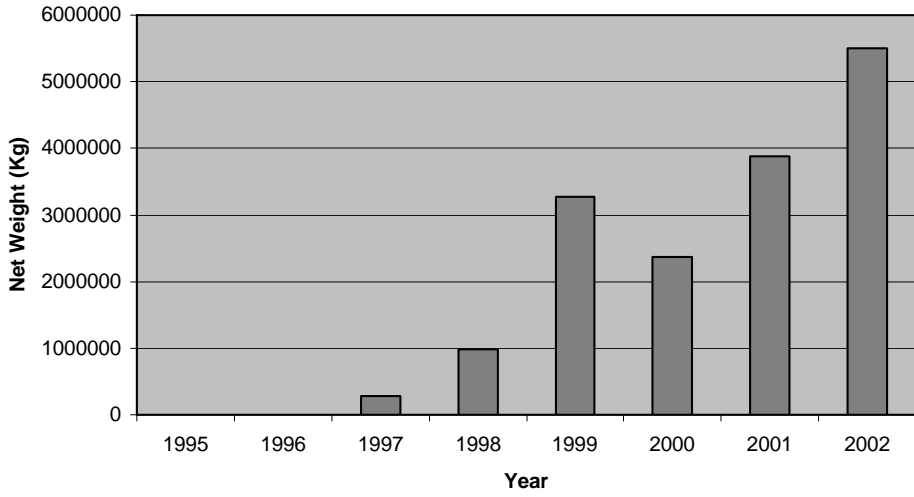


Fig. 5 Import Figures for ethyl alcohol and other denatured spirits of any strength from 1995-2002

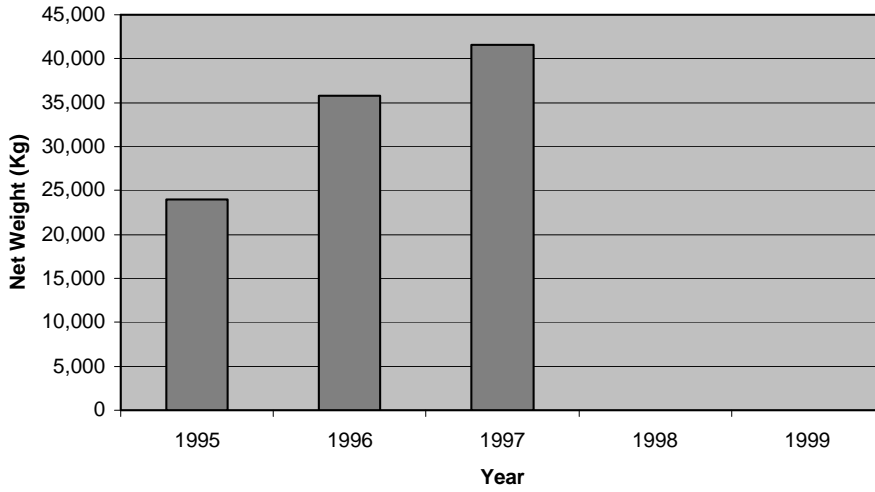


Fig. 6 Import Figures for ethyl alcohol for medical, industrial or scientific use from 1995-1999

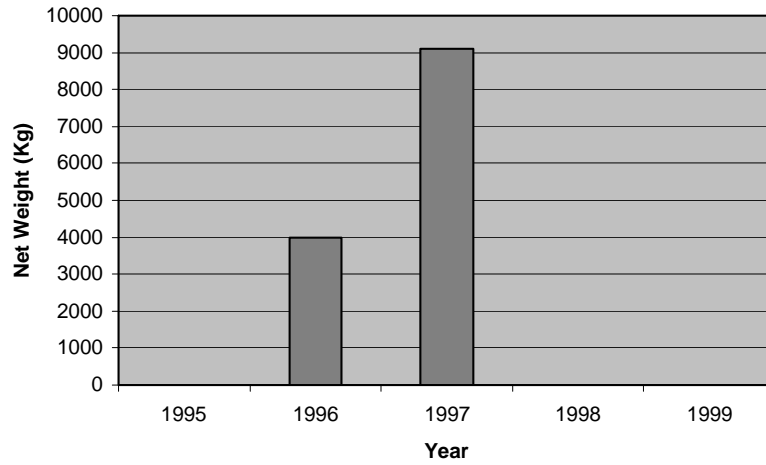


Fig. 7 Import Figures for ethyl alcohol not potable from 1995-1999

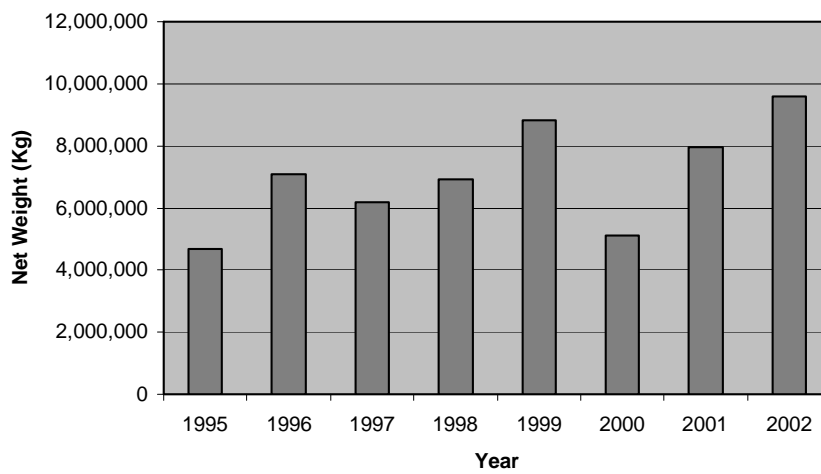


Fig. 8 Total Import Figures for alcohols from 1995-2002

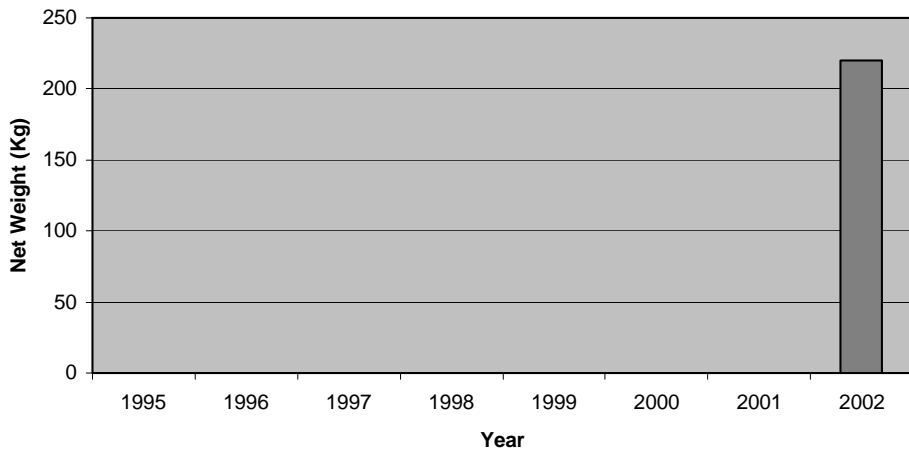


Fig. 9 Export Figures for Udenatured ethyl alcohol, of alcoholic strength $\geq 80\%$ from 1995 to 2002

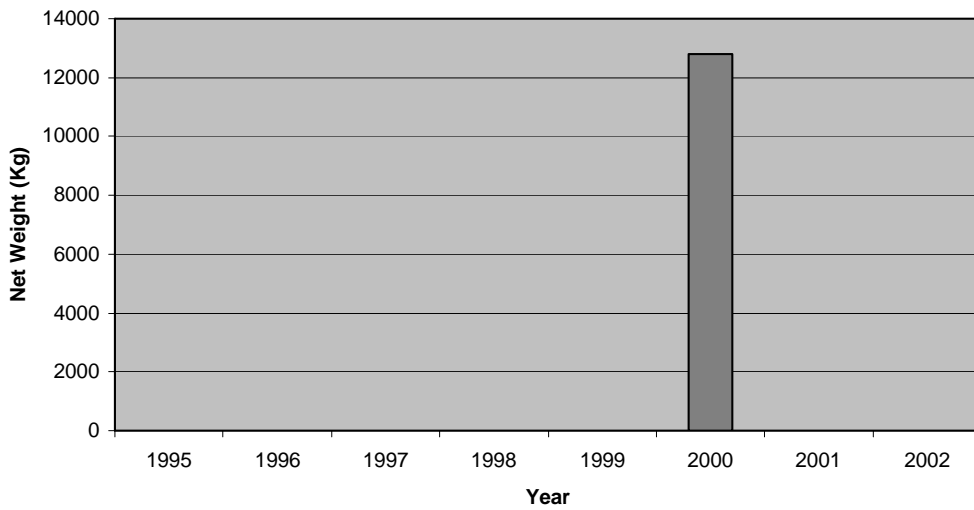


Fig. 10 Export Figures for Udenatured ethyl alcohol for medical, pharmaceutical/scientific purposes from 1995-2002

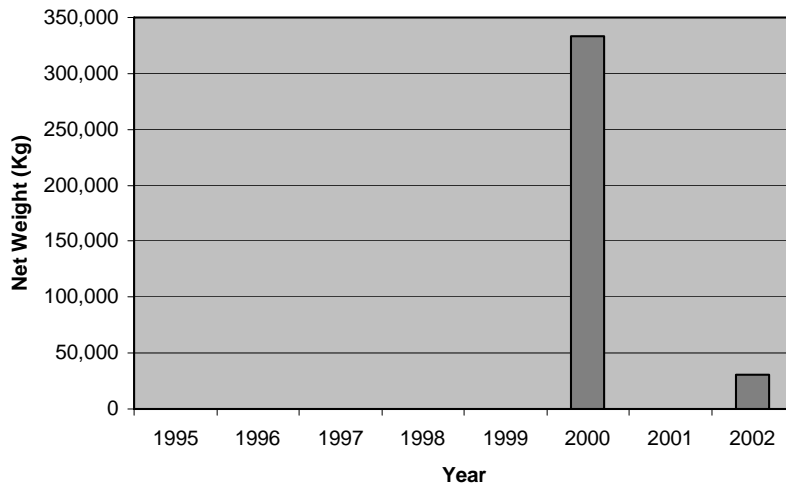


Fig. 11 Export Figures for other (undenatured ethyl alcohol) from 1995-2002

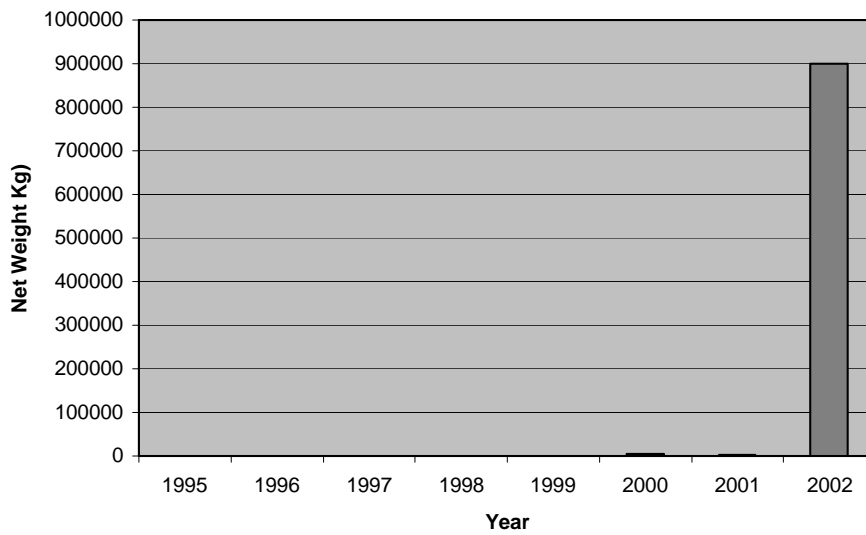


Fig. 12 Export Figures for ethyl alcohol and other denatured spirits of any strength from 1995-2002

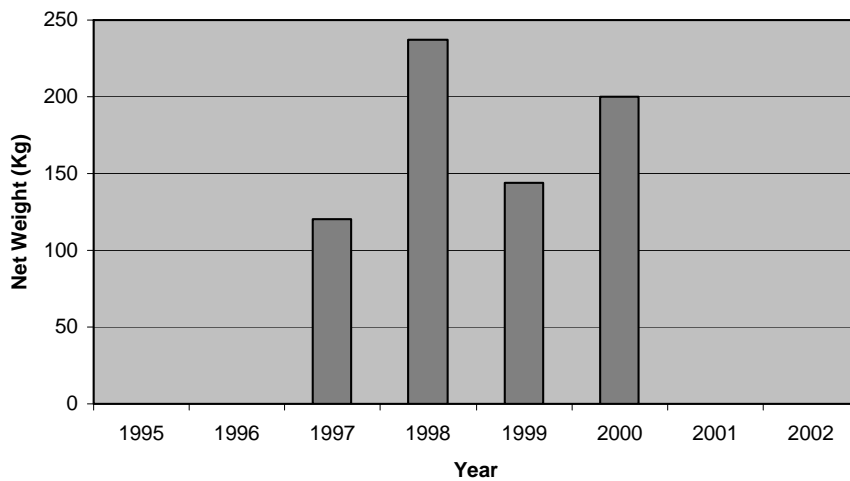


Fig. 13 Export Figures for undenatured ethyl alcohol of an alcohol strength < 80% from 1995-2002

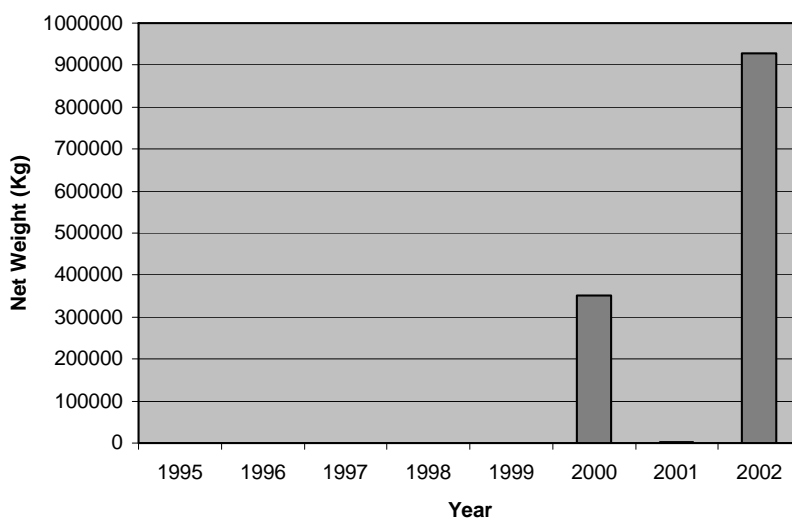


Fig. 14 Total Export Figures for alcohols from 1995-2002

4.0 Conclusion

Local industrial production of alcohol is inevitable, if Ghana really wants to become middle-income country. The use of cassava for the production of industrial alcohol prove to be advantageous, since this technology would help create employment for some, improve income levels, improve the country's foreign exchange savings and also guarantee higher and stable prices for farmers. The market for the industrial alcohol is great and the need to take advantage of that.

5.0 Constraints

1. The readiness by investors and other entrepreneurs to accept the technology.
2. The ability to meet the demand of end users in the country, and
3. Sustainability of the industrial alcohol production from cassava.

6.0 Recommendation

Investors and interested entrepreneurs should be encouraged to accept and use this technology.

7.0 Other activities:

Institutional quarterly review meetings were held four times a week and also the group attended coalition quarterly review meetings on the 18th Dec. 2003 at Food Research Institute (FRI) at Okponglo.

References:

GSS. 2002. Trade statistics. Ghana Statistical Service Publications. Accra.

SRID. 2001. Production and Area of some major crops in Ghana 1970-2000. Statistics, Research and Information Directorate. Ministry of Food and Agriculture.