

ZANZIBAR REVOLUTIONARY GOVERNMENT
MINISTRY OF FINANCE AND ECONOMIC AFFAIRS

Study on the Zanzibar Clove Industry

DRAFT FINAL REPORT

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Acronyms

BOT	-	Bank of Tanzania
CBO	-	Community Based Organizations
CGA	-	Clove Growers Association
CIF	-	Costa, Insurance and Freight
CRDB	-	Cooperative and Rural Development Bank
FAO	-	Food and Agricultural Organization
GOZ	-	Government of Zanzibar
JKU	-	Jeshi la Kujenga Uchumi
NGOs	-	Non-Governmental Organization
PBZ	-	Peoples Bank of Zanzibar
RGZ	-	Revolutionary Government of Zanzibar
SACCOs	-	Savings and Credit Cooperative Societies
SMEs	-	Small and Medium Enterprises
SMZ	-	Serikali ya Mapinduzi ya Zanzibar
TPB	-	Tanzania Postal Bank
URT	-	United Republic of Tanzania
ZCB	-	Zanzibar Clove Board
ZRC	-	Zanzibar Revolutionary Council
ZSTC	-	Zanzibar State Trading Corporation

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Executive Summary

1. Introduction

Agriculture is the mainstay of Zanzibar's economy, accounting, on average for 70 per cent of employment and up to 50 per cent of the country's real Gross Domestic Product. Clove exports account for up to 70 per cent of export earnings. The performance of the clove industry has been constrained by factors like; fluctuations in world market prices, declining population of trees, poor tree husbandry and cost ineffective marketing structures. The objective of this study is to assess how the clove industry could be revitalized so as to contribute to human and resource mobilization in Zanzibar.

1.1 Structure of the Report

The report has seven parts: introduction, clove and clove oil production, factors inhibiting production, evolution of agricultural policy, clove marketing and options for improvement, credit availability to clove farmers, and findings and recommendations.

1.2 Methodology and Duration

1.2.1 Duration

The study was conducted between November 2002 and January 2003. Both Unguja and Pemba were covered. During the study, consultations were made with:

- (i) government, legislators and ZSTC officials
- (ii) NGOs and business community
- (iii) clove farmers

1.2.2 Data and Information Collection

Various methods were used to collect information from the different stakeholders including: formal and informal interviews, documentation and observations.

1.3 Clove Products and Commercial Use

There are three major clove products, which are currently of commercial importance. These are:

- (a) clove buds which are sold either wholly or in ground form
- (a) oleoresin which is prepared from ground cloves
- (b) clove oils which are extracted from either the buds, the stems or the leaves

1.3.1 Clove Bud Products and Uses

Whole or ground cloves are used in: preparation of betel-buts, used as spices, in confectionary and food processing and preservation, pharmaceuticals and in cigarette (kretek) manufacture.

1.3.2 Clove Oleoresin

Clove oleoresin is mainly used in food flavour industries.

1.3.3 Clove Essential Oils

The value of clove oil largely depends on the amount of eugenol (volatile oil) which is used for:

- (i) perfumery and flavouring industries
- (ii) pharmaceutical industries
- (iii) dental field
- (iv) preparation of medicinal products such as cough remedies, lozenges, etc.
- (v) soap, toothpaste and detergent industries.

2. Clove Production Trends

Clove production in both Unguja and Pemba is characterized by smallholder production. Recently, and for a variety of reasons, both the volume and the tree population has declined.

2.1 Causes of Decline in Clove Production

The major causes of decline in clove production have included:

- (i) ageing trees and declining population of trees
- (ii) competition from other cash crops
- (iii) the clove production natural cycle
- (iv) poor tree husbandry

Clove production (output) is characterized by a “natural cycle” whereby bumper harvest in one crop season is followed by one or several seasons of low harvests.

2.2 Determinants of Clove Exports and Export Earnings

Clove exports have been influenced by factors like:

- (i) *world market price fluctuating trends*

The most important influencing factor in clove exports and earnings is the prices of cloves in world markets which have fluctuated violently during the 1980-2001 period.

- (ii) *The Nature of the Clove Market*

The restricted nature of the clove market (few clove buyers) has an influence on the fluctuation in clove prices in world markets.

- (iii) *Un-recorded Clove Exports*

It is very difficult to get the exact measure of both the value and volume of un-recorded (referred to also as smuggled, illegal, under-the-counter or unofficial) clove exports due mainly to the nature of the business itself.

What is known almost for certain is that illegal clove exporters are motivated by clove price indicators in the world market and hence the motive to generate profits from this (illegal) business especially during periods of rising prices in world markets.

3. Factors Inhibiting the Industry

3.1 Production Related Factors

Clove output is influenced by factors like:

- (i) type of soils
- (ii) age of trees
- (iii) weather
- (iv) poor harvesting technology
- (v) poor tree husbandry
- (vi) neglect of clove trees

3.2 Harvesting Related Factors

Factors related to harvesting of cloves are as old as the introduction of the product in Zanzibar. Among the pertinent ones are:-

(i) The Size of the Clove Tree

The method of picking cloves involves harvesting through climbing the trees which poses a great danger to the pickers and extensive damage to trees especially the branches. It takes about two years for the broken branches and trees to regain full production.

(ii) Availability of Labour

Clove picking in the island is mainly labour intensive. Recently, there has been a problem of unavailability of clove pickers.

(iii) Poor Harvesting Technology

Zanzibar has not been able to benefit from technological advancement linked to clove picking practiced in other clove growing countries.

(iv) Inadequate Research on Cloves

Extension research on cloves has not been introduced in Zanzibar. It has therefore not supplied the clove grower with anything close to genetically dwarf, clonal clove trees that would ease harvesting.

(v) Harvesting Costs

Harvesting, involves costs to the farmer which are exorbitant.

3.3 Processing Related Factors

To date, Zanzibar mostly exports the most important clove product, *the unopened flower bud*. The range of uses that can be made from different clove forms, whole or ground cloves and oleoresin, indicates that if processing is promoted, Zanzibar has a high potential of increasing local consumption of cloves and hence minimize fluctuations of foreign exchange earnings and farmer's income caused by world market price changes.

3.4 Marketing Related Factors

The major problems related to clove marketing include:

- (i) over supply of cloves
- (ii) decline in clove quality
- (iii) high costs of ZSTC monopolistic operations.

The Zanzibar State Trading Corporation (ZSTC) is the sole marketing agent for cloves after the Clove Growers Association (CGA) which was abolished in 1966.

4. The New Agricultural Policy

4.1 The Government's Commitment

The overall goal of the policy is to promote the sustainability of the agricultural sector for economic, social and environmental benefit of the people. This general objective is elaborated into specific objectives which seek to increase the sustainable quality and quantity of agricultural production and processing in the agricultural sector. One of the specific objectives states that the privatization of agricultural parastatals was one of the ultimate goals of the government. The government would gradually move away from directly carrying out production, processing and marketing activities in the agricultural sector. In the New Policy the government committed itself to:

- (i) intensify agricultural production through improved technologies
- (ii) promote income generating activities
- (iii) promote poverty alleviation activities by NGOs and CBOs.

4.2 Land Issues

Despite the improvements referred to above, land tenure was still problematic. The government's objective under the new policy is to provide secure tenure for all Zanzibaris involved in agricultural production. The issue is that the people are unaware of the Land Act No. 2 of 1992. Uncertainty was created by this ignorance of land laws and regulations. The New Policy plans to launch an educational campaign on the relevant laws and regulations and the government is to hasten the pace of land registration.

4.3 Poverty Alleviation

The factors hindering poverty alleviation especially among rural communities include low investment and low productivity in agriculture.

The constraints hampering the attainment of higher productivity in agriculture include the dependency on rain-fed agriculture, the prevalence of plant and animal diseases, high post-harvest losses, insufficient skilled manpower and inefficient credit and marketing

systems. *The intention of the government is to transform Zanzibar's agriculture from a subsistence sector into a modern commercial sector.*

4.4 Agricultural credit

There has not been any regular functioning agricultural credit system in Zanzibar except for specific projects. Furthermore, people have tended to regard loans as grants from the government. Hence, even in project credit schemes repayment rates have been very poor. Moreover, the savings and credit associations have not established themselves firmly. To this end the government is committed to:

- (i) promote the establishment of rural savings and credit associations
- (ii) encourage the use of improved farming technologies, new high value agricultural products and improve marketing systems in order to improve the productivity of credit
- (iii) provide a reliable and timely management information system for savings and credit associations in order to improve management capability
- (iv) provide an enabling environment for the operation of a sustainable credit system
- (v) encourage, through appropriate prudential guidelines and sound monetary policy, competition among banks and financial intermediaries in the provision of credit.

4.5 Agricultural Marketing

The RGZ states the general objective in the agricultural sector is of wanting to improve market efficiency through expanding infrastructure and appropriate regulations in order to encourage private sector participation in agricultural production, processing and the provision of marketing services.

Agricultural marketing services are disorganized and uncoordinated, poorly served by infrastructure and riddled with cumbersome export procedures. Moreover, the markets are uncompetitive creating room for low producer prices but high consumer prices. In the new policy the RGZ intends to:

- (i) provide an enabling environment for private sector participation in the trade and marketing of all agricultural commodities
- (ii) improve market infrastructure for both internal and external markets
- (iii) streamline export procedures that will encourage and promote increased exports of agricultural commodities
- (iv) formulate regulations and guidelines that will govern wholesale and retail markets for agricultural commodities.

4.6.1 Agro-processing

The government intends to promote and strengthen private sector investment in agro-processing. The potential exists for the processing of fruits, spices, livestock and marine products.

4.6.2 The New Agricultural Policy and The Clove Industry

The New Policy deals with issues specifically related to cloves in addition to the cross-cutting issues. Specific issues related to cloves include:

4.6.3 Fluctuating Output

While recognizing the cyclical nature of the crop, the RGZ recognizes that there are other factors that affect these fluctuations. Weather factors have an impact on output levels. The insecurity of the land tenure system is another factor. More importantly, the improved delivery of research and extension services. The government intends to optimize the output and quality of cloves based on the following strategies:

- (i) prepare a clove development plan
- (ii) put more emphasis on clove development research in collaboration with clove growers
- (iii) promote the production and planting of clove seedlings through supportive incentive structures to the private sector
- (iv) provide technical support to clove growers in order to increase clove yields and quality.

4.6.4 Clove Marketing

According to the new agricultural policy, the government has set out two objectives:-

- (i) to improve the performance and increase efficiency on clove trade and marketing
- (ii) to increase the contribution of cloves to the national economy by improving exports of quality cloves

5. Clove Marketing: *Current Structure and Options for Improvement*

5.1 Role of the Zanzibar State Trading Corporation

In line with Government of Zanzibar Decree. No. 1 of 1966 which established ZSTC, this state owned enterprise was to have monopolistic powers over internal and external marketing of cloves. About 50% of the profits accruing to ZSTC from marketing of cloves to the rest of the world markets are appropriated by the Government.

5.2 Current Functions of the Zanzibar State Trading Corporation

The company performs the following marketing functions:

- (i) purchasing cloves from all buying centres
- (v) grading the cloves in collaboration with the Ministry of Agriculture, Lands and Natural Resources
- (vi) transporting all cloves from buying centres to Unguja
- (vii) storing cloves
- (viii) packaging of cloves
- (ix) managing the Pemba distillery

- (x) preparation of shipping documents
- (xi) managing its Dubai branch

However faced with the realities of the Zanzibar economy, ZSTC is sometimes required to undertake responsibilities which have little to do with clove marketing. These include:

- (a) payment of compensation to those who fall from trees in Unguja and Pemba thereby performing the role of an insurance company.
- (b) purchasing of inputs (like jute bags, hurricane lamps etc) and selling them to farmers at subsidized prices and hence contributing indirectly to credit availability.
- (c) maintenance of roads to ensure smooth transport of cloves, thereby undertaking activities under the jurisdiction of other ministries

5.3 Factors Constraining the Efficiency and Effectiveness of ZSTC

The internal and external factors that constrain the performance of ZSTC include:

- (i) fluctuations of clove prices in global markets
- (ii) limited capacity of ZSTC as a marketing company
- (iii) lack of export diversification
- (iv) heavy administrative costs

5.4 Options for Improving Marketing of Cloves

The recent debate concerning the clove industry has gravitated around the basic question whether to privatize or not to privatize the country's clove industry. Like in any debate, two sharply opposing sides have emerged.

Proponents of the clove privatization including obviously the private sector tend to cite factors including that in today's world, the economy is private sector led and hence Zanzibar's economy with its clove industry can not be an exception to what is taking place globally. Opponents of the private sector have plausible arguments to approach the subject rather cautiously and gradually citing facts like:

- (i) the centrality of clove to the economy
- (ii) the private sector in Zanzibar is still un-organized and infant
- (iii) privatization *per se* is not a panacea to fluctuations in world market prices for the industry
- (iv) the monopsonic nature of the clove industry consisting of few clove buyers; such that privatization does not guarantee an automatic improvement in global markets
- (v) privatization of other cash crops like seaweeds and chillies has proved to be a failure in situations of tumbling world market prices in that in such periods private sector operators do not buy crops thus negatively affecting farmers' incomes and the economy. The government is concerned about a repeat of these tendencies especially on a "high stake" cash crop such as cloves.
- (vi) experience gained in the privatization of cash crops Mainland Tanzania has shown the importance of approaching the exercise rather cautiously and gradually.

While the debate is relevant and does not seem to produce clear “winners” and “losers” one fact has to be constantly remembered. That is privatization or public ownership is a means to an end. The end being improvement of clove farmers’ income. Thus the question is “*will privatization or public conduct of the clove industry improve farmers’ incomes and welfare?*”. The options we are presenting in the subsequent sections aim at addressing this important factor. Each option is presented along with its advantages, disadvantages and required action to implement it.

5.4.1 Option One: *Maintain Public Ownership but Undertake Reforms at Zanzibar State Trading Corporation*

If the government was to opt for this option, there are three strategies of implementing reforms within ZSTC:

- (i) *wholesale retrenchment of staff and then employ on merit basis*
- (ii) *retrenchment of “excess” staff*
- (iii) *shedding off certain non-market related functions*

5.4.2 Option Two: *Partial and Gradual Privatization of the Clove Industry*

The introduction and consequently implementation of a partial privatization of the clove industry relies on the ability of the government to carefully, gradually and neatly define activities that can continue to be performed by the government (in this case ZSTC) and those that can be undertaken by the private sector.

This option can be implemented gradually through four steps as follows:-

Step 1: *Formation of a Clove Board, buyer of last resort and setter of floor prices*

Step 2: *Setting conditions for Clove Purchasing*

Step 3: *Setting Rules and Regulations on Clove Quality*

Step 4: *Setting conditions for obtaining Export License*

There are several advantages of this process including that:-

- (i) it is a gradual process and hence allows the government to take appropriate actions to rectify any emerging problems
- (ii) it ensures a gradual integration of the private sector into the clove industry
- (iii) it ensures quality control
- (iv) it ensures that government will continue to get revenue from cloves

5.4.3 Option Three: *Introduction of Public/Private Mix in the Clove Industry*

The option of introducing a mixture of the public/private ownership in the clove industry resembles to a large extent the second option, that of partial and gradual privatization of the industry.

The advantages of this option resembles to a large extent, those of option two. The main weakness of this option is that there might be difficulties in separation of activities between the private and the public sector.

5.4.4 Option Four: Complete Liberalization of the Clove Industry

Complete liberalization of the clove industry is one of the options that is often mooted in Zanzibar. However, as the proceeding analysis has revealed, it is a highly risky option on all the stakeholders. First, it cannot guarantee high incomes to farmers. Second, it can not guarantee continued profits to the private sector since there is no guarantee that by mere privatization *per se* there will be an improvement in the world market prices for cloves. Finally, the complete liberalization of the clove industry will not ensure that the government will continue to get the revenue it currently gets from the clove industry.

6. Credit availability and the Performance of Clove Industry

6.1 Credit Availability

In general, there is a serious shortage of credit facilities in Zanzibar and in particular to cater for clove growers. Available evidence indicates that there is no commercial bank which caters for the specific credit needs of clove producers.

6.2 Formal Credit Sources

Historically, there has never been a comprehensive rural banking system in Zanzibar. Credit before and after the revolution was directly extended to farmers by various projects and institutions, without involving banks. Financial credit was extended to allow farmers to purchase inputs like tractors, seeds and fertilizers. These organizations created their own infrastructure to disburse the credit, to supervise the credit utilisation, and to collect the repayments.

6.3 Role of ZSTC in Credit Facilitation

The Zanzibar State Trading Corporation (ZSTC) is a state owned enterprise which is charged with, among other things, the marketing of cloves. In the strict sense, it is not supposed to issue credit to clove growers since it is not a financial institution. Aware that clove farmers need financial assistance especially during harvesting period, ZSTC has often purchased various equipment and sold them to farmers at highly subsidized prices. This is a form of an indirect credit to farmers.

6.4 Quasi-formal Credit

Quasi-formal credit is provided by government and non-governmental organizations and its aim is to address credit needs in Zanzibar. Quasi-formal credit sources are characterized by factors including the fact that they:

- (i) are predominantly urban and peri-urban
- (ii) extend small, short term (up to 1 year) credit
- (iii) have varied interest rate structures but concessionary
- (iv) finance mainly SMEs
- (v) do not demand possession of collateral

7. Recommendations

7.1 Recommendation 1: Prepare a Clove Development Programme

7.2 Recommendation 2: *Promote Local Processing of Cloves and Clove Products*

7.3 Recommendation 3: *Promote the Use of New Harvesting Technologies*

7.4 Recommendation 4: *Launch an Educational Campaign on Land Issues*

7.5 Recommendation 5: *Promote the Establishment of Rural Savings and Credit and Cooperative Societies*

7.6 Recommendation 6: *Provision of a Conducive Atmosphere for Private Sector Development*

7.7 Recommendation 7: *Reform Clove Marketing System*

7.7.1 Option 1: Gradual Liberalization of Clove Marketing

The recommendation has to be carefully implemented, step-by-step so as to allow sufficient time for the government to deal with any emerging anomalies that might develop as a result of adopting option. During this transition period the government will:

- (a) create a conducive environment for formation of clove growers associations
- (b) promote the development of SACCOs
- (c) release ZSTC of functions which do not relate directly to clove marketing
- (d) transform current ZSTC into a Clove Marketing Board with regulatory functions, buyer of last resort and setter of floor prices
- (e) create an environment for private sector operators in clove marketing
- (f) strengthen tax collection capacity to ensure revenue from clove marketing is, at least equal or more than what is currently collected from cloves.

This gradual, systematic and cautious approach to liberalization of clove marketing is *our first best recommendation*.

7.7.2 Option 2: Maintain the Current Clove Marketing Structure but Undertake Reforms within ZSTC

To operationalize this recommendations it will be necessary for the government to:-

- (i) shed off non-marketing functions currently undertaken by ZSTC
- (ii) undertake a “down-sizing” and “right-sizing” of employees at ZSTC
- (iii) ensure that ZSTC’s evaluation is performance based

The effort of making ZSTC lean and efficient for it to market clove effectively is *our second best recommendation*.

Chapter One

Introduction

1.1 Background Information

1.1.1 Brief History

Zanzibar consists of two islands, Unguja and Pemba, plus many smaller islands off their shores, the most important being Tumbatu and Uzi off Unguja, and Kojani, Fundo and Panza off Pemba. Many of the smaller islands are inhabited only on temporary basis. Unguja (sometimes also referred to as Zanzibar) is the largest of the two main islands; and houses the capital which is called Zanzibar town. History believes that at one time Unguja and Mainland Tanzania were connected and the former came into being by a submergence of the connecting portion of land. Historians' living testimony to this are the depth of the shallow channel – hardly exceeding 25 fathoms deep – separating Unguja and the Mainland and the presence of some specimens of the Mainland fauna in Unguja. Pemba has a similar geological structure as Unguja but is separated by a deeper channel ranging from 270 and 400 fathoms; showing a less evident connection to the mainland.

1.1.2 Relation with Mainland

Zanzibar attained its political independence in January 1964 following a revolution that ousted the Sultanate of Oman. In April 1964 Zanzibar united with Mainland Tanzania but continues to enjoy significant autonomy over internal affairs including its own constitution, development policy and budgetary matters. Zanzibar has its organs of power such as the Presidency, the Cabinet, the legislative Council and the judiciary. The United Republic of Tanzania (URT) constitution provides for Union Matters, which also covers the Mainland which does not have its own Government, whereas the Government of Zanzibar (GOZ) and other institutions in the Island are responsible for Non-Union matters. In particular, international relations and foreign affairs, internal security and national security, monetary management are some of the Union Matters.

1.1.3 Geography, Land use and other Resource Use

The total land area of Zanzibar is estimated to be 2654 sq km with Unguja having 1666 sq km and Pemba 988 sq km. The islands are situated in the Indian Ocean about 25 miles off the East Coast of Africa between latitudes 5⁰ and 7⁰ South of the Equator.

The highly fertile soil is the most important natural resource for both islands. Neither island is known to contain any mineral deposits or precious stones of commercial value. Agriculture is therefore the mainstay of the economy. The fishing industry has a great potential as research has shown that the Zanzibar (and Mafia) channel contains the most important fish stocks of the on shore areas. This industry has however, not been

adequately exploited by the country because most of the fishing is still being undertaken by traditional, ill-equipped artisanal fishermen using primitive methods.

1.1.4 Population and Labour Force

Census results of 2002 indicated that Zanzibar had a population of 984,531 inhabitants of whom 51% are female and 49% males. 57% of the population was rural based and the rest, 43% were urban. With a population density of 398 persons per sq. km Zanzibar turns out to be one of the most densely populated countries in Africa. This population is however not evenly distributed in the islands. Unguja, with 63% of the total land area, accommodates 60% of the population and Pemba has 40% of the population. The Pemba population, being more rural oriented, is much more evenly distributed over the island. Population growth rate is high at 3.1 per cent per annum and the average household size is 5.3 members.

Apart from its relatively high density, Zanzibar's population is ethnically mixed. This factor owes its foundation to events dating as far back as the ninth century when the Persians began to settle on the islands. After inter-marrying and uniting hitherto disparate village groups which originally came from different parts of the African Mainland, the contemporary indigenous tribes came to be recognized as Wahadimu, residing in the eastern and southern parts of Unguja islands, the Watumbatu, in the Tumbatu islands and the northern part of Unguja island and the Wapemba who occupied the Pemba island.

1.2 Methodology

1.2.1 Identification of Stakeholder Institutions

The following criteria were used in identifying respondents for the study:-

- (i) participation in production
- (ii) participation in processing
- (iii) participation in marketing/trade
- (iv) participation in legislature/policy making

1.2.2 Interview Instruments

In order to be systematic in our interviewing process, an interview checklist was used (Appendix 1). The checklist had four parts. Some of the questions were targeted at specific respondents/stakeholders, and others were to be answered by any. The main stakeholders/respondents who were interviewed included the following:

(i) *Government, Legislators and ZSTC Officials*

The officials were interviewed as stakeholders and supervisors of the clove industry in the Isles. They knew the status of the industry in terms of production, processing, marketing and the peoples' opinion on the crop situation. Their theoretical and practical experience on cloves was an added advantage in accomplishing the study.

(ii) *NGOs and Business Community*

The purpose was to hear their views on the current production and marketing system of cloves in Zanzibar.

(iii) *Clove Farmers and Contractors*

A discussion was held with this group of stakeholders for the purpose of getting first hand information on their experiences and knowledge on the challenges faced in production, harvesting, processing and marketing of cloves in both Pemba and Unguja.

1.2.3 Data and Information Collection

Four methods were used to collect information from the different stakeholders. These methods included:-

- (i) formal interviews
- (ii) informal interviews
- (iii) documentation
- (iv) observation

Each of the above methods was used depending on the type of information required. A brief description of each of these methods is presented below.

1. *Formal Interviews*

These interviews were usually conducted with one respondent. Occasionally, a group of more than one person but not more than three was interviewed.

2. *Informal Interviews*

Informal interviews were conducted for the purpose of clarifying certain issues which were not clear during formal interviews.

3. *Documentation*

This method was used to get some information or data which we could not easily obtain from the stakeholders. The information was obtained from government and other relevant institutions.

4. Observations

This method entailed sight seeing some activities which were conducted by farmers. We also observed the well being of the clove producers' community.

1.3 Overview of Clove Production, Products and Commercial Use

1.3.1 Global Overview

Until the beginning of the 19th Century, Indonesia was the major producer of Cloves. The entrance of Zanzibar in the world clove market in 1830s transferred the dominating position/role of Indonesia to Zanzibar. In 1834 Zanzibar produced 35,000 metric tons of cloves and controlled 90% of the world market. This virtual monopoly of the world clove market by Zanzibar continued to be maintained until the 1940s. Thereafter Indonesia regained its lead in the world clove market both in terms of production and imports. The new local demand for kretek cigarette manufacturing in Indonesia led to increased production. On the other hand the quality demand of kretek cigarettes rendered importation of cloves from other producing countries and especially Zanzibar inevitable.

Currently the major producers of cloves include; Indonesia, Madagascar, Zanzibar, Comoro, Sri-Lanka and Brazil. Indonesia produces between 80,000 and 120,000 tons of cloves which mostly consumed domestically. Zanzibar, Madagascar and Indonesia account for over 90 per cent of the world output. World demand for cloves, excluding Indonesia stands at about 10,500 tons. The share of Zanzibar in the World clove production excluding Indonesia is presented in Table 1.

Table 1: Share of Zanzibar in the Average Annual Clove Production of Major Clove Producers in 2002

Country	Metric Tons		Share of Total Production (%)	
	Lower Level	Upper Level	Lower Level	Upper Level
Madagascar	3,000	11,000	3.5	7.4
Zanzibar	1,000	10,000	1.2	6.8
Sri-Lanka	1,000	2,000	1.2	1.4
Brazil	500	3,000	0.6	2.0
Comoro	500	2,000	0.6	1.4
Total	6,000	28,000	100.0	100.1

Source: ZSTC (2002); The Status of the Clove Industry in Zanzibar and its Future Prospects (mimeo).

Other producers include Nigeria, Malaysia, Reunion and Seychells. Production data for these countries is not readily available. Brazil and Sri-Lanka are upcoming competitor in the world market for cloves. Sri-Lanka has been producing cloves for a long period of time though in negligible quantities. Another small participant in the world market of cloves is Comoro. This country has been exporter of cloves for a long-time but the

exports have not exceeded 2000 tones. The limitation of land could be an explanation to the small production of cloves.

Indonesia and Malaysia have been exporting cloves but their exports have been relatively small because of domestic demand for the commodity. At the sametime the absolute production level has of late assumed high proportions.

There is a real product differentiation between the products supplied by the different countries in the product group. Though all countries produce cloves, two differences come out clearly. One relates to the price that the product fetches in the market, and the other relates to the market to which the product of a particular country could be sold.

Cloves, which are produced by Indonesia, Malaysia and Sri-Lanka, are said to be comparable very favourably and they are substitutable. They are the type best suited for culinary art and fetch the highest prices in the market. The product is sold practically all over the world. The second difference relates to the market. This characteristic refers to Indonesia. Characteristic of the Indonesian market is that it uses cloves in the manufacturing of kretek cigarettes, which have a huge market in Indonesia itself. This product has proved to be better served by cloves from Zanzibar and Madagascar. Most Indonesia's clove imports come from these two suppliers (ZSTC 2002; Raphael, J. 1995).

1.3.2 Clove Products and their Commercial Use

There are three major clove products, which are of commercial importance. These include: -

- (c) clove buds which are sold either wholly or in ground form
- (d) oleoresin which is prepared from ground clove
- (e) clove oils which are extracted from either the buds, the stems or the leaves

Each of these commercial uses is briefly discussed below.

1.3.2.1 Clove Bud Products and Uses

Whole or ground cloves are mostly used in the household sector. The most common uses include:

- (i) Cultural Value**
Cloves are an essential ingredient in the preparation of betel-nut chew. This is a habit which is unique to the Indian sub-continent where millions of people are addicted to it.
- (ii) Spice Value**
Cloves are used extensively in culinary art. They are an essential ingredient in the preparation of mixed spices for the table and in the manufacture of curry powder. This is a common practice for the oriental households.
- (iii) Confectionary and Food Processing and Preservation**
Cloves are also used in western households in various meat dishes, sauces and pickles, in desserts and in beverages. During Christmas season, cloves are

popular in Nordic countries and Germany for baking in preparing special cakes and hot wine punch called “*Glogg*”.

(iv) Medicinal Value

Cloves are further used for stimulating digestion, checking nausea and vomiting (especially the kind of situation experienced during pregnancy), and for treatment of colds and sore throat. They also have tonic and antiseptic properties. Further, cloves prevent teeth from decay and act as purifier of the mouth.

(v) Cigarette Manufacture

Cloves are used in Indonesia in the manufacture of clove favoured cigarettes, called *kretek*. They are called “*kretek*” because they crackle when lighted. Kretek cigarettes contain two parts tobacco and one part cloves. Current production amounts to about 36 billion cigarettes annually. This type and level of production requires approximately half of the world production of cloves. Also important to mention here is that this type of cigarettes dictate today's prices of cloves. Clove kretek cigarette smoking is predominant in Indonesia but there are also smokers in USA and in some Latin American countries.

1.3.2.2 Clove Oleoresin – for Food Flavour Industry

Oleoresin of cloves finds its major use in the food flavouring industry where it is used principally in the preparation of meat products, pickles, table source and in some food-stuff which are baked. It is also used in the preparation of fruit puddings.

1.3.2.3 Clove Essential Oils

The essential oil is found in the clove buds, clove stems and clove leaves. This oil varies to a certain extent between products depending on the geographical area it has been produced, the grade of the clove and the storage conditions of the clove. The difference in the quantity of the oil in the cloves is the biggest determinant of the quality of the cloves. The uses of clove oil are in principle determined by the availability of eugenol in the spice. The eugenol is understood to be a non-poisonous and antiseptic constituent, which plays a very important role in the flavouring property of the cloves. The value of clove oil largely depends on the amount of eugenol (volatile oil) found in the cloves. The main uses of eugenol can be found in the following:

- (vi) perfumery and flavouring industries
- (vii) pharmaceutical industries as a carminative and antispasmodic
- (viii) dental field, where it is mixed with zinc oxide for making temporary fillings for cavities
- (ix) preparation of medicinal products such as cough remedies, lozenges, etc.
- (x) soap, toothpaste and detergent industries.

1.4 The Clove Industry in Zanzibar

1.4.1 About the Clove Tree

Clove is a household name in Zanzibar. The word clove originates from a Latin word “*clovus*” which means a nail. Probably the spice owes the name from its shape. The clove tree is reported to be very sensitive to ecological conditions. The tree is happy on any mountainous tropical island, where as the saying goes “*it can see the sea*”. In Zanzibar there is also a saying which reads as follows *the clove tree will not grow except within sight of the mountains and within smell of the sea*”. This is the reason why it is not cultivated in many parts of the world.

1.4.2 The Clove Tree Entering Zanzibar

Cloves were introduced in Zanzibar from Mauritius in 1818 (Ellman, A (2002); Dedes, M.A.M (1984). By the year 1856 Zanzibar is reported have been producing about 75 per cent of the world supply of cloves. This was on the average about 3000 tonnes per annum. Cloves are grown in Unguja which is 6° South of the Equator with an average rainfall of 1628 mm, and in Pemba Island which is 5° S with an average rainfall of 1963 mm. The mean annual temperatures of Unguja and Pemba are 26.7° C and 26.1° C respectively.

The first harvests of a clove tree start around the sixth year after planting. The yields increase gradually and the first fifteen years of harvests they are usually remarkably small. Highest yields are experienced starting the 30th to 40th year. However, some highest yields have also been observed in clove trees, which are over sixty years of age. The maximum useful life span of a clove tree in fertile soil and in areas with suitable climate is about seventy years. Records indicate that clove trees are known to produce for 100 years and to have reached 150 years.

During the past three decades, clove production in Zanzibar has had a fluctuating trend. When other spice-producing countries entered the industry a “*worldwide clove glut*” was experienced. In glory years, the price of clove reached US \$ 9000 a ton, to-day (2002) the price is less than US \$ 2000. The fall in price has been accompanied by a phenomenon drop in output recording below 50 tons in the 1999 crop season against a high of 24200 tones in 1958 or even 16052 tones in 1992, 11368 in 1997 and 8291 in 2000 crop season.

The nosedive in production is alarming for an important crop like cloves. The situation can therefore not be left unchecked. It is because of this serious negative trend of both the crop output and the price that this assignment is being carried out. The question is “where have things gone wrong, and what remedial measures should be taken to correct the situation”.

1.5 The Objective of the Study

This study has been conducted in order to assess how the clove industry could be revitalized to ensure that it contributes significantly to the mobilization of both financial and human resources.

In order to address this objective appropriately the following specific activities were required to be undertaken.

- (i) to revisit the factors which inhibit the development of the clove industry both from production, harvesting, processing and marketing perspectives
- (ii) to recommend ways of addressing the impediments
- (iii) to assess the compatibility between the “*new agricultural policy*” and the operations of the clove industry
- (iv) to assess the adequacy of credit facilities for crop purchase
- (v) to explore the possibility of providing crop finance to ZSTC under the Export Credit Guarantee Pilot Scheme administered by BOT
- (vi) to assess the efficiency and effectiveness of ZSTC as a marketing organization and make requisite recommendations
- (vii) to explore the possibility of restructuring ZSTC as a way of liberalizing the clove industry, bearing in mind the positive and negative experiences evident on the Mainlands liberalization exercise
- (viii) to propose the role of the public sector and that of the private sector within the recommended reform framework
- (ix) to assess the extent of resource mobilization associated with the recommended reforms of the clove industry.

1.6 Structure of the Report

This report is divided into seven sections. Section one provides a brief profile of Zanzibar, the methodology used in carrying out the study, an overview of global clove production including the uses of cloves and clove products. Section two presents the clove production trends including earnings, which are generated from cloves. This section is followed by an analysis of factors, which inhibit the development of the clove industry in section three. An account of the agricultural policy and its compatibility with the operations of the clove industry is discussed in section four. Section five presents a detailed discussion on the activities of the Zanzibar State Trading Corporation (ZSTC) and contains a discussion of options for improving the clove industry. This section is followed by a brief discussion on the credit opportunities to farmers and the situation of human resource mainly during clove harvesting season. Section seven presents conclusions and specific recommendations for improving the clove industry.

Chapter Two

Clove and Clove Oils Production Trends and Export Earnings

2.0 Preamble

The production, harvesting, processing and subsequently marketing of cloves are all important activities for the Zanzibar economy. These activities determine the employment opportunities and income to clove farmers as well as to individuals employed in the whole production process up to the time the clove is exported to the rest of the world. Export of cloves is one of the most important sources of government revenue in Zanzibar.

While production of cloves is mainly a function of variables like weather, soil condition, age of trees, tree husbandry and other agronomical conditions, clove exports and generation of export earnings therefrom is mainly dependent on world market prices which have tended to fluctuate widely during the 1980-2002 period.

2.1 Production Trends

Clove production in both Unguja and Pemba is characterized by smallholder production. Prior to the 1964 revolution, there were relatively, large scale private clove producers. This type of production was significantly changed after the 1964 events whereby the government undertook a re-distribution of land and allocated up to 3 acres of land to a household. Part of the land was placed under state control and continues to produce cloves up to the current time. It is estimated that most (about 60 per cent) of the clove is produced in Pemba island and the rest (40 per cent) in Unguja. Recently however, and for a variety of reasons both the volume and quality of cloves produced in Zanzibar has declined (Raphael, J. 1995).

The trend in production of cloves in Zanzibar is shown in Table 2. This is an average of 10 year period between 1900/01 and 1999/00. This is a period of almost 100 years.

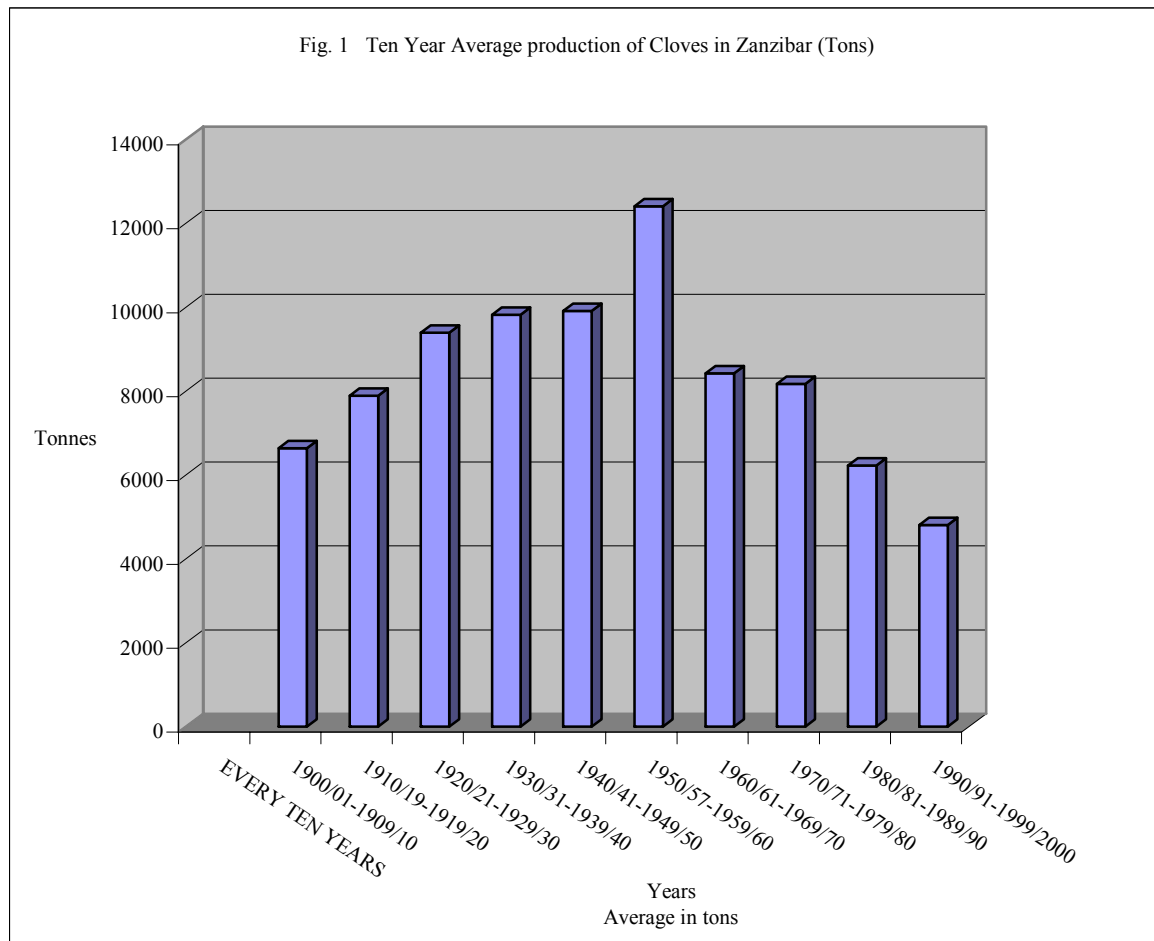
The table and Fig. 1 show an increasing production trend up to 1959/60 period. From there on production has been steadily declining up to the present time. For example in the last decade i.e. 1990/91 up to 1999/00 production has averaged 4,805 tons compared to the period 1950/57 to 1959/60 where an average of 12,408 tons were produced.

Looking at the entire period one can say that production had been declining at an average annual rate of about 1.5%. Dividing the period into two parts, one can see that production has been increasing at an average annual rate of 13.7% between 1900 and 1960. After that production has been declining at an average annual rate of about 20.4% between 1960 and 1999/00.

Table 2: Clove Production 1990/01-1999/00

Average for Every 10 yrs	Average Tons	Change (%)
1900/01 - 1909/10	6,637	-
1910/19 - 1919/20	7,890	18.9
1920/21 - 1929/30	9,389	19.0
1930/31 - 1939/40	9,819	4.6
1940/41 - 1949/50	9,909	0.9
1950/51 - 1959/60	12,408	25.2
1960/61 - 1969/70	8,425	-32.1
1970/71- 1979/80	8,172	-3.0
1980/81 - 1989/90	6,225	-23.8
1990/91- 1999/00	4,805	-22.8

Source: ZSTC, Zanzibar, 2002



Source: Worked from Table 2.

2.1.1 Causes of Decline in Clove Production

(a) Clove Trees: Ageing and Declining in Numbers

The economic life of clove trees is estimated to be over 100 years of which optimum yield from a tree is expected to be reached somewhere between 30 and 40 years. As clove trees age so does the production of cloves. In both Unguja and Pemba clove farmers have not undertaken to plant new trees. This is one possible cause of a decline in clove production. For example it is estimated that between 1950/51 and 1959/60 Zanzibar had a clove tree population of 5,120,000 most of them (3,824,000 trees) being in Pemba and the rest (1,296,000 trees) in Unguja. This number has decreased significantly by almost 44% to 2,854,853 trees in 1980/81-1989/90 period. It is estimated that between 1990/91-1999/2000 Zanzibar had a clove tree population of only 2,055,495. Compared to its 1950/51 position, Zanzibar has experienced a clove tree population decline of about 60 per cent. Related to the decrease in tree population is the decline in clove output.

It is estimated that during the 1950/51-1959/60 period the average clove output in Zanzibar was 12,408 tones but dropped to an average of 6,225 tones during the ten year duration of the 1980/81-1989/90. By the 1990/91-1999/2000 period, clove output had declined to an average of 4,805 tones.

Using the 1950/51-1959/60 average output as a base period it is observed (Table 3) that clove output has declined by almost 61 per cent.

Table 3: Clove Tree Population and Average Output in Zanzibar 1900-2000

Period	Tree Population (Ten Year average)	Output (Tones) Ten Year Coverage)
1900/01-1909/10	-	6,637
1910/11-1919/20	-	7890
1920/21-1929/30	-	9,389
1930/31-1939/40	-	9,819
1940/41-1949/50	-	9,909
1950/51-1959/60	5,120,000	12,408
	1,296,000*	
	3,824,000**	
1960/61-1969/70		8,425
1970/71-1979/80		8,172
1980/81-1989/90	2,854,853	6,225
	512,806*	
	2,342,047**	
1990/91-1999/2000	2,055,494	4,805
	369,220*	
	1,686,274**	

Notes: (1) *Unguja
(2) **Pemba

Source: ZSTC

The decline in both clove tree population and average output observed in Table 3 could be caused by a combination of various factors. While a drop in tree population could be caused by poor tree husbandry and weather effects, the poor clove output performance could be a result of the cultivation of cloves in marginal lands, weather effects and poor care of trees.

(b) Competition from other cash crops

Although cloves constitute an important share in Zanzibar's cash crops, its production competes with the production of other cash crops like seaweed, chillies and copra in terms of human, financial resources and land. Table 4 shows production of major cash crops in Zanzibar during the 1980-2001. The trend volume is then graphically presented in Fig. 2.

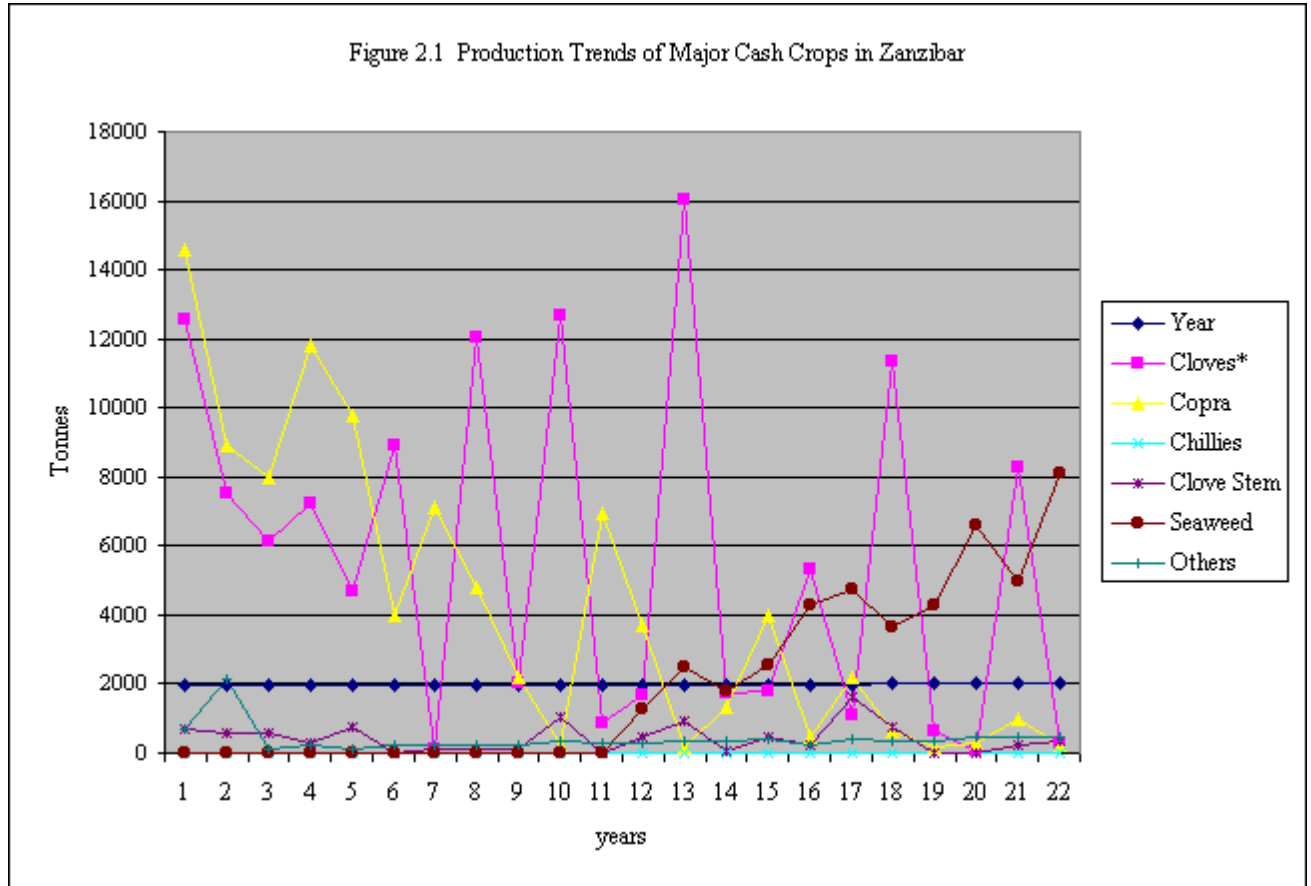
Table 4: Production Trends in Major Cash Crops in Zanzibar 1980-2001 (Tonnes)

Year	Cloves*	Copra	Chillies	Clove Stem	Seaweed	Others	Total	Clove as % of Total
1980	12,580	14,610	-	712	Na	669	28,571.00	44.03
1981	7,497	8,920	0.33	590	Na	2,159	19,148.30	39.15
1982	6,150	8,014	0.21	567	Na	131	14,862.20	41.38
1983	7,225	11,804	0.03	289	Na	256	19,574.00	36.91
1984	4,699	9,757	0.1	763	Na	103	15,322.10	30.67
1985	8,900	4,009	0.02	18	Na	232	13,159.00	67.63
1986	136	7,130	0.13	115	Na	256	7,637.10	1.78
1987	12,035	4,812	0.07	130	Na	208	17,185.10	70.03
1988	2,027	2,190	1.25	108	Na	221	4,547.30	44.58
1989	12,703	219	3.2	1,053	Na	352	14,330.20	88.64
1990	881	6,926	4.2	-	Na	283	8,094.20	10.88
1991	1,695	3,691	2	482	1,298	295	7,463.00	22.71
1992	16,052	167	1.2	943	2,487	322	19,972.20	80.37
1993	1,758	1,304	2.14	38	1,768	345	5,215.10	33.71
1994	1,774	3,992	1.7	450	2,542	380	9,139.70	19.41
1995	5,344	441	1.1	251	4,287	236	10,560.10	50.61
1996	1,073	2,223	1.3	1,624	4,768	385	10,074.30	10.65
1997	11,368	656	0.3	771	3,667	352	16,814.30	67.61
1998	651	187	0.1	16	4,305	346	5,505.10	11.83
1999	41	296	0.3	19	6,606	440	7,402.30	0.55
2000	8,291	972	0.1	242	4,990	455	14,950.10	55.46
2001	300	255	0.3	324	8116	451	9,446.30	3.18
Average	5,599	4,208	1.0	453	4,076	404	14,739.94	37.81

Source: Office of Government Statistician, Zanzibar

Notes: * refers to clove season

Figure 2: Production Trends of Major Cash Crops in Zanzibar



Source: Worked from Table 4

During the 1980-1989 period clove production constituted, on average over 50 per cent of total cash crops in Zanzibar. This share has systematically declined to below 40 per cent during the 1990-2001 periods. As shown in Table 4 production of other cash crops like copra and chillies have also declined.

(c) The clove production natural cycle

Clove production (output) is characterized by a “natural cycle” whereby bumper harvest in one crop season is followed by one or several seasons of low harvests. In Table 2 for instance, both 1980, 1985, 1987, 1989, 1992, 1997 and 2000 were years which experienced bumper clove harvest but were immediately followed by declining clove harvests. One of the possible explanations of a low harvest immediately following a bumper harvest is the manual harvesting practice of breaking clove branches. As branch re-generation takes more than one year it takes more than one year for clove output to reach the previous bumper harvest level.

2.1.2 Production Indices for Major Cash Crops

Besides the factors which have impeded clove production, the production of other cash crops has not performed well either (See Table 5).

Table 5: Production Indices for Major Cash Crops in Zanzibar 1980-2001 (1980=100)

Year	Cloves*	Copra	Chillies	Clove Stem	Seaweed
1980	100	100	0	100	0
1981	59.59	61.05	100.00	0.83	0
1982	48.89	54.85	0.64	0.80	0
1983	57.43	80.79	0.14	0.41	0
1984	37.35	66.78	3.33	1.07	0
1985	70.75	27.44	0.20	0.03	0
1986	1.08	48.80	6.50	0.16	0
1987	95.67	32.94	0.54	0.18	0
1988	16.11	14.99	17.86	0.15	0
1989	100.98	1.50	2.56	1.48	0
1990	7.00	47.41	1.31	0.00	0
1991	13.47	25.26	0.48	0.68	100.00
1992	127.60	1.14	0.60	1.32	132.44
1993	13.97	8.93	1.78	0.05	5.34
1994	14.10	27.32	0.79	0.63	63.20
1995	42.48	3.02	0.65	0.35	35.25
1996	8.53	15.22	1.18	2.28	228.09
1997	90.37	4.49	0.23	1.08	108.29
1998	5.17	1.28	0.33	0.02	2.25
1999	0.33	2.03	3.00	0.03	2.67
2000	65.91	6.65	0.33	0.34	33.99
2001	2.38	1.75	3.00	0.46	45.51

Source: Office of Government Statisticians, Zanzibar

Using the 1980 production as a base year, Table 5 shows that in the case of cloves it is only during two years (that is in 1989 and 1992) that the recorded production was above the base year output. In some years including 1981, 1987, 1997 and 2000, production of cloves was high but never equaled the base year production. Yet, in all the remaining years, production of cloves declined drastically in comparison to its 1980 base levels. As a general conclusion if one compares the 1980-1989 and the 1990-2001 sub-period, the most significant decline in clove production has been more pronounced in the latter compared to the former period.

Production indices for other major cash crops are not very promising. Copra production, which performed relatively better up to mid 1980s experienced a sharp decline in the late 1990s. It is only seaweed whose production indices have currently improved to at least 50 per cent of its 1980 base year production.

2.2 Clove Essential Oils Production

2.2.1 Introduction

The Pemba essential oils distillery is owned by ZSTC and produces oils from cloves and by-products of cloves. Producing clove oil is very expensive. The plant can process the following products:

(a)	clove oil	100-150	tons per annum
(b)	clove stem oil	500	tons per annum
(c)	clove leaf oil	2000 – 3000	tons per annum

The bottleneck is the transportation of the leaves to the plant. The clove stems of the 1st quality are purchased at Tshs 50.00 per kg. Those of the second quality are bought for Tshs. 40.00 per kg. The use of cloves is about 10% for spices while 90% is used in making cigarettes. Most of the cloves produced are sold to Indonesia (90%).

The processing of clove leaf is undertaken in the field using distilling facilities, which are provided by the company to a group of farmers. There are 9 such distillers of different sizes. The criteria used to give such distillers are:

- (a) the number of interested members
- (b) a group that has opened a Bank Account
- (c) water availability

The selling price of leaf oil is based on the international market price. When oil is sold, farmers retain 80% of the profit while the company retains 20% of the sales. Out of these the company sends 50% of the profit to the government. The sales price is US \$ 12.5 per kg of clove oil, US \$ 5 per kg of clove stem oil and US \$ 4.5 per kg of clove leaf oil.

In the 2001/02 production season, the company's income was Tshs 169.48 million while total expenditure was Tshs 172.229 million. That means the company incurred a loss of Tshs 2.748 million during that period. This was mainly a result of lack of adequate raw materials (stems, leaves) but more importantly was due to the fact that the company continued to pay salaries to the workers who would have been retired. Another reason is the high expenditure on chemicals that are needed to produce Eugenol.

2.2.2 Purchase of Raw Materials

During the 2001/02 season the purchase of raw materials (clove buds and leaf) was as shown in Table 6.

Table 6: Purchase of Raw Material for the Distillery Plant (2001/02)

Item	Plan (kg)	Actual (kg)	Total Value Tshs	Price/kg	Difference (%)
Grade 1:	2,500,000.0	338,027.0	16,901,350.00	50.0	86.4
Average	-	32.5	1,300.00	40.0	-
Green	100	-	-	-	(100)
Total	2,500,100.0	338,059.5	16,902,650	50.0	86.5

Source: ZSTC.

Table 6 shows that the company had plans to purchase about 2.5 mill. tons of grade one cloves but it managed to get only 13.6% of the requirement i.e. 338.027 tons for a total value of Tshs 16,901,350.00 or at a price of Tshs 50 per kg. About 32.5 kg of average cloves were purchased at a value of Tshs 1,300.00 or at Tshs. 40/kg. So in total about 86.5% of the total requirement could not be obtained during the 2001/02 season.

2.2.3 Production of Essential Oils

As a total figure it appears that only 30% of the planned production level was actually achieved (Table 7). That means the targets were not met by about 70%. There are variations among the different types of oil. For example, clove bud Haiba and the clove extra were not at all produced, whereas a third of clove oil was produced. About 56% of eugenol was produced and about 65% of the clove leaf oil was produced. Reasons for not reaching the targets include lack of raw materials e.g. cloves and clove stems and leaves. To the tree products like cinnamon, basis and eucalyptus, the major reason was the poor soil fertility as these are basically organic products.

Table 7: Planned and Actual Production of Oils

Type of oil	Plan	Actual production	Difference %	Remarks
1 Clove oil (tons)	45.0	14.59	(67.5)	Lack of clove stems
2. Clove bud Haiba (tons)	5.8	-	(100.0)	Lack of cloves
3 Mchaichai (kgs)	50.0	8.29	(83.4)	Insects and poor soil fertility
4 Eucalyptus (kgs)	62.0	26.1	(57.2)	- " -
5 Cinnamon (kgs)	98.0	39.0	(60.2)	Poor soil fertility
6 Basil (kgs)	60.0	22.0	(63.3)	Poor soil fertility
7 Eugenol (tons)	11.0	6.11	(44.4)	Lack of clove stems
8 Caryophyllene (tons)	4.0	0.6	(84.7)	Lack of clove stems
9 Clove leaf (tons)	5.5	3.59	(34.7)	Lack of clove leaves
10. Clove extract (tons)	6.6	-	(100)	Lack of cloves
Average	-	-	69.54	

Source: ZSTC

2.2.4 Sales and Incomes from Clove oils

For oils, the difference between the estimated and the actual production is about 26%. There is a wide difference deputed by each type of oil. Local sales of clove oil had surpassed the estimate by almost 83%, while production of cinnamon oil is below the estimate by 88% oil. The eugenol is only about 11% below the estimate.

Among these oils, eugenol contributes about 37%, followed by clove leaf by 27% and clove stem oil that contributes over 21% to the total production.

2.2.5 Storage

Up to 30th June 2002, at least 23,660.5 kg of raw materials were still in stores. Out of these about 23,605 kg were stems of 1st quality (99.8%). The remaining balance was of 2nd grade clove stems and the *khoker* clove buds (Table 8).

Table 8: Raw Material Stock as at 30th June 2002.

	Items	Kgs	%
a	Clove stems first grade	23605.0	99.76
b	Clove stem 2 nd grade	32.5	0.13
c	Clove buds 4 th grade (<i>khoker</i>)	230.0	0.11
	Total	23,660.5	100.00

Source: Survey data.

The stock of clove oils in the company stores and other stores at Malindi as at 30th June 2002 are as follows:

Table 9: Stock of Essential oils in Pemba and Unguja (30/6/02)

Items	Warehouse at Pemba (kgs)	Warehouse at Malindi Unguja (kg)	Store at Factory Area (kg)
Basil oil	-	-	15.5
Cinnamon oil	-	-	48.5
Eucalyptus oil	-	-	14.5
Eugenol	-	-	220.0
Clove leaf oil (in bottles)	7,772	1,795	-
Clove leaf oil (in drums)	-	-	6000.0
Clove bud oil (in bottles)	258	5,684	-
Total	8,030	7,479	6,298.5

Source: Survey data.

There are still at least 6,298.5 kgs or about 6.3 tons of different oils at the factory area. Most of these are the clove leaf oils (30 drums which are equivalent to 6,000 kgs) or 95.3% of all oils in the industry. Eugenol still at the factory is about 220 kgs. The rest are clove leaf oil in bottles which make up a total of 8,030 bottles in Pemba and 7,479 bottles at Malindi warehouse in Unguja.

2.2.6 The Eugenol Project

The company machinery is working quite well and this season, a total of 6,100 kgs of eugenol were produced. The production of Caryophyllene (a by product of eugenol) was 600 kgs and there was no production of clove extra.

A total of 7 distilling equipment have been installed in different parts of Pemba. These are basically for the production of clove leaf oil. The distribution is as follows:

South Pemba: Chunga, Mtambile, Mbiji, Kengejea and Mjimbini villages

North Pemba: Makuwe and Gando villages

A total of 3,590.0 kgs. of clove oil have been produced this season. The eighth facility has been installed at Mtakaka village to meet the demand in that area.

2.2.7 Technical and Research Activities

In the 2001/02 year the company planned to install distillery facility for oil extraction at the “*Mtakaka Farm*”. They also intended to maintain the existing distillery factory. Another aspect is that the company connected water to the Mtakaka Farm for irrigation. All the generators of the factory were rehabilitated, and minor maintenance activities were undertaken in the machines of the factory. The final technical aspect is to carry out preventive maintenance of the machine for the new distillery factory.

The research in the laboratory is on the eugenol that is produced, clove oil extra and water for distillation purposes. Research in laboratory was also conducted on different trees that are grown in the island. Further, agricultural research was conducted on the Mtakaka Farm and it covered the following:

- i. *Eucalyptus (Manukato)*: Four acres have been grown with Eucalyptus (*Corymbia citriodora*): The aim is to reach 7 acres.
- ii. *Medical Eucalyptus (eucalyptus camadulensis)*: A total of 3 acres have been planted with this type of eucalyptus. The aim is to plant up to 7 acres.
- iii. *Mchachai*: A total of 17 acres have been planted, and some harvests have already started.
- iv. *Basil*: A total of 5 acres have been planted and second harvest has started.

v. *Cinnamon*: About 2 acres of cinnamon have been planted. Planting activity has stopped due to shortage of rain. It needs plenty of water right from the beginning. A total of 126,000 seedlings are in the nursery beds awaiting next season rainfall.

vi. “*Muudindi*”: A total of 1.5 acres of these trees have been planted

All arrangements have been made to own the “*Mtakaka Farm*”. The only thing remaining is the handing over of the farm to the company.

2.2.8 Future Prospects

There are good future prospects for both the clove stem and clove leaf oil. Demand for aroma chemicals is increasing. As for the clove bud oil, the world demand does not seem to increase. The world demand for these oils is as follows:-

(i)	clove bud oil	150 – 200 tons/annum
(ii)	clove stem oil	500 – 700/tons/annum
(iii)	clove leaf oil	2,000-2500 tons/annum.

Production of clove leaf oil and clove stem oils is steadily declining in Indonesia due to migration of workers to cities looking for greener pastures.

2.3 Clove Purchases and Exports

2.3.1 Clove Purchases

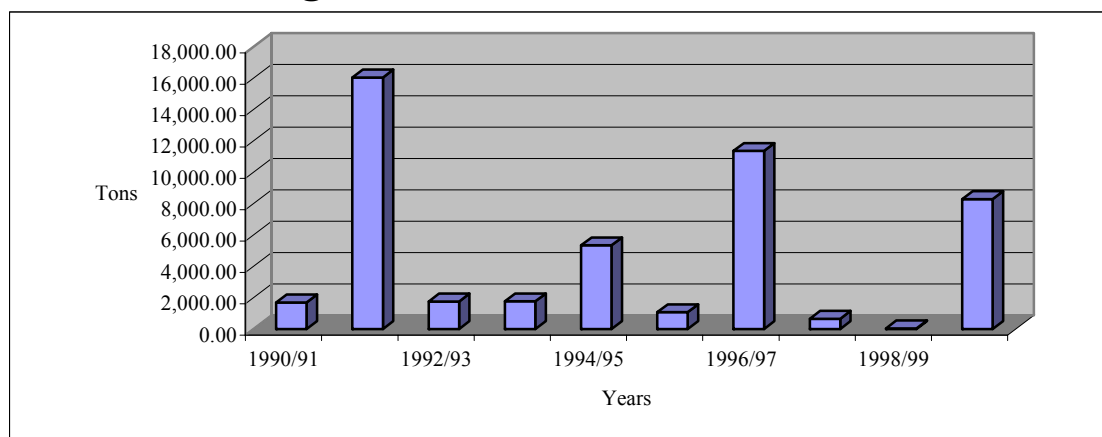
The trend of clove purchases in the past 10 years by ZSTC is shown in Table 10. The cyclical nature of production and hence purchases can be observed in the Table and Fig.3. For example there was a bumper harvest in 1991/92 where over 16,000 tons were bought. This happened again in 1996/97 where over 11,000 tons were available and again 1999/00 where some 8.3 thousand tones were purchased. The lowest purchases were in 1998/99 where only some 51.5 tons here purchased against the expected 502 tons or only 8.3% of the estimates. The years with high purchases had also some good actual purchases against the estimates. The actual purchases were between 79 and 92% of the estimates (See also figure 3). The nominal prices per ton or kg have also been increasing over time. The price had increased by over 300% between 1990/91 and 1999/00 or about 30% per year (Table 10).

Table10: Purchases of Cloves 1990/01 – 1999/00

Year	Estimate of Purchase In tons	Actual Purchase Tons	Actual as % of estimate	Value (Tshs)	Tshs/Ton	Tshs/kg
1990/91	6,728.00	1,695.05	25.19	231,507,082.00	136,578.32	136.58
1991/92	17,392.00	16,051.83	92.29	2,481,760,375.00	154,609.23	154.61
1992/93	2,000.00	1,758.35	87.92	287,974,330.00	163,775.78	163.78
1993/94	2,378.00	1,772.64	74.54	281,670,352.00	158,899.15	158.90
1994/95	5,762.00	5,344.06	92.75	975,000,810.00	182,445.61	182.45
1995/96	1,390.00	1,072.84	77.18	242,588,345.00	226,117.71	226.12
1996/97	14,333.00	11,368.21	79.31	3,292,381,100.00	289,613.02	289.61
1997/98	893.00	651.36	72.94	188,153,935.00	288,861.87	288.86
1998/99	502.00	41.46	8.26	11,646,155.00	280,900.99	280.90
1999/00	13,479.00	8,291.16	61.51	4,659,126,085.00	561,938.79	561.94
Average	6,485.70	4,804.70	67.19	1,265,180,856.90	244,374.05	244.37

Source: ZSTC, 2002

Fig. 3: Actual Clove Purchases



Source: Worked from Table 10

2.3.2 Exports and Export Earnings

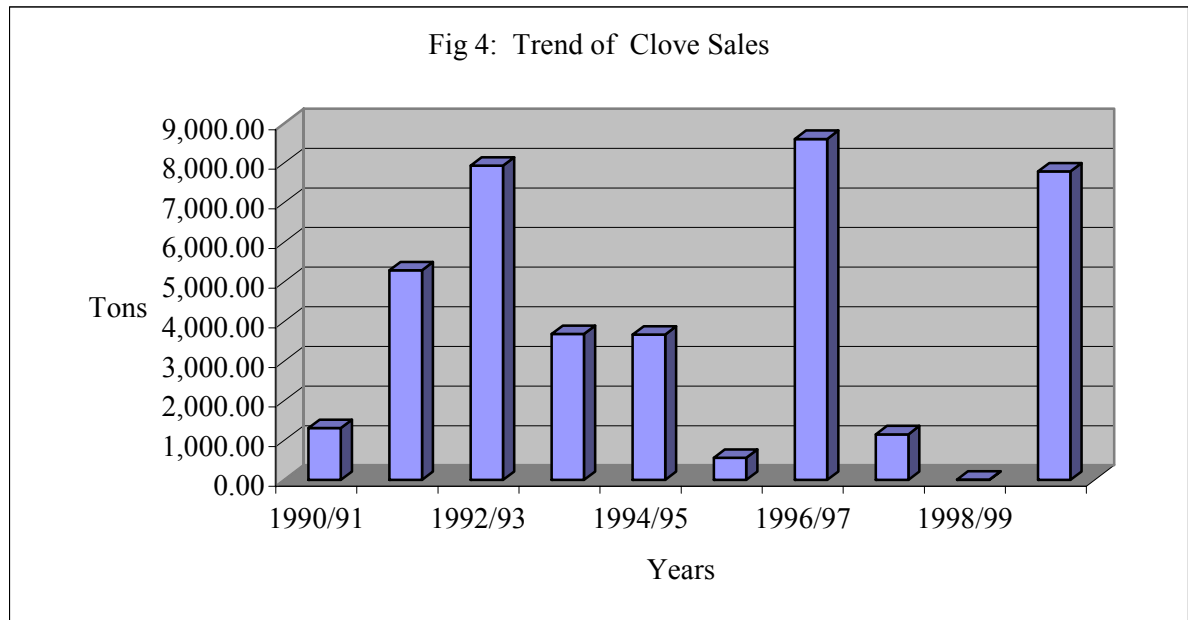
Just as in production, the sales trend of cloves depicts the same cyclical nature of the clove crop. Bumper sales are after every 3-4 years. In 1992/93 there was a high sale of 7,931 tons, followed by another bumper sale of 8,605 tons in 1996/97 and another high sale of 7,788 in 1990/2000 (Table 11 and Fig. 4).

The lowest sales occurred in 1998/99 with only 12 tons, followed by 560 tons in 1995/96. The ten year period gives an average of 4000 tons per annum that gave an average value of Tshs 2,912,608,571 or 2.9 billion shillings. The highest value was in 1999/2000 with about Tshs 18.9 billion and a unit cost of Tshs 2421 per kg. Overall there has been an increase in nominal prices with an average rate of increase of 46% per annum.

Table 11: Sales of Cloves (1990/91 – 1999/00)

Year	Tons	% Change	Value (Tsh)	% Change	Tshs/ton	% Change	Tshs/Kg	% Change
1990/91	1,310.00	-	457,824,931.95	-	349,484.68	-	349.48	-
1991/92	5,291.55	303.9	1,667,379,584.05	264.2	315,102.30	-9.8	315.10	-9.8
1992/93	7,931.00	49.9	1,602,338,831.95	-3.9	202,034.91	-35.9	202.03	-35.9
1993/94	3,682.15	-53.6	1,066,195,598.35	-33.5	289,557.89	43.3	289.56	43.3
1994/95	3,670.50	-0.3	1,634,880,132.80	53.3	445,410.74	53.8	445.41	53.8
1995/96	560.04	-84.7	283,624,641.15	-82.7	506,436.40	13.7	506.44	13.7
1996/97	8,605.70	1436.6	2,917,432,273.57	928.6	339,011.62	-33.1	339.01	-33.1
1997/98	1,153.00	-86.6	630,555,306.62	-78.4	546,882.31	61.3	546.88	61.3
1998/99	12.00	-99.0	6,983,119.00	-98.9	581,926.58	6.4	581.93	6.4
1999/00	7,788.00	64800.0	18,858,871,299.50	269963.72	2,421,529.44	316.1	2421.53	316.1
Average	4,000.39	7,362.92	2,912,608,571.89	30,101.40	599,737.69	46.21	599.74	46.21

Source: ZSTC, 2002, Zanzibar



Source: Worked from Table 11.

Clove exports generate export earnings not only to the government of Zanzibar but also to ZSTC and to clove farmers. In analysing clove exports, the product has to be taken into its broadest sense to include its component parts that are cloves, clove oil, clove bud's oil and other related products. Clove exports and by implication earnings from cloves have, to a large extent been influenced by prices of cloves in world markets.

2.3.3 Determinants of Clove Exports and Export Earnings

(a) World Market Price Trends

The most important influencing factor in clove exports and earnings therefrom is the prices of cloves in world markets which have fluctuated violently during the 1980-2001 period. According to various Bank of Tanzania Reports (2000,2001 etc) and ZSTC (2002) during the 1990/91 crop season for instance, the fob price of a ton of clove was valued at US \$ 1800 but declined by more than 60 per cent to just US \$ 700 per ton during the following 1991/92 season and further to between US \$ 600 and US \$ 700 in the 1992/93 season. Between 1993/94 and 1998/99 the average fob price of a ton of cloves exported from Zanzibar averaged between US \$ 700 and US \$ 1000. There was a significant upward trend in the prices of cloves in the world market during the 1999/2000 and 2000/2001 periods whereby on average, a ton of cloves exported from Zanzibar fetched between US \$ 3,000 and US \$ 5500. World market prices for cloves peaked at between US \$ 5000 and US \$ 5500 during the 2000/2001 partly due to political and social unrest in Indonesia, which is the world's leading clove producer. By 2001/2002 crop season, world market prices for cloves had declined to between US \$ 2,000 and US \$ 3000.

The wide fluctuations in the price of cloves in world markets have profound effects on the economy of Zanzibar if one appreciates that clove earnings form one of the largest share of government's revenue and that farmers incomes are mainly dependent on this crop.

(b) The Nature of the Clove Market

The somehow restricted nature of the clove market has an influence on the fluctuation in clove prices in world markets. This is because, although there is a considerable number of clove producers world wide (they include Indonesia, Madagascar, the Comoros, Malaysia, Brazil, Zanzibar and other countries producing comparatively less clove quantities) there is only a handful of clove buyers located in the Far East (mainly Indonesia). Other buyers are in the Netherlands and Middle East. This tends to suggest that the clove market is, in the strict sense of the word, not a free market as few buyers are able to influence and determine both the clove price and the quantities of clove to be purchased. In this sense, exports and the export earnings from cloves are not determined by the operations of market forces. Instead, the clove market is to being monopsonic, in which few buyers tend to influence the quantity and price of cloves.

The law in Zanzibar is such that the monopoly of marketing cloves rests with the ZSTC. ZSTC has carried the activities of clove marketing since 1966. Like any other state-owned enterprise, its profits are owned by the government.

(c) *Un-recorded Clove Exports*

It is very difficult to get the exact measure of both the value and volume of un-recorded (referred to also as smuggled, illegal, under-the-counter or unofficial) clove exports due mainly to the nature of the business itself. It is illegal and carries with it high risks including that of being caught by government officials and hence possibilities of serving jail terms and loss of expected profits.

Likewise the secret (obscure) nature of the illegal export of cloves makes it difficult to understand the *modus operandi* including aspects like who are the players, the routes, the markets, the profits and other facilities used. The inquiry into this phenomenon merits a complete separate study of its own.

What is known almost for certain is that illegal clove exporters are motivated by clove price indicators in the world market and hence the motive to generate profits from this (illegal) business especially during periods of rising prices in world markets.

Illegal clove exporters begin by comparing producer prices set by ZSTC with those perceived to be obtained at world market and at neighbouring markets. The interviews carried out by this study have revealed that it is difficult for authorities to contain illegal clove exports because of geographical, price and other factors. It was estimated that about 5 per cent of clove production is smuggled to nearby markets for better prices. Since the nearby markets are buying the smuggled cloves using prices, which are close to CIF prices, this is a big incentive for the clove dealers to risk smuggling the cloves out of Zanzibar. By contrast ZSTC is not prepared to offer near CIF prices. That is why smuggling will only cease when the price offered in the nearby markets either is the same or lower than the local producer prices. The nature of the clove market described above implies that some of the key information is not perfect and hence illegal clove exporters could sometimes have imperfect price information about world market for cloves. If the difference is not significant, there is no motive for them to export the crop illegally.

In the literature (see for example Tanzi, 1989, Bagachwa and Mjema 1990) two main techniques of estimating un-recorded exports have been identified. The first (see for example Tanzi, 1989) estimates the volume and value of un-recorded exports from the value of illegal exports seized by customs officials and other government agencies. This technique assumes that given the nature of illegal exports the merchandise seized represents from 5 up to 10 per cent of the actual illegal export business taking place.

According to this technique the volume of merchandise of between 90 to 95 per cent is actually exported un-detected by customs officials. Although not specific on the actual volume and value of illegal exports, ZSTC officials have acknowledged that in Zanzibar there have been years (including the 2000/2001 season) where the unofficial clove exports have been significant.

The second technique of estimating un-official clove exports is to compare actual clove production and the volume of cloves purchased and hence exported by ZSTC and a certain amount of cloves that was utilized locally for domestic uses according to the following formular:

$$\text{Total Clove Production} = \begin{array}{l} \text{Total Clove} \\ \text{Exported} \\ \text{By ZSTC} \end{array} + \begin{array}{l} \text{Clove Used} \\ \text{Domestically} \end{array}$$

Since data on total clove production, clove purchased and exported by ZSTC are known, and to some extent, the local consumption of cloves is fairly known, this residual technique should result into a rough estimation of cloves that are exported illegally. As noted earlier such an exercise requires resources (time and finance) and is not the focus of the current exercise.

Another thing that is known for certain is that smuggling of cloves has a profound and negative impact on the Zanzibar economy. The direct and indirect effects of clove smuggling include:

- (i) diversion (leakage) of potential revenue away from the government
- (ii) concentration of income to few clove smugglers and thereby worsening the income distribution indicators of the country
- (iii) exploitation of the clove farmers who do not get a fair share of the clove price sold by smugglers
- (iv) consequent to (i) above the government's capacity to undertake development projects is severely impaired.

Discussions with various stakeholders in Zanzibar tend to suggest that due to low prices of cloves in the world market there is a significant reduction in clove smuggling activities from Zanzibar. This re-emphasizes the point made earlier, that is, clove smuggling is mainly motivated by price differentials.

2.4 Impact of Clove Exports

2.4.1 On Government Revenue

The marketing of cloves by ZSTC contributes a large share to Zanzibar's total export earnings as indicated in Table 12.

Table 12: Share of Cloves in Total Merchandize Exports from Zanzibar, 1980-2001

Year	Recorded Earnings from cloves (Tsh.Mill)	Total Export Earnings (Tsh.Mill)	Earnings from cloves as % Total Export Earnings (%)
1980	497	559.6	88.81
1981	657	691.1	95.07
1982	507	643.8	78.75
1983	92	185.4	49.62
1984	229	278.9	82.11
1985	565	568.7	99.35
1986	349	512.5	68.10
1987	547	822.4	66.51
1988	863	1,500.80	57.50
1989	1,450	2,838.10	51.09
1990	3,854	5,504.50	70.02
1991	458	759.8	60.28
1992	1,667	2053	81.20
1993	1,602	2,222.10	72.09
1994	1,066	2,073.80	51.40
1995	1,635	2,935.30	55.70
1996	284	6,459.00	4.40
1997	3,167	5,621.40	56.34
1998	631	23,317.90	2.71
1999	7	6,517.40	0.11
2000	17,712	12,452.00	142.24
2001	820	14,140.00	5.80
Average	1757.227	4211.70	60.87

Note: *Clove exports refer to crop season

Source: (1) Tanzania Revenue Authority, Zanzibar

(2) Zanzibar Statistical data Base, 1980-2001

In 1980 for example out of Zanzibar's total export earnings of Tsh. 559.6m, earnings generated from exporting cloves amounted to Tsh 497 m or equivalent to 88 per cent. The following year (1981) this share increased to about 95 per cent. Notice however that since the economy is heavily dependent on clove exports, whenever there is a low-turn in clove export earnings (see for example in 1983 and 1999 in Table 12 and Appendix 4) the Zanzibar foreign reserve (economy) has been hard hit.

2.4.2 On Clove Farmer's Income

Most of the clove farmer's income in Zanzibar is generated from growing and selling of cloves and clove related products. The share of farmer's income originating from other cash and food crops (including copra, and seaweed) is relatively smaller compared to the income generated from the selling of cloves.

The level of farmer's income is a function of various variables ranging from world market prices for cloves, volume and quality of cloves produced, clove producer prices, activities of private (and illegal) dealers, performance and operating costs of ZSTC, weather to the production costs incurred during harvesting and marketing of cloves. During low world market prices, farmers' incomes are stabilizing using part of the profit retained by ZSTC. As a state owned enterprise, ZSTC too contributes part of the profit to the government revenue. Table 13 shows that producer prices for almost all cash crops (including cloves) have significantly increased since 1991. This is also reflected in the indices which are shown on Table 14. Starting in 1991 and for almost three years consecutively up to 1993 producer prices for cloves almost remained stagnant. Since 1994 however, there has been a consistent increase in the producer prices for cloves. In comparison to 1991, clove prices were almost 14 times higher in year 2001.

Table 13: Trends in Producer Prices for Cash Crops 1980-2001 (Tsh/Ton)

Year	Cloves	Copra	Chillies	Clove Stem	Seaweed
1980	13,434	2,748	8800	1000	45,000
1981	14,939	2,750	8,800	1,000	45,000
1982	17,724	8,000	8,800	1,000	45,000
1983	18,408	8,000	8,800	1,750	45,000
1984	18,727	8,000	13,000	1,750	45,000
1985	23,820	8,000	13,000	1,750	50,000
1986	22,059	8,656	13,000	1,750	50,000
1987	69,713	8,833	27,563	4,000	50,000
1988	70,054	11,012	120,000	4,000	50,000
1989	93,442	22,693	120,000	4,000	50,000
1990	91,941	39,498	120,000	4,000	60,000
1991	136,873	40,000	120,000	4,000	60,000
1992	154,622	50,000	320,000	6,000	60,000
1993	163,823	80,000	450,000	6,000	60,000
1994	158,399	100,000	450,000	10,000	60,000
1995	178,705	130,000	600,000	25,000	75,000
1996	226,468	160,000	600,000	25,000	90,000
1997	289,855	200,000	600,000	25,000	90,000
1998	278,034	200,000	650,000	25,000	70,000
1999	292,683	200,000	650,000	25,000	60,000
2000	561,935	200,000	650,000	25,000	60,000
2001	-	200,000	650,000	25,000	60,000

Source: (1) Ministry of Agriculture, Livestock and Natural Resources
(2) Zanzibar State Trading Corporation (ZSTC)

Table 14: Producer Price Indices for Major Cash Crops in Zanzibar: 1980-2001 (1991=100)

Year	Cloves	Copra	Chillies	Clove Stem	Seaweed
1980	9.81	6.87	7.33	25.00	75.00
1981	10.91	6.88	7.33	25.00	75.00
1982	12.95	20.00	7.33	25.00	75.00
1983	13.45	20.00	7.33	43.75	75.00
1984	13.68	20.00	10.83	43.75	75.00
1985	17.40	20.00	10.83	43.75	83.33
1986	16.12	21.64	10.83	43.75	83.33
1987	50.93	22.08	22.97	100.00	83.33
1988	51.18	27.53	100.00	100.00	83.33
1989	68.27	56.73	100.00	100.00	83.33
1990	67.17	98.75	100.00	100.00	100.00
1991	100.00	100.00	100.00	100.00	100.00
1992	112.97	125.00	266.67	150.00	100.00
1993	119.69	200.00	375.00	150.00	100.00
1994	115.73	250.00	375.00	250.00	100.00
1995	130.56	325.00	500.00	625.00	125.00
1996	165.46	400.00	500.00	625.00	150.00
1997	211.77	500.00	500.00	625.00	150.00
1998	203.13	500.00	541.67	625.00	116.67
1999	213.84	500.00	541.67	625.00	100.00
2000	410.55	500.00	541.67	625.00	100.00
2001	-	500.00	541.67	625.00	100.00

Source: (1) Tanzania Revenue Authority, Zanzibar
(2) Zanzibar Statistical data Base, 1980-2001

The positive price effect (indicated by increasing producer prices for major cash crops and the actual increasing trends in producer prices of major cash crops cited in Table 13) have been crowded-out (overshadowed) by the negative output effect (shown by the declining production indices of major cash crops). Clove farmers would have benefited most in situations of (i) rising clove prices in world markets (ii) increasing producer prices and (iii) increasing cash crop (including clove) production indices.

For cloves unlike producer prices which have, in general terms shown a persistent increase, there has been a downward performance in terms of trends in real (US \$/ton) prices of cloves from Zanzibar during the 1980-2001 period as shown in Table 14 below.

The nominal producer prices in Tshs/ton indicate an annual average increase of slightly more than 30% while the real producer prices in US \$/ton show an average annual increase of only about 3%. This positive increase has been caused by the drastic increase

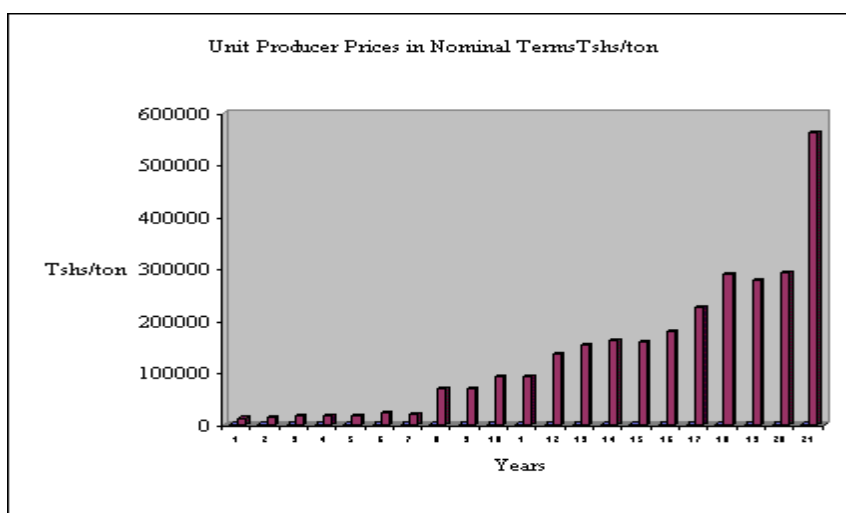
in the past 3 to 4 years. Both nominal and real producer prices trends are given in Fig. 5 and 6.

Table 15: Earnings from Cloves: *Recorded Exports* (Tsh. Mill.)

Year	Exchange Rate		% Change	% Change	
	Shs/Ton	Tshs/Ton		US \$/Ton	
1980	13,434	8.197	-	1,638.89	-
1981	14,939	8.284	1.06	1,803.36	10.04
1982	17,724	9.520	14.92	1,861.76	3.24
1983	18,408	12.460	30.88	1,477.37	-20.65
1984	18,727	18.110	45.35	1,034.07	-30.01
1985	23,820	16.500	-8.89	1,443.64	39.61
1986	22,059	51.700	213.33	426.67	-70.44
1987	69,713	83.700	61.90	832.89	95.21
1988	70,054	125.000	49.34	560.43	-32.71
1989	93,442	192.300	53.84	485.92	-13.30
1990	91,941	196.600	2.24	467.66	-3.76
1991	136,873	233.900	18.97	585.18	25.13
1992	154,622	335.000	43.22	461.56	-21.13
1993	163,823	461.310	37.70	355.13	-23.06
1994	158,399	536.500	16.30	295.25	-16.86
1995	178,705	591.700	10.29	302.02	2.29
1996	226,468	586.600	-0.86	386.07	27.83
1997	289,855	631.000	7.57	459.36	18.98
1998	278,034	654.100	3.66	425.06	-7.47
1999	292,683	746.100	14.07	392.28	-7.71
2000	561,935	807.700	8.26	695.72	77.35

Source: Office of Chief Government Statistician, Zanzibar

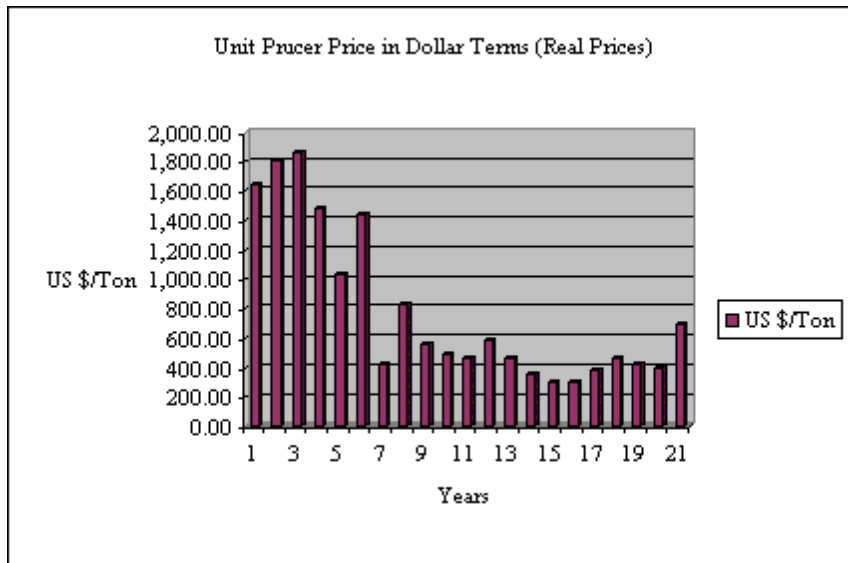
Figure 5: Unit Producer Prices in Nominal Terms (Tshs/ton)



Note: 1-21 refer to years 1980-2000

Source: Worked from Table 15

Fig.6: Unit Producer Price in Dollar Terms (Real Prices)



Note: 1-21 refer to years 1980-2000
Source: Worked from Table 15

Having analysed trends in clove exports and earnings therefrom, a stage has now been set for an analysis of factors inhibiting the development of the clove industry in Zanzibar.

Chapter Three

Factors Inhibiting the Development of the Clove Industry

3.1 Introduction

Until such a time alternative export crops are developed, cloves will continue to be Zanzibar's major foreign exchange earner for the foreseeable future. Despite this recognition by stakeholders, there are a number of problems facing this industry which is the "backbone" of the Zanzibar economy. We can classify the problems as production related, harvesting related, processing related and marketing related problems.

3.2 Problems affecting the Clove Industry

3.2.1 Production Related Problems

Clove production has been declining both in output and value. Yields appear to be uneven from year to year. Clove output is influenced by a number of factors which are delineated below:-

(i) *The first is the type of soil where the plantation exists*

In Unguja, clove trees grow best on the deep 'kidongo' soils but are widely grown on the redish 'mchanga' soils. In Pemba clove trees are mostly grown on "bopwe", utasi" and "semi-utasi" soils. Pemba has the advantage of a much larger area that is suitable in all types of land and hence has a wider spread of the plant.

It is imperative that low yields that are experienced in most areas are caused by clove planting that had been extended to marginal areas having soil types that are not particularly suited to cloves and have taken the place of other crops that are comparatively more advantaged. It would seem that when prices became attractive and the population increased areas that were amenable to clove production, these areas were there then exhausted and most cloves are now planted in areas outside those suitable for the crop in the two islands.

(iii) *Age of the Trees*

This is another factor that influences the yield of clove trees. A clove tree census carried out in 1987 revealed that in Unguja about 37.3 per cent of the trees were less than 10 years old. In Pemba, 5.4 per cent of the trees were less than 10 years old. Higher yields are recorded for trees in terms of tree numbers. Pemba had clove trees close to five times those in Unguja. The disadvantage that Pemba has is that its trees are old, most of them in the 25-50 age class, as Table 16 verifies.

Table 16: Age Class of Clove trees in Zanzibar in 1987

	0-10 Years	10-24 Years	25-50 Years	>50 Years
Unguja (%)	37.3	7.8	48.2	6.7
Pemba (%)	5.4	8.8	73.9	11.9

Source: Ministry of Agriculture, Zanzibar

We have no information on a more recent census, but given the trends in replanting, it is likely that the distribution has been worsening over the years, with older trees dominating.

The low yield observed todate is therefore attributed to the old age of a large proportion of plants and the fact that replanting does not seem to have proceeded quickly enough to increase the proportion of young trees. This has been coupled by poor husbandry practices. The yield performance in relation to tree age is clearly shown in Table 17 below.

Table 17: Clove yields by age and Crop Year

Tree Age	Yield (Kg/tree) Normal Crop year	Yield (kg/tree) Heavy crop year	Range of Yield (kg/tree) (Heavy crop)
8	0.7	1.7	0-5.7
18	1.5	5.7	2.3-9.8
23	5.4	13.5	2.5-26.1
35	13.0	28.4	17.8-41.4
60	3.0	9.8	4.5-15.5
60	5.5	16.6	11.2-22.4

Source: Ministry of Agriculture

(iii) Weather Conditions

from age, bumper crops are dependent on the correct weather conditions but with two bumper years never occurring consecutively. For example the two crop years 1986/87 and 1987/88, had yield dropping by 75% in Micheweni and Wete, 90% in Chakechake and 80% in Mkoani (Table 18).

Table 18: Variation in Clove yields by Season

District	Yield per tree in Kg		% Decline
	1986/87	1987/88	
Micheweni	3.6	0.9	75
Wete	3.5	0.7	80
Chakechake	6.4	0.7	90
Mkoani	4.2	0.9	80

Source: GOZ (1994)

(iv) Poor Harvesting Technology

The young trees, despite being a small proportion of the clove plantations are seriously damaged during harvesting, because of poor harvesting technology. The harvesting by climbing is mostly practiced by pickers and in the process branch breakdowns are very common. This situation reduces the subsequent yield and makes the trees susceptible to diseases. Normally it takes about two good years for the broken branches and trees to fully rejuvenate or recover to be able to regain the full production.

(v) Failure to use Fertilizer

Clove trees are like other plants, responsive to fertilizers. Trials have shown that sulphate of ammonia is important for increasing clove yields, improving canopy structure and bringing forward the age of bearing. Fertilizer use is not common in Zanzibar. Although fertilizer costs money, farmers must be made aware of the positive effects of applying fertilizer. It should, however, be made clear to them that it is only worth applying fertilizer when its cost is more than covered by increased clove yields and by increased tree health.

(iv) Neglect of Cloves due to Politically Motivated Causes

Another reason which explains the low clove production is “political”. Because of strained relations between the opposition and the government, farmers are sometimes deliberately lured to neglect cloves in favour of other crops which were presumed to be money makers, hence earning better prices. As a consequence of this false presumption, some farmers cut down clove trees (and used them for charcoal and as construction materials) and others abandoned their farms leaving them to grow into forests.

3.2.2 Harvesting Related Problems

Problems related to harvesting of cloves are as old as the introduction of the product in Zanzibar. Tidbury (1949) listed a number of problems encountered by farmers and pickers in harvesting cloves. Among the pertinent ones are:-

(i) *The Size of the Clove Tree*

The size of the clove tree stem measures as high as 15 metres high. The method of picking cloves from such a tree involves climbing which poses a great danger to pickers. Picking by climbing involves extensive damage to trees especially the branches. It takes about two years for the broken branches and trees to regain full production.

Even if the trees are not that high, it is difficult to reach the bud located at the terminal part of the branch.

(ii) *Availability of Labour*

Clove picking in the island is mainly labour intensive. Recently, there has been a problem of unavailability of clove pickers. It was alleged during the interviews that most of the labour force for harvesting cloves in Pemba, for instance, used to come mainly from Unguja and to some extent Mainland Tanzania. Due to unfavourable political environment an irregular availability of labour evolved during the clove harvesting season. As a result, harvesters were either very few or arrived late when the cloves buds had overripped and fallen down. Further, it is on record that child labour is on the increase in the Isles especially during the clove picking season.

(iii) *Poor Harvesting Technology*

Zanzibar has not been able to benefit from technology advancement linked to clove picking. Under this existing crop developments, clove harvesting technology could be improved by pruning, dwarfing, chemical growth regulators and chemical harvesting. Pruning results in trees being less vigorous, with more horizontal growth and therefore easy to harvest.

(iv) *Inadequate Research on Cloves*

Extension research on cloves is unknown in Zanzibar. It has therefore not supplied the clove grower with anything close to genetically dwarf, clonal clove trees that would ease harvesting. Chemical growth regulators have a remote chance to be applied in Zanzibar due to the loss involved. Although an experiment in Unguja showed positive results, the expenses involved in the technology do not prove to be affordable by the majority of farmers. Chemical harvesting is widely used in Indonesia. However, its application in Unguja did not prove effective because of poor penetration in the trees, inability to separate buds at different stages of development and the need for a dry falling place imposes high costs on matting or sheeting.

(v) *Harvesting Costs*

Harvesting, involves costs to the farmer which are exorbitant. The costs include transport of pickers, food supplies, harvesting supplies, etc. In the absence of credit facilities many

farmers cannot meet the harvesting costs. And, in the absence of alternative methods to harvesting climbing is here to stay. Unfortunately, it is children who are most favoured for their advantage of weight, when young trees are concerned. This conflicts with child labour laws and may have a negative effect on school attendance when the picking season coincides with school terms. To minimize these negative effects, it is imperative that the local ladders made from mid-ribs of the raffia palm will have to continue to dominate. What is needed is improvement in the material used so that they are stronger to avoid damage to the clove tree and minimize risks to the picker.

3.2.3 Processing Related Problems

To date, Zanzibar mostly exports the most important clove product, *the unopened flower bud*. This is widely used as a whole or in ground form for culinary purposes and in the manufacture of sauces and pickles. The mixing with tobacco to prepare clove cigarettes has been the major use, and Indonesia as, pointed out earlier has the largest clove cigarette industry. Apart from the flower, oils can also be distilled from stems and leaves, the phenol eugenol being the main component of the various oils.

Phenol eugenol is used mainly by the perfumery and pharmaceutical industries. Zanzibar thus could manage to exploit this market by processing the stem and leaves and supply the perfumery and pharmaceutical industries. Zanzibar had the first stem oil industry and was the only supplier the world over, only to be joined by Madagascar. The market share has shrunk over time and Madagascar is on the upper hand.

The distillery in Pemba should solve problems of: *management, poor market strategy of the products and foreign exchange availability for purchase of spare parts and other supplies*. This would certainly bring Zanzibar back to a significant world supplier while increasing the local market for cloves and its different forms.

The range of uses that can be made from different clove forms, whole or ground cloves and Oleoresin, indicates that if processing is promoted, Zanzibar has a high potential of increasing local consumption of cloves and hence minimize fluctuations of foreign exchange earnings and farmer's income caused by world market price changes. Table 7 summarizes the wide range of uses that cloves in different forms can be made of.

3.2.4 Marketing Related Problems

The major problems related to clove marketing are briefly presented below:-

(i) Over Supply of Cloves

Indonesia was initially the main consumer of cloves with a requirement of over 50,000 tonnes per annum during the 1980s. It was envisaged that its demand would rise to 80,000 tonnes by mid 1980s. Outside Indonesia, the market for cloves does not exceed 12,000 tones. It was projected long ago that Indonesia would reduce its imports as local as production was on the increase. This became true by 1989, when local clove supply in

Indonesia sharply increased leading to a fall in world market prices from \$ 8,000 per tone in the early 1980's to less than \$ 2000 per tone. By 2002, a tone of cloves fetched \$ 1,200.

At the same time, as Indonesia's volume of clove production increased, Madagascar's production increased and Brazil emerged as another aggressive new exporter.

(i) *Decline in Clove Quality*

Although Zanzibar initially had the advantage of exporting higher quality cloves compared to Madagascar, that advantage was lost as quality declined resulting from disincentives brought about by low producer prices and poor quality control.

(ii) *High Operational Costs at ZSTC*

After the abolition of the CGA in 1966, the Zanzibar State Trading Cooperation was created to take its place and, has since then become the sole marketing agent for cloves. While ZSTC has contributed up to 50 per cent of the profits earned from cloves to the government it faces a number of operational constraints like.

- a. *over employment* – There are currently some 374 employees. Officials in ZSTC admit that they could do with only 174 employees. This suggests that some 200 employees could still be retrenched without constraining its operation
- b. the company has an “*over-supply*” of vehicles relative to the available crop. The current fleet of vehicles is meant to deal with bumper harvests. Moreover, since private transport is available this activity could be privatized
- c. ZSTC has opened up many (over 42 buying posts) when actually a few posts could have been sufficient to conduct operations

Having analysed the marketing related problems we now proceed to look at the new agricultural policy and its impact on clove industry in Zanzibar.

Chapter Four

The Evolution of Agricultural Policies in Zanzibar

4.0 Introduction

This chapter discusses the newly introduced (2000) agricultural policy in a historical perspective. The emphasis is on policies concerned with the clove industry but other issues concerning agricultural policy as a whole are also discussed to provide the overall policy context. The colonial period is briefly discussed first, followed by the post-revolution era before the new agricultural policy is discussed.

4.1 Pre-Reform Agricultural Policy

4.1.1 Colonial Economic Policy

As noted earlier the colonization of Zanzibar started in earnest when the Oman Arabs defeated the Portuguese and subsequently moved their capital to Zanzibar. Under the Arabs, Zanzibar became the center of the slave and ivory trade on the East African coast. Apart from taking part in the trade himself, the Sultan collected taxes from other traders. A Customs Department was started to collect imports taxes from the flourishing imports from many parts of the world.

Meanwhile the African continent was being divided up among European nations. In order to save his empire, the Sultan agreed to place himself under British protection but this did not help him to maintain the Mainland strip that he had brought under his control. The British gradually forced the Sultan off the slave trade. Agriculture, particularly cloves, and import trade became the new source of wealth for Zanzibar. Government revenue also depended heavily on these two items.

The status of Zanzibar as a protectorate eventually changed to that of a mere colony. The Sultan and his aristocracy administered the country on behalf of the British but real power lay in the hands of the British Resident and his small team of officials in Zanzibar and the Colonial Office in London. Nevertheless, as long as Britain's own interests were not compromised, the British tried to protect the people they went to protect in Zanzibar – the Sultan and the Arabs. And as far as the clove industry was concerned this meant protecting the Arab plantation owners.

This “*protections*” or favoritism was extended to the Arabs by allowing them to expropriate large tracts of land for their clove plantations under the pretence that this was forest unused land. But under shifting cultivation the indigenous people practiced a community's land which included some forest land where the community got fuel from, hunted and cultivated as they moved from one parcel of land to another. This land could also be given to guests temporarily. The many fraudulent

means the Arabs used in getting this land and owning it under free leasehold were simply connived at by the British as part of this “*protection*”.

The abolition of slavery caused a shortage of labour in the plantations. The British ensured that freed slaves worked for their former “masters” through a contract system. As there was a general shortage of labour and wage rates were on the increase, the British usually intervened to try to limit a rapid rise in the wage rate.

In the industry there developed a specialization of labour with the Arabs producing the cloves on the plantations and the Indians providing credit for working capital and carrying out the internal and external marketing of the crop. The Arabs had to mortgage part of their estates. They became highly indebted to the Indians and began to lose their property to the Indians. The British Government tried to devise schemes to reduce further indebtedness through *bonus* schemes to those only marketing through the government sponsored Clove Growers Association (CGA) and even attempted to give full monopsony for clove buying. The Indian Association in Zanzibar supported by the Nehru Government in India torpedoed that move by successfully imposing a ban on exports of Zanzibar cloves to India and the Indians won.

The CGA also negotiated on behalf of the growers association on the level of the export tax rate to be charged on cloves. The organization also traded in cloves so as to ensure there was some kind of floor price below which producer prices did not fall (CGA: 1951-52). Indeed there were times when CGA was able to pass on close to 70 per cent of the export price to farmers.

The concentration on cloves in agriculture led to the neglect of the production of food crops including rice and the resulting dependency on food imports.

The importance of cloves as a source of export earnings is shown in Table 19.

Table 19: Structure of Exports by Value 1931-80 (Selected Years)

(1) Year	(2) Total Exports US \$1,000	(3) Cloves and Clove Stem Oil (Percent)	(4) Cloves, Coconuts and Their Derivatives (Per cent)
1931	9,232	82	98
1946	8,689	73	85
1953	22,070	85	98
1958	14,179	69	98
1963	14,370	74	97
1967	15,588	84	97
1977	29,812	96	99
1978	13,597	67	96
1979	31,964	92	100
1980	77,484	80	90

Source: Zanzibar and the World Clove Economy: A Study in Economic Development Strategy by M.A. Dedes Thesis, University of Vanderbilt University August 1984.

Table 20 shows the structure of imports which shows the dominance of food on the import bill, a reflection of the neglect of food production and food production policy.

Table 20: Structure of Imports by Value, 1954-1980* (Annual Averages)

(1) Years	(2) Total Imports \$ (1,000)	(3) Food (per cent)	(4) Other Consumer Goods (per cent)	(5) Raw Materials Intermediate Goods (per cent)	(6) Capital Goods (per cent)	(7) Not Specified (per cent)
1954-56	5,724	40.82	10.56	33.37	10.74	4.51
1957-59	5,665	37.02	13.17	36.21	9.01	4.59
1960-62	5,328	33.45	14.84	37.11	12.15	2.44
1963-65	4,405	39.07	17.10	35.03	7.87	0.94
1967	1,615	45.94	12.02	27.31	13.00	1.73
1975-77	30,269	33.08	0.16	19.48	14.70	32.59
1978-80	44,931	31.87	1.11	29.11	25.88	12.02

Sources: 1954-67: UN Yearbook of International Trade Statistics (various issues)
 1975-76: Zanzibar: Statistical Bulletin Vol. 11, 1980
 1977:80: Zanzibar: Statistical Abstract Vol. 11, 1982
 *No adequate data is available for 1966; and none at all for 1968-74.

4.1.2 The Zanzibar Revolution

At the time of the Zanzibar Revolution in 1964, all executive and legislative power was vested in the Zanzibar Revolutionary Council (ZRC) led by its Chairman who was also the President and leader of the Revolutionary Government of Zanzibar (RGZ). Without an elaborate structure separating the Executive from the legislature, all government decisions were designed and implemented by the RGZ under the supervision of the ZRC. Government Policy was contained and issued in Decrees. One of the most important decrees made immediately after the revolution by the ZRC was the Land Redistribution Decree following an earlier decree that had nationalized all land. Some of this nationalized land was redistributed to the landless in 3 acre plots to be held on the basis of temporary rights subject to the holders upholding the conditions of the tenure. The two main conditions were that the land was not to be left idle and that the three acres remained intact to avoid further fragmentation. Under the decree, 66,000 acres were redistributed to people in both Unguja and Pemba during the period 1964-74.

The nationalization of land changed the pre-revolution land tenure system which earlier consisted of two sub-systems of land tenure:

- (a) plantations planted by Arabs but some later sold to Shirazi and Indians owned under a freehold land tenure system. This land could be inherited under Muslim Law. Squatters were often allowed to use some of the used land but never acquired any rights on the land however long they may

have stayed on the land. After the abolition of slavery, some of the freed slaves became squatters on their former “*masters’ land*”.

Some symbiotic relationship developed between the squatters and the landlords – the landless squatters “gained” land to cultivate food crops and in the process, helped in the weeding of the plantation crops like cloves.

- (b) indigenous settlements where the land tenure was a combination of Muslim and communal rules. The land here was used mainly for the cultivation of food crops.

The Land Nationalization Decree put all land under the ownership of the state and abolished the freehold land tenure system. This created considerable insecurity on the part of the land users including those who had land redistributed to them as they did not have any title to the land. After the development of a more participatory form of government and with the institution of the House of Representatives, a more elaborate form of policy making developed. It was possible to review some of the measures passed after the revolution. In the 80’s and 90’s the following legislative measures were undertaken in order to refine the land tenure system.

- (i) the Land Adjustment Act of 1989 which set up the administrative process for ascertaining land rights and empowered the adjudication officer to decide on land distribution issues
- (ii) the Land Surveys Act of 1989, which deals with the licensing and professional conduct of surveyors
- (iii) the Registered Land Act of 1989, which established the legal framework for registered land rights
- (iv) the Land Tenure Act Number 12 of 1992, which defined the law in relation to occupying, owning, or leasing land and owning or leasing trees and the boundaries of public and confiscated lands
- (v) the Land Tribunal Act of 1994, which created the special land tribunal (court) that handles land disputes, which deals only with minor legal technical problems, and whose decisions can be challenged in higher courts
- (vi) the Land Transfer Act of 1994, which sets up land transfer committees to adjudicate in cases involving land sales and long-term leases.

The other main policy decision apart from land tenure that affected agriculture in general and the clove industry in particular has to do with marketing and pricing policy. Following the revolution, trade was nationalized and two parastatals were created one to deal with imports (BIZANJE) and the other one with which this study is concerned was to deal with internal trade including the procurement of export crops from farmers. The Zanzibar State Trading Corporation (ZSTC) as the latter was called was given a monopoly over the marketing of the cloves from procurement to the exportation of the crop.

The other main policy issue during the early years after the revolution has to do with the policy towards agricultural development and growth and in particular the role of the

private sector *vis-à-vis* that of the public sector in the country's agricultural policy and strategy. The state was seen as the main source of this development and growth. Emphasis was put on mechanization and irrigation for the production of rice and sugar through state farms. Apart from state farms run by the Ministry of Agriculture, other government institutions like the Prisons Department and the National Service (JKU) also ran state farms. The sugar estate and sugar factory which produced sugar and spirits from sugarcane was also under the state.

The Tractor Repair Workshop was started in order to repair and maintain the machinery used by the state farms and also to hire the machinery to individuals. However the payment record for these hire services were very poor. Livestock activities were also started as part of the strategy for agricultural modernization through the state. The machinery hire services were highly subsidized and so were other agricultural services such as inputs, and replanting materials for cloves. As the state enterprises like state farms did not perform well, they had to be subsidized by the state. With a narrow tax base, the subsidies increasingly became unsustainable. Moreover, the subsidies were consuming quite a bit from the government development budget which due to the worsening fiscal situation of the ZRG were decreasing rapidly as is shown in Table 21.

Table 21: Trends in the provision of Subsidies to Agriculture

Fiscal year	Total available Development Budget (' 000 shillings)	Agricultural subsidies (' 000 shillings)	%
1994/95	1,051,392	40,489	3.9
1995/96	1,081,427	49,904	4.6
1996/97	627,000	32,860	5.2
1997/98	560,000	54,110	9.7
1998/99	503,000	31,867	6.3

Source: Country Economic Memorandum, Zanzibar Chapter (A Report for the World Bank) (mimeo, August 2001).

4.1.3 The 1984 Agricultural Policy

No comprehensive agricultural policy had been implemented by the RGZ until 1984 when the first one was launched. In short, the 1984 more or less reformulated the various decisions that had been made over the years since the 1964 revolution into a comprehensive agricultural policy. The role of the state in agricultural modernization through mechanization and irrigation development was emphasized. These services were be extended to the people through subsidized programmes.

The policy proposed 16 goals to be attained by the year 2000. Among the goals and objectives were the following:-

- (i) increase self-sufficiency in some of the food crops
- (ii) diversify to lessen dependency on cloves for export earnings

- (iii) meet requirements of raw materials for the agro-processing industries
- (iv) improve people's nutrition and combat malnutrition especially among children
- (v) seek the participation of the people in agricultural activities so as improve the economy and raise their income
- (vi) involve the youth in agricultural activities so that they can remain in rural areas instead of fleeing to the urban areas
- (vii) assist smallholder farmers to grow into big farmers by giving them credit, inputs and all essential agricultural services and to mobilize them to join agricultural cooperatives.

The 1984 evaluated the results of the land policy and proposed ways of improving the land tenure system to give more security to all those legally occupying land. These proposals were formulated into law through the Acts of the House of Representatives described above.

There were many detailed explanations on what was wrong in the sector and what should be done. However, the 1984 fell short on detailed strategies and programmes.

4.2. The New Agricultural Policy

4.2.1 The Government's Commitment

The RGZ completed a new agricultural policy in 2002 which it produced with the help from the Food and Agriculture Organisation (FAO). The Policy identifies the key issues, states the main objectives and what the policy strategy in each of the major policy areas identified. *The overall goal of the policy is to promote the sustainability of the agricultural sector for economic, social and environmental benefit of the people.* This general objective is elaborated into 13 specific objectives which seek to increase the sustainable quality and quantity of agricultural production and processing in the agricultural sector. *One of the specific objectives states that the privatization of agricultural parastatals was one of the ultimate goals of the RGZ. The government would gradually move away from directly carrying out production, processing and marketing activities in the agricultural sector.* The government noted that the rural sector was characterized by low output, low education on the part of farmers, lack of off farm income generating activities, poor infrastructure and unreliable marketing channels and poor agricultural technology. In the new policy the government committed itself to:-

- (i) intensify agricultural production through improved technologies
- (ii) promote income generating activities
- (iii) promote poverty alleviation activities by NGOs and CBOs,

4.2.2 Land Issues

Despite the improvements referred to above, land tenure was still problematic. The government's objective under the new policy is to provide secure tenure for all Zanzibaris involved in agricultural production. The issue is that the people are unaware of the Land Act No. 2 of 1992. Uncertainty was created by this ignorance of land laws

and regulations. Under the new policy an educational campaign will be launched to enable all those involved in agriculture to understand the relevant laws and procedures and the government will also hasten the pace of land registration. The main role of the agricultural ministry will be confined to *“public support function, policy implementation and management and promotion of an enabling environment for private sector in production, trade and investment. Farmers, fishermen and entrepreneurs will carry out all commercial activities”* (RGZ, 2000, p. 1).

4.2.3 The Policy Instruments

The new Agricultural Policy lays the following policy instruments that will be used in implementing the policy:-

- (i) enhanced management of agricultural research, extension and training
- (ii) closer monitoring and evaluation of agricultural development
- (iii) identification of new products, technologies, and promotion of new production processes
- (iv) promotion of private sector participation in agricultural commercial activities
- (v) regular reviews of the impact of agriculture policies
- (vi) quality control of agricultural inputs and products
- (vii) control of epidemic pests and disease
- (viii) providing an adequate legal and regulatory framework
- (ix) promotion and monitoring of farmers’ associations
- (x) improved management of natural resources
- (xi) promotion of institutional structures in the agricultural sector
- (xii) promotion of small-scale irrigation
- (xiii) policy management structures to articulate the sector’s priorities, translating larger policy decisions into sector specific actions, and monitoring the impact of policy reforms on agriculture

The second chapter of the Policy Document then details the policy issues along with their policy statements and strategies. The issues fall into five groups – the cross-cutting issues, issues related to the crop subsector, those relating to livestock, issues on fisheries and finally issues related to trade, marketing and prices.

4.2.4 Poverty Alleviation

The main objective of Vision 2020 is poverty alleviation and ultimately its virtual elimination. The factors hindering poverty alleviation especially among rural communities include low investment and low productivity in agriculture.

The constraints hampering the attainment of higher productivity in agriculture include the dependency on rain-fed agriculture, the prevalence of plant and animal diseases, high post-harvest losses, insufficient skilled manpower and inefficient credit and marketing systems. *The intention of the government is to transform Zanzibar’s agriculture from a subsistence sector into a modern commercial sector.*

4.2.5 Agricultural credit

There has not been any regular functioning agricultural credit system except for specific projects. Furthermore, people have tended to regard loans as grants from the government. Hence, even in project credit schemes repayment rates have been very poor. Moreover, the savings and credit associations have not established themselves firmly. Connected with the issue of credit is the issue of subsidies noted earlier. The government is now committed to commercialise the distribution of inputs and later to privatize them. To this end the government is committed:

- (vi) to promote the establishment of rural savings and credit associations
- (vii) to encourage the use of improved farming technologies, new high value agricultural products and improve marketing systems in order to improve the productivity of credit
- (viii) to provide a reliable and timely management information system for savings and credit associations in order to improve management capability
- (ix) to provide an enabling environment for the operation of a sustainable credit system
- (x) to encourage, through appropriate prudential guidelines and sound monetary policy, competition among banks and financial intermediaries in the provision of credit.

The strategies to be followed in order to achieve these commitments will include the following:-

- (i) facilitate the process of establishing credit systems, which will be responsive to the needs of all farmers and fishermen.
- (ii) continue to search for the best approach to credit delivery and recovery
- (iii) design a framework to develop savings and credit associations for rural smallholders
- (iv) formulate sound financial policies and legal procedures in order to enable savings and credit associations to function efficiently and effectively as private commercial entities.
- (v) guarantee loans provided to savings and credit associations.
- (vi) develop and promote technologies and farming systems that use organic materials and employ animal traction in order to reduce the use of high cost inputs
- (vii) set yield (productivity) targets and compare the resulting input-output ratios in determining what proportion of subsidies to be phased out
- (viii) annually review production and yields to assess the profit margin of smallholders as the basis for reducing subsidies.
- (ix) promote the availability of affordable credit along with strategies for phasing out subsidies.
- (x) encourage the formation of farmers associations in the marketing of agricultural inputs and products in order to minimize costs of inputs and maximize profit margins.

4.2.6 Agricultural Research, Training and Extension

These services are poorly staffed and deliver little benefit to the farmer. Under the new policy the government intends to improve the staffing of the institutions dealing with these activities in the Ministry. The government also intends to invite other stakeholders such as NGOs, CBOs and the private sector to participate in the running of these activities with the government retaining the key coordinating role. More effective research, training and extension in the sector will help to raise farmers' productivity and income.

4.2.7 Agricultural Marketing

In the section that deals with agricultural trade, marketing and prices, the RGZ states the general objective in the agricultural sector of wanting to improve market efficiency through expanding infrastructure and appropriate regulations in order to encourage private sector participation in agricultural production, processing and the provision of marketing services.

Agricultural marketing services are disorganized and uncoordinated, poorly served by infrastructure and riddled with cumbersome export procedures. Moreover, the markets are uncompetitive creating room for low producer prices but high consumer prices. In the new policy the RGZ intends to:

- (b) provide an enabling environment for private sector participation in the trade and marketing of all agricultural commodities
- (c) improve market infrastructure for both internal and external markets
- (d) streamline export procedures that will encourage and promote increased exports of agricultural commodities
- (e) formulate regulations and guidelines that will govern wholesale and retail markets for agricultural commodities.

The following strategies will be used:

- (a) regularly review the required inputs and farm implements for tax reduction in order to improve availability and timely distribution.
- (b) gradually reduce subsidies on fertilizers, chemicals and seeds to encourage private sector participation
- (c) liberalise markets for inputs and agricultural services.

The government intends to phase out subsidies on inputs to pave the way for eventual privatization of input procurement and distribution.

The new agricultural policy also took note of the poor state of market information and statistics. The RGZ intends to reorganize itself as to create a unit in the Ministry responsible for agriculture to deal with the collection, analysis of statistics and the dissemination of the results so as to improve the symmetry of information available to all

stakeholders and to enable the government to coordinate the agricultural sector in general and agricultural marketing in particular.

4.2.8 Agro-processing

The government intends to promote and strengthen private sector investment in agro-processing. The potential exists for the processing of fruits, spices, livestock and marine products. The government intends to use the following strategies to promote agro-processing activities:

- (a) establish an efficient mechanism for data collection and processing
- (b) strengthen market research
- (c) build capacity of staff responsible for data collection, analysis and dissemination of information
- (d) promote participation of the private sector in trade fairs for product promotion
- (e) join global networking for world market information.

4.2.9 The New Agricultural Policy and The Clove Industry

The RGZ realizes now more than ever before, the strategic importance of the clove industry to the Zanzibar Economy. The general issues presented above, are also expected to improve the performance of the clove industry. Thus, a more reassuring land tenure system will make farmers more willing to invest in the planting of new cloves and to be more forthcoming to avail themselves of commercial credit opportunities instead of waiting for free replanting material which they use wastefully knowing that they do not have to repay for planting on land on which they do not have clear tenure rights.

The New Policy deals with issues specifically related to cloves in addition to the cross-cutting issues discussed above. These specific issues relate to the following.

4.2.9.1 Fluctuating Output

While recognizing the cyclical nature of the crop, the RGZ recognizes that other factors affect these fluctuations. Weather factors have an impact on output levels. The insecurity of the land tenure system is another factor. More importantly, the improved delivery of research and extension services will go a long way in lessening the extent of downward fluctuations and will amplify upward increases of producer prices. The government therefore set itself the objective of stabilizing and increasing the yield of clove trees in order to earn more foreign exchange and to this end the RGZ intends to optimize the output and quality of cloves based on the following strategies:

- (v) prepare a clove development plan
- (vi) put more emphasis on clove development research in collaboration with clove growers
- (vii) promote the production and planting of clove seedlings through supportive incentive structures to the private sector
- (viii) provide technical support to clove growers in order to increase clove yields and quality.

4.2.9.2 Clove Marketing

According to the new agricultural policy, the government has set out two objectives:-

- (iv) to improve the performance and increase efficiency on clove trade and marketing
- (v) to increase the contribution of cloves to the national economy by improving exports of quality cloves

While the RGZ is committed to the liberalization of the agricultural sector including agricultural marketing the government has chosen to retain monopoly on clove marketing for the moment. The issue is not whether to privatize or not rather than what, when and how to privatize in the clove industry. The government is concerned that the crop is too important and strategic to the economy to risk its quick privatization and risk throwing the whole economy into chaos. The main problem is what will happen when prices in the world market fall below a point where private traders will find it unprofitable to go on with buying from farmers and exporting outside.

In our interviews with leaders in the RGZ, we found out that they were not opposed to the privatization issue *per se*, rather it is something that needs careful handling. Moreover as some of them pointed out there are some problems that need to be tackled first to lay the ground for an environment that can support a competitive private marketing system for cloves. Indeed the new agricultural policy detailed institutional and legislative reforms that need to be carried out in the agricultural sector generally and in the clove industry in particular. The cross-cutting issues include the promotion of savings and credit entities, the creation of an environmental monitoring unit, setting a Department of Farmers' Associations and an Inter-Ministerial Policy Coordination to improve the coordination of agricultural policy making and implementation.

An Agricultural Research Council would coordinate the operation of agricultural research institutions. The council would be autonomous with adequate statutory powers. With regard to the clove industry itself the RGZ envisages to set up a Clove Monitoring Unit whose mandate would be to monitor the comprehensive development of the crop. This unit would work closely with the proposed Marketing and Economic Research Department which would deal with data collection, policy centered analysis, interpretation and dissemination.

Chapter Five

Clove Marketing: *Current Structure and Options for Improvement*

5.0 Preamble

In Zanzibar the marketing of cloves is, by the country's laws, one of the responsibilities of the state owned Zanzibar State Trading Corporation (ZSTC), which was created in 1966. Prior to its creation and indeed before the 1964 revolution, marketing of cloves was organized under the framework of the Clove Growers Association (CGA) in a structure which resembles closely the current marketing of cash crops (like cotton and coffee) in Mainland Tanzania. The then government influence in the CGA was at two levels; first at the level of setting "*floor*" prices and second in ensuring the enforcement of regulations like payment of taxes and duties and in quality control to ensure that the quality of cloves exported from Zanzibar met the specified standards (CGA: 1951:53). Although CGA rendered essential functions to farmers like for instance provision of credit, it was essentially an instrument created to serve the interests of the Protectorate and the Sultanate government. This is the basis on which the Revolutionary Government established the ZSTC to try to serve the interests of farmers.

Any discussion on the structure of clove marketing and indeed the options for its improvement has to take into account the following two important factors. First the interests of the farmers on whose efforts the production and hence marketing of cloves depend. Second, it must take into account other on-going government initiatives and developments taking place globally. For example besides the globalization process the effects of which are likely to affect any country including Zanzibar, the government has formulated its own long term plan Vision 2020 and the Zanzibar Poverty Reduction Plan all of which have laid down strategies for improvement of living conditions for the Zanzibaris. The task then remains that of making sure that the suggested clove marketing options become an integral part of the on-going government initiatives.

5.1 The Current Clove Marketing Structure

5.1.1 Role of the Zanzibar State Trading Corporation

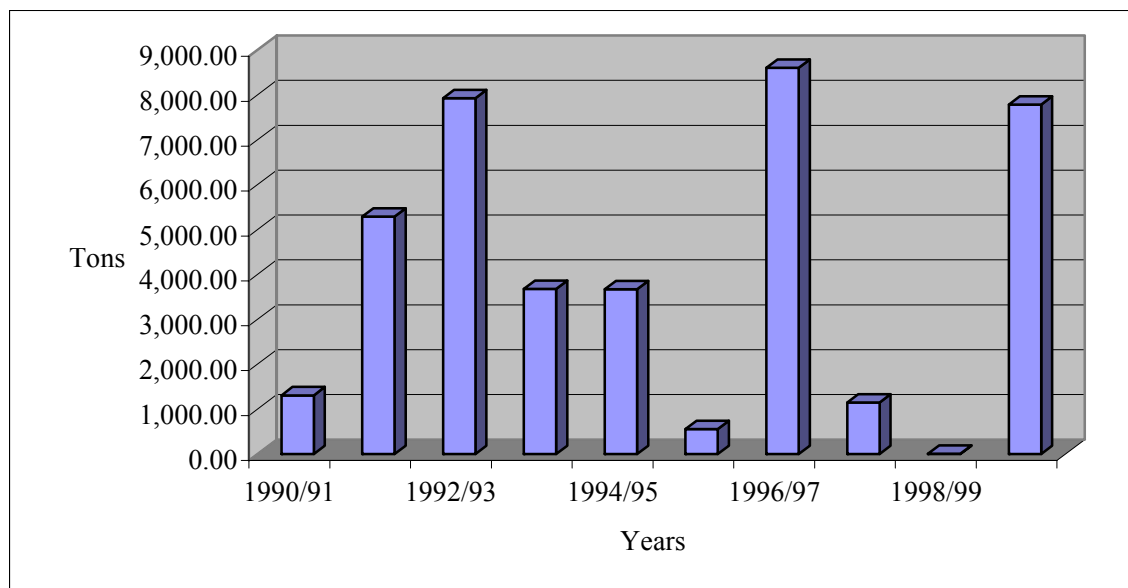
In line with Government of Zanzibar Decree. No. 1 of 1966 which established ZSTC, this state owned enterprise was to have monopolistic powers over internal and external marketing of cloves. About 50% of the profits accruing to ZSTC from marketing of cloves to the rest of the world markets are appropriated by the Government. The performance put by ZSTC in terms of clove sales and earnings therefrom is shown in Table 22 and Figure 7.

Table 22: Clove Earnings 1990/91 – 1999/00

Year	Ton	% Change	Value (TZS)	% Change	Tshs/ton	% Change	Tshs/Kg	% Change
1990/91	1,310.00		457.82		349,484.68		349.48	
1991/92	5,291.55	303.9	1,667.38	264.2	315,102.30	-9.8	315.10	-9.8
1992/93	7,931.00	49.9	1,602.34	-3.9	202,034.91	-35.9	202.03	-35.9
1993/94	3,682.15	-53.6	1,066.20	-33.5	289,557.89	43.3	289.56	43.3
1994/95	3,670.50	-0.3	1,634.88	53.3	445,410.74	53.8	445.41	53.8
1995/96	560.04	-84.7	283.62	-82.7	506,436.40	13.7	506.44	13.7
1996/97	8,605.70	1436.6	2,917.43	928.6	339,011.62	-33.1	339.01	-33.1
1997/98	1,153.00	-86.6	630.56	-78.4	546,882.31	61.3	546.88	61.3
1998/99	12.00	-99.0	6.98	-98.9	581,926.58	6.4	581.93	6.4
1999/00	7,788.00	64800.0	18,858.87	269963.7	2,421,529.44	316.1	2421.53	316.1
Average	4,000.39	7,362.92	2,912.61	30,101.40	599,737.69	46.21	599.74	46.21

Sources: ZSTC.

Figure 7: Trend of Cloves Sales 1990/91-1999/00



Source: Worked from Table 22

5.1.2 Current Functions of the Zanzibar State Trading Corporation

In the existing literature and through interviews with various officials and stakeholders it is apparent that ZSTC is clearly “overloaded” with other functions which contribute to marketing of cloves only marginally. The company, for example, performs the following marketing functions:

- (j) purchasing cloves from all buying centres
- (xii) grading the cloves in collaboration with the Ministry of Agriculture, Lands and Natural Resources

- (xiii) transporting all cloves from buying centres to Unguja
- (xiv) storing cloves
- (xv) packaging of cloves
- (xvi) managing the Pemba distillery
- (xvii) preparation of shipping
- (xviii) managing its Dubai branch

However faced with the realities of the Zanzibar economy, ZSTC is sometimes required to undertake responsibilities which have very little to do with clove marketing. These include:

- (a) payment of compensation

The total costs for compensations to those who fall from trees in Unguja and Pemba thereby performing the role of an insurance company have been increasing steadily since 1995/96 whereby payments for such incidences totaled Tshs 2.1 million and increased to Tshs 24.1 million by 1990/2000. The average share of Unguja in such payments is much less (16%) compared to Pemba (84%). It is difficult to know the reasons for this disparity but it may be due to more production in Pemba which is about 60% of all clove production in Zanzibar. These trends are indicated in Table 23. The payments have been increasing at an average annual rate of more than 130 per cent in the ten year period, that is between 1990 and 2000.

Table 23: Payments to Injuries Sustained During Clove Harvesting: 1990-2000

Year	Unguja (Tshs)	Pemba (Tshs)	Total Unguja + Pemba (Tsh)	Share of Unguja (%)	Share of Pemba (%)
1990/91	1,878,159.20	258,372.05	2,136,531.25	87.91	12.09
1991/92	3,603,100.30	17,193,640.75	20,796,741.05	17.33	82.67
1992/93	1,980,744.00	8,664,211.90	10,644,955.90	18.61	81.39
1993/94	216,622.95	6,167,208.90	6,383,831.85	3.39	96.61
1994/95	703,280.90	2,496,277.60	3,199,558.50	21.98	78.02
1995/96	705,838.25	9,459,497.45	10,165,336.70	6.94	93.06
1996/97	539,876.55	11,056,874.55	11,596,751.10	4.66	95.34
1997/98	5,343,839.65	15,368,990.00	20,712,829.65	25.80	74.20
1999/00	2,313,349.50	21,765,100.40	24,078,449.90	9.61	90.39
Average	1,920,534.70	10,270,019.29	12,190,553.99	15.75	84.25

Source: ZSTC

(b) Purchasing of inputs¹

The ZSTC is also responsible for the purchase and distribution of clove harvesting equipment and facilities in Unguja and Pemba. Jute bags constitute about 88 per cent of all costs while other facilities (e.g. mats, kerosine, lamps, measuring containers -pishi) take the remaining 12 per cent of all costs. One “*pishi*” of good quality cloves is about 1.5 kgs. There is usually a Task Force consisting of ZSTC and the Ministry of Trade officials which discusses clove prices. Last year the prices were not attractive, so cloves were smuggled to Mombasa because of the general conception that prices there were high.

There has been a dramatic increase of these costs between 1992/93 and 1996/97. The total cost had increased for example, from Tshs 28.1 to 478.4 million in 1996/97. There was then a decline to about Tshs 18.5 million by 1998/99 before rising again to almost a record level of Tshs 405.7 million by the year 1999/2000. Except for jute bags, other facilities were not provided in 1998/99. Table 24 shows these trends. Based on the table it can be observed that ZSTC is incurring a lot of costs on these items every year.

Table 24 : Purchase of Equipment for Facilitating Clove Harvest 1990/91-1999/2000 (in Tsh. `000)

Year	Other Facilities	Jute Bags	Total	% of Other Facilities	% of Jute Bags
1990/91	7,736	110,083	117,819	6.57	93.43
1991/92	29,286	210,832	240,118	12.20	87.80
1992/93	10,075	18,021	28,096	35.86	64.14
1993/94	27,336	80,890	108,226	25.26	74.74
1994/95	14,389	209,792	224,181	6.42	93.58
1995/96	7,605	192,850	200,455	3.79	96.13
1996/97	51,997	426,442	478,439	10.87	89.13
1997/98	1,102	45,000	46,102	2.39	97.61
1998/99	-	18,540	18,540	0.00	100.00
1999/00	53,434	352,287	405,721	13.17	86.83
Average	22,551	166,474	189,025	11.93	88.07

Source: ZSTC

(c) Maintenance of roads to ensure smooth transport of cloves, thereby undertaking activities under the jurisdiction of other ministries

¹ (like jute bags, hurricane lamps etc) and selling them to farmers at subsidized prices and hence contributing indirectly to credit availability.

Much as these functions are important they constrain the efficiency and effectiveness of ZSTC in conducting itself as a purely commercial entity.

5.1.3 Factors Constraining the Efficiency and Effectiveness of ZSTC

In the previous section, the current functions of ZSTC were discussed and some like those of acting as an insurance company, a credit organization or a construction ministry were found to impede the company's efficiency and effectiveness as a commercial entity charged with clove marketing. This section looks at both the internal and external factors that constrain the performance of ZSTC.

(i) fluctuations of clove prices in global markets

As a price taker, Zanzibar and indeed the ZSTC has extremely limited marketing options in times (like the situation facing Zanzibar currently) of falling prices of cloves in world markets.

(ii) limited capacity of ZSTC as a marketing company

The marketing strategies pursued by ZSTC have remained almost the same since the time the company was created in the mid 1960s: that of marketing the whole clove. Furthermore, the company has tended to stick to the "traditional" clove buyers mainly in the far Eastern markets and Indonesia in particular.

In the era of a fast globalizing world, ZSTC needs to have specialized human resource well trained in forecasting and tracking down developments in volume and price movements in cloves and to recommend a plan of action capable of cautioning the Zanzibar economy from these changes.

(iii) lack of export diversification

Although ZSTC owns a distillery in Pemba which produces a substantial variety of clove oil products these have not been effectively marketed to the outside world. Instead the focus of ZSTC has remained on exportation of whole cloves. ZSTC needs to explore the possibility of export diversification.

(iv) heavy administrative costs

Like any monopoly, ZSTC does not have in-built incentives to reduce costs. Apart from incurring costs which are not related directly to marketing of cloves, ZSTC has an over-employment problem (see for example ZSTC, 2002) which increases its administrative costs and hence lowers its profit margins (Table 15).

The sales cost table (Table 25) includes the sales value in each year since 1999/91 to 1999/2000, the management costs, cost of sales and distribution, repair of property (vehicles, buildings and warehouses) and financial costs (bank charges, overdraft

interests etc). Table 25 shows that on the average a sales value of Tshs 3,582,151,000 was obtained from the cloves sold. A third of this value goes to total cost of management which is Tshs 1,044,321,000 per annum and a total average profit of Tshs 2,537,830,000 remains. Almost 50% of this profit is the Government revenue. This gives an annual average of Tshs. 1,268,915,000. This amount differs from year to year. For example there was a net loss of Tshs 195,378,000 in 1998/99 and a maximum turnover of Tshs 8,090,589,000 in 1999/2000. An average of about 70% is usually a surplus per year and about 30% is the average cost of management per year.

Out of the total sales and administrative costs, about 41.2% goes to management costs, about 47.6% to the cost of sales, distribution and markets while 5.6% goes to repair of property and financial costs respectively.

Table 25: Sales Cost and Other Administrative Costs in (‘000) Tshs

Year	Sale	Manag. Costs	Cost of Sales	Repair	Financial Costs	Total Cost of Man.	Surplus Loss	Payment to Govt. (50%)
1990/91	852,851	126,643	319,330	25,802	2,129	473,904	378,947	189,474
1991/92	1,820,388	264,657	663,199	356,935	15,262	1,000,053	820,345	410,168
1992/93	1,726,318	257,229	325,161	25,193	3,232	610,815	1,115,503	557,752
1993/94	1,726,006	383,056	240,963	53,481	10,776	688,276	1,449,730	724,865
1994/95	2,138,006	383,056	240,963	53,481	10,776	688,276	1,449,730	724,865
1995/96	1,168,339	574,873	298,007	72,246	14,470	959,596	208,743	104,372
1996/97	4,919,618	696,927	1,132,486	83,336	369,726	2,282,475	2,637,143	1,318,572
1997/98	1,520,891	597,998	200,393	41,093	36,386	875,870	645,021	322,511
1998/99	243,877	513,223	92,497	18,817	10,095	634,632	-390,755	-195,378
1999/00	18,077,282	380,922	1,256,551	141,910	116,722	1,896,105	16,181,177	8,090,589
Average	3,582,151	430,277	496,630	58,696	58,717	1,044,321	2,537,830	1,268,915
%	100.00	41.2	47.6	5.6	5.6	29.15		

Source: ZSTC

5.2 Options for Improving Marketing of Cloves

The analysis from sections 5.1.1 and 5.1.2 tend to convey a central message which is relevant for the clove industry in general and for clove marketing in particular. The message is, that in view of the current problems facing the industry and taking into account some global events, there is a need to introduce reforms in the Zanzibar clove industry with a view to improve it and thereby the welfare of the clove farmers and the Zanzibar economy at large.

The recent debate concerning the clove industry has gravitated around the basic question whether to privatize or not to privatize the country’s clove industry. Like in any debate, two sharply opposing sides have emerged

Proponents of the clove privatization including obviously the private sector tend to cite factors including that in today’s world, the economy is private sector led and hence

Zanzibar's economy with its clove industry can not be an exception to what is taking place globally. Opponents of the private sector have plausible arguments to approach the subject rather cautiously and gradually citing facts like:

- (vii) the centrality of clove to the economy
- (viii) the private sector in Zanzibar is still un-organized and infant
- (ix) privatization *per se* is not a panacea to fluctuations in world market prices for the industry
- (x) the monopsonic nature of the clove industry consisting of few clove buyers; such that privatization does not guarantee an automatic improvement in global markets
- (xi) privatization of other cash crops like seaweeds and chillies has proved to be a failure in situations of tumbling world market prices in that in such periods private sector operators do not buy crops thus negatively affecting farmers' incomes and the economy. The government is concerned about a repeat of these tendencies especially on a "high stake" cash crop such as cloves.
- (xii) experience gained in the privatization of cash crops

Mainland Tanzania has shown the importance of approaching the exercise rather cautiously and gradually.

While the debate is relevant and does not seem to produce clear "winners" and "losers" one fact has to be constantly remembered. That is privatization or public ownership is a means to an end. The end being improvement of clove farmers' income. Thus the question is "will privatization or public conduct of the clove industry improve farmers' incomes and welfare?". The options we are presenting in the subsequent sections aim at addressing this important factor. Each option is presented along with its advantages, disadvantages and required action to implement it.

Option One: *Maintain Public Ownership but Undertake Reforms at Zanzibar State Trading Corporation*

In the light of the discussed constraints facing ZSTC it is essential that far reaching reforms have to be implemented to make ZSTC "lean and efficiency" and to systematically build an enabling capacity for it to compete effectively. If the government was to opt for this option, there are three strategies of implementing reforms within ZSTC

- (i) *wholesale retrenchment of staff and employment on merit basis*

While this strategy will ensure that staff employment at ZSTC is on merit basis and is likely to improve efficiency, it raises a number of practical problems.

First, it relies on the availability of funds to compensate the statutory benefits for laid-off employees.

Second, it carries with it a socio-economic risk associated with massive retrenchment of workers, including loss of wages.

Third, at the initial stages, employment of competent staff may have to come from abroad.

(ii) retrenchment of “excess” staff

Like in the first case, employee retrenchment has its socio-economic costs. These might be quite high for a small economy like that of Zanzibar.

(b) shedding off certain non-market related functions

The restructuring of ZSTC should proceed in conjunction with measures to shed off certain functions currently performed by ZSTC but which have very little to do with marketing of cloves. The main weakness of this option is however that it has very little chance of being accepted by proponents of the clove privatization since it does not contain any element of privatization in the industry. It may be branded as “old wine in new bottles” . Its main strength is the continued assurance and possibly increase in government revenue from clove marketing. Secondly, it is some kind of assurance to farmers that cloves will be bought in times of high and low prices in world markets.

Option Two: *Partial and Gradual Privatization of the Clove Industry*

The introduction and consequently implementation of a partial privatization of the clove industry relies on the ability of the government to carefully, gradually and neatly define activities that can continue to be performed by the government (in this case ZSTC) and those that can be undertaken by the private sector. Secondly, this option assumes the existence of clove farmers associations and a responsible private sector.

The idea in this option is to privatize some operations currently undertaken by ZSTC with a view to increase efficiency by encouraging private sector competition. Such operations may include: clove exports, operation and maintenance of some intermediate functions like transport, storage and clove handling. This option can be implemented gradually through four steps as follows:-

Step 1: *Formation of a Clove Board*

During this step ZSTC has to be transformed into a *Zanzibar Clove Board (ZCB)*. The Board should remain with the regulatory functions (similar to those for cotton, coffee or cashewnut Boards) of the clove industry. The basic functions of the Board will be:

- (i) to regulate and control the quality and marketing of cloves.

- (ii) to advise the government on all matters relating to clove production and marketing.
- (vi) to collect and disseminate all information concerning cloves and promote its use, development and improvement of the clove industry.
- (vii) to carry out such other functions in relation to clove industry as the Minister may direct from time to time e.g. market research, quality improvement, production of oils, etc.
- (viii) to collect taxes and levies for the government.
- (ix) to encourage free competition and establishment of prices by market forces.
- (x) to protect the interest of farmers against syndicate of buyers, e.g. setting up of floor prices at which all buyers have to adhere to.
- (xi) in liaison with stakeholders, to represent the government and stakeholders in all international fora relating to or dealing with the clove industry.
- (xii) to promote the establishment of association of stakeholders e.g. Clove Growers Association which will give members higher bargaining power with the private traders
- (xiii) to promote funding for research on cloves and markets.
- (xiv) to set “floor” prices
- (xv) to be a buyer of “last resort”.

Step 2: *Setting conditions for Clove Purchasing*

The following could be some of the condition for clove under the ZCB arrangement the buyer:-

- (i) and exporters must be registered with the Ministry of Trade and Industry before licenses are issued to them.
- (ii) must pay for a license fee of say US \$1,000.00 to be able to buy or export cloves.
- (iii) must visit the areas from which they want to buy cloves
- (iv) must be in possession of a valid trading license.
- (v) must demonstrate financial ability with a guarantee of a reputable financial institution.
- (vi) must register all their clove buying agents and submit their names to the *Zanzibar Clove Board*.
- (vii) must establish an agreeable performance bond before being licensed.
- (viii) should be supported and certified by the Zanzibar Clove Board (ZCB) and that the intended buying posts have been inspected properly.
- (ix) will be required to pay a certain amount (say Tshs 20,000/=) upon submission of application clove buying license.
- (x) must observe that trading hours at clove buying post should be from 8.00 hours in the morning to 18.00 hours in the evening.

- (xi) shall at all times when his premises are open for business, display in Kiswahili and English in conspicuous characters the prices offered by him per unit weight of each grade of cloves.
- (xii) shall use materials recommended by the Board to pack cloves before transportation or transshipment.
- (xiii) shall produce correct standard weekly report to the Board showing weekly purchases and deliveries of cloves by grades for every buying post.
- (xiv) shall display a weighing scale properly serviced, inspected and approved by the weights and measurements of the Ministry responsible for trade.
 - a. shall store all cloves in his possession in warehouses or any of the clove buying posts at which he is licensed to buy or in such storage warehouse as the Clove Board may require.
 - b. has to buy all cloves offered to him at the exhibited price.
 - c. has to keep all grade I cloves separate from grade II or III of cloves.
 - d. has to ensure that cloves purchased by him is properly graded.

During this step it is important for private clove buyers to note that they are not allowed to:

- (i) buy cloves at a price less than the floor price or less than the price exhibited.
- (ii) buy cloves without issuing produce receipt to the farmer in respect of all cloves purchased.
- (iii) buy cloves unless the entire consignment for the purchase is paid in cash at the time and place of delivery.

Step 3: *Setting Rules and Regulations on Clove Quality*

The following rules and regulations on clove quality are proposed:-

- (i) the clove Board together with the Ministry of Agriculture must check the quality of the produced and sold cloves.
- (ii) the Board, by order, may determine which grade of cloves may be sold or bought in any specified area during a specified period.
- (iii) no person is allowed to mix any other clove with grade I
- (iv) no person is allowed to mix any non-merchantable clove with grade I clove.

Step 4: *Setting conditions for obtaining Export License*

The following conditions for obtaining export licence are suggested:

- (i) the applicant should have a valid export license.
- (ii) the applicant should be financially sound, having recommendations from a reputable financial institution.

- (iii) the applicant should pay a non-refundable fee of say US \$ 100 or its equivalent upon collection of an application form.
- (iv) all clove exporters must register every sale of clove with the Board within seven days from the date of sale otherwise no export permit will be issued by the Board for any contract not registered. The information should include buyers' name, number of kgs sold, grade, price and delivery period.
- (v) no exporter shall export cloves without a valid export permit issued by the Board for each consignment.
- (vi) the applicant must have perfected all export permits for the previous seasons. The successful applicant will be issued with the license upon payment of say US \$ 2,000.00 or its equivalent.
- (vii) all exports should be subject to inspection by the Board and Ministry of Agriculture to ensure that quality standards are maintained.

The transformation of ZSTC into the Zanzibar Clove Board will require the retrenchment of many employees who have to be paid their terminal benefits. In this respect, the government of Zanzibar (in collaboration with donors) should be responsible for the payment of statutory benefits of all retrenches. The Board has to remain with only a small number of qualified and competent staff.

The government can still get its revenues through effective payment of taxes. Currently the government of Zanzibar is getting 50% of all profits from ZSTC. Based on 10 year average, the amount paid by ZSTC is about Tshs. 1.3 billion per annum. If the sales are taxed, the same amount of revenue or even more can be obtained. We have considered different scenarios involving variations in world market prices but constant output and worked out the impact on government revenue as follows:

Scenario 1: 4000 Tons of Cloves @ Tsh. 3500 per kg

Assuming that the average amount of clove sold is 4,000 tons per annum (10 year average: See Table 2) This is about 4,000,000 kgs. If each kilo sold is charged about 15% tax and the maximum price per kilo is Tshs 3,500 this would generate a value of Tshs 2.1 billion as government tax.

Scenario 2: 4000 Tons of Cloves @ Tsh. 2500 per kg

If the amount sold is the same (4,000,000 kgs) and the medium price is Tshs 2,500 per kilo and tax is the same 15% per kilo it would generate about Tshs 1.5 billion to the government.

Scenario 3: 4000 Tons of Cloves @ Tsh. 1200 per kg

If again the amount sold remains the same, taxation rate is the same but with a minimum price of Tshs 1,200 per kilo the Government will be able to get Tshs 720 million as revenue.

The above concerns clove sales only. This amount will increase if all other taxes e.g. license taxes and other fees are included. So through taxation, the government will be able to generate its revenues. The revenues will increase if the taxation rate is raised to say 20% per kg sold. The government will also be relieved of the burden of costs of operations.

There are several advantages of this option including that:-

- (v) it is a gradual process and hence allows the government to take appropriate actions to rectify any emerging problems
- (vi) it ensures a gradual integration of the private sector into the clove industry
- (vii) it ensures quality control
- (viii) it ensures that government will continue to get revenue from cloves

Option Three: *Introduction of Public/Private Mix in the Clove Industry*

The option of introducing a mixture of the public/private ownership in the clove industry resembles to a large extent the second option, that of partial and gradual privatization of the industry.

Like in the gradual privatization option, the implementation of the public-private mix ownership in the clove industry will require a clear distinction of roles to be performed by the public and private sector.

The distinguishing factor in this joint public-private ownership of the clove industry will be the specific shares allocated to the different sectors. It is suggested that at the initial stage the public must be allowed to control a relatively larger share of the clove industry. Gradually however depending on which of the two become more efficient, ownership of the large shares in the industry can switch hands accordingly.

The advantages of this option resembles to a large extent, those of option two. The main weakness of this option is that there might be difficulties in separation of activities between the private and the public sector.

Option Four: *Complete Liberalization of the Clove Industry*

Complete liberalization of the clove industry is one of the options that is often mooted in Zanzibar. However, as the proceeding analysis has revealed, it is a highly risky option on all the stakeholders. First, it cannot guarantee high incomes to farmers. Second, it can not guarantee continued profits to the private sector since there is no guarantee that by mere privatization *per se* there will be an improvement in the world market prices for cloves. Finally, the complete liberalization of the clove industry will not ensure that the government will continue to get the revenue it currently gets from the clove industry. This suggests that although it is one of the options, complete liberalization of the clove industry is currently not a plausible strategy. Table 26 presents a matrix which summarizes the options presented above.

Table 26: REFORMING THE ZANZIBAR CLOVE INDUSTRY: A MATRIX OF OPTIONS

Range of Options	Advantages	Disadvantages/Risks	Actions Required for Effective Implementation of the Option
<i>Option One:</i> Maintain the Current Structure	(i) Certainty of government revenue (ii) Guarantee to farmers that cloves will be purchased	(i) Inefficiencies in the marketing system (ii) Lack of incentives for farmers (iii) Demand for liberalization not met	(i) Restructure ZSTC to make it lean and efficient in marketing cloves (ii) Confine ZSTC role to marketing of cloves (iii) Government to hive off non-marketing roles currently performed by ZSTC
<i>Option Two:</i> Gradual Liberalization of Clove Industry	(i) Accommodate the role of private sector as leading in economic affairs (ii) Certainty of government revenue (iii) Guarantee that cloves will be purchased	(i) May reduce government revenue (ii) Clove produce may not be purchased especially when world market prices fall (iii) May lead to confusion at early stages	(i) Define roles to be undertaken by private (ii) Define timeframe and benchmarks to enable monitoring and evaluation of the option especially on government revenue and farmers' income and welfare
<i>Option Three:</i> Adopt a Public/Private Mix in Clove Industry	(i) Private sector's role in economy is recognized (ii) Government revenue is to a limited extent guaranteed	(i) May reduce government revenue (ii) Clove produce may not be purchased especially when world market prices fall (iii) May lead to confusion at early stages	(i) Arrange for a minimum of 50% govt ownership of role in industry
<i>Option Four:</i> Complete Liberalization of the Clove Industry	(i) May create some price incentives to farmers to increase clove production (ii) May motivate the private sector to broaden the clove market	(i) Reduction in government revenue (ii) May compromise quality of crop (iii) Uncertainty of crop purchase during production gluts and worldwide clove price declines (iv) May not address the un-recorded exports	(i) Government to search for alternative revenue sources (ii) Private sector to organize itself to meet the challenges of this option (iii) Farmers to be sensitized to organize themselves into CGA to protect their interests (iv) Alternative use and markets for clove to be sought

Part Six

Credit availability and Performance of Zanzibar Clove Industry: *Constraints and Way Forward*

6.0 Preamble

Financial credit is an important service in the performance of agricultural activities especially when it comes to improving the economic situation of small holders like clove farmers. The most important function of credit is to assist in the de-bottlenecking of constraints related to purchase of farm inputs, processing and marketing. Availability of credit allows farmers to purchase inputs and to perform other activities while awaiting to sell their crops in the next crop season. In the case of Zanzibar and the cultivation of cloves in particular, farmers demand credit mostly during the harvesting season. Financial credit during this season is used to pay labourers hired specially for harvesting, drying and to transport the cloves to the nearest clove buying posts determined by ZSTC. Credit is also utilized to purchase drying mats, jute bags and hurricane lamps used during harvesting cloves at night. The current problem in Zanzibar is however that both the formal and informal credit sources are largely insufficient to facilitate credit to clove farmers.

However, the role of credit in agriculture has to be viewed in the broader system of financial intermediation. The financial system consists of savers, intermediaries and borrowers. From the credit supply side there is interest charged on loans. This price paid for use of money is important to regulate the supply and demand of money.

A self-sustainable agricultural credit system can only exist if all three components work in a balanced way. This means that realistic interest rates are charged on loans, which (i) encourage savings, (ii) cover the average cost of making transactions, and (iii) take into account a risk margin against the probability of loan defaults.

There is a limit to which these attributes can be applied in Zanzibar whose cultural and religious foundations firmly rooted in Islam discourage the use of credit and payment of interest (*riba*). Charging interest is prohibited in the principles of Islam primarily because it entails paying for time which is God's (Allah's) property. Together with this limitation, the following analysis looks at credit availability through formal and informal sources.

6.1 Credit Availability

In general, there is a serious shortage of credit facilities in Zanzibar and in particular to cater for clove growers. Available evidence (Ministry of Agriculture, Natural Resources, Environment and Cooperatives in Zanzibar) indicate that there is no commercial bank which caters for the specific credit needs of clove producers. From a demand side perspective, the paucity of credit facilities is attributed to various

factors ranging from; high interest rates on lending charged by commercial banks, lack of collateral and difficulties linked with credit recovery. Although not categorically stated, drawing some lessons from Mainland Tanzania and the supply of loans, commercial banks consider lending to the agricultural sector to be a highly risk activity. This is because of the very nature of the agricultural sector in general and the clove trade with its seasonal and sometimes volatile fluctuations associated with its marketing globally. Secondly, like in Mainland Tanzania, there is a general hesitance by commercial banks to advance credit to farmers because of the problems and risks related to loan recovery.

6.1.1 Formal Credit Sources

Historically, there has never been a comprehensive rural banking system in Zanzibar. The Cooperative and Rural Development Bank (CRDB) of Tanzania which has some scope for the agricultural sector, only operates on the Tanzania Mainland. The CRDB has not yet commenced operations in Zanzibar. Way back in the early 1960s there was an effort to establish an Agrarian Development Bank with the help of Canadian Development Aid. However, this idea was shelved shortly after the 1964 Zanzibar Revolution.

Credit before and after the revolution was directly extended to farmers by various projects and institutions, without involving banks. Financial credit was extended to allow farmers to purchase inputs like tractors, seeds and fertilizers. These organizations created their own infrastructure to disburse the credit, to supervise the credit utilisation, and to collect the repayments. Usually credit was restricted to the promotion of particular technologies (e.g. tractor ploughing) or to specific target groups (e.g. rice farmers). General and comprehensive agricultural credit facilities were not offered. This underscores the point raised earlier that credit availability for clove farmers in Zanzibar has been a problematic issue.

The financial sector reforms notwithstanding, Zanzibar has a limited number of private and government owned banks. Available data shows that currently commercial banks such as National Bank of Commerce Limited, the People's Bank of Zanzibar, the Tanzania Postal Bank and now the Delphins are operating in Zanzibar. However, commercial activities of these banks do not have specific lending programmes targeting (Clove) farmers. The main reason being that commercial banks are hesitant to lend to small-scale clove farmers because they lack collateral and the nature of the land tenure system, is not flexible enough to allow land to be used as collateral.

Some limited credit is available but for non-clove activities. For instance the NBC Limited focuses more on well established commercial sector and does not lend to small-scale farmers. Likewise, the state owned Peoples Bank of Zanzibar (PBZ) does not yet have a specific lending programme which targets clove farmers.

Similarly, the Tanzania Postal Bank (TPB) which started its operations in Zanzibar in 2000 is confined in Zanzibar town and has not expanded to the rural areas. The official policy of the TPB is to provide credit to small and medium enterprises (SMEs) on a short-term basis in which SMEs are required to repay the extended credit within a period of not exceeding one year (12 months).

There are two basic constraints associated with the credit arrangements by the TPB. First as already stated, their activities are currently concentrated in Zanzibar town where cloves are not grown. The bank is yet to expand and cover the rural areas (such as rural Pemba) where cloves are grown and credit is mostly required.

Second, clove farmers require credit that can be repayed in a medium term range (period over one year) to “*cushion*” them from the harvesting costs and to be used while waiting to sell their produce in the next crop season. This suggests that the current credit arrangement under the TPB is not adequate for clove farmers.

6.1.2 Role of ZSTC in Credit Facilitation

The Zanzibar State Trading Corporation (ZSTC) is a state owned enterprise which is charged with, among other things, the marketing of cloves. In the strict sense, it is not supposed to issue credit to clove growers since it is not a financial institution. Aware that clove farmers need financial assistance especially during harvesting period, ZSTC has often purchased various equipment (see Table 27 and sold them to farmers at highly subsidized prices. This is a form of an indirect credit to farmers.

Table 27: Purchase of Harvesting Equipment by ZSTC 1990/91-1999/2000 (Tsh.`000)

Crop Season	Purchases of	
	Mats, Karosine, Containers and Hurricane Lamps	Jute Bags
1990/91	7,736	110,083
1991/92	29,286	210,832
1992/93	10,075	18,021
1993/94	27,336	80,890
1994/95	14,389	209,792
1995/96	7,605	192,850
1996/97	51,997	246,442
1997/98	1,102	45,000
1998/99	na	18,540
1999/2000	53,437	352,287

na- indicates not available

Source: ZSTC.

The picture emerging from credit facility arrangements from formal financial institutions operating in Zanzibar is that such services are needed but currently they are available to only established private sector businesses and are confined to the urban areas especially Zanzibar town.

The ZSTC supports clove harvesting operations by selling gunny bags, scales, drying mats and hurricane lamps at subsidized prices. Since 1986/87 the ZSTC has provided credit for clove harvesting. Funds of between Tshs 5,000 and 1,000,000 are loaned to a farmer, depending on the expected value of the crop. The loan is repayable after six months. During this period, interest rate increased from 13% in 1986/87 to 17.5% in 1988/89 and further to 20% in 1991/92. Farmers have to provide collateral such as land or a house. When this is not possible which is often the case, high state officials can vouch for farmers who can then get loans without providing collateral. Table 28 shows the loan disbursement and recovery trends during the 1981-1991 crop seasons.

Table 28: Credit Disbursements and Recovery in Zanzibar 1986-1992

Season	Amount (Million Tshs):		
	Disbursed	Recovered	Recovery in %
1986/87	8.88	6.55	73.8%
1988/89	9.87	5.12	51.9%
1991/92	40.13	16.40	40.9%

Source: Krain (1998)

Credit recovery tends to decrease over the years for two main reasons. First, there are farmers who default on their loans, providing a bad example to those who pay back the full amount in time. Second, the opposition party followers encourage clove farmers to default because they claim that the credit is a due payment to the growers to assist them in harvesting operations.

6.1.3 Quasi-formal Credit

Quasi-formal credit is provided by government and non-governmental organizations and its aim is to address credit needs in Zanzibar (See for example, Mohamed, 2002). Quasi-formal credit sources are characterized by factors including the fact that they:

- (i) are predominantly urban and peri-urban
- (ii) extend small, short term (up to 1 year) credit
- (iii) have varied interest rate structures but concessionary
- (iv) finance mainly SMEs
- (v) do not demand possession of collateral

The informal credit arrangements are organized through various means including: close relatives, neighbours, friends and sometimes networks at places of work. A study by Krain (1998) shows that informal credit sources are more popular than their formal counterparts. The main reason for this is that no interest is charged in most informal credit sources and credit recovery arrangements are left entirely to the (credit) donors and recipients. This is very much in line with the cultural and religious inclinations of the Zanzibar society.

Another type of informal credit is crop mortgaging. In a crop mortgaging arrangement, the debtor agrees to transfer the right to harvest a certain crop to the creditor for an agreed number of harvests against a payment. Under this (crop mortgaging) arrangement land ownership does not change hands. This is because other crops grown with the clove (e.g. cassava) continue to be cultivated and harvested by the debtor in this sense mortgaging occurs for both tree and ground crops. The harvests discharge the debt of the mortgage and no differentiation is made between interest and principal.

Renting of clove trees is another type of credit arrangement, which is commonly practiced in Unguja and Pemba. Since clove picking is labour intensive, farmers with relatively more clove trees compared to their capacity to harvest them prefer to rent the trees to potential traders. This (renting of clove trees) is preferred to employing labour due to frequent pilferage by clove pickers and the money needed to finance the time gap between paying the clove pickers and sale of the cloves.

6.2 Provision of Credit Through the Export Credit Guarantee Scheme

6.2.1 Operations of the Export Credit Guarantee Scheme in General

The export credit guarantee scheme (ECGS) as practiced in East Africa is a scheme in which the Central Banks play a crucial role of guaranteeing exporters of non-traditional goods and services in facilitating the availability of credit for working capital requirements. The central banks channel this support through commercial banks. Under this arrangement, the central banks guarantee loans extended by commercial banks (participating financial institutions). However in order to be eligible exporters have to prove that they have established a good business track record, are privately owned and are financially viable. To be able to borrow, exporters have to participate for at least 15 per cent of the export value. Thus their borrowing needs can not exceed 85 per cent of their working capital. Central banks usually charge up to 10 per cent interest of the extended loan.

6.2.2 The Export Credit Guarantee Scheme in Zanzibar

Currently Zanzibar does not have an ECGS arrangement although the Bank of Tanzania is said to be working on pilot basis, towards establishing it. The constraints that may face the introduction of this scheme are linked to facing the private sector in Zanzibar generally including:

- (i) that the private sector is not well organized
- (ii) high interest charged on loans
- (iii) low loan recovery rates
- (iv) fluctuations in the prices of cloves in world markets.

Chapter Seven

Findings and Recommendations for Improving the Clove Industry

7.0 Preamble

In this part of the report, and by way of conclusion, the main findings related to the Zanzibar clove industry are presented. The presentation of the main findings is accompanied with the challenges that have to be surmounted at different levels of the clove industry and by all stakeholders. Finally, a package of policy options aimed at improving the clove industry is also presented together with a proposed timeframe as a guide to implementation of the recommendations.

7.1 Main Findings

7.1.1 Interlocking Web of Bottlenecks to Clove Production

It has been observed that clove production in Zanzibar (both Unguja and Pemba) is constrained by an interlocking web of factors including:-

- (i) declining number of trees
- (ii) poor tree husbandry
- (iii) low yield

These problems have negatively affected not only the productivity of the clove industry but also farmers' incomes, government revenue and the economy at large. The main challenge facing the stakeholders in this industry is how to make a "turn around" and hence improve yields, re-plant new trees and adopt proper tree husbandry practices through improving extension services. This is the challenge falling on the Ministry of Agriculture, Livestock and Natural Resources.

7.1.2 Small Share of Locally Processed Cloves

This study has found that only a small share of clove products (clove buds and stems) is locally processed at the clove distillery in Pemba. This is attributed in part, to the absence of markets for the by-products. No concerted effort appears to have been undertaken to promote the consumption of the by-products locally or even within the Eastern and Southern African sub-region. Yet the by-products are known to have multiple medicinal and other uses.

The task therefore remains that of promoting the use of processed clove products within and outside Tanzania. When there is sufficient demand for these products there will be pressure to utilize and possibly expand the existing capacity at the distillery. This will generate spill-over effects like employment generation and improvement of farmers' welfare.

7.1.3 Poor Harvesting Technology

Clove harvesting as practiced in Zanzibar uses out-moded technology which is highly labour intensive. The only advantage out of this practise is the daily wage paid to labourers. Its disadvantages however far outweigh the daily wage advantage in that it:

- (i) contributes to fall in yields as it causes extensive damage to trees.
- (ii) may be a source of plant diseases
- (iii) often compels ZSTC to compensate labourers who sustain injuries during harvesting
- (iv) contributes to post-harvest losses and pilferages

The industry is, in this respect, faced with a formidable challenge of introduction of technologies similar to those employed in other countries (especially Indonesia) so as to make the entire harvesting process more efficient.

7.1.4 Lack of Marketing Skills Matching the Demands of a Fast Globalizing World

Marketing is a central activity in the entire clove industry. Marketing of cloves as is currently carried out in Zanzibar has not sufficiently demonstrated the attributes of an economy facing the realities of a fast globalizing world. Admittedly, there has been wild and unsystematic clove price fluctuations in world markets. However, the institution charged with clove marketing:

- (i) has not developed a mechanism capable of forecasting and hence predicting the price movements to allow the government to take appropriate measures (including restricting supply) to cushion itself from the price fluctuations.
- (ii) has relied mostly on traditional clove markets mainly in the Far East
- (iii) has depended heavily on exports of whole cloves
- (iv) has made limited success in marketing processed cloves to outside markets
- (v) is over-burdened with other functions which have little to do with the actual marketing of cloves.
- (vi) has not undertaken serious clove promotion exercise in world markets

The challenge facing the marketing institution is that of streamlining its functions to make it more efficient in terms of clove marketing and that of developing capacity (especially in terms of human resources) that will enable it to market cloves more efficiently.

7.1.5 Implementation of the Agricultural Sector Policy

Like in Mainland Tanzania, Zanzibar has its long term development strategy Vision 2020. It has also formulated its Poverty Reduction Strategy Paper and the Agricultural Sector Policy. In all these documents the role of the agriculture sector in general, and the clove industry in particular is recognized.

The challenge is however, like in all countries remains that of seeing to it that the policies and other government strategies are properly implemented. With specific reference to the clove industry in Zanzibar the task remains that of:

- (i) development of an enabling environment for gradual shift towards private sector participation in the industry
- (ii) ensuring that government functions are not constrained by efforts towards the transformation of the industry
- (iii) development of a 'smart' partnership between the government and the private sector especially in clove marketing aiming at a "win-win" situation
- (iv) ensuring that farmers' welfare is improved through the reforms in the clove industry.

7.1.6 Land Tenure is still Problematic

The government's objective under the new policy is to provide secure tenure for all Zanzibaris involved in agricultural production. The issue is that the people are unaware of the Land Act No. 2 of 1992.

7.1.7 No Regular Functioning Credit Agricultural Credit System

Zanzibar lacks a financial bank to address the paucity of credit. In addition people have tended to regard loans as grants from the government and as a result credit repayment rates have been very poor. On the other hand, the savings and credit associations have not established themselves firmly to conduct business in Zanzibar. The challenge is, therefore, to encourage the formation of viable credit associations.

7.1.8 Absence of a Mature and Responsible Private Sector

In Zanzibar, the current status of the private sector where marketing of cloves is concerned can, at best, be described as being infant or, at worst, irresponsible. It is at infant stage because it lacks a formal and dynamic organizational structure (including chambers of commerce, confederation of industrialists etc). The sector can be said to be irresponsible since it is frequently associated with illegal exports of cloves, a behaviour which is not consistent with the functions of a sector which is assumed to take a leading role in economic affairs of the state.

7.2 Recommendations for Improving the Zanzibar Clove Industry

The recommendations being proposed here recognize the unique nature and importance of cloves in Zanzibar, its economy and its citizens. They take into consideration the fact that Zanzibar has its long term strategy as spelt out in Vision 2020 and it has developed several strategies including Agricultural Development Policy and the Zanzibar Poverty Reduction Strategy the objectives of which are to improve the welfare of its people. Furthermore, the recommendations build on on-

going global economic changes and their impact on a small island economy like that of Zanzibar.

Recommendation 1: *Prepare a Clove Development Programme*

Measures to improve clove production have to be seen in the broad framework proposed in the Agricultural Sector Policy. The policy has proposed that a Clove Development Programme be prepared which will promote the following activities:

- (i) tree replanting (mainly “gaping”) to maintain the existing trees.
- (ii) improving clove productivity
- (iii) clove research
- (iv) improved harvesting technologies
- (v) clove processing activities
- (vi) monitoring and evaluation of the clove development
- (vii) capacity building activities
- (viii) management information services (MIS)

All these activities can be done within the Ministry of Agriculture, Livestock and Natural Resources immediately and in the medium-term period in collaboration with other stakeholders (including Ministry of Industries Trade and Tourism, NGOs, CBOs, the Private Sector and ZSTC).

Recommendation 2 : *Promote Local Processing of Cloves and Clove Products*

In order to address the problem of small share of locally processed cloves, it is recommended that a conducive environment be created for the private sector to participate in processing and later marketing of the processed cloves. This is essentially the responsibility of the Ministry of Industries Trade and Tourism, Ministry of Finance and the Private Sector.

Recommendation 3: *Promote the Use of New Harvesting Technologies*

Since the limiting factor in harvesting is the poor technology which is basically a labour intensive technique it is recommended that:

- efforts be undertaken by the Ministry of Agriculture to promote new and more productive harvesting technologies similar to those used other countries such as those used in Indonesia.

Recommendation 4: *Launch an Educational Campaign on Land Issues*

Many people appear to be ignorant of the current land Laws and regulations. It is recommended that:

- (i) an educational campaign be launched to enable all those involved in agriculture to understand the relevant laws and procedures of land acquisition

the government hastens the pace of land registration

Recommendation 5: *Promote the Establishment of Rural Savings and Credit Cooperative Societies*

In order to meet the demand for loans for clove development activities of farmers and especially during the harvesting season, it is recommended that:

- (i) a framework for facilitating the promotion of savings and credit associations for rural small-holders is designed
- (ii) the process of establishing credit systems which will be responsive to the needs of all farmers and fishermen is facilitated.

Recommendation 6: *Provision of a conducive atmosphere for private sector development*

Whether a gradual or full scale liberalization of clove marketing is adopted it will be necessary for the government to prepare a conducive atmosphere for the development of a strong, competitive and responsible private sector. As a starting point, measures should be taken to strengthen the chambers of commerce.

Recommendation 7: *Reform Clove Marketing System*

Marketing of cloves is a crucial activity to Zanzibar's economy which is currently monopolized by ZSTC. In light of the importance of the clove industry discussed throughout this report and on the basis of the options presented in Chapter Five, the option to fully and immediately liberalize the industry is totally not recommended. Secondly, even the option of joint public-private mix in the industry is also not recommended due to the practical limitations which were cited before. This leaves us with two basic options.

Option 1: Gradual Liberalization of Clove Marketing

As suggested, this recommendation has to be carefully implemented, step-by-step so as to allow sufficient time for the government to deal with any emerging anomalies that might develop as a result of adoption of this option. During this transition period the government will:

- (a) create a conducive environment for formation of clove growers associations
- (b) promote the development of SACCOs
- (c) release ZSTC of functions which do not relate directly to clove marketing
- (d) transform current ZSTC into a Clove Marketing Board with regulatory functions, buyer of last resort and setter of floor prices
- (e) create an environment for private sector operators in clove marketing

- (f) strengthen tax collection capacity to ensure revenue from clove marketing is, at least equal or more than what is currently collected from cloves.

This gradual, systematic and cautious approach to liberalization of clove marketing is *our first best recommendation*.

Option 2: Maintain the Current Clove Marketing Structure but Undertake Reforms within ZSTC

To operationalize this recommendations it will be necessary for the government to:-

- (iv) shed off non-marketing functions currently undertaken by ZSTC
- (v) undertake a “*down-sizing*” and “*right-sizing*” of employees at ZSTC
- (vi) ensure that ZSTC’s evaluation is performance based

The effort of making ZSTC lean and efficient for it to market clove effectively is our second best recommendation.

7.3 Summary of Recommendations

A matrix summarizing the recommendations from section 7.2 is presented in Table 29 below.

Table 29: Matrix of Recommendations, Actors and Proposed Time Frame

Recommendation	Actors	Time Frame
Recommendation 1: <i>Prepare a Clove Development Programme</i>	<ul style="list-style-type: none"> ▪ Ministry of Agriculture and Livestock ▪ NGOs ▪ ZSTC 	1-3 years
Recommendation 2: <i>Promote Local Processing of Cloves and Clove Products</i>	<ul style="list-style-type: none"> ▪ Ministry of Industries and Trade ▪ Private Sector 	1-3 years
Recommendation 3: <i>Promote the Use of New Harvesting Technologies</i>	<ul style="list-style-type: none"> ▪ Ministry of Agriculture ▪ Private Sector 	1- 3 years
Recommendation 4: <i>Launch an Educational Campaign on Land Issues</i>	<ul style="list-style-type: none"> ▪ Ministry of Agriculture ▪ Ministry of Information ▪ NGOs 	0-1 years

Recommendation	Actors	Time Frame
Recommendation 5: <i>Promote the Establishment of Rural Savings and Credit Cooperative Societies</i>	<ul style="list-style-type: none"> ▪ Ministry of Finance ▪ Private Sector, NGOs 	1-3
Recommendation 6: <i>Provide a conducive environment for private sector development</i>	<ul style="list-style-type: none"> ▪ Ministry of Finance and Economic Affairs 	1 – 3 years
<p>Recommendation 7:<i>Reform Clove Marketing System</i></p> <p>(i) Option 1: Gradual Liberalization of Clove Marketing</p> <p>(ii) Option 2: Maintain the Current Clove Marketing Structure but Undertake Reforms within ZSTC</p>	<ul style="list-style-type: none"> ▪ Private Sector ▪ Ministry of Industries and Trade ▪ Ministry of Finance and Economic Affairs 	<p>3-5 years</p> <p>1-3 years</p>

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Appendix 1: Study on the Zanzibar Clove Industry

Interview Checklist

1. General Questions

- 1.1 Factors inhibiting the development of the clove industry and how to address them
- 1.2 Efficiency and effectiveness of ZSTC as a marketing organization and requisite recommendations
- 1.3 Possibility of restructuring ZSTC as a way of liberalizing the clove industry
- 1.4 Role of public and private sector within the recommended reform framework
- 1.5 Extent of resource mobilization associated with recommended reforms of the clove industry (*financial and human resource*)
- 1.6 Challenges facing the Clove Industry and Possible Remedies

2. Policy Questions

- 2.2 The structure of ZSTC
- 2.3 Role of ZSTC
- 2.4 Restructuring of ZSTC: *changes expected*
- 2.5 Benefits and or disadvantages of privatizing ZSTC
- 2.6 Possible areas for public – private partnership
- 2.7 Future prospects for cloves and clove oil production and marketing

3. Marketing Related Questions

- 3.1 Clove prices at present in comparison with past 10 years
- 3.2 Reasons for change in prices?
- 3.3 Sales of cloves and clove oil in the past 10 years and their corresponding prices
- 3.4 Percentage of farmgate prices to export prices. Possibility of getting such data for the past 10 years
- 3.5 Quality of cloves from farmers and the quality that is sold
- 3.6 How much are farmers paid for their cloves
- 3.7 How does the distillery plant help farmers to get credit for chemicals and other planting, harvesting, drying and marketing of cloves?
- 3.8 Marketing Problems and Proposals Improvement

4. Production and Processing Plant Questions

- 4.1 Capacity of the Distillery plant to produce clove oils
- 4.2 Date the plant started processing clove raw materials
- 4.3 Sources of raw materials

- 4.4 Data of oil production for the past 10 years
- 4.5 Number of workers employed by the distillery plant *How many men and how many women*)
- 4.6 Distillery plants available in Pemba and Unguja
- 4.7 Storage capacity for cloves and clove oil
- 4.8 Percentage of clove spoilage and reasons for such a situation
- 4.9 Products and by products that originate from cloves
- 4.10 Production of cloves in the past 10 years.
- 4.11 Problems related with clove production, harvesting and processing

Appendix 2: List of Persons Interviewed

1. Hon.Kamal Basha Pandu
Deputy Speaker
House of Representatives
P.O. Box 3665
Zanzibar
Tel. No. 024 – 2230239
Cell: 0747-412221
2. Mr. Julian Raphael
Principal Secretary
Ministry of Finance and Economic Affairs Zanzibar
3. Mr. Pereira Ame Silima
Principal Secretary
Ministry of Trade, Industry
Marketing & Tourism
P.O. Box 601
Zanzibar
Tel. No. 024-2232305
Cell: 0741-602735
0747-416742
4. Ms. Rahma M. Mshangama
Principal Secretary
Ministry of Agriculture, Natural Resources,
Environment and Cooperatives
P.O. Box 159
Zanzibar
Tel. No. 024-2232840
Cell: 0741-258084
5. Prof. H.P.B. Moshi
Economic Advisor to the President of Zanzibar.
6. Mr., Abdul-Rahman Rashid
General Manager
Zanzibar State Trading Corporation

7. Mr. Suleiman J. Jongo
Marketing Manager
Zanzibar State Trading Corporation
P.O. Box 26
Tel. No. 024-2230271/2231550
Cell: 0747-417999/0742-750427
8. Mr. Shoka
Purchasing Officer,
Zanzibar State
Trading Corporation
9. Mr. Ahmed A. Rashid
Chief Planning Officer
Ministry of Agriculture, Natural Resources,
Environment and Cooperatives
P.O. Box 159
Zanzibar
Tel. No. 024-2230290
10. Mr. Khalid S. Mohamed
Ministry of Agriculture, Natural Resources,
Environment and Cooperatives
Zanzibar
11. Dr. Salim S. Nasser
Cell: 0747-419647
12. Mr. Ahmed Yussuf Alawy
Cell: 0747 – 423226
13. Mr. Khamis Issa Mohamed
P.O. Box 1594
Zanzibar
TAZOP Ltd.
Cell: 0741-232602
14. Mr. Khalfan H. Khalfan
Chairperson – ANGOZA
Tel. No. 024-2233719
Cell: 0747-411471
E-mail: khalfan@zanzinet.com

15. Ali Rashid Salim
Coordinator of CIOREC
P.O. Box 2784
Zanzibar
Cell: 0748-29694

List of Persons Interviewed Pemba

16. Mr. Mohamed Aboud
Hon. Minister for Trade and Industries
17. Mr. Nassib S. Omar
Distillery Plant Manager
18. Mr. Hakuni Saidi Sanani
District Trade Officer
19. Mr. Ahmada Bakari Kombo
Farmer (medium scale)
20. Mr. Abubakar Mohamed Alli
Pemba Island Relief Organization (PIRO)
P.O. Box 173
Chake Chake
Pemba
Cell: 0744-427553
21. Mr. Ali Juma
Small Scale Farmer
22. Mr. Nassor S. Nassor
Association of the Disabled in Zanzibar
23. Mr. Shariff and Kassim Ahmed
Private Clove Trader

Appendix 3: Gross Margin Analysis for Clove Production in a One Hectare Plot Under Average Farming Conditions

1. Important Assumptions

- (i) Average number of clove tree in 1ha plot = 118 (47 tree per acre).
- (ii) Clove trees are grown in a dense population of intercrops of tree crops and food crops such as citrus, coconuts, jack & bread fruits, rambutan, banana, cassava, cocoyams etc.
- (iii) Clove trees start bearing after about 6 years and reach full productive potential for some years after 15 years.
- (iv) A reasonable yield per tree is averaging 11 kg dry.
- (v) Gross margin was calculated based on a sample of 45 farmers randomly taken in the two islands of Unguja and Pemba.
- (vi) Data were based on farmers' experience and their ability to recall and not on records.

2. Yield Calculations

Assumption: On average a hectare plot consists of clove trees in the age categories and yield potentials as indicated below:

<u>Age category</u>	<u>No. of tree</u>	<u>Potential yield (Kg/annum)</u>	
		<u>Vuli</u>	<u>Masika</u>
0 – 6 yrs	- 47	0	0
7 – 15 yrs	- 20	100	50
16 – 30 yrs	- 27	340	170
31 – 45 yrs	- 18	360	180
<u>Above 45 yrs</u>	<u>06</u>	<u>65</u>	<u>33</u>
Sub-total		865	433

Average annual clove production per hectare = 1298 kgs (dry)

3. Gross Revenue (dry cloves):

Assumption: For the sake of analysing the sensitivity of price, three price levels were used in the calculation of Gross revenue. These are the recently announced price of Tshs 1,200/- per kg for grade I, the old price of Tshs 3,500/- per kg for grade I and the new price of Tshs 800 per kg for grade III.

Scenario 1:	Price of grade I =	1,200/- per kg
	Gross Revenue	=1,298 kgs × 1,200/- = 1,557,600/-
Scenario 2:	Price of grade I =	3,500/- per kg
	Gross Revenue	=1,298 kgs × 3,500/- = 4,543,000/-
Scenario 3:	Price of grade III =	800/- per kg
	Gross Revenue	=1,298 kgs × 800/- = 1,038,400/-

4. Variable Costs

- Assumption:**
- (i) Price of manday = 1200/-
 - (ii) Slashing and ring weeding are done twice in a year.
 - (iii) About 1,298 kgs dry cloves = 2,596 kgs fresh cloves
 - (iv) About 2,596 kgs fresh cloves = 1039 pishis fresh cloves
 - (v) Average harvesting cost of 1 pishi of fresh clove = Tshs 500
 - (vi) On average, 4 people are required for drying of cloves daily to work for an average of 4 hours.
 - (viii) An average of two (2) people are required for cleaning and bagging of dried cloves who can work for a total of 22 hours.

Calculation

(a)	Slashing:	32 man days × 1200/-	=	38,400/-
(b)	Ring weeding (0 – 6 yrs)	6 man days × 1200/-	=	7,200/-
	(above 6 yrs)	12 man days × 1200/-	=	14,400/-
(c)	Harvesting labour cost		=	519,500/-
(d)	Working tools:			
	Bags	22 × 800./-		17,600/-
(e)	Drying mate	60 pcs × 800/-		48,000/-
(f)	Lamp (5% of 30,000/-)			1,500/-
(g)	Kerosine			48,000/-

				115,100/-
(h)	Drying: 140 man days x 1200		=	168,000/-
(i)	Cleaning and bagging: 3 man days x 1200/-		=	3600/-
(j)	Transportation costs: 1500/- per bag x 22		=	33,000/-
	Total Variable cost =			899,200/-

5. Gross Margin

Under Scenario 1:	1,557,600 – 899,200/- =	658,400/-
Under Scenario 2:	4,543,000 – 899,200/- =	3,643,800/-
Under Scenerio 3:	1,038,400 – 899,200/- =	139,200/-

Source: Mohamed, K.S. (2003); Gross Margin Analysis for Clove Production in Zanzibar, Ministry of Agriculture, Zanzibar, January (E-Mail Message)

Appendix 4: Structure of Zanzibar Export Basket 1954- 1993 (Percentages)

	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1980	1981	1982	1983
1. Food & Live Animals	-	-	-	-	-	-	-	-	-	-	-	-	-	43.37	-	-	-	-
2. Pepper & Pimento	-	-	-	-	-	-	-	-	-	-	-	-	-	0.52	-	-	-	-
3. Cloves	39.4	40.6	40.34	84.2	34.45	36.12	82.11		33.68	74.57	70.65	71.72		42.32	79.95	93.40	72.33	66.93
4. Oil See, Cake & Meal	0.684	0.77	0.67	1.64	0.78	0.54	1.39		0.89	0.98	0.65	0.78		0.35	0.30	0.16	0.18	0.57
5. Crude materials (except Fuels)	4.54	4.2	4.73	-	9.18	9.30	-	-	9.23	-	-	-	-	4.86	-	-	-	-
6. Copra	3.96	3.3	3.91	2.85	7.89	7.20	-	6.32	15.28	17.10	23.75	-	-	3.38	6.62	0.68	-	10.02
7. Animal, Vegetable Oils and Fats	5.42	4.5	4.32	-	5.30	3.80	-	-	5.02	-	-	-	-	-	-	-	-	-
8. Coconut (Copra) Oil	4.00	3.4	3.40	9.4	4.40	6.50	-	3.40	2.44	2.10	1.41	-	-	1.82	2.69	5.61	3.40	21.78
9. Clove Oil	-	-	-	-	-	-	-	-	1.62	2.93	4.20	4.20	-	1.13	-	-	-	-
10. Coir	-	-	-	-	-	-	-	-	0.65	0.49	0.97	-	-	0.69	-	-	-	-
11. Marine shells	-	-	-	-	-	-	-	-	-	-	-	-	-	0.35	0.22	-	-	-
12. Sea Wees	-	-	-	-	-	-	-	-	-	-	-	-	-	0.35	-	0.175	0.7	0.42
13. Chemicals	-	-	-	-	-	-	-	-	-	-	-	-	-	0.35	-	-	-	-
14. Essential Oils	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15. Lime	-	-	-	-	-	-	-	-	0.36	-	-	-	-	-	-	-	-	-
16. Beverages & Tobacco	2.01	0.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17. Mineral/Fuels, Lubricants & related	-	0.01	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18. Manufactured goods	-	-	-	-	-	-	-	-	0.49	-	-	-	-	0.052	-	-	-	-
19. Manufactured items (others)	0.09	0.08	0.10	-	0.194	0.34	-	-	0.32	-	-	-	-	0.16	10.22	-	23.95	0.28
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Raphael, J.B. (1995); Economic Significance of Clove Production in Zanzibar; M.A. (Economics) Dissertation, Economics Graduate Division, University of Sussex, Brighton. P. 12-13.

