

1.1 Eritrea: An Infant Country

Eritrea is strategically located in the northern part of Africa known as the Horn of Africa. It has the Red Sea on its east coast, Sudan to the west and north, Ethiopia to the south and Djibouti to the extreme southeastern tip. The country has a surface area of about 125,000 square kms. with a coastline of around 1200 kms and 354 islands in the Red Sea.

The population of Eritrea is estimated to be 4.1 million, of which more than 0.75 million living outside the country, mostly in refugee camps in Eastern Sudan. Eritrea's population is diverse, reflecting a number of languages, religions and cultures. Islam constitutes the religion of about eighty percent of the population, followed by Christianity. Arabic and Tigrinya are the official and most widely used languages in Eritrea.

The earliest inhabitants of Eritrea are thought to have moved from the Nile valley into the Mereb-Setit lowlands in around 400 BC. Over the next several thousands years, Eritrea experienced migration of Nilotic, Cushitic and Semitic speaking peoples into what became one of the earliest region of crops cultivation and livestock domestication in Africa [Seb'be, 1983].

Eritrea was established as an Italian colony in 1889 and remained under the Italian colonization for more than 50 years till 1941. With the defeat of Italy during World War II, Eritrea was placed under the British Military Administration for ten years [1941-1952]. In 1952, the United Nations passed its Resolution to federate Eritrea as an autonomous state with Ethiopia for a specified period of ten years [1952-1962] and then after to become an independent state. But, unfortunately, Ethiopia started undermining the terms of federation and in 1962 forcefully annexed Eritrea to become its 14th province.

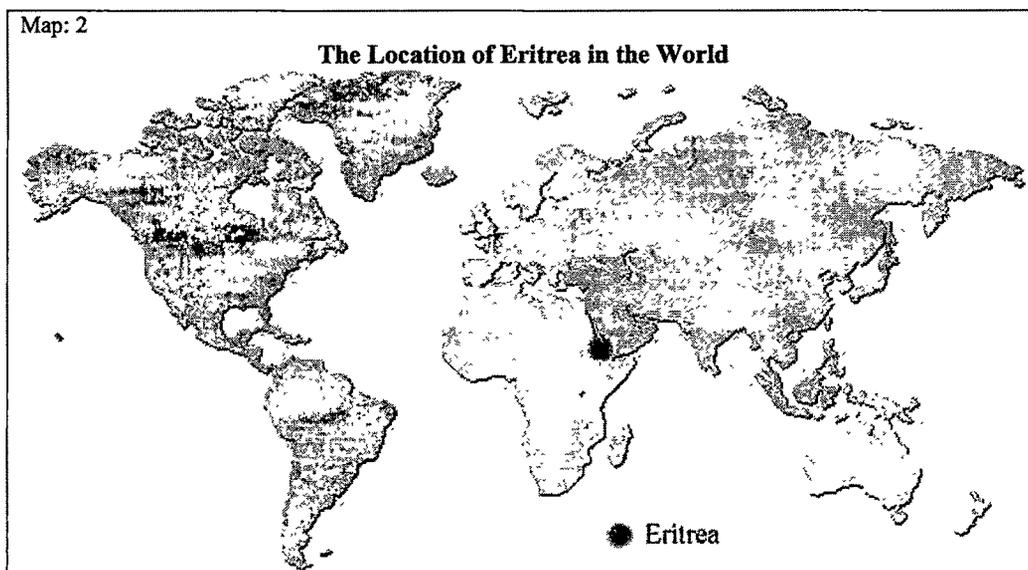
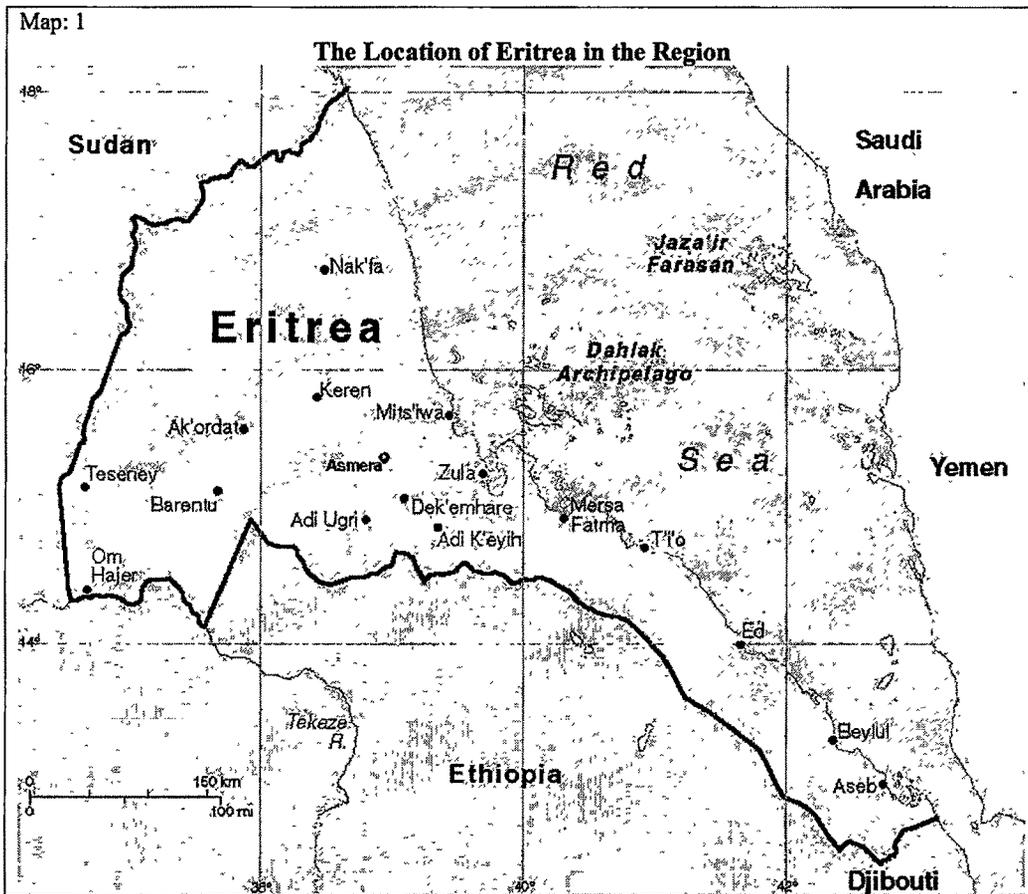
The annexation of Eritrea called forth a militant nationalist struggle against Ethiopia. Since then Eritrea entered into a bitter-war with Ethiopia that lasted for more than thirty years and proved to be the longest and the most destructive of its kind. Finally, its struggle was crowned by victory and independence in May 1991. On the eve of independence, the international community accepted the Eritrean People's Liberation Front [EPLF] as a provisional Government of Eritrea. As per the demand from the United Nations, the EPLF agreed to hold a referendum on independence. In April 1993, the referendum provided a virtually unanimous vote in favor of independence and the new Ethiopian Government officially accepted its result. On May 28, 1993, the United Nations formally admitted Eritrea to its membership to become the youngest nation in Africa. Today, Eritrea is in its infancy, crawling to grow as an independent nation.

1.2 Planning for an Infant Country

Historically, Eritrea was known for its well-built economy, adequate infrastructure and skilled people with wealth of entrepreneurial, commercial and industrial experiences. At the industrial front, Eritrea was considered to be one of the most industrialized areas in East Africa. At the end of the 1930s, some 730 factories producing industrial goods existed in Eritrea. At the international trade front, Eritrea was involved in trade on the Red Sea from as early as 3000 BC. During the 1930s, Eritrea became a successful exporting nation and had some 2,200 active trading companies. At the time of World War II, when imports from Europe to East African markets were disrupted, Eritrea stepped in to supply these markets with various industrial products [Trevaskis, 1960].

Despite this historical glory, on the eve of independence, Eritrea inherited a collapsed poor economy, which had been severely devastated by three decades of war, recurrent drought and colonial exploitation policies. These triple scourges affected almost all the economic sectors and most aspects of the social life in the country. Throughout its colonization of Eritrea, Ethiopia had been plundering the Eritrean economy and draining the country's resources for the development of its domestic economy.

Agriculture, which is considered to be the backbone of the Eritrean economy in terms of GDP and employment opportunities, faces major constraints and has little to contribute to the Eritrean economy. Industry, on the other hand, suffers acute shortages of capital,



technology and infrastructure support. Eighty percent of industrial requirement of raw material is met through imports. Industry contributes as low as 18 percent of the Eritrean GNP.

Though, in the 1940s, Eritrea had a relatively well-developed infrastructure base, decades of war and neglect had damaged much of its infrastructure facilities. Today, the lack of basic economic and social services such as good roads, communication facilities, access to safe water supply and sanitation constitutes the main constraint to the development of the Eritrean economy.

After decades of lost growth and prosperity, Eritrea became one of the poorest countries in the world with a very low GDP per capita of US \$ 115, which is well below the average per capita income of \$350 for Sub-Saharan African countries. Eritrea's human and social indicators are consistent with its low per capita income. In fact, there has been severe erosion in the human capital base of the country

Along with the damage done to the economy and society, Eritrea inherited a collapsed economic system that consisted of command policies framed under the socialist economy. Fiscal policies were formulated in Addis Ababa [capital city of Ethiopia] and communicated to Asmara [capital city of Eritrea] for implementation. The major aim of the fiscal system was to collect as high revenues as possible to finance the war efforts against Eritrea. The monetary sector was consisting of parts of branch networks of Ethiopian financial institutions, using the Ethiopian currency [Bir] and adopting the socialist monetary policies. Despite the above dismal legacy, however, the Eritrean economy today is rising from the ashes of war and destruction, colonial policies and plunder, and has entered a new era of development [World Bank, 1994].

Since its independence in 1991, the Eritrean Government has been implementing certain programs for the reconstruction of Eritrea and the rehabilitation and integration of the Eritrean society. Also, it has introduced various developmental policies and programs with the objective of building a modern, technologically advanced and open economy in Eritrea. In 1997, it introduced a new national currency [Nak'fa]. For various economic, political and environmental constraints, the development efforts in Eritrea are far below the requirement.

With such a state of the economy and the existing constraints and challenges, the construction, rehabilitation and progress tasks awaiting Eritrea are many and huge. This requires all concerns, forces and efforts and every cent and every second. Unless Eritrea understands this fact, it will not be in a position to compensate the lost years of growth and progress or to fulfill the hopes and aspirations of its poor and wounded people.

1.3 Rationale and Objectives of the Study

Many reasons such as the limitations of market mechanism, the need for social justice and the need for resource mobilization and allocation in the context of overall development program make economic planning an important tool of economic development and growth. In addition to these, economic planning in an infant country such as Eritrea has its unique necessity.

The nature of Eritrea is reflected in its infancy. With the achievement of its independence in May 1991, Eritrea emerged to the world as a poor infant country holding its heavy legacy of years of colonial exploitation and oppression, collapsed economy and wounded society to choose its identity, direction and means.

Today, due to the enormous technological progress, the entire world is coming together. Economics, like most other aspects of life, has acquired further dimensions and witnessed substantial theoretical, conceptual and practical changes in the last two decades. Today, with the fast moving world and the open economies, Eritrea cannot choose to remain aloof but needs to align itself with the rest of the world.

Prior to 1974, when Ethiopia was following the West, it was practicing the capitalist economic system in Eritrea. Then, after the victory of the communist revolution in Ethiopia in 1974, the then communist government imposed the socialist economic system in Eritrea. Today, after independence, Eritrea is following the market oriented economic system, as reflected in the privatization and initiatives towards foreign investment.

At this critical moment, planning for the Eritrean economy acquires its peculiar importance, and significance. The present study makes a sincere effort in aligning these

peculiar characteristics of the Eritrean economy and suggests an economic development policy framework.

The specific objectives of the present study are:

- i. To collect and systematically compile the data on Eritrean economy from various scattered sources,
- ii. To evaluate the resource viability of the Eritrean economy by assessing its human and natural resources,
- iii. To examine the economic growth of the Eritrean economy and carry out the growth estimations and forecasting,
- iv. To estimate and plan for Eritrea's economic and human development,
- v. To critically analyze Eritrea's macro economic structure and policies,
- vi. To empirically investigate the inter-relationship between various macro economic variables and bring out the effectiveness of major fiscal, monetary and external sector policies and instruments.

1.4 Methodology

a. Study Approach

So far, there has been no systematic study carried out on the Eritrean economy. This study is perhaps the first attempt of its kind in this direction. It is exploratory in nature. There was no systematic record of data on the Eritrean economy and the systematic compilation of data itself became one of the prime objectives of this research endeavor. Review of the past behavior of the economy is the beginning of any proper economic planning. The compiled data has been used to analyze the present status of the Eritrean economy.

This study has adopted a systematic approach in planning for the Eritrean economy. Priority between the various topics and issues of this study has been maintained throughout this research work. At the outset, this study begins with the examination of the viability of the Eritrean economy through its human and natural resources. The examination of the economic resources was necessary and pre-requisite for planning Eritrea's economic resources.

The second step was to analyze the economic growth in Eritrea and to identify the various sectors of the economy. This step provided a platform for planning the economic growth and also for estimating the expected future growth in the economy.

Further, in the third step the economic growth was analyzed in terms of human development in Eritrea and this involved the study of the levels of human development in Eritrea, the relation between human development and economic growth and the role of the government in human development which was revealed through the study of the government expenditure on the social sector.

The final step was to analyze and plan for Eritrea's macro economic system. This included the analysis and planning of the fiscal system, the monetary system and the external sector.

b. Period of Study

As Eritrea became a nation in May 1991, the time period for this study is restricted to 1992 to 2000. On some variables, pre-independence data was available and accordingly was analyzed for comparison purposes.

c. Sources of Data and Data Collection

As discussed earlier, the collection of data has been one of the most challenging tasks of this research endeavor. All the necessary data used in this study have been personally gathered from various concerned ministries, organizations, and universities, in addition to various government records and publications available in Eritrea and Ethiopia. In addition to these sources, various international sources of data have also been used.

These include:

- i. Publications of the World Bank,
- ii. Publications of the IMF,
- iii. Publications of the UNICEF,
- iv. Publications of the FAO, and
- v. Various Internet sources.

All the relevant data used in this research study has been provided in the appendices along with the sources of data.

d. Methods and Techniques of Analysis

For the analysis of data, various statistical and mathematical techniques have been used.

These techniques include:

- i. Ratio analysis,
- ii. Trend and Volatility analysis,
- iii. Coefficients of correlations,
- iv. Regression analysis,
- v. Estimation of elasticities.

The study uses some important test statistics for the validity of statistical results such as t-test, F-test and D-W test. Instead of reporting the significance level of test statistics each time, a separate summary table with relevant degree of freedom [dof] of all the major test statistics has been given in Appendix – I.

1.5 Limitations of the Study

The major limitations of this research study can largely be confined to two points. The first major limitation has been the non-availability of certain required data. The unavailability of data goes to the situation and quality of the administration that existed in pre-independence Eritrea, added to the fact that the Ethiopian colonial regime, for political reasons, had deliberately been executing or counterfeiting important information related to the country's data base.

The Second limitation has been the shortage of the time period it covers. Though, an in-depth analysis of economic growth and planning in a country requires data for fairly a long period of time. However, this study covers a period of nine years, the entire age of independent Eritrea. This limits the application of certain statistical tools and techniques for the empirical analysis.

Moreover, Eritrea achieved its independence in May 1991 and the actual functioning of the government in terms of policy framing and implementation began in 1993 and the national development objectives were declared in 1994. Therefore, because the independence year [1991] was much of a legacy of the previous system; it has been considered a part of the pre – independence era. While the years 1992 and 1993 are considered as the post – independence initial years, when the policies and plans were not yet formulated. Therefore, these two years have been ignored whenever the data

does not show consistency. Thus, in certain topics this brings down the period of study to seven years [1994-2000].

These data constraints have limited the scope of this research endeavor to its present form. In fact, all the possible available data has been used in this study. Here, it is important to mention that the latest data available for Eritrea was that of the year 2000, which was made available during the years 2001 and 2002.

1.6 Thesis Outline

Including the present introductory chapter, this research study has been divided into nine chapters. The thesis outline goes as follows:

Chapter 1: Introduction

This is the present introductory chapter. It includes a brief country profile, economic planning in an infant country, rationale and objectives of the study, methodology of the study, limitations of the study and thesis outline.

Chapter 2: Assessment of Economic Resources

The study and assessment of economic resources is vital from the point of view of economic development. It is particularly important because knowledge of resources furnishes the base and platform for planning economic development. The existence or absence and size of certain human and natural resources can facilitate or delay the progress of economic development.

The objective of this chapter is to evaluate the viability of the Eritrean economy by assessing its human and natural resources. The assessment of human resources elaborates on the quality of Eritrean population by discussing population profile and growth, health status, standard of education, extent of poverty and unemployment. While the assessment of natural resources includes the study of land resources and its utilization, the availability of water resources, mineral resources, forest resources and marine resources.

Chapter 3: Economic Growth and Sector Identification

In order to understand the past behavior and present status of Eritrea's economy, this study undertakes the analysis of trend and composition of GDP and its sub-sectors. This has been done by calculating annual average growth rates, volatility analysis and estimation of trend equations. This study has been divided into pre and post independence periods.

Chapter 4: Growth Estimations and Forecasting

Good strategic planning focuses on successfully managing the future. To manage the future, we need to estimate what is likely to occur in the future. Statistical methods can be used to accomplish this goal. This chapter begins the empirical analysis of the Eritrean economy with the estimation and forecasting of Eritrea's economic growth for the period 2001 to 2005.

For this task, the study adopts three important forecast methods, namely: Time Trend Method, Lucas's Supply Side Growth Model and Holt – Winters Exponential Smoothing Method.

After estimating the GDP forecast from all these methods, the question that arises is: which method should be used for forecasting the Eritrean GDP? Any method which gives the estimated values closest to the actual one in the *ex-post* forecasting analysis is always preferable. For this purpose this study uses two indicators – the Mean Absolute Percent Error [MAPE] and the Mean Squared Error [MSE] to compare the forecasting performance of estimated models, and finally selects the best-suited model for the forecast of Eritrea's overall as well as sectoral GDP.

Chapter 5: Planning for Human Development

This chapter attempts to address the problems of human development in Eritrea in relation to economic development. First, it constructs the human development index [HDI] for all the years of post-independence.

It also takes this issue a step further by estimating the likely future HDI scenario for Eritrea for the period of 2000 to 2015.

In the second phase, this chapter investigates the role of the government in human development and social sector. Finally, this chapter explores the existence and extent of causal relationship between various parameters of economic growth and human development.

Chapter 6: Fiscal System: Structural and Empirical Analysis

This chapter is the first macro economic analytical work in the thesis. It has been divided into two parts: structural analysis of the fiscal system and empirical analysis of the fiscal system.

The structural analysis deals with an in-depth analysis of Eritrea's fiscal system, where the growth, trend and composition of all the important constituents and variables of the Eritrean fiscal sector have been examined.

How responsive are the fiscal variables to the macro economic changes in the Eritrean economy? How sensitive are the tax revenues to national income? Is the role of the government increasing with the growth of the economy? The proper fiscal planning and policy formulations require the answers to these questions. The second part of this chapter attempts to answer these questions by empirically analyzing and modeling Eritrea's fiscal system.

Chapter: 7 Monetary System: Evaluation and Empirical Analysis

This chapter is an attempt to look for the answers to certain important questions, which arise when one deals with the study of monetary system of any country. In relation to Eritrea's monetary system and policy, the questions raised are: To what extent has Eritrea been able to achieve the objectives of monetary policy? How effective have the various policy measures been in the working of the Eritrean monetary system? How stable are the demand for and supply of money functions in Eritrea?

This chapter has been divided into three sections. The first section deals with an overall evaluation and analysis of various aspects of monetary sector such as the financial institutional structure, rates of interest, inflation and exchange and the supply of money with the purpose to examine their consistency under the framework of monetary policy objectives.

Section two deals with the empirical analysis of the monetary system in Eritrea. There are three most important behavioral issues, which influence the working of the monetary system of a country. These are: Demand for Money, Velocity of Money and the Determination of Money Multiplier. The importance of these monetary issues lies not only because of their influence on the overall working of the monetary system but also because these factors are not fully under the command of the monetary authorities. These issues are empirically examined herewith.

Chapter: 8 External Sector: Balance of Payments and Foreign Trade

International trade is a must for the development of under developed economies; it is more necessary during the initial stages of development. After undertaking an in-depth analysis of various aspects of Eritrea's domestic economy, at the end, this last analytical chapter is devoted to Eritrea's external sector.

This chapter analyses the growth, changing structure, strength and weaknesses of Eritrea's balance of payments and foreign trade. Some important foreign trade estimates and elasticities have also been calculated in this chapter.

Chapter 9: Conclusions and Policy Inferences

Appendices

Bibliography

References

1. Seb'be, Osman Saleh [1983], Geography of Eritrea, Beirut - Lebanon, [Arabic Text].
2. Trevaskis, Gerald Kennedy Nicholas [1960], Eritrea: A Colony in Transition, 1941-1952, Oxford University Press, London.
3. World Bank [1994], "Eritrea: Options and Strategies for Growth", In Two Volumes, November 1994, Country Operations Division, Eastern Africa Department, Africa Region.