CHAPTER - 1
INTRODUCTION

1.1 SIGNIFICANCE AND RATIONALE OF THE SUBJECT

The economic growth of Asia Pacific Region, which encompasses the Western Basin from Korea in the north to Indonesia in the South, has been most impressive in the past two decades (1970s and 1980s). Asian growth however, has not been uniform. During the last two decades some of the countries emerged as newly industrializing countries, some were in the process of entering this group while others lagged behind. It will not be wrong to classify the resulting groups into three main categories:

a) The high income, newly industrialising countries (NIC-4) namely HongKong, Singapore, Korea and Taiwan.

b) The middle income emerging industrialising countries namely Indonesia, Malaysia, the Philippines and Thailand. These countries are commonly known as ASEAN-4- The four larger members of the Association of South East Asian Nations.

c) The low income countries of South Asia namely Bangladesh, India, Pakistan, Nepal and Sri Lanka.

The development performance of three subregions of Asia depicts that countries at a similar stage of development in 1950s, showed varied economic performance during the last three decades. The economic performance of NIC-4-since 1960s has been spectacular, surpassing that of any other group of countries in modern times. Almost the same can be said of ASEAN-4 (except the
Philippines). But the economic performance of South Asian countries and the Philippines has been less impressive. If we draw on the wider evidence of the debate about the causes of development, voluminous literature on development suggests that though the pace of industrialization and trade depends in part on initial conditions, factors and resource endowment, country size, location and social mores and on international environment, policy formulation and implementation by the governments of different countries is the principal cause of differentials in growth rate. In particular, trade policies of developing countries can affect trade as well as economic performance significantly. Trade has proved to be more effective instrument for promoting efficient structural change than autarky. The rapid industrial growth of many of the Asian developing countries compared to other developing regions reflects the different types of trade policies they have adopted. Countries applying outward oriented development strategies had a better performance in terms of exports, economic growth and employment. Whereas, countries with inward orientation encouraged increasing economic difficulties.

Most of the Asian developing countries followed import substitution strategies, at least initially.

The NIC’s shifted to export orientation by early 1960s. The ASEAN-4 began to liberalize trade in early 1970s. However, a pattern of inward looking autarkik industrial development became widespread in South Asia from 1950s till mid 1970s. Though South Asian countries (mainly four i.e., India, Pakistan, Bangladesh and Sri Lanka) were in transition in late 1970s, from inward looking policies to policies of relative outward orientation, they were not very successful in adopting these policies.
Export promotion, as one of their strategies did not help them in adjusting to the crises through increased export earnings. They, at present, confront a crisis in their international competitive position. They have been outstripped by other developing countries who emerged more successful in gaining export market shares in addition to what they already possessed. Naturally, one becomes anxious to know why, South Asian countries, having such a vast potential of exports, huge network of institutions and with their efforts in continuous framing and reframing of import-export policies, have been surpassed by developed nations in the 1950s, resource poor Japan in the mid 1950s, NICs in the 1960s, ASEAN-4 in the 1970s and China in the 1980s.

The analysis of development performance of NIC-4, ASEAN-4 and South Asia (James Naya and Meier, 1987)\(^1\), relative progress of East Asia, South Asia, and Latin America (Naya Seiji and others, 1989)\(^2\), balance of payment adjustments of South Asia (Neela Mukherjee)\(^3\), and survey of India’s trade regimes (Bhagwati and Srinivasan)\(^4\) reveals that the success of trade liberalization of NIC-4 and ASEAN-4 lies in their combination of outward oriented trade policies and cautious macroeconomic policies aimed at eliminating market distortions to improve efficiency of resource use and the international competitiveness of exports. In the case of South Asia the process of trade liberalization has been gradual, slow and detrimental to growth due to lack of competitiveness and inconsistency of macroeconomic policies.

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\(^3\) Mukherji, Neela (1987): BOP adjustments and South Asian Economies.

to outward orientation till mid of 1980s. Since mid of 1980s four major South Asian countries (Bangladesh, India, Pakistan and Sri Lanka) have initiated structural economic reforms but lack of international competitiveness of several exportable products still seems to be root cause of low growth of exports of South Asian countries. The success of the macroeconomic adjustments, for better performance of exports will depend on to what extent these reforms eliminate price distortions to improve the international competitiveness of exports.

Experience of successful exporting countries of the world shows that these countries improved their competitiveness with the development process. Two reasons may be attributed to this. (a) The competitiveness of exports may depend on whether composition of exports is determined by comparative advantage or not. (b) The comparative advantage, however, itself is a dynamic phenomenon as there might be shifts in the comparative advantage as a result of the process of economic growth. The reasoning appears to be that sources of comparative advantage lay in factor endowments. Changes in factor endowments over a period of time (due to change in technology scale economies etc.) will, therefore, lead to change in comparative advantage. A priori one would expect underdeveloped economies having scarcity of capital and skill to possess a traditional production structure and thus specialize in production and export of raw materials and agricultural products. As economies move from lower to higher levels of development, they accumulate capital, develop skills and generate better technology leading to changes in the structure of comparative costs. This everchanging structure of comparative costs allows a given country to move up the ladder of comparative advantage from specialization in primary products.
(i.e., raw materials and agricultural products) to manufacturing products which are labour intensive in the first stage and then to manufacturing products which are capital, skill, technology and knowledge intensive in subsequent stages.

Every low income economy, before development, has inadequate endowment of capital and thus possesses a traditional production structure that is intensive in natural resources and unskilled labour. Consequently, for every economy, the comparative advantage in the initial stages of development, may be expected to be in raw materials and agricultural products. Thus growth model based on exports of primary and agricultural products in the initial stages of development has considerable advantages in maximising agriculture's contribution to overall development. "Higher rates of GDP growth in the ASEAN-4 were quite conducive to the expansion of agricultural exports while this was not the case in South Asia........" "By expanding agricultural exports the ASEAN-4 countries realised greater foreign exchange earnings and improved the linkages between agriculture and other sectors". (James Naya and Meier, 1987). However, most of the South Asian countries had an active policy of promoting the exports of new manufactures and neglecting the traditional exports. The result was neither South Asian countries could maintain their traditional market shares nor could they capture any sizeable proportion of new markets. The past experience of export promotion of South Asia combined with strong International competition in manufacturing and external environment call for a reassessment of the feasibility of continuing to rely on manufacturing export led growth as the major development dynamic in South Asia.

The South Asian economies, being developing economies, characterized by abundance of labour, scarcity of capital, relatively low level of technology and heavy dependence in natural endowments, their comparative advantage would seem to lie in agricultural products and labour intensive manufactures.

South Asian economies are basically agricultural in nature. Despite the rapid growth of industrial production, their dependence on agriculture is staggering. At present, about 50 per cent of national income of Sri Lanka, 40 per cent of the national income of India and 25 per cent of national income of Pakistan is derived from agricultural sector. There are several reasons why Agro exports should contribute a similar proportion to total exports of these economies.

a) In an economy where demand chronically exceeds supply, each sector should generate export supplies commensurate with its share of national output and productive resources. (Sen Gupta, 1986).6

b) Domestic Resource Cost of each rupee of foreign exchange earned is lower in agriculture than in manufactures. (Sen Gupta, 1986).7

c) Factor incomes generated at home per rupee of output exported, directly and through backward linkages, is higher for agriculture compared with manufacture and mining. (Sen Gupta 1986).8

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7 Ibid.
8 Ibid.
d) Basically, agricultural commodity exports require the least amount of cash assistance. Foreign exchange earnings is net in most cases, as raw materials, capital equipment and components have not to be imported for agricultural production. (M. Dattatreyulu, 1988)9.

e) World demand for some of the higher value agricultural products such as meat, dairy items, marine products, fruits and vegetables and other processed and semi-processed agricultural products is increasing since last few years due to (i) increase in income of developing countries (ii) increasing health consciousness in western world leading to renewed preference for natural and fresh foods.

f) Along with the expected increased demand for agricultural, horticultural and marine products, South Asian countries enjoy enormous opportunities in the developing region especially in Asia and Africa because of similarity in socio-economic conditions, initial stages of their economic development and the geographical proximity to the region.

g) South Asian countries enjoy a fairly large potential for agricultural, horticultural and marine products due to large geographical area with varied climate, temperatures and variety of soils accompanied by the largest coast lines in the world.

Despite the above advantages these countries’ share in global exports of these products pales into insignificance. World trade in Agricultural commodities is of the order of about $300 billion and yet the share of South Asian countries is not more

9 Dattatreyulu (1988) : India’s Agricultural Exports.
than 1 per cent. To look into the explanation for this paradoxical situation an analysis of comparative advantage in agricultural exports of South Asia has been attempted in this study.

As the concept of comparative advantage involves inter country comparison, we attempt a comparison between South Asian countries and some of the successful Asian developing countries, namely NIC-4 and ASEAN-4.

1.2 OBJECTIVES

The fundamental premise upon which this study is based is that comparative advantage considerations should be brought to bear upon the choice that has to be made regarding the kind of specialization in exports for developing economies of South Asia. Thus the objective of present study is:

i) To prove empirically that (a) the comparative advantage for South Asian countries lies in exports of agricultural products and labour intensive manufactures. (b) the sectoral composition of South Asian countries' trade however, has not been determined as per comparative advantage considerations.

ii) To stress the need, on the basis of empirical approximation of (i), to increase the share of agricultural exports in the export basket of South Asian economies to enhance competitiveness of their exports.

iii) To identify agricultural commodities (at the three digit SITC level) having comparative advantage.

iv) Analyse present position and problems of agricultural exports having comparative advantage.
v) Offer suggestions as to how agriculture could be exploited in a better way for trade in these economies.

1.3 SCOPE

Information concerning the pattern of international competitiveness and its tendency to change over time is highly desirable input to decision making. However, much of the research in this area has focused on trade in industrial goods. Number of studies by United Nations economists have worked out the comparative advantage in manufacturing. The analysis of comparative advantage in exports of agricultural products has received scant attention on the ground that agricultural products are intensive in the use of natural resources and thus the pattern of trade in such products depends to a considerable extent on the not easily quantifiable resource endowment of the country. Hence, it has become a common practice among students of international trade to exclude natural resource intensive products from consideration or to disaggregate the total commodity trade into the primary and manufactured commodity trades so as to minimize the influence of natural resource commodities. The neglect of comparative advantage in agricultural products has also been partly due to the fact that most of the studies on comparative advantage were done for developed economies (mainly USA and Japan) for which the share of primary exports was quite low, i.e., for countries who were at that stage of development where primary export weightage becomes quite low. As the comparative advantage for developing economies seems to lie in agricultural products and labour intensive manufactures, primary exports weightage seems to be quite high for developing economies of South Asia which necessitates an analysis of
comparative advantage in agricultural products. Thus an attempt would be made in this study to analyse the comparative advantage of trade in agricultural products of South Asia. It also identifies the types of such products which will give South Asian economies a comparative edge in terms of their resource endowments and capabilities and thus for which export effort would be worth undertaking. However, due to vastness of the subject and data limitation, though the macro analysis, i.e., analysis of sectoral composition of exports and comparative advantage will deal with South Asian economies in general, the micro analysis i.e. identification of agricultural products having comparative advantage and their analysis will be done with special reference to India only.

The study covers twenty year period 1970-1989 for the analysis.

1.4 THE REVIEW OF LITERATURE

1.4.1 Agricultural Exports

Although enormous literature is available on exports, strategy or exports, export and growth and manufacturing exports, till recently, not much literature (except a few reports by F.A.O., ITC, UNCTAD/GATT, CECD and Asian Surveys by ADB) was available on agricultural exports. A few of the latest publications on Agricultural exports are (1) Horticulture in World Trade by Nurul Islam (2) Export Prospects of Cereals, Fruits and Vegetables by Sen Gupta (3) Agricultural Exports

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10 Please See Bibliography for details.


Strategy by ESRF (Economic and Scientific Research Foundation). The study by Nurul Islam gives a comprehensive analysis of world trade in fruits and vegetables with special emphasis on exports of developing countries. The study suggests that detailed individual country studies are needed to analyse the factors that affect the production and exportation of horticultural products in specific circumstances. According to Nurul Islam "Faced with increasing import requirements for accelerated growth, developing countries need to rapidly expand their export earnings. But traditional agricultural exports of developing countries such as agricultural raw materials and tropical beverages, face slow growth prospects in world markets, and food exports, such as cereals, livestock products, and sugar, cannot compete with the subsidized exports of developed countries. In this context the importance of identifying and promoting non-traditional exports with high growth prospects in world markets, such as horticultural exports, can hardly be over emphasized. Labour abundant developing countries have or can rapidly develop comparative advantage in many horticultural exports. Moreover, the potential contribution of these products to agricultural diversification and employment expansion in developing countries is likely to be significant. IFPRI has undertaken in the past specific studies of selected agricultural exports, including non-traditional exports. However, little research has been done on world trade in horticultural products. This Research Report, which is the first comprehensive analysis of the world trade in horticultural products, includes their composition, market structure,
past trends and the role of price and non-price factors, as well as examination of the differential performance of developing countries and regions. Detailed country studies bearing specific questions of product choice, technology, infrastructure institutions and policy framework are needed in order to device an appropriate strategy for the Horticultural sector in developing countries. (Nurul Islam 1990).  

According to the study by Sen Gupta “the potential role of agricultural exports, specially of the non-traditional items, has still not been fully assessed”. (Sen Gupta 1986).  

The emphasis in this study has been on assessing India’s internal compulsions, strengths and constraints and relating them to the world market situation. The study is presented in three parts:-

Part-I contains the background of the study, gives a summary of the main conclusions and provides the macro perspective against which the detailed product specific studies have been done.

Part-II contains detailed report on cereals.

Part-III contains a detailed report on fruits and vegetables.

The procedure followed in the study is as follows:

1) Role of agro based exports.

2) Domestic scenario of production and consumption of agricultural products (cereals, fruits and vegetables) to determine the volume of exportable surplus.

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3) World market analysis of production, consumption, trade and major exporting and importing countries of the products under study.

4) Critical analysis of India’s export performance.

The critical analysis of India’s exports of fruits and vegetables in recent years, together with world market analysis (as per this study) reveals:

1) There is a large and profitable world market for fruits and vegetables in which India has a negligible presence.

2) India’s production potential in fruits and vegetables is enormous and it will be quite easy to generate a sizeable export surplus.

3) Fruits and vegetable exports would yield a high realisation of foreign exchange.

4) Exports of fruits and vegetables would add value to Indian agriculture.

However, India’s internal constraints of domestic demand and lack of export strategy (as per this report) limits the exports of fruits and vegetables from India.

The study of ESRF firstly stresses the need to increase agricultural exports of India and then proceeds with the analysis of agricultural exports as follows:-

i) It reviews the past trends and structure of India’s exports of selected commodity groups.

ii) Identifies commodities which have additional export potential and makes projections for the next two decades.

iii) Identifies major importing markets for intensive export drive.

iv) Examines the import policies of the major buyers of the identified commodities.
v) Identifies major competitors in different commodity groups and assesses the nature and degree of competition India will have to face.

vi) Examines benefit cost of the selected commodities so as to assess the commercial feasibility of goods; and

vii) Recommends policy measures for promoting India's exports.


Most of the studies on agricultural exports deal with performance, problems and prospects of agricultural exports. There seems to be no study which deals with comparative advantage in agricultural exports. As developing economies seem to have comparative advantage in agricultural exports, this study intends to deal with comparative advantage of trade in agricultural exports of South Asian countries.

1.4.2 Performance of Export

The main purpose of this study is to work out the comparative advantage of trade in agricultural exports of South Asia. Thus along with the literature on agricultural exports, literature on exports and growth, manufacturing export, factors determining exports and comparative advantage of exports was reviewed. The literature available on exports, strategy of exports, exports and growth, manufacturing exports and factors determining exports is so enormous that it may not be feasible to give a review of even part of the whole literature. We may attempt to give a gist of findings of the studies dealing mainly with factors determining exports.

There have been a number of studies to identify and assess the influence of the factors underlying performance of exports of a particular country or a group of

Theoretical analysis of the basic factors underlying export performance highlighted the influence and importance of (a) foreign demand for a country’s exports (b) commercial policies abroad (c) domestic supply of exports (d) domestic policies towards exportables. Some studies highlighted the importance of external factors while others justified that domestic factors were crucial determinants of export growth. Analysis of India’s exports by Deepak Nayyar, R. Banerjee and Martin Wolf highlight the importance and influence of domestic factors on India’s exports. Bela Balassa, James Naya and Meier and Naya, Seiji, Urrutia M. Mark and S. Fuentes and certain studies by U.N. highlighted the importance of trade policies of an economy as the main determinant of export. Recently, since the publication of some studies by Bela Balassa and U.N. on comparative advantage and trade and the use of Constant Market Share model for empirical analysis of export growth, the main cause of poor

¹⁶ Please see Bibliography for details of references.
performance of exports is considered to be lack of competitiveness. The results of Constant Market share analysis of India by Deepak Nayyar, R. Banerjee, Manmohan Aggarwal and NIC-4, ASEAN-4 and South Asian countries by U.N. show lack of competitiveness to be the main cause of poor performance of South Asian Countries exports as compared to NIC-4 and ASEAN-4. Based on the general conclusions of these studies we may state that:

1. Though the pace of industrialization and trade is affected partly by initial conditions of the economy, international environment, industrial and trade growth rates and structural change, trade and development strategy of different countries is the main determinant of industrial and trade growth rates. Trade policy of the government is the main instrument to tailor trade to the needs of growth and development. Trade according to Bala Balassa\(^\text{17}\) has proved to be more effective instrument for promoting efficient structural change than autarky. It expands output and provides additions to income through demand for local natural resources which might otherwise go practically unused. It permits an economy to specialize in exporting products based on its relatively abundant resources while importing goods and services that would be very expensive or impossible to produce locally. Trade policy is partly a matter of selecting and implementing a strategy and overall approach to take full advantage of the potential benefits, limit the disruption and cultivate the learning opportunities, taking into account a country's particular situation and resources.

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\(^{17}\) Balassa, Bela (1982) : Development Strategies in semi Industrialised countries.
2. Countries applying outward oriented development strategies had a better performance in terms of exports, economic growth and employment. Countries with inward orientation showed poor performance.

3. An outward oriented trade policy will help optimise use of available factors of production only if it is pursued in right perspective. An exclusive focus on exports, leading perhaps to chaotic policies to promote them regardless of cost could result in misallocation of resources. This may be the reason that whereas some of the Asian economies (mainly East Asia) could establish their name and image as exporting nations in the world market others (South Asian) failed to do so. Inspite of various export promotion measures exports of South Asian countries (specially India and Pakistan) have failed to register growth rate compatible to (a) other developing nations (b) to the amount of efforts and initiative taken by the country.

4. The main causal factor underlying poor performance of exports of South Asian countries (specially India and Pakistan) seems to be lack of emphasis on international competitiveness.

Most of the studies on performance of exports, however, give stress on the factors which determine exports on the basis of past performance. No study explores in greater detail the causal relationship. For instance, poor performance of exports of present day developing countries is attributed, by most economists, to lack of competitiveness. No study goes into the factors that actually determine competitiveness in a present day developing economy. Deepak Nayyar does mention the factors which determine competitiveness and studies by James Naya and Meier
and Naya, Seiji, Urutia, Mark and Fuentes gives some reference of the fact as to how
NIC-4 and ASEAN-4 countries could improve their competitiveness of exports in
1970s and 1980s by specialising (in accordance with the principal of comparative
advantage) in primary and agricultural products in the initial stages of development,
shifting to labour intensive exports in the second stage, and capital intensive in the
third stage. No study, however, deals with factors that may lead to improvement of
export competitiveness in South Asia.

We may state that competitiveness of an underdeveloped economy is going to
be less in all products as compared to developed economies. Enhancing
competitiveness may be termed as one of the major objectives of trade strategy for
a developing economy. Thus we have to see what are the major corrections through
which competitiveness could be improved. An attempt is made in this study to
suggest how South Asian Countries can evolve competitiveness in world trade by
adopting the theory of shifting comparative advantage in exports i.e by adopting a
growth model based on exports of primary products as the comparative advantage for
developing and low income agricultural economies of South Asia still seems to lie in
agricultural products and labour intensive products.

1.5 DATA AND INFORMATION SOURCES

In view of the vast scope of the subject the study is conducted on the basis of
secondary data. The sources are: Statements and statistical data published by FAO,
of India and also the material published in newspapers, journals and various
Research publications specially various reports by Agricultural Planning Studies and
agricultural Service Bulletins by FAO (Rome), Project Reports of International Food Policy Research Institute (Washington), and reports by various export promotion councils and Boards in India.

1.6 METHODOLOGY

The methodology consists of two parts:-

a) for classification of agricultural and allied products.

b) for analysis of competitiveness of Exports.

1.6.1 Classification of Agricultural and Allied Products

1.6.1.1 Classification used in general

Two alternative methodologies may be mentioned in classifying agricultural and allied products. The first is classification contained in the Handbook of International Trade and Development Statistics UNCTAD, U.N. and the second is Leamer’s trade aggregates.

As per UNCTAD classification, agricultural commodities include:

1) All food items comprising RITC Sec 0, 1, Div. 22 and Sec.4.

2) Agricultural raw materials comprising RITC Sec.2-Div (22+27+28).

Thus agricultural and allied products comprise of Sec.0,1,2 (less 27 and 28) and Sec.4.

Leamer’s trade aggregates are formed from the sixty one two digit SITC commodity classes by a set of cross section regressions of the net export data on a list of eleven resources. The commodities having similar regression coefficients are aggregated. Leamer’s ten aggregates comprise: two primary product aggregates (petroleum and raw materials) four crop aggregates (forest products, tropical
agricultural products, animal products and cereals) and four manufactured aggregates (labour intensive, capital intensive, machinery ad chemicals). These ten aggregates are abbreviated as PETRO, MAT, FOR, TROP, ANL, CER, LAB, CAP, MACH and CHEM respectively. As per Leamer, four crop aggregates i.e. FOR, TROP, ANL and CER comprise agricultural and allied products. In terms of SITC classification these aggregates (i.e., agricultural and allied products) comprise:

a) Food and live animals chiefly for food (Sec.0)
b) Beverages and Tobacco (Sec.1).
c) Crude materials inedible oils (except fuels) excluding crude fertilizer and crude minerals and metalliferous ores and metal scrap [Sec.2-Div (27+28)].
d) Animal oils and fats (Sec.4)
e) Wood and Cork Manufactures (div.63)
f) Paper, Paper board (Div.64)
g) Animals n.e.s. (Div.94).

Thus Agricultural and allied products as per Leamer’s Trade aggregates comprise Sec.0,1,2 (less 27 and 28), Sec.4, Div.63,64 and 94.

The composition as per both the methodologies is almost the same except for an addition of Div. 63, 64 and 94 in Leamer’s aggregates over and above the aggregates classified in U.N. handbook.

1.6.1.2 Classification used in the present study

We shall be using, in our analysis, Leamer’s composition to define agricultural and allied products as it is based on econometric analysis of cross section multiple correlations as well as cross section simple correlations between trade data
and resource data. Moreover, Leamer's composition is same as FAO's composition of total agricultural exports except an addition of Div.94 in Leamer's composition over FAO's composition. Hence, in terms of two digit classification, agricultural and allied products shall comprise of 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 11, 12, 21, 22, 23, 24, 25, 26, 29, 41, 42, 43, 63, 64, and 94.

Since the number of agricultural commodities that are traded internationally is enormous, no study with any time constraint could analyse each commodity. The study, therefore, confines itself to two digit SITC aggregates for macro analysis of agricultural exports (where comparative study of exports of South Asia vis-a-vis NIC-4 and ASEAN-4 is attempted) and to three digit SITC aggregation for micro analysis of agricultural exports of India.

1.6.2 Competitiveness of Exports

1.6.2.1 Methodology used in general

Two approaches, viz. Constant Market Share (CMS) and Domestic Resource Cost (DRC) are generally used for analysing the competitiveness of exports.

An immensely simplified model that has been frequently used in studies on the export performance of individual countries is the CMS analysis of export growth. Its basic assumption is that other things being equal, a country's share in the world market for exports should remain constant overtime. The model, by a procedure of decomposing, eliminates from a given country's actual export performance those changes that are accounted by size and the pattern of the world trade and attributes the residual portion to the changes in export competitiveness. In this method, an increase in a country's exports can be divided into four parts which are attributable
to (a) the general growth in world trade, (b) changes in the commodity composition of its exports, (c) changes in the market distribution of its exports, and (d) changes in competitiveness.

CMS model can only be used to analyse the past. The model has no stochastic basis and hence cannot be used for econometric projections or for forecasting future changes in the market share. Secondly, the model does not establish any causal relationship. "It is far too aggregative and does not go into the factors that actually determine each of the four components" (Deepak Nayyar)\(^\text{18}\). It only decomposes the past export growth of a country into its different components and stops short of providing any explanations as to why the exports increased or decreased as they did. Thirdly, the conclusions derived from an analysis based on CMS model is valid only for the particular time period chosen, the level of commodity aggregation adopted and for the particular breakdown of markets. A different set of these parameters may produce different result and presumably different conclusion.

An alternative approach to measure international competitiveness of exports is Domestic Resource Cost (DRC). DRC criterion is a single period, social cost benefit indicator giving the domestic factor cost and shadow prices of generating a unit of value added at international prices. DRC measures the cost, in terms of domestic factors of production evaluated at shadow prices, of earning or saving a net unit of foreign exchange as a consequence of producing a particular output. An output should be produced if its DRC is less than the shadow price of foreign exchange. Despite acknowledged methodological reservation, DRC measurements

\(^{18}\) Nayyar, Deepak (1976) : India's Exports and Export Policies in 1960s.
have proved to be highly useful policy tools when market of shadow prices diverge. Activities with the lowest DRC ratios are normally assumed to exhibit the greatest comparative advantage. According to Chenery (1965) a country has a comparative advantage in producing and exporting a commodity if the social opportunity cost of producing a unit of commodity—the value of all factors of production in their best alternative employment—is less than the commodity’s export prices.

\[ F.E. + D < P.E. \]  

(1)

Where

\[ F = \text{Cost of direct and indirect foreign inputs per unit of output (in foreign currency).} \]
\[ E = \text{The cost of a unit of foreign exchange.} \]
\[ D = \text{The opportunity cost of direct and indirect domestic inputs per unit of output (in local currency).} \]
\[ P = \text{The international price of the product (in foreign currency).} \]

A second definition of DRC has been suggested and applied by Bruno to measure the comparative advantage of economic activities producing tradeable goods and services within a single country. Bruno’s DRC methodology for measuring the comparative advantage of different tradeable products is a simple modification of Chenery’s methodology (Eq.1)

\[ \text{DRC} - \frac{D}{P - F} < E \]

According to this definition a country has a comparative advantage in the
production of an exportable commodity if the social opportunity cost of earning a unit of foreign exchange is less than the exchange rate.

An alternative application of the DRC technique has been used by Pearson and Meyer (1974). The Pearson and Meyer adoption is useful for cross country comparisons of relative comparative advantage in production of an identical commodity.

\[
\frac{D}{(P-F)} < \frac{E}{1}
\]

A country’s relative efficiency in the production of a commodity can be evaluated by comparing its \([(D/P-F)/E]\) ratio with that of its potential competitors. The smaller the ratio, the greater a country’s relative efficiency.

A major drawback of DRC approach (like CMS approach) is that it cannot provide an understanding of the historical forces which gave rise to the current pattern of measured comparative advantage, nor does it provide much insight into likely directions of change in the future. DRC ratios have little to say about dynamic, as opposed to static, comparative advantage, and there have been few attempts to examine changes in the DRC over time within the same economy.

1.6.2.2 Justification for the methodology to be adopted in the present study

Both the approaches, however, have little to say about dynamic, as opposed to static, comparative advantage. Secondly, both approaches fail to establish any causal relationship as they are measures of competitiveness not the determinants. Competitiveness of an underdeveloped economy is going to be less in all products as
compared to developed economies. It is to be evolved with development process. Thus we have to see what are the major corrections through which it could be improved. For this we have to provide an understanding of the historical forces which gave rise to the current pattern of measured comparative advantage and provide an insight into the likely direction of change in the future, i.e., we have to determine the sources of comparative advantage and further whether the composition of trade is determined by this comparative advantage (static as well as dynamic) or not.

1.6.2.3 Methodology adopted in the present study

The Heckscher Ohlin (H.O.) model has conventionally been used to explain the sources of comparative advantage. According to this theory (assuming the technology to be same across countries) comparative advantage is the result of the resource endowment structure of different economies. A series of modifications to this theory have been developed over the last forty years. A detailed review\(^\text{19}\) of these modifications reveal that a strong Ho component should be present among the determinants of composition of trade in developing economies of South Asia. Thus the methodology adopted is:-

1. To determine ideal comparative advantage based on resource endowment structure, i.e., to see impact on comparative advantage by interaction between factor endowment and factor intensity.

2. A rigorous analysis of patterns of ideal comparative advantage, requires cost comparisons across countries. But the data required for such an analysis are

\(^{19}\) Please see Chapter 3 sec. 3.3.7. : Theoretical Validity of H.O. model.
rarely available. Thus an index of comparative advantage, i.e., Revealed Comparative Advantage (RCA) for different sectors is worked out for estimating comparative advantage of trade in South Asian economies, NIC-4 and ASEAN-4.

3. Sectoral composition of exports as per Leamer's trade aggregates is worked out for South Asia, NIC-4 and ASEAN-4.

4. To examine the extent to which South Asian countries pattern of trade conforms to the structure of comparative advantage (in static as well as in dynamic sense) an empirical verification of South Asian countries pattern of trade is attempted. The static nature of export compatibility of South Asia is analysed by an application of the commodity version proposition of the HO theory. The dynamic nature of compatibility of India's exports is analysed by testing empirically the factor proportions model over different points of time in an economy that is observing the model as a static one at different dynamic points (based on the theory of "The Stages Approach of Comparative Advantage" by Bela Balassa). As the concept of comparative advantage involves inter-country comparisons a comparison between South Asia, NIC-4 and ASEAN-4 countries' composition of export vis-a-vis comparative advantage is attempted.

5. To identify products having comparative advantage in agriculture, RCA index at three digit level was worked out for all the agricultural and allied products in India.
1.7 PLAN OF THE STUDY

Introduction serving as chapter 1 outlines the approach for analytical purposes and after review of literature specifies the objective, scope and methodology of the study.

Chapter II analysis the export performance of South Asian countries as compared to NIC-4 and ASEAN-4 and outlines the descriptive approach for causal factors that could have led to poor performance of exports in South Asia as compared to South East Asia and NICs. The analysis of export performance of South Asian countries revealed that the root cause of poor performance of exports in South Asian countries is lack of international competitiveness. Thus enhancing competitiveness may be termed as one of the major objectives of trade strategy for South Asia.

Further, looking into the determinants of competitiveness i.e. the major corrections through which competitiveness could be improved it is hypothesized in Chapter III that countries whose trade strategy supported composition of trade that not only confirmed to comparative advantage as it existed initially but also changed this composition in accordance with shift in comparative advantage (overtime) with major emphasis not only on subsidies but on production and infrastructure improved their competitiveness in world trade.

Chapter III is theoretical in nature and deals with the model of export determinant. It is divided into three parts.

(a) Determinants of competitiveness.
(b) Source of comparative advantage i.e. theories of comparative advantage and empirical models review.

(c) Theoretical validity of the Heckscher-Ohlin model of trade.

In the light of the theoretical model of export determinant of chapter III an attempt is made in chapter IV and V to verify empirically whether the composition of trade of South Asian Economies conforms to the structure of comparative advantage (as reflected in their resource endowment structure) in static as well as in dynamic sense. Chapter IV attempts to examine the proposition-by empirical verification of H-O model that South Asian countries have comparative advantage in agricultural products and labour intensive manufactures. As per the empirical approximations of Chapter IV the South Asian countries are found to be relatively abundant in land and unskilled labour and thus the comparative advantage for South Asian countries as per the factor endowment proposition of comparative advantage (in static as well as in dynamic sense) lies in agricultural and allied products and labour intensive manufactures. Having established that the comparative advantage for South Asian countries lies in exports of agricultural products and labour intensive manufactures the composition of exports of these countries vis-a-vis comparative advantage is analysed in Chapter V to see whether the composition of exports of these countries has been as per comparative advantage or not. The analysis of Chapter V reveals inconsistency between composition of trade and comparative advantage. The comparative advantage for South Asian Countries, as per neo-classical doctrine, lies in agricultural products and labour intensive products. The composition of exports of these countries (specially India Pakistan and Bangladesh), however depict high
percentage of capital intensive exports. Though as regards labour intensive exports there was some awareness on the part of these countries and the share of labour intensive exports showed little upward trend from beginning of 1980s, the share of agricultural exports showed decline not only in 1970s but even in 1980s.

In an attempt to analyse the above inconsistency between composition of exports and revealed comparative advantage in South Asian countries, empirical analysis of agricultural exports is attempted in Chapter VI at micro level by taking a case study of India.

Chapter VI is divided into three parts. The importance of agricultural export strategy for India is attempted in Part I. The analysis of performance and problems of agricultural exports in India is attempted in Part II and Part III suggests a suitable strategy of agricultural exports in India. The strategy of agricultural exports in India in the light of the hypothesis (Chapter III) is further subdivided into two parts.

(a) The export planning and policies require as a first step, identification of export sector and the commodities which would give us a comparative edge in terms of our resource endowments and capabilities. Thus identification of agricultural products having comparative advantage in India is attempted in part (a).

(b) Having identified the agricultural products having comparative advantage in India we proceed with the second requisite of enhancing competitiveness of exports as per hypothesis of Chapter III i.e. how to create export surpluses in the agricultural sector. In other words, the suggestions for better performance of agricultural exports in India is attempted in part b.
Till the completion of the collection, processing and analysis of data for the present study i.e. beginning of 1990s, trade in agriculture was excluded from trade policy regime of South Asian countries. The reason may be that the concomitant desire for economic independence with the inception of national planning, led to a development strategy of rapid industrialization in these economies and insufficient attention was paid to agricultural development as a means to promote overall economic growth. Following from this, it was implicitly assumed that instead of exporting agricultural products the country would export value added goods and manufactured goods. Thus, the purpose of the present study, as mentioned earlier, was to prove that South Asian countries have comparative advantage in agricultural products and thus an increase in the share of agricultural exports in export basket of these economies would lead to better competitiveness of their exports. Further, in order to suggest how agriculture could be exploited for general development and trade, an attempt was made in Chapter VI to suggest a suitable strategy of agricultural exports for these economies. However, it is heartening to note that keeping with our own results, there has been a move, though belatedly, towards giving positive thrust to agricultural exports in the Indian context. This move has been facilitated by the changing international trading order under Uruguay round which brought in agriculture for the first time in GATT negotiations. Thus, though the main analysis, as per hypothesis (Chapter III) and scope (Chapter I) of the study, has been limited to the end of 1980's. Chapter VII attempts to analyse the implications of trade policy reforms (1991, 1992) on India's agricultural exports.