CHAPTER III

DATABASE AND RESEARCH METHODOLOGY

This Chapter explains the methodology used by the researcher for the collection and analysis of data. The tools of data collection, sources of data and methods of data analysis have been discussed in detail. Hypotheses have also been framed and tested as per the objectives of the study.

3.1 STATEMENT AND OVERVIEW OF RESEARCH PROBLEM

The major objective of the present study is to analyse the growth of trade among the SAARC countries since the formation of SAARC. The study has also attempted to analyse the intra trade among the SAARC nations and its percentage share in world trade during the period taken under present study. Furthermore, the potential of trade among the SAARC nations and the problems being faced by member countries are discussed.

3.2 SAMPLE OF THE STUDY

The sample of the study includes all the Member countries of South Asian Association for Regional Cooperation (SAARC), namely, Afghanistan, Bangladesh, India, Maldives, Nepal, Pakistan and Sri-Lanka. However due to the non-availability of data relating to Bhutan, analysis is confined to rest of the members. Furthermore, though Afghanistan got its entry as SAARC member in 2007, even than it has been included in the analysis.

3.3 PERIOD OF STUDY

As the study relates to pre and post WTO period, therefore, a comprehensive period of 25 years starting from 1986 to 2010 has been selected to attain the objective of direction and volume of intra-SAARC countries trade. However second part of analysis
is based on 18 years covering the period from 1995-2012. The data for this analysis has been confined to the post WTO period 1995 onward. 1986 was selected as the base year, as the South Asian Association for Regional Cooperation (SAARC) came into existence in the year 1985. The period of the study finds its justification as it covers the period, when both South Asian preferential Trade agreements (SAPTA) and South Asian Free Trade Agreement (SAFTA) came into existence. These agreements basically related to development of trade and cooperation under the umbrella of SAARC.

3.4 NATURE OF DATA

In order to study the growth of trade among SAARC member countries secondary data has been used. The data relating to economic indicators and bilateral trade relations have been collected from various sources.

3.5 SOURCES OF DATA

The secondary data were collected from World Development Indicators, World Development Reports, World Trade Organization’s Report on International Trade Statistics, IMF Direction of Trade Statistics Year Book, published reports of United Nations Conference on Trade and Development and various issues of Foreign Trade & Balance of Payments published by Centre for Monitoring of Indian Economy, Asian Development Bank, Reserve Bank of India etc. Study reports of the various Universities and published reports of SAARC Secretariat were also used for the completion of data.

In addition to published reports the various websites have been consulted to fill the gaps in secondary data. Moreover, various reports on economic integration in South Asia published by Indian Ministry of Commerce and Industry, Federation of Indian Chambers of Commerce and Industry, Nepal Rastra Bank, Research and Information System for the Non-Aligned and other Developing Countries and United States Agency for International Development has been used for the collection of information relating to various forms of Regional Economic Integration.
3.6 TOOLS OF ANALYSIS

For the analysis of the data, simple percentage has been calculated to make comparison among the SAARC nations. The following analytical tools have been used for the analysis purpose.

- **Individual Country Specific Export Share Model**

  It depicts volume as well as direction of exports of SAARC member countries within the region along with rest of the world. For the calculation of export with rest of the world following formula is used;

\[
\text{Export with Rest of the World} = \text{Total Export with the World} - \text{Total Export with the Region}
\]

- **Individual Country Specific Import Share Model**

  It depicts volume as well as origin of import of SAARC member countries within the region along with rest of world. For the calculation of rest of the world import following formula is used;

\[
\text{Rest of the world import} = \text{World’s total import} - \text{region’s total import}
\]

\[
\text{Import from Rest of the World} = \text{Total Imports from the World} - \text{Total Imports from the Region}
\]

- **Region Specific Trade Share model**

  It depicts intra-regional trade’s share to SAARC total trade. This model is used to calculate the percentage Share of SAARC with Rest of the world. For the calculation of SAARC trade with other countries of World following formula is used;

\[
\text{SAARC trade with the Rest of World} = \text{SAARC countries Total Trade with the world} - \text{Intra SAARC trade}
\]

- **Trade Intensity Index**

  Though, the time period for the analysis of Direction and Volume of Trade was taken since 1985 a period of 25 years to compare the performance of intra-country trade of SAARC members. However, for the prediction of potential of trade among SAARC
nations with the help of Trade Intensities Index has been calculated on the basis of post WTO period i.e. from 1995 onwards.

Trade potential of any country can primarily be measured by the intensity of its trade with its trading partners (Drysdale and Garnaut, 1982). When the intensity is high between two countries, it is obvious that two countries have much more potential to trade with each other. Bilateral trade relationships between SAARC countries help to identify how intensively the countries are trading with each other (Bhattacharya and Das, 2011).

In this study Trade Intensity Index has been used.

Trade Intensity Index (TII) can be measured as follows:

\[
TII_{ij} = \frac{[X_{ij} / X_i]}{[X_j / (X_w)]}
\]

Where:

- \( TII_{ij} \) = Trade Intensity Index of exporting country ‘i’ (source) to country ‘j’ (destination).
- \( X_{ij} \) = Exports of source country ‘i’ to the destination ‘j’
- \( X_i \) = Total exports of ‘i’ i.e. source country
- \( X_j \) = Total exports of country ‘j’ (destination)
- \( X_w \) = Total world exports

The value of index ranges from 0 to 100.

If the value of index is 0, it explains there is no relationship between home and partner economies. On the other hand, if the value of export intensity index moves towards 100, then it indicates the higher level of trade between trading countries and the vice-versa.

There may be several reasons why trade intensities among several countries diverge from the index. The entire gamut of reasons can be categorized into two broad groups’ viz. objective resistance and subjective resistance (Garnaut, 1972). Yamazawa
(1970) explained that “objective resistance, the intensity of trade is likely to be high between a combination of industrial goods exporters and exporters of primary products because of strong complementary structures of production of the two types of countries, as determined by their comparative advantages. Regarding factors determining subjective resistance, discriminatory commercial policies, flow of capital and economic aid from developed (relatively) to developing economies influence the trade intensity index of the two countries”. Furthermore, Bhattacharya and Das, 2011 explained that “in the short run countries cannot control the objective resistance due to its structural rigidities in the mode of production, but they can eliminate subjective resistance by cooperating with enhancing economic cooperation with each other either bilaterally or multilaterally."

For the analysis of data the software developed by Asian development Bank which has frequently been applied by the Researchers to predict the potential of trade among the trading partners in a particular regional block. It is pertinent to mention here that (Kojima, 1964; Yamazawa, 1970; Garnaut, 1972; Drysdale and Garnaut, 1982; Bhalla and Bhalla, 1996; Frankel and Rose, 1998; KIM, 2002; Pitigala, 2005; Rahman, 2005; Kalirajan, 2007; Awad et al.; Bhattacharya and Das, 2011 have used this index to find out the intensities for different trade partners taking different time periods.

3.7 HYPOTHESES OF THE STUDY

To attain the objectives of the study, the following hypotheses have been framed and tested:

H1: Intra-SAARC trade has increased among the SAARC members during the period under the study;

H2: Increase in world trade has led to increase in the intra-SAARC trade during the period under study;

H3: Size of the country has no influence on the intra-SAARC share of trade among the SAARC countries;
H4: The Regional Economic Integration contributes positively to the growth of multilateral trading;

H5: Regional Economic Integration is influenced by the political relations among the partners;

H6: There is no visible difference in terms of volume and direction of trade during pre and post WTO periods; and

H7: There is a great potential for trade among the SAARC members.

3.8 LIMITATIONS OF THE STUDY

Limitations have always been a part and parcel of any empirical research work. This study is not free from the ambit of the same. Some of the limitations are listed below:

- The study is based on secondary data; therefore the study suffers from all limitations suffered by a research based on secondary data.

- Due to non availability of trade data, bilateral trade relations of Bhutan with other member countries of SAARC remains untouched. Therefore, the findings of the study may not be generalised in concern to SAARC total trade figure to World total trade.

- Due to constraints of time and resources, the study excluded the economic cooperation in service sector and investment which constitute a significant share in the growth and development of any country. Therefore, research in this area can be pursued in future.

- Due to non-availability /non-publication of data, the study period had to be adjusted accordingly for part of analysis. There were huge gaps in data in regard to some of the variables, so the necessary adjustments were required to be made in the data to make it compatible.
There are different software developed by many institutions which collect data relating to exports and imports. So the problem of data mis-match was faced many a times during the study.

The topic of the research is too vast to cover all the integration indicators in the study. So, the study remained confined to the share of export and import in the intra-regional trade among SAARC member countries.