CHAPTER - 2
RESEARCH MODEL

WTO
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CHAPTER – 2

RESEARCH MODEL

A study of the present magnitude which has its scope covering the globe within its scope, one of the most contentious issues like agriculture, the organization like WTO and concept like financing agri-business needs an apt methodology for a fruitful research. This chapter, therefore, deals in great length the methodological approach used in the present work by the investigator, which is as follows:

2.1 Objectives of the study:

The agriculture continues to be the backbone of any economy and it will remain to be so during the decades to come. The very fact of agricultural prominence is still shaded with agricultural inefficiencies. The developing and under developed countries have agriculture as a dominating industry and ironically the incidents of mal nutrition, hunger deaths etc. are very common for them. Moreover the farmer, who is providing food to the masses and thereby satisfying their basic requirements of hunger, is compelled to commit suicide on account of debt trap-a great hypocrisy.

In this regard the present doctoral research is a humble attempt to portrait the crucial missing links guided by the following objectives.

1) To study the competitive positioning of selected countries with reference to the global agricultural trade.
2) To study the production, export and import trends of selected farm products of the selected nations during the stated period.
3) To study the relevance of agricultural subsidy, tariff and quota.
4) To study the role of WTO in agricultural negotiations.
5) To evolve with the guiding principle of rationing the subsidy.
6) To identify agriculture produces of the sample nations that need continued financial support by the concerned national government for maintaining and/or increasing its relative share in the global agriculture market.
7) To identify agriculture produces of the sample nations, which demand withdrawal of
financial support because of its weak relative market share vis-à-vis growth rate for optimizing financial use for better global agri-businesses.

8) To develop a model using BCG matrix useful in furthering and settling down agriculture negotiations under the umbrella of World Trade Organization amongst the most competing nations including India.

9) To put forth a logical base, with analytical evidence, to support the prolonged ongoing agriculture negotiations amongst member nations of WTO for its early settlement.

10) To ascertain the impact of WTO regime and its provisions on the global production growth rate of agriculture commodities.

11) To identify relationship between global trade regime with specific reference to agricultural commodities and welfare of global human population.

12) To find out the justification, or otherwise, of continuance of government financing in the agriculture sector by the member nations in the light of WTO provisions.

13) To identify the strategic choice for global financial system for agriculture produces and its trade for a better world agri-business environment during the ensuing WTO regime.

2.2 Hypothesis of Study:

Agricultural commodities continue to be the major source of income for almost all developing countries other than those that have oil reserves whereas very few developed countries rely on the manufactured goods. But, ironically the prices of agricultural commodities have tended to fall over recent decades, while those of manufactured goods have risen steadily. This has pushed the developing countries on back-foot in the context of global trade. Further, most commodities produced by developing countries are processed after leaving their country of origin. This means that the exporting country does not benefit from the added value that processing brings. Again, the developed countries provide handsome subsidies to their farmers, which the poor countries do not afford. Because of this the farmers of developed countries started selling their produces at the international market at the price even lesser than the cost of production of the same in the developing countries. The farmers of the developing and poor countries lost their domestic market and their situation worsened further.

After a decade from the establishment of WTO, now the developed countries are
pleading for the reduction of subsidies with the flat rates. A contention appears to be evolving that the farm subsidy should be provided based on the economic condition of the agricultural product; based on the principal of disbursement to receive. And hence the agricultural subsidy i.e. government financing to this sector is to be product specific and region specific instead of being a universal one.

2.3 Methodology of the study:

The present research work has been carried out by compiling statistical data from a sample of fourteen nations for their eleven sampled farm produces with regard to its production, export and import over a period of sixteen years from 1988. The data so compiled was then fitted into the Growth-Share model of Boston Consultancy Group in order to evolve their strategic competitive position amongst the sampled countries.

2.3.1 Sample of Nations:

The Cancun ministerial meeting of WTO summed up with the newer classification of countries across the globe. The world trade organization’s ministerial conference at Cancun saw the formation of G-21 led by Brazil, India and China, which strongly advocated against farm subsidies and concessions offered by the developed nations. Another group of 77 developing countries called ACP (African, Caribbean and Pacific) group also emerged at the meet. This group is little vulnerable to EU and US, which are trying to negotiate a new bilateral trade agreement with them. Nevertheless, the 98 countries formed the group of developing nations at Cancun meet.

Another group called as quad group of nations consists of US, EU, Canada and Japan. The Cancun meet saw the emergence of this group dominated mostly by US and EU which are attempting to dismantle the developing nation’s unity through their bilateral trade negotiations with them.

The group of developed nations therefore left with countries like Germany, France, Italy, UK and Russia, and these were isolated in the said WTO ministerial meeting.
The fourth group has always remained to be that of the least developed countries (LDCs) whose role in WTO negotiations has, as usual, remained least. Discriminatory provisions in WTO agreement regarding farm subsidies, trade tariffs, market access, and product protection etc. serving world agriculture trade caused the formation of these groups. In this regard the following countries pertaining to the respective group have been sampled for this study as shown in the table given below:

**Table No.T-2.1 showing the groups of the countries and the selected member nations**

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<tr>
<th>Sr. No.</th>
<th>Major Groups</th>
<th>Member Nations</th>
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<tbody>
<tr>
<td>1</td>
<td>Developed Nations</td>
<td>France, Italy, Russia and UK</td>
</tr>
<tr>
<td>2</td>
<td>Quad Group of Nations</td>
<td>US, Canada and Japan</td>
</tr>
<tr>
<td>3</td>
<td>Developing Countries</td>
<td>Brazil, India, China and Indonesia</td>
</tr>
<tr>
<td>4</td>
<td>Least Developed Countries (LDCs)</td>
<td>Bangladesh, Philippines and Myanmar</td>
</tr>
</tbody>
</table>

**2.3.2 Sample of Agriculture Produces:**

The agriculture industry encompasses number of products, manufactured food products and by products. The list is quite comprehensive. The agriculture industry depends on a small number of species —currently about 6 crops provide over 90% of global food needs with three crops, rice, maize and wheat providing the bulk. But if we consider them by the volume and value the hard fact is to be considered i.e. lack of diversity within food production systems. This has led the system towards vulnerability and hence to assure global food security agriculture needs to widen the food basket from the major staples, corn, rice, wheat and potatoes to include beans, pulses and legumes.

While selecting the sample agriculture produces for this research work a care has been taken so as this sample represents the agriculture industry as a whole. This work further tries to accommodate the significance of production, import and export trends of agricultural produces. Following method was used to sample out agriculture produces for the purpose of present study:

1. At the outset a table comprising of an exhaustive list of agricultural production, import and export for all the selected nations was prepared in nations group-wise manner. These tables for the four groups of nations are shown below vide table numbers T-2.2 to T-2.5
Table No T-2.2: Showing occurrence of Agriculture Production, Export and Import for Developed Nations

<table>
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Global Financial System for Agriculture Produces and its Trade

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Table No T-2.3: Showing occurrence of Agriculture Production, Export and Import for Quad Nations

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### Global Financial System for Agriculture Produces and its Trade

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#### Table No T-2.4: Showing occurrence of Agriculture Production, Export and Import for Developing Nations

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Shri Sant Gajanan Maharaj College of Engineering, Shegaon
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Table No T-2.5: Showing occurrence of Agriculture Production, Export and Import for Least Developed Countries

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### Production, Export, Import

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<thead>
<tr>
<th>Philippines</th>
<th>Production</th>
<th>Export</th>
<th>Import</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sugarcane</td>
<td>Bananas</td>
<td>Wheat</td>
</tr>
<tr>
<td></td>
<td>Rice, Paddy</td>
<td>Pineapple</td>
<td>Tobacco Leaves</td>
</tr>
<tr>
<td></td>
<td>Coconut</td>
<td>Mangoes</td>
<td>Apples</td>
</tr>
<tr>
<td></td>
<td>Maize</td>
<td>Tobacco leaves</td>
<td>Milled Paddy Rice</td>
</tr>
<tr>
<td></td>
<td>Banana</td>
<td>Maize</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pineapple</td>
<td>Soybeans</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sweet Potatoes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mangoes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tomatoes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Coffee-green</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. The occurrence of agriculture product in terms of production, import and export was counted.
2. The frequency of the occurrence of these agricultural produces was tabulated in the descending order and is shown herein below vide table no. – T-2.6.
Table No T-2.6: Showing Frequency of occurrence of agricultural produces in Production, Import and Export

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Produce</th>
<th>Frequency of occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Wheat</td>
<td>29</td>
</tr>
<tr>
<td>2</td>
<td>Maize</td>
<td>23</td>
</tr>
<tr>
<td>3</td>
<td>Soybeans</td>
<td>18</td>
</tr>
<tr>
<td>4</td>
<td>Potatoes</td>
<td>17</td>
</tr>
<tr>
<td>5</td>
<td>*Tobacco Leaves</td>
<td>16</td>
</tr>
<tr>
<td>6</td>
<td>Apples</td>
<td>12</td>
</tr>
<tr>
<td>7</td>
<td>Barley</td>
<td>12</td>
</tr>
<tr>
<td>8</td>
<td>Rice, Paddy</td>
<td>10</td>
</tr>
<tr>
<td>9</td>
<td>Tomatoes</td>
<td>10</td>
</tr>
<tr>
<td>10</td>
<td>*Milled Paddy Rice</td>
<td>10</td>
</tr>
<tr>
<td>11</td>
<td>Sugar Cane</td>
<td>9</td>
</tr>
<tr>
<td>12</td>
<td>Coffee-green</td>
<td>9</td>
</tr>
<tr>
<td>13</td>
<td>Tea</td>
<td>8</td>
</tr>
<tr>
<td>14</td>
<td>Sugar beets</td>
<td>8</td>
</tr>
<tr>
<td>15</td>
<td>Beans Dry</td>
<td>6</td>
</tr>
<tr>
<td>16</td>
<td>Oats</td>
<td>6</td>
</tr>
<tr>
<td>17</td>
<td>Bananas</td>
<td>6</td>
</tr>
<tr>
<td>18</td>
<td>Coconut</td>
<td>5</td>
</tr>
<tr>
<td>19</td>
<td>Sorghum</td>
<td>5</td>
</tr>
<tr>
<td>20</td>
<td>Sweet Potatoes</td>
<td>4</td>
</tr>
<tr>
<td>21</td>
<td>Jute</td>
<td>4</td>
</tr>
<tr>
<td>22</td>
<td>Oranges</td>
<td>4</td>
</tr>
<tr>
<td>23</td>
<td>Onions Dry</td>
<td>4</td>
</tr>
<tr>
<td>24</td>
<td>Grapes</td>
<td>4</td>
</tr>
<tr>
<td>25</td>
<td>Rye</td>
<td>3</td>
</tr>
<tr>
<td>26</td>
<td>Mangoes</td>
<td>3</td>
</tr>
<tr>
<td>27</td>
<td>Millets</td>
<td>3</td>
</tr>
<tr>
<td>28</td>
<td>Garlic</td>
<td>2</td>
</tr>
</tbody>
</table>

3. Agriculture produces with top frequencies were short-listed.

4. Tobacco leaves found its place in the short-listed produces but since it is
not a basic food it was eliminated from the list. Similarly milled rice paddy, which is a processed product, was also kept outside the sample.

5. Finally eleven agriculture produces remained in the list starting from wheat and ending at tea, which became the sample agriculture produces for the present work.

Table No T-2.7 showing final Sample of Agricultural Produces under Study

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Name of Agriculture Produces</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Wheat</td>
</tr>
<tr>
<td>2</td>
<td>Maize</td>
</tr>
<tr>
<td>3</td>
<td>Soybeans</td>
</tr>
<tr>
<td>4</td>
<td>Potatoes</td>
</tr>
<tr>
<td>5</td>
<td>Apples</td>
</tr>
<tr>
<td>6</td>
<td>Barley</td>
</tr>
<tr>
<td>7</td>
<td>Rice, Paddy</td>
</tr>
<tr>
<td>8</td>
<td>Tomatoes</td>
</tr>
<tr>
<td>9</td>
<td>Sugar Cane</td>
</tr>
<tr>
<td>10</td>
<td>Coffee-green</td>
</tr>
<tr>
<td>11</td>
<td>Tea</td>
</tr>
</tbody>
</table>

2.3.3 Sample Period of Study:

Uruguay round of talk that culminated in founding the WTO, as described in chapter – 3, took eight years from 1987 – 1988 to 1994 – 1995 for its conclusion. Hence this period of eight years has been considered under the present study as pre-WTO phase. For uniformity in comparative study a similar period of eight years has been considered since 1995 – 1996 to 2002 – 2003 as post-WTO phase under this work. Incidentally, the present work started in the year 2003 – 2004 and the Agreement on Agriculture under the provisions of WTO has already emerged as the most contentious issue in the Cancun Ministerial Conference of WTO.
2.4 The BCG Growth-Share Matrix:

The model applied in the present work is BCG model, which is described here in detail. The BCG Growth-Share Matrix is a portfolio-planning model developed by Bruce Henderson of the Boston Consulting Group in the early 1970's. It is based on the observation that a company's business units can be classified into four categories based on combinations of market growth and market share relative to the largest competitor, hence the name "growth-share". Market growth serves as a proxy for industry attractiveness, and relative market share serves as a proxy for competitive advantage. The growth-share matrix thus maps the business unit positions within these two important determinants of profitability. This BCG matter began in fact a decade ago with the invention of experience curve by the group.

In the 1960's, management consultants at The Boston Consulting Group observed a consistent relationship between the cost of production and the cumulative production quantity (total quantity produced from the first unit to the last). Data revealed that the real value-added production cost declined by 20 to 30 percent for each doubling of cumulative production quantity:

\[
\text{The proportion of the market that the firm is able to capture can measure the firm's performance relative to competitors. This proportion is referred to as the firm's market share and is calculated as follows:}
\]

\[\text{Market Share} = \frac{\text{Firm's Sales}}{\text{Total Market Sales}}\]

Sales may be determined on a value basis (sales price multiplied by volume) or on a unit basis (number of units shipped or number of customers served). While the firm's own sales figures are readily available, total market sales are more difficult to determine. Usually, this information is available from trade associations and market research firms.

BCG Growth-Share Matrix framework assumes that an increase in relative market share will result in an increase in the generation of cash. This assumption often is true because of the experience curve. Increased relative market share implies that the firm is moving forward on the experience curve relative to its competitors, thus developing a cost advantage. A second assumption is that a growing market requires investment in assets to increase capacity and therefore results in the consumption of cash. Thus the position of a business on the growth-share matrix provides an indication of its cash generation and its cash consumption. Henderson reasoned that the cash required by rapidly growing business units.
could be obtained from the firm’s other business units that were at a more mature stage and generating significant cash. By investing to become the market share leader in a rapidly growing market, the business unit could move along the experience curve and develop a cost advantage. From this reasoning, the BCG Growth-Share Matrix was born and the concept becomes a fit model for its application in strategic negotiation for global agriculture trade and business in the pretext of government financing (investment through subsidies) by the contending nations (member nations of WTO) of the world.

Placing products in the BCG matrix results in 4 categories in a portfolio of a company:

**Dogs** - Dogs have low market share and a low growth rate and thus neither generate nor consume a large amount of cash. However, dogs are cash traps because of the money tied up in a business that has little potential. Such businesses are candidates for divestiture. The appropriate strategies advisable under this quartet are as follows:

- Avoid and minimize the number of dogs in a company.
- Beware of expensive ‘turn around plans’.
- Deliver cash, otherwise liquidate

**Question marks** - Question marks are growing rapidly and thus consume large amounts of cash, but because they have low market shares they do not generate much cash. The result is large net cash consumption. A question mark (also known as a "problem child") has the potential to gain market share and become a star, and eventually a cash cow when the market growth slows. If the question mark does not succeed in becoming the market leader, then after perhaps years of cash consumption it will degenerate into a dog when the market growth declines. Question marks must be analyzed carefully in order to determine whether they are worth the investment required to grow market share. The appropriate strategies advisable under this quartet are as follows:

- Have the worst cash characteristics of all, because high demands and low returns due to low market share
- If nothing is done to change the market share, question marks will simply absorb great amounts of cash and later, as the growth stops, a dog.
- Either invests heavily or sells off or invests nothing and generates whatever cash it
can. Increase market share or deliver cash

**Stars** - Stars generate large amounts of cash because of their strong relative market share, but also consume large amounts of cash because of their high growth rate; therefore the cash in each direction approximately nets out. If a star can maintain its large market share, it will become a cash cow when the market growth rate declines. The portfolio of a diversified company always should have stars that will become the next cash cows and ensure future cash generation. The appropriate strategies advisable under this quartet are as follows:

**Stars (=high growth, high market share)**
- Use large amounts of cash and are leaders in the business so they should also generate large amounts of cash.
- Frequently roughly in balance on net cash flow. However if needed any attempt should be made to hold share, because the rewards will be a cash cow if market share is kept.

**Cash cows** - As leaders in a mature market, cash cows exhibit a return on assets that is greater than the market growth rate, and thus generate more cash than they consume. Such business units should be "milked", extracting the profits and investing as little cash as possible. Cash cows provide the cash required to turn question marks into market leaders, to cover the administrative costs of the company, to fund research and development, to service the corporate debt, and to pay dividends to shareholders. Because the cash cow generates a relatively stable cash flow, its value can be determined with reasonable accuracy by calculating the present value of its cash stream using a discounted cash flow analysis. The appropriate strategies advisable under this quartet are as follows:

**Cash Cows (=low growth, high market share)**
- Profits and cash generation should be high, and because of the low growth, investments needed should be low. Keep profits high
- Foundation of a company

Under the growth-share matrix model, as an industry matures and its growth rate declines, a business unit will become either a cash cow or a dog, determined solely by whether it had become the market leader during the period of high growth. While originally developed as a model for resource allocation among the various business units in a corporation, the growth-share matrix also can be used for resource allocation among products within a single
business unit. Its simplicity is its strength - the relative positions of the firm's entire business portfolio can be displayed in a single diagram.

The BCG matrix method is based on the product life cycle theory that can be used to determine what priorities should be given in the product portfolio of a business unit. To ensure long-term value creation, a company should have a portfolio of products that contains both high-growth products in need of cash inputs and low-growth products that generate a lot of cash. It has 2 dimensions: market share and market growth. The basic idea behind it is that the bigger the market share a product has or the faster the product's market grows the better it is for the company.

The BCG Matrix method can help understand a frequently made strategy mistake: having a one-size-fits-all-approach to strategy, such as a generic growth target or a generic return on capital for an entire corporation / business. In such a scenario:

A. Cash Cows Business Units will beat their profit target easily; their management has an easy job and is often praised anyhow. Even worse, they are often allowed to reinvest substantial cash amounts in their businesses, which are mature, and not growing anymore.

B. Dogs Business Units fight an impossible battle and, even worse, investments are made now and then in hopeless attempts to 'turn the business around'.

C. As a result (all) Question Marks and Stars Business Units get mediocre size
investment funds. In this way they are unable to ever become cash cows. These inadequate invested sums of money are a waste of money.

Either these SBUs should receive enough investment funds to enable them to achieve a real market dominance and become a cash cow (or star), or otherwise companies are advised to disinvest and try to get whatever possible cash out of the question marks that were not selected.

Limitations of the Model:

- The growth-share matrix once was used widely, but has since faded from popularity as more comprehensive models have been developed. Some of its weaknesses are:
  - Market growth rate is only one factor in industry attractiveness, and relative market share is only one factor in competitive advantage.

- The growth-share matrix overlooks many other factors in these two important determinants of profitability. The framework assumes that each business unit is independent of the others. In some cases, a business unit that is a "dog" may be helping other business units gain a competitive advantage.

- The matrix depends heavily upon the breadth of the definition of the market.

- A business unit may dominate its small niche, but have very low market share in the overall industry. In such a case, the definition of the market can make the difference between a dog and a cash cow.

While its importance has diminished, the BCG matrix still can serve as a simple tool for viewing a corporation's business portfolio at a glance, and may serve as a starting point for discussing resource allocation among strategic business units.

2.5 Determination of Production Growth Rate and Relative Market Share:

The BCG Matrix Research Model requires two key variables viz. Production Growth Rate and Market Share. The production quantities of selected farm produces were averaged on the sample time frame i.e. eight years each of pre-WTO and post-WTO phase at country and world level. The following numerical formulae were used to work out the Production Growth Rate and Relative Market Share

2.5.1 Production Growth Rate:

The production growth rates of different agricultural produces were calculated as below:

Step 1→ The Production quantities for different years were tabulated for the pre and
post period WTO as below

Table No T-2.8 showing production of final Sampled Agricultural Products at World level for the pre-WTO period (figure in MT) ⁶

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley</td>
<td>163,388,340</td>
<td>164,167,592</td>
<td>177,749,289</td>
<td>169,749,639</td>
<td>165,600,082</td>
<td>169,759,954</td>
<td>161,287,404</td>
<td>140,935,552</td>
</tr>
<tr>
<td>Coffee</td>
<td>5,625,282</td>
<td>5,904,947</td>
<td>6,052,577</td>
<td>6,088,260</td>
<td>6,074,486</td>
<td>5,539,070</td>
<td>5,748,975</td>
<td>5,519,716</td>
</tr>
<tr>
<td>Maize</td>
<td>402,978,225</td>
<td>476,809,474</td>
<td>483,285,127</td>
<td>494,225,042</td>
<td>533,515,083</td>
<td>476,647,580</td>
<td>569,145,527</td>
<td>517,086,425</td>
</tr>
<tr>
<td>Potatoes</td>
<td>268,332,804</td>
<td>275,739,048</td>
<td>265,910,390</td>
<td>256,186,499</td>
<td>276,603,143</td>
<td>300,678,508</td>
<td>269,906,851</td>
<td>285,027,093</td>
</tr>
<tr>
<td>Rice (Paddy Equivalent)</td>
<td>487,005,034</td>
<td>513,992,585</td>
<td>518,156,001</td>
<td>518,330,134</td>
<td>528,027,201</td>
<td>529,408,453</td>
<td>538,462,764</td>
<td>547,024,364</td>
</tr>
<tr>
<td>Soybeans</td>
<td>93,519,458</td>
<td>107,251,761</td>
<td>108,451,852</td>
<td>103,308,759</td>
<td>114,449,002</td>
<td>115,152,494</td>
<td>136,461,579</td>
<td>126,979,716</td>
</tr>
<tr>
<td>Sugarcane</td>
<td>988,368,679</td>
<td>1,014,038,880</td>
<td>1,050,110,990</td>
<td>1,085,617,780</td>
<td>1,112,955,480</td>
<td>1,032,714,640</td>
<td>1,092,170,570</td>
<td>1,172,339,490</td>
</tr>
<tr>
<td>Tea</td>
<td>2,845,624</td>
<td>2,863,311</td>
<td>2,886,432</td>
<td>2,952,475</td>
<td>2,875,595</td>
<td>3,127,457</td>
<td>3,165,425</td>
<td>3,194,793</td>
</tr>
<tr>
<td>Tomatoes</td>
<td>67,177,881</td>
<td>74,374,127</td>
<td>76,013,161</td>
<td>75,707,301</td>
<td>74,650,831</td>
<td>77,590,276</td>
<td>82,741,583</td>
<td>87,013,734</td>
</tr>
</tbody>
</table>

Table No T-2.9 showing production of final Sampled Agricultural Products at World level for the post-WTO period (figure in MT) ⁷

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Apples</td>
<td>56,345,929</td>
<td>57,529,519</td>
<td>56,807,551</td>
<td>58,159,700</td>
<td>59,193,729</td>
<td>58,121,234</td>
<td>56,294,744</td>
<td>58,740,234</td>
</tr>
<tr>
<td>Barley</td>
<td>155,336,202</td>
<td>154,605,559</td>
<td>137,685,979</td>
<td>128,404,688</td>
<td>133,112,326</td>
<td>143,963,970</td>
<td>135,931,062</td>
<td>141,360,580</td>
</tr>
<tr>
<td>Coffee</td>
<td>6,166,259</td>
<td>5,928,368</td>
<td>6,618,187</td>
<td>6,763,765</td>
<td>7,549,948</td>
<td>7,331,020</td>
<td>7,814,457</td>
<td>7,175,225</td>
</tr>
<tr>
<td>Maize</td>
<td>589,054,180</td>
<td>584,988,643</td>
<td>615,403,041</td>
<td>607,412,987</td>
<td>592,785,406</td>
<td>615,049,745</td>
<td>604,220,721</td>
<td>641,269,369</td>
</tr>
<tr>
<td>Potatoes</td>
<td>311,011,532</td>
<td>302,523,681</td>
<td>300,302,292</td>
<td>300,565,451</td>
<td>328,419,849</td>
<td>312,124,045</td>
<td>311,566,744</td>
<td>315,478,323</td>
</tr>
<tr>
<td>Rice (Paddy Equivalent)</td>
<td>568,948,408</td>
<td>577,194,346</td>
<td>579,439,395</td>
<td>611,270,854</td>
<td>602,995,035</td>
<td>597,837,158</td>
<td>575,105,490</td>
<td>583,111,751</td>
</tr>
<tr>
<td>Soybeans</td>
<td>130,211,510</td>
<td>144,414,554</td>
<td>160,099,980</td>
<td>157,800,849</td>
<td>161,410,112</td>
<td>176,821,664</td>
<td>181,119,577</td>
<td>188,929,501</td>
</tr>
<tr>
<td>Sugarcane</td>
<td>1,219,234,280</td>
<td>1,250,173,910</td>
<td>1,257,769,480</td>
<td>1,263,965,240</td>
<td>1,242,317,530</td>
<td>1,271,301,910</td>
<td>1,320,897,700</td>
<td>1,353,517,830</td>
</tr>
<tr>
<td>Tea</td>
<td>3,251,345</td>
<td>3,436,232</td>
<td>3,794,750</td>
<td>3,910,180</td>
<td>3,822,382</td>
<td>4,064,257</td>
<td>4,019,553</td>
<td>3,175,677</td>
</tr>
<tr>
<td>Tomatoes</td>
<td>93,277,604</td>
<td>89,642,227</td>
<td>95,144,166</td>
<td>108,154,910</td>
<td>107,895,969</td>
<td>103,381,260</td>
<td>110,901,279</td>
<td>116,640,818</td>
</tr>
<tr>
<td>Wheat</td>
<td>585,123,935</td>
<td>613,252,150</td>
<td>593,294,672</td>
<td>587,787,658</td>
<td>585,944,452</td>
<td>590,491,417</td>
<td>573,822,327</td>
<td>559,973,496</td>
</tr>
</tbody>
</table>
Step II - Dividing into the current year's production with the last year's production and multiplying the same by 100 calculated the growth rate of respective year. This is shown in the formula form as follows:

\[
\text{Production Growth Rate} = \frac{\text{Current year's production}}{\text{Last year's Production}} \times 100
\]

Step III - The production growth rates for different years were then averaged for the Pre WTO and Post WTO phases

2.5.2 Relative Market Share:
The relative Market Shares of different agricultural produces were calculated as below:

Step I - The tabulated production quantities were averaged across the Pre WTO and Post WTO phases at the country and world level.

Step II - The simple market share was calculated first. The average production quantity of a nation was divided by the average production quantity of the world of respective agricultural product and multiplied by 100. This is shown in the formula form as follows:

\[
\text{Market Share} = \frac{\text{Average Production of a Country}}{\text{Average Production of a World}} \times 100
\]

Step III - The simple market share as calculated above was then divided by the highest market share of that produce and multiplied by 100 to obtain the relative market share. This makes the scale of relative market share ranging from 0 to 100 percent. This is shown in the formula form as follows:

\[
\text{Relative Market Share} = \frac{\text{Market Share}}{\text{Highest Market Share}} \times 100
\]

Using this model matrix of each country for all its produces (as per the sample of this study) were constructed for both the periods viz. pre-WTO and post-WTO phases in order to make analytical comprehension of the data. Finally consolidated matrix of all countries taken together for all their produce were constructed for the said two periods to arrive at meaningful conclusions in terms of global government financing to agriculture trade triggered by ensuing WTO provisions in this regard.
2.6 Scope of Study:

The present work is confined only to the economic aspects of agriculture and mainly government financing i.e. agricultural subsidy. Moreover, the agricultural subsidy is considered at global level as directed by WTO. The comparative trend is studied during Pre WTO and Post WTO phases consisting of sixteen years in all as already shown in the former part of this chapter. The study includes within its scope only those fourteen nations sampled to represent the four categories viz. Developed Nations, Developing Nations, Quad Group and Least Developed Countries. The policies associated with tariff and quotas have been reviewed and re-conceptualized. Data pertaining to production, export and import of eleven-sample agriculture produces forms the subject matter of analysis under this work using BCG Model.

Following key variables were studied in this research work:

- Agricultural Theme: Economic Aspect
- Farm Finance: Government Finance i.e. subsidy
- Agricultural Statistics: Production, Export and Import
- Phases: Pre WTO and Post WTO
- Span: 16 years
- Model: BCG Model
- Sample: 11 Agricultural Produces
- Geography: 14 Nations

2.7 Limitations of Study:

BCG model applied in the present work uses two variables for construction of matrix. These two variables are market growth rate and market share in relative terms for the competing business, here in the present case the competing nations. The investigator made a conscious modification in this model to suit its application in the present work whereby production growth rate and relative production shares have been used to develop BCG matrix for required analysis and interpretation. This may have its limitations on the finding of the present study.

The investigator found it hard to collect the data of agriculture tariff and subsidy at the global level. The data has not been available in the concise and comparable form. Hence only the passing trends of the respective countries were provided in this work. But as the
Global Financial System for Agriculture Produces and its Trade

hypothesis of the work intends to guide the patterns of tariff and subsidy by processing the
data of agriculture production and trade figures, its inadequacy doesn’t affect on the quality of
the work to a great extent.

This research work is driven more by websites for the source of information. The
global scope of the work is the reason for the same. As this is the model-based research the
required secondary information of agriculture production and trade available from the
websites were found to be in the comparable and convincing forms. The investigator
attempted to balance this diversity by using the other sources at the other considerable
sections of this work.

The erstwhile United States of Soviet Russia (USSR) broke down towards the
beginning of the decade 1990. Hence the agriculture production and trade data were compiled
for USSR for the four years i.e. from 1988-1992, while later on the data of Russia was
considered for the research. This discrepancy is data was unavoidable and so the investigator
had to bear with it.

Further, the investigator has only shown the position of different produces of the
concerned nation or nations group based on calculation on the matrix and not the size of
performance of that produce as it is generally depicted through bubbles on the BCG matrix.

While converting data into metric tones up to two decimal points some nations’ data
got converted into zero because of very small figures. This however, does not mean omission
of data of the concerned nations and should be construed as the result of mathematical
appropriation only. This limitation has to be borne in mind while referring this research report.

2.8 Profile of Developed Nations:

2.8.1 General Profile

France:

Although ultimately a victor in World Wars I and II, France suffered extensive losses
in its empire, wealth, manpower, and rank as a dominant nation-state. Nevertheless, France
today is one of the most modern countries in the world and is a leader among European
nations. Since 1958, it has constructed a presidential democracy resistant to the instabilities
experienced in earlier parliamentary democracies. In recent years, its reconciliation and
cooperation with Germany have proved central to the economic integration of Europe,
including the introduction of a common exchange currency, the euro, in January 1999. At
present, France is at the forefront of efforts to develop the EU’s military capabilities to
supplement progress toward a EU foreign policy.

**Italy:**

Italy became a nation-state in 1861 when the city-states of the peninsula, along with Sardinia and Sicily, were united under King Victor EMMANUEL II. An era of parliamentary government came to a close in the early 1920s when Benito MUSSOLINI established a Fascist dictatorship. His disastrous alliance with Nazi Germany led to Italy's defeat in World War II. A democratic republic replaced the monarchy in 1946 and economic revival followed. Italy was a charter member of NATO and the European Economic Community (EEC). It has been at the forefront of European economic and political unification, joining the European Monetary Union in 1999. Persistent problems include illegal immigration, organized crime, corruption, high unemployment, sluggish economic growth, and the low incomes and technical standards of southern Italy compared with the prosperous north.

**Russia:**

Founded in the 12th century, the Principality of Muscovy, was able to emerge from over 200 years of Mongol domination (13th-15th centuries) and to gradually conquer and absorb surrounding principalities. In the early 17th century, a new Romanov Dynasty continued this policy of expansion across Siberia to the Pacific. Under PETER I (ruled 1682-1725), hegemony was extended to the Baltic Sea and the country was renamed the Russian Empire. During the 19th century, more territorial acquisitions were made in Europe and Asia. Repeated devastating defeats of the Russian army in World War I led to widespread rioting in the major cities of the Russian Empire and to the overthrow in 1917 of the imperial household. The Communists under Vladimir LENIN seized power soon after and formed the USSR. The brutal rule of Josef STALIN (1928-53) strengthened Russian dominance of the Soviet Union at a cost of tens of millions of lives. The Soviet economy and society stagnated in the following decades until General Secretary Mikhail GORBACHEV (1985-91) introduced glasnost (openness) and perestroika (restructuring) in an attempt to modernize Communism, but his initiatives inadvertently released forces that by December 1991 splintered the USSR into 15 independent republics. Since then, Russia has struggled in its efforts to build a democratic political system and market economy to replace the strict social, political, and economic controls of the Communist period. While some progress has been made on the economic front, recent years have seen a re-centralization of power under Vladimir PUTIN and erosion in nascent democratic institutions. A determined guerrilla conflict still plagues Russia in Chechnya.
United Kingdom:

Great Britain, the dominant industrial and maritime power of the 19th century, played a leading role in developing parliamentary democracy and in advancing literature and science. At its zenith, the British Empire stretched over one-fourth of the earth's surface. The first half of the 20th century saw the UK's strength seriously depleted in two World Wars. The second half witnessed the dismantling of the Empire and the UK rebuilding itself into a modern and prosperous European nation. As one of five permanent members of the UN Security Council, a founding member of NATO, and of the Commonwealth, the UK pursues a global approach to foreign policy; it currently is weighing the degree of its integration with continental Europe. A member of the EU, it chose to remain outside the European Monetary Union for the time being. Constitutional reform is also a significant issue in the UK. The Scottish Parliament, the National Assembly for Wales, and the Northern Ireland Assembly were established in 1999, but the latter is suspended due to bickering over the peace process.

Table No T-2.10 showing general factors associated with the developed nations

<table>
<thead>
<tr>
<th>Variable/ Nation</th>
<th>France</th>
<th>Italy</th>
<th>Russia</th>
<th>UK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td>Total</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>547,030 sq km</td>
<td>301,230 sq km</td>
<td>17,075,200 sq km</td>
<td>244,820 sq km</td>
</tr>
<tr>
<td></td>
<td>Land</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>545,630 sq km</td>
<td>294,020 sq km</td>
<td>16,995,800 sq km</td>
<td>241,590 sq km</td>
</tr>
<tr>
<td></td>
<td>Water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1,400 sq km</td>
<td>7,210 sq km</td>
<td>79,400 sq km</td>
<td>3,230 sq km</td>
</tr>
</tbody>
</table>

continued....
<table>
<thead>
<tr>
<th>Variable/Nation</th>
<th>France</th>
<th>Italy</th>
<th>Russia</th>
<th>UK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Climate</td>
<td>Generally cool winters and mild summers, but mild winters and hot summers along the Mediterranean; occasional strong, cold, dry, north-to-northwesterly wind known as mistral</td>
<td>Predominantly Mediterranean; Alpine in far north; hot, dry in south</td>
<td>Ranges from steppes in the south through humid continental in much of European Russia; sub arctic in Siberia to tundra climate in the polar north; winters vary from cool along Black Sea coast to frigid in Siberia; summers vary from warm in the steppes to cool along Arctic coast</td>
<td>Temperate; moderated by prevailing southwest winds over the North Atlantic Current; more than one-half of the days are overcast</td>
</tr>
<tr>
<td>Natural resources</td>
<td>Coal, iron ore, bauxite, zinc, uranium, antimony, arsenic, potash, feldspar, fluorspar, gypsum, timber, fish</td>
<td>Coal, mercury, zinc, potash, marble, barite, asbestos, pumice, fluorspar, feldspar, pyrite (sulfur), natural gas and crude oil reserves, fish, arable land</td>
<td>Wide natural resource base including major deposits of oil, natural gas, coal, and many strategic minerals, timber</td>
<td>Coal, petroleum, natural gas, iron ore, lead, zinc, gold, tin, limestone, salt, clay, chalk, gypsum, potash, silica sand, slate,</td>
</tr>
<tr>
<td>Land use</td>
<td>Arable land 33.53%</td>
<td>27.79%</td>
<td>7.33%</td>
<td>23.46%</td>
</tr>
<tr>
<td></td>
<td>Permanent crops</td>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------------</td>
<td>--------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.07%</td>
<td>9.53%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.11%</td>
<td>0.21%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irrigated land</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>64.4% (2001)</td>
<td>62.68% (2001)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>92.56% (2001)</td>
<td>76.33% (2001)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Population</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>20,000 sq km</td>
<td>26,980 sq km</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>46,630 sq km</td>
<td>1,080 sq km</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Population growth rate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.39% (2004)</td>
<td>0.09% (2004)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.45% (2004)</td>
<td>0.29% (2004)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2.8.2 Economic Profile:

France:

France is in the midst of transition, from a well-to-do modern economy that has featured extensive government ownership and intervention to one that relies more on market mechanisms. The Socialist-led government partially or fully privatized many large companies, banks, and insurers, but the government retains controlling stakes in several leading firms, including Air France, France Telecom, Renault, and Thales, and is dominant in some sectors, particularly power, public transport, and defense industries. The telecommunications sector is gradually being opened to competition. France's leaders remain committed to a capitalism in which they maintain social equity by means of laws, tax policies, and social spending that reduce income disparity and the impact of free markets on public health and welfare. The current government has lowered income taxes and introduced measures to boost employment. The government is focusing on the problems of the high cost of labor and labor market inflexibility resulting from the 35-hour workweek and restrictions on lay-offs. The government is also pushing for pension reforms and simplification of administrative procedures. The tax burden remains one of the highest in Europe (43.8% of GDP in 2003). The current economic slowdown and inflexible budget items have pushed the 2003 deficit to 4% of GDP, above the EU's 3% debt limit. Business investment remains listless because of low rates of capital utilization, sluggish demand, high debt, and the steep cost of capital.
Italy:

Italy has a diversified industrial economy with roughly the same total and per capita output as France and the UK. This capitalistic economy remains divided into a developed industrial north, dominated by private companies, and a less developed, welfare-dependent agricultural south, with 20% unemployment. Most raw materials needed by industry and more than 75% of energy requirements are imported. Over the past decade, Italy has pursued a tight fiscal policy in order to meet the requirements of the Economic and Monetary Unions and has benefited from lower interest and inflation rates. The current government has enacted numerous short-term reforms aimed at improving competitiveness and long-term growth. Italy has moved slowly, however, on implementing needed structural reforms, such as lightening the high tax burden and overhauling Italy's rigid labor market and over-generous pension system, because of the current economic slowdown and opposition from labor unions.

Russia:

Russia ended 2003 with its fifth straight year of growth, averaging 6.5% annually since the financial crisis of 1998. Although high oil prices and a relatively cheap ruble are important drivers of this economic rebound, since 2000 investment and consumer-driven demand have played a noticeably increasing role. Real fixed capital investments have averaged gains greater than 10% over the last four years and real personal incomes have averaged increases over 12%. Russia has also improved its international financial position since the 1998 financial crisis, with its foreign debt declining from 90% of GDP to around 28%. Strong oil export earnings have allowed Russia to increase its foreign reserves from only $12 billion to some $80 billion. These achievements, along with a renewed government effort to advance structural reforms, have raised business and investor confidence in Russia's economic prospects. Nevertheless, serious problems persist. Oil, natural gas, metals, and timber account for more than 80% of exports, leaving the country vulnerable to swings in world prices. Russia's manufacturing base is dilapidated and must be replaced or modernized if the country is to achieve broad-based economic growth. Other problems include a weak-banking system, a poor business climate that discourages both domestic and foreign investors, corruption, local and regional government intervention in the courts, and widespread lack of trust in institutions. In addition, a string of investigations launched against a major Russian oil company, culminating with the arrest of its CEO in the fall.
of 2003, have raised concerns by some observers that President PUTIN is granting more influence to forces within his government that desire to reassert state control over the economy.

**United Kingdom:**

The UK, a leading trading power and financial center, is one of the quartets of trillion dollar economies of Western Europe. Over the past two decades the government has greatly reduced public ownership and contained the growth of social welfare programs. Agriculture is intensive, highly mechanized, and efficient by European standards, producing about 60% of food needs with only 1% of the labor force. The UK has large coal, natural gas, and oil reserves; primary energy production accounts for 10% of GDP, one of the highest shares of any industrial nation. Services, particularly banking, insurance, and business services, account by far for the largest proportion of GDP while industry continues to decline in importance. GDP growth slipped in 2001-03 as the global downturn, the high value of the pound, and the bursting of the "new economy" bubble hurt manufacturing and exports. Still, the economy is one of the strongest in Europe; inflation, interest rates, and unemployment remain low. The relatively good economic performance has complicated the BLAIR government's efforts to make a case for Britain to join the European Economic and Monetary Union (EMU). Critics point out, however, that the economy is doing well outside of EMU, and they point to public opinion polls that continue to show a majority of Britons opposed to the euro. Meantime, the government has been speeding up the improvement of education, transport, and health services, at a cost in higher taxes. The war in March-April 2003 between a US-led coalition and Iraq, together with the subsequent problems of restoring the economy and the polity, involve a heavy commitment of British military forces.

**Table NoT-2.11 showing economical factors associated with the developed nations**

<table>
<thead>
<tr>
<th>Variable/ Nation</th>
<th>France</th>
<th>Italy</th>
<th>Russia</th>
<th>UK</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GDP</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Real growth rate</td>
<td>0.5% (2003)</td>
<td>0.4% (2003)</td>
<td>7.3% (2003)</td>
<td>2.2% (2003)</td>
</tr>
</tbody>
</table>

GDP Composition by Sector
<table>
<thead>
<tr>
<th>Variable/ Nation</th>
<th>France</th>
<th>Italy</th>
<th>Russia</th>
<th>UK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>2.7%</td>
<td>2.2%</td>
<td>5.2%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Industry</td>
<td>24.4%</td>
<td>28.9%</td>
<td>35.1%</td>
<td>26.5%</td>
</tr>
</tbody>
</table>

Household income or consumption by percentage share

<table>
<thead>
<tr>
<th></th>
<th>France</th>
<th>Italy</th>
<th>Russia</th>
<th>UK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest 10%</td>
<td>2.8%</td>
<td>2.1%</td>
<td>5.9%</td>
<td>2.3%</td>
</tr>
<tr>
<td>By occupation:</td>
<td>Agriculture</td>
<td>Industry</td>
<td>Services</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4.1%, 5%</td>
<td>22.7%</td>
<td>65% (2002)</td>
<td>74%</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>9.7% (2003)</td>
<td>8.6% (2003)</td>
<td>8.5% plus considerable underemployment (2003)</td>
<td>5%</td>
</tr>
<tr>
<td>Budget</td>
<td>Revenues</td>
<td>Expenditures</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$882.8 billion</td>
<td>$955.4 billion, including capital expenditures of $23 billion (2003)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$668 billion</td>
<td>$703.1 billion, including capital expenditures of NA (2003)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$83.99 billion</td>
<td>$73.75 billion, including capital expenditures of NA (2003)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$688.9 billion</td>
<td>$746.1 billion, including capital expenditures of NA (2003)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variable/ Nation</td>
<td>France</td>
<td>Italy</td>
<td>Russia</td>
<td>UK</td>
</tr>
<tr>
<td>------------------</td>
<td>--------</td>
<td>-------</td>
<td>--------</td>
<td>----</td>
</tr>
<tr>
<td><strong>Agriculture - products:</strong></td>
<td>Wheat, cereals, sugar beets, potatoes, wine grapes; beef, dairy products; fish</td>
<td>Fruits, vegetables, grapes, potatoes, sugar beets, soybeans, grain, olives; beef, dairy products; fish</td>
<td>Grain, sugar beets, sunflower seed, vegetables, fruits; beef, milk</td>
<td>Cereals, oilseed, potatoes, vegetables; cattle, sheep, poultry; fish</td>
</tr>
<tr>
<td><strong>Exports:</strong></td>
<td>$346.5 billion f.o.b. (2003)</td>
<td></td>
<td>134.4 billion (2003)</td>
<td></td>
</tr>
<tr>
<td><strong>Exports Commodities:</strong></td>
<td>Machinery and transportation equipment, aircraft, plastics, chemicals, pharmaceutical products, iron and steel, beverages</td>
<td>Engineering products, textiles and clothing, production machinery, motor vehicles, transport equipment, chemicals; food, beverages and tobacco; minerals and nonferrous metals</td>
<td>Petroleum and petroleum products, natural gas, wood and wood products, metals, chemicals, and a wide variety of civilian and military manufactures</td>
<td>Manufactured goods, fuels, chemicals; food, beverages, tobacco</td>
</tr>
<tr>
<td><strong>Exports - partners:</strong></td>
<td>Germany 14.9%, Spain 9.6%, UK 9.4%, Italy 9.3%, Belgium 7.2%, US 6.8% (2003)</td>
<td>Germany 13.8%, France 12.3%, US 8.5%, Spain 7%, UK 6.9% (2003)</td>
<td>Germany 7.8%, Netherlands 6.5%, Italy 6.3%, China 6.2%, Belarus 5.7%, Ukraine 5.7%, US 4.6%, Switzerland 4.4% (2003)</td>
<td>US 15.7%, Germany 10.5%, France 9.5%, Netherlands 6.9%, Ireland 6.5%, Belgium 5.6%, Spain 4.4%, Italy 4.4% (2003)</td>
</tr>
<tr>
<td>Variable/ Nation</td>
<td>France</td>
<td>Italy</td>
<td>Russia</td>
<td>UK</td>
</tr>
<tr>
<td>----------------------</td>
<td>---------------------------------------------</td>
<td>-----------------------------------------------</td>
<td>------------------------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Imports - commodities:</td>
<td>Machinery and equipment, vehicles, crude oil, aircraft, plastics, chemicals</td>
<td>Engineering products, chemicals, transport equipment, energy products, minerals and nonferrous metals, textiles and clothing; food, beverages and tobacco</td>
<td>Machinery and equipment, consumer goods, medicines, meat, sugar, semi-finished metal products</td>
<td>Manufactured goods, machinery, fuels; foodstuffs</td>
</tr>
<tr>
<td>Imports - partners:</td>
<td>Germany 19.1%, Belgium 9.4%, Italy 9%, Spain 7.4%, Netherlands 7%, UK 7%, US 5.4% (2003)</td>
<td>Germany 17.9%, France 11.2%, Netherlands 5.8%, Spain 4.8%, UK 4.7%, Belgium 4.3%, US 4% (2003)</td>
<td>Germany 14%, Belarus 8.6%, Ukraine 7.7%, China 5.8%, US 5.2%, Kazakhstan 4.7%, Italy 4.2%, France 4.1% (2003)</td>
<td>Germany 13.5%, US 10.2%, France 8.1%, Netherlands 6.3%, Belgium 4.9%, Italy 4.7% (2003)</td>
</tr>
</tbody>
</table>

2.9 Profile of Quad Nations:

2.9.1 General Profile:

United States:

Britain's American colonies broke with the mother country in 1776 and were recognized as the new nation of the United States of America following the Treaty of Paris in 1783. During the 19th and 20th centuries, 37 new states were added to the original 13 as the nation expanded across the North American continent and acquired a number of overseas possessions. The two most traumatic experiences in the nation's history were the Civil War (1861-65) and the Great Depression of the 1930s. Buoyed by victories in World Wars I and II and the end of the Cold War in 1991, the US remains the world's most powerful nation state. The economy is marked by steady growth, low unemployment and inflation, and rapid advances in technology.

Canada:

A land of vast distances and rich natural resources, Canada became a self-governing dominion in 1867 while retaining ties to the British crown. Economically and technologically the nation has developed in parallel with the US, its neighbor to the south across an unfortified border. Canada's paramount political problem is
meeting public demands for quality improvements in health care and education services after a decade of budget cuts. The issue of reconciling Quebec's francophone heritage with the majority anglophone Canadian population has moved to the back burner in recent years; support for separatism abated after the Quebec government's referendum on independence failed to pass in October of 1995.

**Japan:**

In 1603, a Tokugawa shogunate (military dictatorship) ushered in a long period of isolation from foreign influence in order to secure its power. For 250 years this policy enabled Japan to enjoy stability and a flowering of its indigenous culture. Following the Treaty of Kanagawa with the United States in 1854, Japan opened its ports and began to intensively modernize and industrialize. During the late 19th and early 20th centuries, Japan became a regional power that was able to defeat the forces of both China and Russia. It occupied Korea, Formosa (Taiwan), and southern Sakhalin Island. In 1933 Japan occupied Manchuria and in 1937 it launched a full-scale invasion of China. Japan attacked US forces in 1941 - triggering America's entry into World War II - and soon occupied much of East and Southeast Asia. After its defeat in World War II, Japan recovered to become an economic power and a staunch ally of the US. While the emperor retains his throne as a symbol of national unity, actual power rests in networks of powerful politicians, bureaucrats, and business executives. The economy experienced a major slowdown starting in the 1990s following three decades of unprecedented growth, but Japan still remains a major economic power, both in Asia and globally. In 2005, Japan began a two-year term as a non-permanent member of the UN Security Council.

**Table No T-2.12 showing general factors associated with the Quad nations**

<table>
<thead>
<tr>
<th>Variable/ Nation</th>
<th>US</th>
<th>Canada</th>
<th>Japan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td>Total</td>
<td>NA</td>
<td>9,984,670 sq km</td>
</tr>
<tr>
<td></td>
<td>Land</td>
<td>NA</td>
<td>9,093,507 sq km</td>
</tr>
<tr>
<td></td>
<td>Water</td>
<td>NA</td>
<td>891,163 sq km</td>
</tr>
<tr>
<td>Climate</td>
<td></td>
<td>NA</td>
<td>Varies from temperate in south to sub arctic and arctic in north</td>
</tr>
</tbody>
</table>

Shri Sant Gajanan Maharaj College of Engineering, Shegaon 68
<table>
<thead>
<tr>
<th>Natural resources</th>
<th>NA</th>
<th>Iron ore, nickel, zinc, copper, gold, lead, molybdenum, potash, diamonds, silver, fish, timber, wildlife, coal, petroleum, natural gas, hydropower</th>
<th>Negligible mineral resources, fish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land use</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arable land</td>
<td>NA</td>
<td>4.96%</td>
<td>12.19%</td>
</tr>
<tr>
<td>Permanent crops</td>
<td>NA</td>
<td>0.02%</td>
<td>0.96%</td>
</tr>
<tr>
<td>Other</td>
<td>NA</td>
<td>95.02% (2001)</td>
<td>86.85% (2001)</td>
</tr>
<tr>
<td>Population</td>
<td>293,027,571 (July 2004)</td>
<td>32,507,874 (July 2004 est.)</td>
<td>127,333,002 (July 2004)</td>
</tr>
<tr>
<td>Population growth rate</td>
<td>0.92% (2004)</td>
<td>0.92% (2004)</td>
<td>0.08% (2004)</td>
</tr>
</tbody>
</table>

### 2.9.2 Economic Profile

**United States:**

The US has the largest and most technologically powerful economy in the world, with a per capita GDP of $37,800. In this market-oriented economy, private individuals and business firms make most of the decisions, and the federal and state governments buy needed goods and services predominantly in the private marketplace. US business firms enjoy considerably greater flexibility than their counterparts in Western Europe and Japan in decisions to expand capital plant, to lay off surplus workers, and to develop new products. At the same time, they face higher barriers to entry in their rivals' home markets than the barriers to entry of foreign firms in US markets. US firms are at or near the forefront in technological advances, especially in computers and in medical, aerospace, and military equipment; their advantage has narrowed since the end of World War II. The onrush of technology largely explains the gradual development of a "two-tier labor market" in which those at the bottom lack the education and the professional/technical skills of those at the top and, more and more, fail to get comparable pay raises, health insurance coverage, and other benefits. Since 1975, practically all the gains in household income have gone to the top 20% of households. The years 1994-2000 witnessed solid increases in real output, low
inflation rates, and a drop in unemployment to below 5%. The year 2001 saw the end of boom psychology and performance, with output increasing only 0.3% and unemployment and business failures rising substantially. The response to the terrorist attacks of 11 September 2001 showed the remarkable resilience of the economy. Moderate recovery took place in 2002 with the GDP growth rate rising to 2.4%. A major short-term problem in first half 2002 was a sharp decline in the stock market, fueled in part by the exposure of dubious accounting practices in some major corporations. The war in March/April 2003 between a US-led coalition and Iraq shifted resources to the military. In 2003, growth in output and productivity and the recovery of the stock market to above 10,000 for the Dow Jones Industrial Average were promising signs. Unemployment stayed at the 6% level, however, and began to decline only at the end of the year. Long-term problems include inadequate investment in economic infrastructure, rapidly rising medical and pension costs of an aging population, sizable trade and budget deficits, and stagnation of family income in the lower economic groups.

Canada:

As an affluent, high-tech industrial society, Canada today closely resembles the US in its market-oriented economic system, pattern of production, and high living standards. Since World War II, the impressive growth of the manufacturing, mining, and service sectors has transformed the nation from a largely rural economy into one primarily industrial and urban. The 1989 US-Canada Free Trade Agreement (FTA) and the 1994 North American Free Trade Agreement (NAFTA) (which includes Mexico) touched off a dramatic increase in trade and economic integration with the US. As a result of the close cross-border relationship, the economic sluggishness in the United States in 2001-02 had a negative impact on the Canadian economy. Real growth averaged nearly 3% during 1993-2000, but declined in 2001, with moderate recovery in 2002-03. Unemployment is up, with contraction in the manufacturing and natural resource sectors. Nevertheless, given its great natural resources, skilled labor force, and modern capital plant Canada enjoys solid economic prospects. Solid fiscal management has produced a long-term budget surplus, which is substantially reducing the national debt, although public debate continues over how to manage the rising cost of the publicly funded healthcare system. Trade accounts for roughly a third of GDP. Canada enjoys a substantial trade surplus with its principal trading partner, the United
States, which absorbs more than 85% of Canadian exports. Roughly 90% of the population lives within 160 kilometers of the US border.

Japan:

Government-industry cooperation, a strong work ethic, mastery of high technology, and a comparatively small defense allocation (1% of GDP) helped Japan advance with extraordinary rapidity to the rank of second most technologically-powerful economy in the world after the US and third-largest economy after the US and China. One notable characteristic of the economy is the working together of manufacturers, suppliers, and distributors in closely-knit groups called keiretsu. A second basic feature has been the guarantee of lifetime employment for a substantial portion of the urban labor force. Both features are now eroding. Industry, the most important sector of the economy, is heavily dependent on imported raw materials and fuels. The much smaller agricultural sector is highly subsidized and protected, with crop yields among the highest in the world. Usually self-sufficient in rice, Japan must import about 50% of its requirements of other grain and fodder crops. Japan maintains one of the world's largest fishing fleets and accounts for nearly 15% of the global catch. For three decades overall real economic growth had been spectacular: a 10% average in the 1960s, a 5% average in the 1970s, and a 4% average in the 1980s. Growth slowed markedly in the 1990s, averaging just 1.7%, largely because of the after effects of over investment during the late 1980s and concretionary domestic policies intended to wring speculative excesses from the stock and real estate markets. Government efforts to revive economic growth have met with little success and were further hampered in 2000-2003 by the slowing of the US, European, and Asian economies. Japan's huge government debt, which totals more than 150% of GDP, and its ageing population are the two major long-run problems. Robotics constitutes a key long-term economic strength with Japan possessing 410,000 of the world's 720,000 "working robots." Internal conflict over the proper way to reform the ailing banking system continues
Table NoT-2.13 showing economical factors associated with the Quad nations¹¹

<table>
<thead>
<tr>
<th>Variable/ Nation</th>
<th>US</th>
<th>Canada</th>
<th>Japan</th>
</tr>
</thead>
</table>

GDP Composition by Sector

<table>
<thead>
<tr>
<th>Sector</th>
<th>US %</th>
<th>Canada %</th>
<th>Japan %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>1.4%</td>
<td>2.2%</td>
<td>1.3%</td>
</tr>
<tr>
<td>Industry</td>
<td>26.2%</td>
<td>29.2%</td>
<td>25.4%</td>
</tr>
<tr>
<td>Services</td>
<td>72.5% (2003)</td>
<td>68.6% (2003)</td>
<td>73.3% (2003)</td>
</tr>
<tr>
<td>Population below poverty line</td>
<td>12% (2003)</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Household income or consumption by percentage share</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lowest 10%</td>
<td>1.8%</td>
<td>2.8%</td>
<td>4.8%</td>
</tr>
<tr>
<td>Highest 10%</td>
<td>30.5% (1997)</td>
<td>23.8% (1994)</td>
<td>21.7% (1993)</td>
</tr>
<tr>
<td>By occupation:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agriculture</td>
<td>0.7%</td>
<td>3%</td>
<td>5</td>
</tr>
<tr>
<td>Industry</td>
<td>22.7</td>
<td>20%</td>
<td>25</td>
</tr>
<tr>
<td>Services</td>
<td>76.6</td>
<td>77%</td>
<td>70</td>
</tr>
<tr>
<td>Budget</td>
<td>Revenues</td>
<td>$1.782 trillion</td>
<td>$348.2 billion</td>
</tr>
<tr>
<td></td>
<td>Expenditures</td>
<td>$2.156 trillion, including capital expenditures of NA (2003)</td>
<td>$342.7 billion, including capital expenditures of NA (2003)</td>
</tr>
<tr>
<td>Variable/Nation</td>
<td>US</td>
<td>Canada</td>
<td>Japan</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----------------------------------------</td>
<td>---------------------------------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>Agriculture - products:</td>
<td>Wheat, corn, other grains, fruits,</td>
<td>Wheat, barley, oilseed, tobacco,</td>
<td>Rice, sugar beets, vegetables, fruit,</td>
</tr>
<tr>
<td></td>
<td>vegetables, cotton; beef, pork, poultry,</td>
<td>fruits, vegetables; dairy products;</td>
<td>pork, poultry, dairy products, eggs, fish</td>
</tr>
<tr>
<td></td>
<td>dairy products; forest products; fish</td>
<td>forest products; fish</td>
<td></td>
</tr>
<tr>
<td>Exports commodities:</td>
<td>Capital goods, automobiles, industrial</td>
<td>NA</td>
<td>Motor vehicles, semiconductors, office</td>
</tr>
<tr>
<td></td>
<td>supplies and raw materials, consumer</td>
<td></td>
<td>machinery, chemicals</td>
</tr>
<tr>
<td></td>
<td>goods, agricultural products</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exports - partners:</td>
<td>Canada 23.4%, Mexico 13.5%, Japan 7.2%,</td>
<td>NA</td>
<td>US 24.8%, China 12.1%, South Korea 7.3%,</td>
</tr>
<tr>
<td></td>
<td>UK 4.7%, Germany 4% (2003)</td>
<td></td>
<td>Taiwan 6.6%, Hong Kong 6.3% (2003)</td>
</tr>
<tr>
<td>Imports - commodities:</td>
<td>Crude oil and refined petroleum products,</td>
<td>NA</td>
<td>Machinery and equipment, fuels,</td>
</tr>
<tr>
<td></td>
<td>machinery, automobiles, consumer goods,</td>
<td></td>
<td>foodstuffs, chemicals, textiles, raw</td>
</tr>
<tr>
<td></td>
<td>industrial raw materials, food and</td>
<td></td>
<td>materials (2001)</td>
</tr>
<tr>
<td></td>
<td>beverages</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Imports - partners:</td>
<td>Canada 17.4%, China 12.5%, Mexico 10.7%,</td>
<td>NA</td>
<td>China 19.7%, US 15.6%, South Korea 4.7%,</td>
</tr>
<tr>
<td></td>
<td>Japan 9.3%, Germany 5.3% (2003)</td>
<td></td>
<td>Indonesia 4.3% (2003)</td>
</tr>
</tbody>
</table>

2.10 Profile of Developing Nations

2.10.1 General Profile:

Brazil:

Following three centuries under the rule of Portugal, Brazil became an
independent nation in 1822. By far the largest and most populous country in South America, Brazil overcame more than half a century of military intervention in the governance of the country when in 1985 the military regime peacefully ceded power to civilian rulers. Brazil continues to pursue industrial and agricultural growth and development of its interior. Exploiting vast natural resources and a large labor pool, it is today South America's leading economic power and a regional leader. Highly unequal income distribution remains a pressing problem.

India:

The Indus Valley civilization, one of the oldest in the world, dates back at least 5,000 years. Aryan tribes from the northwest invaded about 1500 B.C.; their merger with the earlier inhabitants created the classical Indian culture. European traders, beginning in the late 15th century, followed Arab incursions starting in the 8th century and Turkish in the 12th. By the 19th century, Britain had assumed political control of virtually all-Indian lands. Indian armed forces in the British army played a vital role in both World Wars. Nonviolent resistance to British colonialism under Mohandas GANDHI and Jawaharlal NEHRU led to independence in 1947. The subcontinent was divided into the secular state of India and the smaller Muslim state of Pakistan. A third war between the two countries in 1971 resulted in East Pakistan becoming the separate nation of Bangladesh. Fundamental concerns in India include the ongoing dispute with Pakistan over Kashmir, massive overpopulation, environmental degradation, extensive poverty, and ethnic and religious strife, all this despite impressive gains in economic investment and output.

China:

For centuries China stood as a leading civilization, outpacing the rest of the world in the arts and sciences, but in the 19th and early 20th centuries, the country was beset by civil unrest, major famines, military defeats, and foreign occupation. After World War II, the Communists under MAO Zedong established an autocratic socialist system that, while ensuring China's sovereignty, imposed strict controls over everyday life and cost the lives of tens of millions of people. After 1978, his successor DENG Xiaoping and other leaders focused on market-oriented economic development and by 2000 output had quadrupled. For much of the population, living standards have improved dramatically and the room for personal choice has expanded, yet political controls remain tight.
Indonesia:

The Dutch began to colonize Indonesia in the early 17th century; the islands were occupied by Japan from 1942 to 1945. Indonesia declared its independence after Japan’s surrender, but it required four years of intermittent negotiations, recurring hostilities, and UN mediation before the Netherlands agreed to relinquish its colony. Indonesia is the world's largest archipelagic state. Current issues include: alleviating widespread poverty, preventing terrorism, continuing the transition to popularly-elected governments after four decades of authoritarianism, implementing reforms of the banking sector, addressing charges of cronyism and corruption, holding the military and police accountable for human rights violations, and resolving armed separatist movements in Aceh and Papua.

Table No T-2.14 showing general factors associated with the developing nations

<table>
<thead>
<tr>
<th>Variable/ Nation</th>
<th>Brazil</th>
<th>India</th>
<th>China</th>
<th>Indonesia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td>Total</td>
<td>8,511,965 sq km</td>
<td>3,287,590 sq km</td>
<td>9,596,960 sq km</td>
</tr>
<tr>
<td></td>
<td>Land</td>
<td>8,456,510 sq km</td>
<td>2,973,190 sq km</td>
<td>9,326,410 sq km</td>
</tr>
<tr>
<td></td>
<td>Water</td>
<td>55,455 sq km</td>
<td>314,400 sq km</td>
<td>270,550 sq km</td>
</tr>
<tr>
<td>Climate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mostly tropical, but temperate in south</td>
<td>Varies from tropical monsoon in south to temperate in north</td>
<td>Extremely diverse; tropical in south to subarctic in north</td>
<td>Tropical; hot, humid; more moderate in highlands</td>
</tr>
<tr>
<td>Natural resources</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bauxite, gold, iron ore, manganese, nickel, phosphates, platinum, tin, uranium, petroleum, hydropower, timber</td>
<td>Coal (fourth-largest reserves in the world), iron ore, manganese, mica, bauxite, titanium ore, chromite, natural gas, diamonds, petroleum, limestone, arable land</td>
<td>NA</td>
<td>Petroleum, tin, natural gas, nickel, timber, bauxite, copper, fertile soils, coal, gold, silver</td>
</tr>
</tbody>
</table>
### Land use

<table>
<thead>
<tr>
<th>Land use</th>
<th>Arable land</th>
<th>54.4%</th>
<th>15.4%</th>
<th>11.32%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arable land</td>
<td>6.96%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permanent crops</td>
<td>0.9%</td>
<td>2.74%</td>
<td>1.25%</td>
<td>7.23%</td>
</tr>
<tr>
<td>Other</td>
<td>92.15% (2001)</td>
<td>42.86% (2001)</td>
<td>83.36% (2001)</td>
<td>81.45% (2001)</td>
</tr>
</tbody>
</table>

### Irrigated land

|----------------|------------|-------------|--------------------------|--------------------------|-------------------------|

### Population growth rate


### 2.10.2 Economic Profile:

**Brazil:**

Possessing large and well-developed agricultural, mining, manufacturing, and service sectors, Brazil’s economy outweighs that of all other South American countries and is expanding its presence in world markets. From 2001-03 real wages fell and Brazil’s economy grew, on average, only 1.1% per year, as the country absorbed a series of domestic and international economic shocks. That Brazil absorbed these shocks without financial collapse is a tribute to the resiliency of the Brazilian economy and the economic program put in place by former President CARDOSO and strengthened by President Lula DA SILVA. The three pillars of the economic program are a floating exchange rate, an inflation-targeting regime, and tight fiscal policy, which have been reinforced by a series of IMF programs. The currency depreciated sharply in 2001 and 2002, which contributed to a dramatic current account adjustment: in 2003, Brazil ran a record trade surplus and recorded the first current account surplus since 1992. While economic management has been good, there remain important economic vulnerabilities. The most significant are debt-related: the government’s largely domestic debt increased steadily from 1994 to 2003, straining government finances, while Brazil’s foreign debt (a mix of private and public debt) is large in relation to Brazil’s modest (but growing) export base. Another challenge is maintaining economic growth over a period of time to generate employment and make the government debt burden more manageable.
India:

India’s economy encompasses traditional village farming, modern agriculture, handicrafts, a wide range of modern industries, and a multitude of support services. Government controls have been reduced on foreign trade and investment, and privatization of domestic output has proceeded slowly. The economy has posted an excellent average growth rate of 6% since 1990, reducing poverty by about 10 percentage points. India is capitalizing on its large numbers of well-educated people skilled in the English language to become a major exporter of software services and software workers. Despite strong growth, the World Bank and others worry about the continuing public-sector budget deficit, running at approximately 60% of GDP.

China:

In late 1978 the Chinese leadership began moving the economy from a sluggish, inefficient, Soviet-style centrally planned economy to a more market-oriented system. Whereas the system operates within a political framework of strict Communist control, the economic influence of non-state organizations and individual citizens has been steadily increasing. The authorities switched to a system of household and village responsibility in agriculture in place of the old collectivization increased the authority of local officials and plant managers in industry, permitted a wide variety of small-scale enterprises in services and light manufacturing, and opened the economy to increased foreign trade and investment. The result has been a quadrupling of GDP since 1978. Measured on a purchasing power parity (PPP) basis, China in 2003 stood as the second-largest economy in the world after the US, although in per capita terms the country is still poor. Agriculture and industry have posted major gains especially in coastal areas near Hong Kong, opposite Taiwan, and in Shanghai, where foreign investment has helped spur output of both domestic and export goods. The leadership, however, often has experienced - as a result of its hybrid system - the worst results of socialism (bureaucracy and lassitude) and of capitalism (growing income disparities and rising unemployment). China thus has periodically backtracked, retightening central controls at intervals. The government has struggled to (a) sustain adequate jobs growth for tens of millions of workers laid off from state-owned enterprises, migrants, and new entrants to the work force; (b) reduce corruption and other economic crimes; and (c) keep afloat the large state-owned enterprises, many of which had been shielded from competition by subsidies and had been losing the ability
Global Financial System for Agriculture Produces and its Trade

to pay full wages and pensions. From 80 to 120 million surplus rural workers are adrift between the villages and the cities, many subsisting through part-time, low-paying jobs. Popular resistance, changes in central policy, and loss of authority by rural cadres have weakened China's population control program, which is essential to maintaining long-term growth in living standards. Another long-term threat to growth is the deterioration in the environment, notably air pollution, soil erosion, and the steady fall of the water table especially in the north. China continues to lose arable land because of erosion and economic development. Beijing says it will intensify efforts to stimulate growth through spending on infrastructure - such as water supply and power grids - and poverty relief and through rural tax reform. Accession to the World Trade Organization helps strengthen its ability to maintain strong growth rates but at the same time puts additional pressure on the hybrid system of strong political controls and growing market influences. China has benefited from a huge expansion in computer-internet use. Foreign investment remains a strong element in China's remarkable economic growth. Growing shortages of electric power and raw materials will hold back the expansion of industrial output in 2004.

Indonesia:

Indonesia, a vast polyglot nation, faces economic development problems stemming from recent acts of terrorism, unequal resource distribution among regions, endemic corruption, the lack of reliable legal recourse in contract disputes, weaknesses in the banking system, and a generally poor climate for foreign investment. Indonesia withdrew from its IMF program at the end of 2003, but issued a "White Paper" that commits the government to maintaining fundamentally sound macroeconomic policies previously established under IMF guidelines. Investors, however, continued to face a host of on-the-ground microeconomic problems and an inadequate judicial system. Keys to future growth remain internal reform, building up the confidence of international and domestic investors, and strong global economic growth.
Table NoT-2.15 showing economical factors associated with the developing nations

<table>
<thead>
<tr>
<th>Variable/ Nation</th>
<th>Brazil</th>
<th>India</th>
<th>China</th>
<th>Indonesia</th>
</tr>
</thead>
</table>

GDP Composition by Sector

<table>
<thead>
<tr>
<th>Variable/ Nation</th>
<th>Brazil</th>
<th>India</th>
<th>China</th>
<th>Indonesia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>10.2%</td>
<td>23.6%</td>
<td>14.8%</td>
<td>16.6%</td>
</tr>
<tr>
<td>Industry</td>
<td>38.7%</td>
<td>28.4%</td>
<td>52.9%</td>
<td>43.6%</td>
</tr>
</tbody>
</table>

Household income or consumption by percentage share

<table>
<thead>
<tr>
<th>Variable/ Nation</th>
<th>Brazil</th>
<th>India</th>
<th>China</th>
<th>Indonesia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest 10%</td>
<td>2.7%</td>
<td>3.5%</td>
<td>2.4%</td>
<td>4%</td>
</tr>
</tbody>
</table>

By occupation:

<table>
<thead>
<tr>
<th>Variable/ Nation</th>
<th>Agriculture</th>
<th>Industry</th>
<th>Services</th>
<th>Unemployment rate</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>23%</td>
<td>24%</td>
<td>53%</td>
<td>12.3% (2003)</td>
<td>Revenues</td>
</tr>
<tr>
<td></td>
<td>60%</td>
<td>17%</td>
<td>23% (1999)</td>
<td>9.5% (2003)</td>
<td>$147.2 billion</td>
</tr>
<tr>
<td></td>
<td>50%</td>
<td>22%</td>
<td>28%</td>
<td>10.1%</td>
<td>$86.69 billion</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$265.8 billion</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$40.91 billion</td>
</tr>
<tr>
<td>Variable/ Nation</td>
<td>Brazil</td>
<td>India</td>
<td>China</td>
<td>Indonesia</td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>--------</td>
<td>-------</td>
<td>-------</td>
<td>-----------</td>
<td></td>
</tr>
<tr>
<td>Expenditures</td>
<td>$172.4 billion, including capital expenditures of NA (2003)</td>
<td>$114.6 billion, including capital expenditures of $13.5 billion (2003)</td>
<td>$300.2 billion, including capital expenditures of $NA (2003)</td>
<td>$44.95 billion, including capital expenditures of NA (2003)</td>
<td></td>
</tr>
<tr>
<td>Agriculture - products:</td>
<td>Coffee, soybeans, wheat, rice, corn, sugarcane, cocoa, citrus; beef</td>
<td>Rice, wheat, oilseed, cotton, jute, tea, sugarcane, potatoes; cattle, water buffalo, sheep, goats, poultry; fish</td>
<td>Rice, wheat, potatoes, sorghum, peanuts, tea, millet, barley, cotton, oilseed, pork, fish</td>
<td>Rice, cassava (tapioca), peanuts, rubber, cocoa, coffee, palm oil, copra, poultry, beef, pork, eggs</td>
<td></td>
</tr>
<tr>
<td>Exports - Commodities:</td>
<td>NA</td>
<td>Textile goods, gems and jewelry, engineering goods, chemicals, leather manufactures</td>
<td>NA</td>
<td>Oil and gas, electrical appliances, plywood, textiles, rubber</td>
<td></td>
</tr>
<tr>
<td>Exports - partners:</td>
<td>NA</td>
<td>US 20.6%, China 6.4%, UK 5.3%, Hong Kong 4.8%, Germany 4.4% (2003)</td>
<td>NA</td>
<td>Japan 22.3%, US 12.1%, Singapore 8.9%, South Korea 7.1%, China 6.2% (2003)</td>
<td></td>
</tr>
<tr>
<td>Imports:</td>
<td>NA</td>
<td>$74.15 billion f.o.b. (2003 est.)</td>
<td>NA</td>
<td>$40.22 billion f.o.b. (2003 est.)</td>
<td></td>
</tr>
<tr>
<td>Imports - commodities:</td>
<td>NA</td>
<td>Crude oil, machinery, gems, fertilizer, and chemicals</td>
<td>NA</td>
<td>Machinery and equipment, chemicals, fuels, foodstuffs</td>
<td></td>
</tr>
</tbody>
</table>
Global Financial System for Agriculture Produces and its Trade

| Imports - partners: | NA | US 6.4%, Belgium 5.6%, UK 4.8%, China 4.3%, Singapore 4% (2003) | NA | Japan 13%, Singapore 12.8%, China 9.1%, US 8.3%, Thailand 5.2%, Australia 5.1%, South Korea 4.7%, Saudi Arabia 4.6% (2003) |

2.11 Profile of Least Developed Nations:

2.11.1 General Profile:

Bangladesh:
Bangladesh came into existence in 1971 when Bengali East Pakistan seceded from its union with West Pakistan. About a third of this extremely poor country floods annually during the monsoon rainy season, hampering economic development.

Philippines:
The Philippine Islands became a Spanish colony during the 16th century; they were ceded to the US in 1898 following the Spanish-American War. In 1935 the Philippines became a self-governing commonwealth. Manuel QUEZON was elected President and was tasked with preparing the country for independence after a 10-year transition. In 1942 the islands fell under Japanese occupation during WWII, and US forces and Filipinos fought together during 1944-45 to regain control. On 4 July 1946 the Philippines attained their independence. The 21-year rule of Ferdinand MARCOS ended in 1986, when a widespread popular rebellion forced him into exile and installed Corazon AQUINO as president. Her presidency was hampered by several coup attempts, which prevented a return to full political stability and economic development. Fidel RAMOS was elected president in 1992 and his administration was marked by greater stability and progress on economic reforms. In 1992, the US closed its last military bases on the islands. Joseph ESTRADA was elected president in 1998, but was succeeded by his vice-president, Gloria MACAPAGAL-ARROYO, in January 2001 after Estrada's stormy impeachment trial on corruption charges broke down and widespread demonstrations led to his ouster. MACAPAGAL-ARROYO was elected to

Shri Sant Gajanan Maharaj College of Engineering, Shegaon 81
a six-year term in May 2004. The Philippine Government faces threats from armed communist insurgencies and from Muslim separatists in the south.

**Myanmar:**

Britain conquered Burma over a period of 62 years (1824-1886) and incorporated it into its Indian Empire. Burma was administered as a province of India until 1937 when it became a separate, self-governing colony; independence from the Commonwealth was attained in 1948. Gen. NE Win dominated the government from 1962 to 1988, first as military ruler, then as self-appointed president, and later as political kingpin. Despite multiparty legislative elections in 1990 that resulted in the main opposition party - the National League for Democracy (NLD) - winning a landslide victory, the ruling junta refused to hand over power. NLD leader and Nobel Peace Prize recipient Aung San Suu Kyi, who was under house arrest from 1989 to 1995 and 2000 to 2002, was imprisoned in May 2003 and is currently under house arrest. In December 2004, the junta announced it was extending her detention for at least an additional year. Her supporters, as well as all those who promote democracy and improved human rights, are routinely harassed or jailed.

**Table No T-2.16 showing general factors associated with the Least Developed nations^4**

<table>
<thead>
<tr>
<th>Variable/ Nation</th>
<th>Bangladesh</th>
<th>Philippines</th>
<th>Myanmar</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Area</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>144,000 sq km</td>
<td>300,000 sq km</td>
<td>678,500 sq km</td>
</tr>
<tr>
<td>Land</td>
<td>133,910 sq km</td>
<td>298,170 sq km</td>
<td>657,740 sq km</td>
</tr>
<tr>
<td>Water</td>
<td>10,090 sq km</td>
<td>1,830 sq km</td>
<td>20,760 sq km</td>
</tr>
<tr>
<td><strong>Climate</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tropical; mild winter (October to March); hot, humid summer (March to June); humid, warm rainy monsoon (June to October)</td>
<td>Tropical marine; northeast monsoon (November to April); southwest monsoon (May to October)</td>
<td>Tropical monsoon; cloudy, rainy, hot, humid summers (southwest monsoon, June to September); less cloudy, scant rainfall, mild temperatures, lower humidity during winter (northeast monsoon, December to April)</td>
<td></td>
</tr>
</tbody>
</table>
Global Financial System for Agriculture Produces and its Trade

<table>
<thead>
<tr>
<th>Natural resources</th>
<th>Natural gas, arable land, timber, coal</th>
<th>Timber, petroleum, nickel, cobalt, silver, gold, salt, copper</th>
<th>Petroleum, timber, tin, antimony, zinc, copper, tungsten, lead, coal, some marble, limestone, precious stones, natural gas, hydropower</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land use</td>
<td>Arable land</td>
<td>62.11%</td>
<td>18.95%</td>
</tr>
<tr>
<td></td>
<td>Permanen crops</td>
<td>3.07%</td>
<td>16.77%</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>34.82% (2001)</td>
<td>64.28% (2001)</td>
</tr>
<tr>
<td></td>
<td>Population</td>
<td>NA</td>
<td>86,241,697 (July 2004)</td>
</tr>
<tr>
<td></td>
<td>Population growth rate</td>
<td>NA</td>
<td>1.88% (2004)</td>
</tr>
</tbody>
</table>

2.11.2 Economic Variables:

Bangladesh:

Despite sustained domestic and international efforts to improve economic and demographic prospects, Bangladesh remains a poor, overpopulated, and ill-governed nation. Although half of GDP is generated through the service sector, nearly two-thirds of Bangladeshis are employed in the agriculture sector, with rice as the single-most-important product. Major impediments to growth include frequent cyclones and floods, inefficient state-owned enterprises, inadequate port facilities, a rapidly growing labor force that cannot be absorbed by agriculture, delays in exploiting energy resources (natural gas), insufficient power supplies, and slow implementation of economic reforms. Economic reform is stalled in many instances by political infighting and corruption at all levels of government. Opposition from the bureaucracy, public sector unions, and other vested interest groups also has blocked progress. The BNP government, led by Prime Minister Khaleda ZIA, has the parliamentary strength to push through needed reforms, but the party's political will to do so has been lacking in key areas. One encouraging note: growth has been a steady 5% for the past several years.
Global Financial System for Agriculture Produces and its Trade

Philippines:

The Philippines was less severely affected by the Asian financial crisis of 1998 than its neighbors, aided in part by annual remittances of $6-7 billion from overseas workers. From a 0.6% decline in 1998, GDP expanded by 2.4% in 1999, and 4.4% in 2000, but slowed to 3.2% in 2001 in the context of a global economic slowdown, an export slump, and political and security concerns. GDP growth accelerated to 4.4% in 2002 and 4.2% in 2003, reflecting the continued resilience of the service sector, gains in industrial output, and improved exports. Nonetheless, it will take a higher, sustained growth path to make appreciable progress in poverty alleviation given the Philippines' high annual population growth rate and unequal distribution of income. The MACAPAGAL-ARROYO Administration has promised to continue economic reforms to help the Philippines match the pace of development in the newly industrialized countries of East Asia. The strategy includes improving the infrastructure, strengthening tax collection to bolster government revenues, furthering deregulation and privatization of the economy, enhancing the viability of the financial system, and increasing trade integration with the region.

Myanmar:

Burma is a resource-rich country that suffers from government controls and abject rural poverty. The military regime took steps in the early 1990s to liberalize the economy after decades of failure under the "Burmese Way to Socialism", but those efforts have since stalled. Burma has been unable to achieve monetary or fiscal stability, resulting in an economy that suffers from serious macroeconomic imbalances - including a steep inflation rate and an official exchange rate that overvalues the Burmese kyat by more than 100 times the market rate. In addition, most overseas development assistance ceased after the junta suppressed the democracy movement in 1988 and subsequently ignored the results of the 1990 election. A crisis in the private banking sector in early 2003 followed by economic moves against Burma by the United States, the European Union, and Japan - including a US ban on imports from Burma and a Japanese freeze on new bilateral economic aid - further weakened the Burmese economy. Burma is data poor, and official statistics are often dated and inaccurate. Published estimates of Burma's foreign trade are greatly understated because of the size of the black market and border trade - often estimated to be one to two times the official economy. Better relations with foreign countries and relaxed...
controls at home are needed to promote foreign investment, exports, and tourism. In February 2003, a major banking crisis hit the country's 20 private banks, shutting them down and disrupting the economy. In July and August 2003, the United States imposed a ban on all Burmese imports and a ban on provision of financial services, hampering Burma's ability to obtain foreign exchange. As of January 2004, the largest private banks remained moribund, leaving the private sector with little formal access to credit outside of government contracts.

Table NoT-2.17 showing economical factors associated with the Least Developed nations

<table>
<thead>
<tr>
<th>Variable/ Nation</th>
<th>Bangladesh</th>
<th>Philippines</th>
<th>Myanmar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchasing power parity</td>
<td>5.3% (2003)</td>
<td>4.5% (2003)</td>
<td>0.5% (2003)</td>
</tr>
<tr>
<td>Per capita purchasing power parity</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

GDP Composition by Sector

<table>
<thead>
<tr>
<th>Variable/ Nation</th>
<th>Bangladesh</th>
<th>Philippines</th>
<th>Myanmar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>21.7%</td>
<td>14.5%</td>
<td>57.2%</td>
</tr>
<tr>
<td>Industry</td>
<td>26.6%</td>
<td>32.3%</td>
<td>9.6%</td>
</tr>
</tbody>
</table>

Household income or consumption by percentage share

<table>
<thead>
<tr>
<th></th>
<th>Bangladesh</th>
<th>Philippines</th>
<th>Myanmar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest 10%</td>
<td>3.9%</td>
<td>1.7%</td>
<td>NA</td>
</tr>
<tr>
<td>Highest 10%</td>
<td>28.6% (1995-96)</td>
<td>38.4% (2000)</td>
<td>2.8%</td>
</tr>
<tr>
<td>Variable/ Nation</td>
<td>Bangladesh</td>
<td>Philippines</td>
<td>Myanmar</td>
</tr>
<tr>
<td>------------------</td>
<td>------------</td>
<td>-------------</td>
<td>---------</td>
</tr>
<tr>
<td>By occupation:</td>
<td>Agriculture 63%</td>
<td>45%</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>Industry 11%</td>
<td>15%</td>
<td>7</td>
</tr>
<tr>
<td>Budget</td>
<td>Revenues $5.352 billion</td>
<td>$11.56 billion</td>
<td>$7.9 billion</td>
</tr>
<tr>
<td></td>
<td>Expenditures $7.55 billion, including capital expenditures of NA (2003)</td>
<td>$15.25 billion, including capital expenditures of $2.4 million NA (2003)</td>
<td>$12.2 billion, including capital expenditures of $5.7 billion (FY96/97)</td>
</tr>
<tr>
<td>Public debt</td>
<td>43.3% of GDP (2003)</td>
<td>77% of GDP (2003)</td>
<td></td>
</tr>
<tr>
<td>Agriculture - products:</td>
<td>Rice, jute, tea, wheat, sugarcane, potatoes, tobacco, pulses, oilseeds, spices, fruit; beef, milk, poultry</td>
<td>Rice, coconuts, corn, sugarcane, bananas, pineapples, mangoes, pork, eggs, beef, fish</td>
<td>Rice, pulses, beans, sesame, groundnuts, sugarcane; hardwood; fish and fish products</td>
</tr>
<tr>
<td>Exports commodities:</td>
<td>Garments, jute and jute goods, leather, frozen fish and seafood (2001)</td>
<td>NA</td>
<td>Clothing, gas, wood products, pulses, beans, fish, rice</td>
</tr>
</tbody>
</table>
Global Financial System for Agriculture Produces and its Trade

<table>
<thead>
<tr>
<th>Imports - commodities:</th>
<th>Machinery and equipment, chemicals, iron and steel, textiles, foodstuffs, petroleum products, cement (2000)</th>
<th>NA</th>
<th>Fabric, petroleum products, plastics, machinery, transport equipment, construction materials, crude oil; food products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imports - partners:</td>
<td>India 15.4%, China 11.3%, Singapore 10.8%, Japan 5.9%, Hong Kong 4.5% (2003)</td>
<td>NA</td>
<td>China 31.1%, Singapore 22.3%, Thailand 15.1%, South Korea 6.3%, Malaysia 4.8%, Japan 4.3% (2003)</td>
</tr>
</tbody>
</table>

Notes and Reference

Notes: While constructing the matrices the size of bubble has been ignored as the research simply intends to focus on the positioning led financing.

References:


2) www.fao.org

3) ibid.

4) ibid.

5) ibid.

6) Compiled from the data of developed countries provided at cia-gov (cia-gov)

7) ibid

8) ibid.

9) ibid.

10) ibid.

11) ibid.

12) ibid.

13) ibid.

14) ibid.

15) ibid.