CHAPTER V
EXPLANATIONS OF GROWTH DIFFERENCES
AT THE SECTORAL LEVEL: AGRICULTURE

As mentioned in Chapter Four, the growth rates in the lead sectors (agriculture and industry) must also be examined to explain fully the aggregate growth differences as the latter may mask significant differences in sectoral growth rates. This makes it imperative that we analyze the growth performances of these two critical sectors separately. In this chapter we will examine the differences in agricultural growth rates of the SACs.

The agricultural sector is central to the economies of all the SACs for it generates a large share of their GDP and provides employment to sizable proportion of their labor force. Also, agriculture in the SACs is closely linked to the rest of their economies as it supplies a regular flow of workers to the nonagricultural sectors.

On the demand side, it consumes fertilizer manufactured domestically and is an increasingly important consumer of electricity and engineering goods. Besides, the demand for manufactured goods is derived from incomes generated in this sector. It is, therefore, clear that changes in performance of this sector (in terms of output growth) will have important implications for the overall growth performance of the SACs.
In examining the agricultural growth rates of the SACs, our interest is to know whether sectoral policies were different among and within them during the period of our analyses, and if so, how these differences explain differences in growth rates of output in agriculture. In section 5.1 period-wise growth rates and in section 5.2 cross-country growth rates for selected periods will be examined. Section 5.3 deals with the analyses of growth differences for periods immediately following the four episodes. In the final section 5.4, a comparative analyses of growth differences among the SACs with emphasis on noneconomic factors will be given.

Before we interpret growth differences in terms of policy differences, a few concepts and issues relating to this sector need to be clarified:

One, the term agricultural output refers here only to the production of crops which is the major constituent of the primary sector in all countries. It does not include output in the other components; forestry, fishing, mining and quarrying. Two, the term agricultural policy in its broadest sense may include measures designed to raise agricultural productivity and farm income. But in our discussion of policy, those measures intended to alter the latter, even ones as central as rural education and land reforms are not dealt with. Instead, we use the term only to refer to those programmes designed to increase production of major crops. These programmes may be discussed under two categories: First, under those programme measures that make available modern technology to farmers. They could be examined in terms of the
contributions of irrigation, fertilizer, high yielding varieties and improved cultivation practices to raise productivity. Second, under efforts to create institutional support that will make available these inputs and technology to the farming community. In this context the role of institutions in making available fertilizer, credit and other extension services shall be discussed. Three, as part of the agricultural policy the role of prices in raising output will be discussed only whenever it is appropriate, and reliable data available. Four, in general productivity in agriculture rises as overall growth increases. However, this has not happened consistently in the case of SACs. This is due to certain basic problems of agricultural sector of these countries. For example, inadequate transport structure, large number of poorly fed livestock with low productivity, declining soil fertility due to environmental degradation, fragmented holdings and an adverse land man ratio are all problems common to them that hold their agricultural productivity down. The impact of these factors on production are different for different countries, and this must be kept in mind while interpreting growth differences in terms of policy differences, especially across countries. With these clarifications we will now proceed to explain period-wise growth rates in agriculture.

5.1 **ANALYSES OF PERIOD-WISE GROWTH RATES**

Period-wise growth rates in agriculture will be analyzed in the following manner: We will first explain briefly the nature of each country’s crop production sector (which is the focus of our analyses) and the major policy initiatives undertaken
by the government to raise production in that sector. Then the differences in growth rates (if any) will be interpreted in terms of differences in those policy initiatives.

The period-wise growth rates in the crop production sector that we will examine in this section are given in table 3-8 (in Chapter Three). These sectoral rates pertain to the same countries and to the same periods for which we earlier compared aggregate growth rates over time in terms of broad macroeconomic policies (see Chapter Four, section 4.1.1 through 4.1.6). For a much broader understanding of growth differences, it is also important to know whether policies that were specific to each sector were responsible for differences in growth in that sector. A period-wise analyses of growth rates in the agricultural sector will provide us with useful information in this regard.

5.1.1 Bangladesh

In Bangladesh, the crop production sector is comprised of four major crops, rice, wheat, sugar cane, and jute. They represented 92 percent of all crops produced in 1990.¹ This sector also contributed 79 percent of the value added (in 1984/85 prices) to GDP in 1989/90. From 1975 to 1988 the number of people employed in the agricultural sector² rose by 180 percent, and development expenditure allocated to it increased by a substantial 610 percent (in nominal terms). During the years 1970/71 to

¹ The other crops are oil seeds, pulses, and tea. Some fruits like banana and mango are also grown in Bangladesh. They are, however, not dealt with here as separate data is not available to permit analyses covering both the periods.
² We will be using the terms crop production and agricultural sectors interchangeably throughout this chapter.
1979/80 the crop production sector grew at an average annual rate of 2.2 percent, whereas in the years 1980/81 to 1989/90 it grew slightly more to 2.6 percent (see rows four and six in table 3.8). We will try to interpret this increase, however small, in aggregate crop output during 1980/81 to 1989/90 first by looking into the crop production patterns to see where this growth occurred, and then by identifying the relevant policy(s) that led to this growth.

Increasing the output of rice and wheat (two major food grains) has always been an important objective of the agricultural policy of the Bangladesh government as it depended on imports for these crops for domestic consumption. In fact, rice production in 1973-74 reached the pre-independence level of 10 million tons due to the heavy emphasis laid on food grain production in the overall agricultural policy framework. However, output growth in this sector remained stagnant over the two periods as the more input dependent crops (like boro rice) which have been the prime engines of expansion, lost some of their earlier momentum during the years 1980/81 to 1989/90. In fact, production of rice grew at a lower rate than in the years 1970/71 to 1979/80.
Table 5-1

Production of Major Crops, Total Cropped Area, Area Under Irrigation and Fertilizer Consumption (In Percentages)

<table>
<thead>
<tr>
<th>Rate of Growth (Average Annual Increase)</th>
<th>From 1970/71 to 1979/80</th>
<th>From 1980/81 to 1989/90</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Production of Major Crops</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rice (000 Tons)</td>
<td>2.3%</td>
<td>1.7%</td>
</tr>
<tr>
<td>Sugar Cane (000 Tons)</td>
<td>2.7%</td>
<td>1.9%</td>
</tr>
<tr>
<td>Jute (000 Tons)</td>
<td>4.2%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Wheat (000 Tons)</td>
<td>3.0%</td>
<td>3.2%</td>
</tr>
<tr>
<td><strong>2. Land Use</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Cropped Area (000 Acres)</td>
<td>1.7%</td>
<td>1.1%</td>
</tr>
<tr>
<td><strong>3. Area Under Irrigation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(000 Acres)</td>
<td>2.8%</td>
<td>2.2%</td>
</tr>
<tr>
<td><strong>4. Fertilizer Consumption</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(000 Tons)</td>
<td>67%(u)</td>
<td>66%(u)</td>
</tr>
<tr>
<td></td>
<td>25%(TSP)</td>
<td>25%(TSP)</td>
</tr>
</tbody>
</table>

Note H: Refers to percentage of consumption of fertilizer by Type u = urea; TSP = Trisulphate Phosphate. Totals may not add to one hundred as miscellaneous components, such as compost are not included.

Source: Computed from Bangladesh Year Book of Statistics (various issues). Bangladesh Agricultural Development Corporation. Annual Reports (various issues).

Table 5-1 shows the production of major crops, total cropped area and area under irrigation and fertilizer consumption for the two periods. Except wheat, the other three major crops have shown a decrease in production. Total cropped area and area under irrigation also have declined. Especially the years 1986 and 1987 were disappointing years with food grain production; fertilizer consumption, agricultural credit, and investment in minor irrigation equipment all falling for the first time in
many years. There were several reasons for this poor performance. We will mention two here: One, was a general shortage of funds (due to reduced quantity of external assistance), and the second poor coordination and implementation of irrigation management programmes (IMP). For instance, the government’s efforts should have been directed to certain specific areas if it wished to regain the lost momentum in food grain production. Though major investments were made in water development, there remained a huge untapped potential; coverage of low cost drainage and flood control could have been raised from 15 percent of inland cultivable areas to 35-40 percent, and irrigation from 22 percent of the cultivated area to at least 50 percent. The draft National Water Plan (NWP), which was completed in July 1985, has also not been operationalized until 1988, slowing the production of major crops. ³

Another important factor slowing crop production was a lack of coordination among institutions delivering critical inputs to farmers. There were several examples for this: The services, provided by a weak cooperative system, failed to resolve difficulties in farmer group formation and input supply; the agency handling the sales and servicing of irrigation equipment was extremely inefficient; the extension and research service was ineffective and the credit system reached only 15 percent of farm households in 1988. These shortcomings should have been corrected earlier by the government and its inaction led to only a moderate growth in output during the years 1980/81 to 1989/90.

The only crop that showed an increase in growth during the years 1980/81 to 1989/90 was wheat (see table 5-1), which rose by 6.7 percent over the years 1970/71 to 1979/80. This was achieved by the use of a combination of HYVs and fertilizers on irrigated land. This increase in the share of wheat to total output was a significant factor in raising the latter in the years 1980/81 to 1989/90.

5.1.2 India

In India, five major crops—wheat, rice, gram, pulses, sugar cane, and cotton—contributed nearly 60 percent of total crops produced in 1989. From 1975 to 1988, the number of people employed in the crop production sector rose (in the organized sector only) by 23 percent. During the years 1950/51 to 1959/60 this sector grew at an average annual rate of 3.2 percent and the rate dropped to 1.9 percent in years 1960/61 to 1969/70. During 1980/81 to 1989/90 the growth rate again rose to 3 percent (see rows one, three, and six in table 3-8). We will now try to interpret these fluctuations in growth rates in the agricultural sector.

Since independence, the context for agricultural policy formation in India was rightly tied to the basic aims of growth and social justice. The policymakers clearly recognized the importance of agricultural sector and as a result during the first half of the first period (1951-55), it received priority investments. The policymakers also

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4 The other major crops are oil seeds and cash crops like Jute. However, they are not included here to limit the scope of overall analyses. The plantation sector is also left out for the same reason.

5 In India’s First Five-Year Plan (1951-55) the role of agriculture was correctly emphasized as one of key importance. Even though the emphasis on agriculture was toned down in the second plan (with the adoption of the strategy of heavy industry based development) it was accorded an important place in the development process as the supplier of a number of wage goods, namely food grains.
assigned public sector a crucial role in the development of agriculture. This led the government to take the following steps. First, it started providing large volume of resources for the development of agricultural infrastructure like irrigation, community development projects and the like. Secondly, the government established several agencies for the supply of various inputs like seeds, fertilizers and credit. Thirdly, through price support and procurement the government attempted to stabilize the farmer’s income, besides feeding the public distribution system. Finally, through legislative measures the government tried to change and modify the production relations in respect of ownership, tenancy rights and farm size.6

In the framework discussed above, the major emphasis was to provide inputs and improve the institutional environment to raise production and productivity in the agricultural sector. Efforts were also made to increase the area under irrigation and to improve the institutional setup in the 1950s, as it was thought necessary to increase output and to render justice to the actual tillers.7 In brief, the core policy with respect to agriculture and the instruments chosen to implement it were largely sound.

However, there were certain weaknesses also inherent in the policy and in its implementation. For instance, the policy was weak in specifying its target variables; in

6 An excellent description of the development of Agricultural policy in the early years of planning is given in A.N. Agrawal (1980), Indian Agriculture. Vikas (P) LTD, New Delhi.
7 The policy to provide social justice to the actual cultivator of the soil consisted of the following elements: Abolition of Zamindari rights, ceiling on ownership laying down the maximum amount of land that could be held by cultivators, consolidation of fragmented holdings, security for tenants and 'reasonable' rates of rent.
the early years of planning the policy laid great emphasis on self-sufficiency in food grains and not much resources were devoted to quick maturing minor irrigation schemes to speed the achievement of this important objective. In fact, the failure of policy to produce adequate wage goods, of which food grains form an important part and make up the entire consumption requirements of poorer sections of the population is a major flaw of the Indian economic strategy as it relates to agriculture. Within this policy frame we will analyze the crop production pattern for the three periods and then assess what impact policy had on the production and productivity trends in this sector.
Table 5-2

Production of Major Crops,
Area Under Major Crops and Under Irrigation
(Crop-Wise Distribution) and
Fertilizer Consumption (In Percentages)

<table>
<thead>
<tr>
<th></th>
<th>Rate of Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>From 1950/51</td>
</tr>
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<td></td>
<td>to 1959/60</td>
</tr>
</tbody>
</table>

1. **Production of Major Crops**
   - Rice (000 M. Tons): 2.9% 2.6% 2.8%
   - Wheat (000 M. Tons): 2.8% 33.0% 2.3%
   - Gram (000 M. Tons): 6.5% 6.3% 3.6%
   - Pulses (000 M. Tons): 3.0% 3.1% 2.7%
   - Sugar Cane (000 M. tons): 3.4% 3.5% 3.1%
   - Cotton (Lint): 3.2% 2.8% 4.6%

2. **Land Use**
   - Rice (M. Hectacres): 1.4% 1.1% 1.4%
   - Wheat (M. Hectacres): 2.3% 1.6% 1.8%
   - Gram (M. Hectacres): 2.3% 1.9% 3.0%
   - Pulses (M. Hectacres): 2.7% 1.4% 1.9%
   - Sugar Cane (M. Hectacres): 2.9% 3.3% 2.5%
   - Cotton (M. Hectacres): 2.3% 1.7% 2.5%

3. **Gross Area Under Irrigation**
   - Rice (M. Hectacres): 1.3% 1.2% 1.3%
   - Wheat (M. Hectacres): 2.2% 2.7% 1.4%
   - Gram (M. Hectacres): 2.1% 1.4% 2.0%
   - Pulses (M. Hectacres): 2.3% 2.3% 3.0%
   - Sugar Cane (M. Hectacres): 2.4% 3.4% 2.8%
   - Cotton (M. Hectacres): 3.8% 2.2% 2.0%

4. **Fertilizer Consumption**
   - (000 Tons): 4.2%b 5.7% 2.5%c

Note:  
(A) Figures up to 1966-67 relate to distribution and not consumption of Fertilizers.  
(B) Refers to 1952-53 to 1959-60 average.  
(C) For the years up to 1986-87.

In table 5-2, data on production of major crops, area under major crops and under irrigation (crop-wise distribution) and fertilizer consumption for selected years are given. Wheat has shown an increase in both production and productivity during the years 1960/61 to 1969/70 over the previous decade. It grew during 1960/61 to 1969/70 at 33.0 percent compared to 2.8 percent during 1950/51 to 1959/60. In the same period, area under wheat cultivation declined from 2.3 percent to 1.6 percent, while overall consumption of fertilizer increased from 4.2 percent to 5.7 percent. From this we may infer that the increase in the production of wheat during 1960/61 to 1969/70 was the result of applying HYVs and other growth inducing inputs like irrigation, chemical fertilizers, and pesticides (i.e., increased use of technology) to the production of wheat, which in turn, increased its productivity. Nonetheless, this phenomenal increase in wheat production was marked only around the mid-sixties and it tapered off during the 1980s.

During the 1960s two other crops, pulses and sugar cane, also registered modest increases in growth. Area under pulses decreased during the years 1960/61 to 1969/70, while area irrigated for it remained constant. From this we may surmise that the small increase in pulses production that took place was probably due to increase in its productivity. For sugar cane, both areas devoted to its production and area irrigated increased during 1960/61 to 1969/70 resulting in a small increase in production. This may have been due to the prospects of increased export earnings.
Though the production of wheat increased during the 1960s over 1950s, the other two crops, rice and gram, have shown a decline bringing overall growth down to 1.9 percent from the first decade growth rate of 3.2 percent. The years 1950/51 to 1959/60 were a period in which agricultural growth was associated with the traditional inputs, like irrigation, compost, better seeds chosen by the expertise of farmers and growing stress on Japanese method of rice cultivation involving the use of more labor. In the 1950s, these factors added considerably to total output, but they exhausted their potential towards the end of this decade.

There were several reasons for the smaller rate of growth of output in the agricultural sector during the years 1960/61 to 1969/70. We will mention three here: One, was a critical shortage of funds available to improve productivity in this sector. As mentioned in the previous chapter, India’s two wars, one with China in 1962, and another with Pakistan in 1965, have imposed a severe constraint on the government’s budgetary resources and because of this, development expenditures of all types were reduced drastically. A second reason was the absence of productivity growth up to 1966-67, a year in which new technology was introduced. This has reduced the average rate of increase for the entire period. Absence of productivity growth during

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8 The Third Five-Year Plan itself was scrapped giving up many of its goals. A series of Annual Plans were adopted in its place during the years 1966-67, 1967-68, and 1968-69.
9 In fact, yield per hectacre has gone down from 103.3 in 1960-61 to 92.2 in 1965-66 with a base of 1961-62 (see: Indian Agriculture in Brief, 16th Edition, pp. 138-143) when a different base 1969-70 is adopted yield per hectacre has gone down from 89.7 in 1961-62 to 89.1 in 1966-67 (see: Economic Survey, 1978-79, p. 66).
the early sixties may have been due to several institutional factors, like the small farm size, where it was difficult to introduce the new technology and lack of incentive to produce due to insecurity inherent in the then existing tenure system. A third, and no less important factor, was the continued dependence of crop production on rainfall. Irrigated area and area under cultivation did not increase, except for wheat, and the severe drought of 1966 also impacted negatively on crop production.

A perusal of crop production data for the years 1980/81 to 1989/90 yields a different picture. Overall, aggregate growth was impressive as it rose from 1.9 percent in the second period to 3.0 percent in the fourth. As in earlier instances, food grains led the growth during this period also. For instance, rice production grew at a higher rate from 2.6 percent for the years 1960/61 to 1969/70 to 2.8 percent during 1980/81 to 1989/90. The government's agricultural strategy was largely responsible for this overall growth in output during the years 1980/81 to 1989/90. This strategy consisted of actions in five interrelated areas: (i) irrigation and water management; (ii) rainfed farming; (iii) wasteland development and resource conservation; (iv) research, extension and crop diversification; and (v) price and subsidy policy. We will not undertake a detailed analyses of this strategy and its implementation here, but will

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10 The share of one cash crop in total crop production increased during the years 1980/81 to 1989/90 raising the aggregate crop output. This is sugar cane, whose production increased because of its large foreign exchange potential.
show briefly how it impacted on crop production positively during the years 1980/81 to 1989/90.¹¹

In order to increase the productivity of the public irrigation program, the policymakers laid major emphasis on: (i) small and medium projects; (ii) investments to improve existing projects; and (iii) completion of ongoing projects. This has brought more area under irrigation¹² and thus improved the production of most crops that required irrigated water. Increasing attention was also given to improve efficiency in rainfed farming as it was necessary to raise total output of crops. In 1990, roughly 40.0 percent of the food output was still produced in rainfed areas, and yields and incomes there have lagged behind irrigated areas. The government initiated several measures to combat this problem. The main feature of most of these measures was a blend of contour farming and vegetative barriers to increase in situ moisture conservation and stem erosion which was supplemented by timely and effective land preparation. (These interventions have been started on a modest scale during the early 1980s, and as a result, yield in the rainfed areas was maintained well during the 1987 drought).

Agricultural Research and extension has also played a catalistic role in translating the above strategy into concrete results. For example, the research done by


¹² In table 5-2 we may note that the gross area under irrigation for rice and gram has increased by 8.3 percent, and 43.0 percent respectively from the 1970s to the 1980s.
the Indian Council of Agricultural Research (ICAR), and state agricultural universities were especially valuable to improve rainfed farming systems—to improve soil and moisture conservation techniques and to develop crop varieties that sustain high yields in low and variable rainfall. Finally, the government's subsidy and support price policies also acted to improve production during the years 1980/81 to 1989/90, though they have increased the government's current expenditures. Two relevant factors need to be noted here: One, the subsidies (both explicit and implicit) have been part of the Green Revolution in that water and electricity were made available to farmers at below cost. This, in turn, has boosted production. The second factor relates to the impact of support prices. The wheat and rice price policy, combined with the Green Revolution had led to an efficient substitution of local cereal production for imports, increasing the production of the former. In sum, we may conclude that the overall effect of the agricultural development strategy of the 1980s was to increase the growth in crop output during this period.

5.1.3 Malaysia

In Malaysia, three major crops—rubber, palm oil and rice—constituted nearly 82 percent of total crops produced in 1990.\(^{13}\) Though the number of people employed in this sector decreased by 4.0 percent from 1975 to 1990, it still provided

\(^{13}\) The other crops are palm kernal, copra, sawlogs and saw timber. They are not included in this analysis because the value added by palm kernel and copra is less than 10 percent on average, for both the periods and the other two products originate mostly in Sabah and Sarawak for which reliable data is not available for periods before 1980.
employment to nearly 2 million people in 1990 which is nearly 45 percent of all the people employed in the agricultural sector including fisheries and forestry. During the same period, development expenditure allocated to agriculture increased by 276 percent (in nominal terms). In the years 1970/71 to 1979/80, the crop production sector grew at an average annual rate of 3.9 percent whereas in the years 1980/81 to 1989/90, it grew slightly more to 4.0 percent, an increase of 2.6 percent over the previous period (see rows four and six in table 3-8). We will interpret this increase, however small, in terms of policies pursued by the government of Malaysia during those periods.

First, we will look to find out where growth occurred and then examine the reasons for such growth. Table 5-3 shows the production, area planted and yield per acre of three major crops of Malaysia for selected years. From the decade of the 1970s to 1980s only rice production increased (by 66.7 percent) while the production of rubber and palm oil decreased by 35.7 percent and 2.8 percent respectively. However, for the years 1980/81 to 1989/90 area under cultivation for all these crops showed a decline, except for palm oil indicating a slight increase in productivity for rice cultivation. Rubber continued to be by far the most widespread crop though its share in the area planted has steadily decreased in recent years reflecting the fact that it earns less in export income. Since 1970, oil palm has increased in acreage due to higher prices for this product. Nonetheless, government's policies towards the
agricultural sector also played an important role in contributing to higher crop production during the years 1980/81 to 1989/90.\textsuperscript{14}

Table 5-3

Production of Major Crops, Area Under Crops and Yield per acre (In Percentages)

<table>
<thead>
<tr>
<th>Rate of Growth (Average Annual Increase)</th>
<th>From 1970/71 to 1979/80</th>
<th>From 1980/81 to 1989/90</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Production of Major Crops</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rice (000 Tons)</td>
<td>1.8%</td>
<td>3.0%</td>
</tr>
<tr>
<td>Rubber (000 M. Tons)</td>
<td>2.8%</td>
<td>1.8%</td>
</tr>
<tr>
<td>Palm Oil (000 M. Tons)</td>
<td>3.6%</td>
<td>3.5%</td>
</tr>
<tr>
<td><strong>2. Land Use</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area under Rice (000 Hectare)</td>
<td>2.3%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Area under Rubber (000 Hectare)</td>
<td>2.5%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Area under Palm Oil (000 Hectare)</td>
<td>3.4%</td>
<td>3.6%</td>
</tr>
<tr>
<td><strong>3. Yield Per Acre</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rice (wet only) (kilos per acre)</td>
<td>2.4%</td>
<td>2.6%</td>
</tr>
<tr>
<td>Rubber (Tons)</td>
<td>1.7%</td>
<td>1.9%</td>
</tr>
<tr>
<td>Palm Oil (gallons per acre)</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>


Malaysian government’s intervention efforts in the agricultural sector must be viewed as part of its New Economic Policy (NEP) under which the government

\textsuperscript{14} For an excellent analysis of crop production trends in Malaysian Agriculture up to 1975 and the measures taken under the Second Five-Year Plan to reduce poverty, see: Agriculture and Rural Poverty, by Alice Galenson in Malaysia Growth and Equity in a Multiracial Society. (Op. cited).
launched a drive to reduce and eventually eradicate poverty and to accelerate the restructuring of Malaysian society.\textsuperscript{15} In 1970, about 90 percent of the poor households of Malaysia were rural, and nearly 75 percent of all poor households were employed in the agricultural sector. Therefore, policies for the eradication of poverty have been slanted towards agricultural development. Much of the progress made during the years 1980/81 to 1989/90 was the result of programs initiated under this policy, including the extensive irrigation schemes for rice farmers and a substantial support program for replanting to replace old and low yielding rubber trees with high yielding varieties.

The data in table 5-3 shows that rice and rubber have registered modest increases in yield per acre over the two periods. This increase was indeed due to measures taken by the government of Malaysia for improving the productivity of small holders\textsuperscript{16} in rice and rubber cultivation. The intervention measures sought to raise the income of small holders by increasing their farm output. The small holders in rice, one of the poorest groups in the country, was targeted to receive the benefits extended under NEP measures first. One such measure was to extend irrigation facilities to small holding rice farmers. In addition to raising the income of small holders,

\textsuperscript{15} Mention must also be made of the National Agricultural Policy (NAP) announced in 1984 to improve the economic efficiency and equity of the farming sector. This policy set priorities such as increasing the productivity of traditional export crop rubber, developing and promoting new export crops like palm oil as well as the expansion of food and industrial crop production.

\textsuperscript{16} The small holders in rice and rubber are the largest agricultural groups in Malaysia. They are defined as farmers having an average of 3.4 acres to cultivate, though average holding of small holders in rubber are somewhat larger than those of rice farmers.
increasing rice production was a top priority for policymakers since there was a critical shortage for rice to meet domestic consumption requirements. The government extended irrigation and drainage facilities for both main and off-season crops, increasing the proportion of wet-rice fields that are double cropped from 27 percent in 1977 to 77 percent in 1987. This rise in area double cropped contributed to an increase in production of off-season crop from 163,000 tons to 690,000 tons during the same ten year period. In addition, improved inputs such as better seeds and fertilizer along with extension and credit services that encourage and facilitate the use of these inputs contributed to an average annual increase in yields of more than 5.0 percent between the years 1979 and 1985.\textsuperscript{17}

A second and equally important group of small holders targeted to receive benefits under the NEP measures was in rubber planting and processing. In 1973, small holders surpassed estates in total production because of the shift of estates from rubber to oil palm, and the relative improvements of the yields of small holders, which grew at an average annual rate of 5.6 percent during 1970/71 to 1974/75, while the rate of growth on estates was only 2.9 percent. During the 1970s, government agencies devoted 6.5 percent of the agricultural development budget to replanting some 302,900 hectares of crops, chiefly with improved varieties. This achievement represented about 77 percent of the area targeted\textsuperscript{18} and as a result average yield of

\textsuperscript{17} These figures were computed from Economic Reports (various issues). Government of Malaysia.

\textsuperscript{18} For a comprehensive description of development in the Agricultural sector up to 1983, see Malaysia. A Country Study. (Op. cited).
small holders in 1990 was equal to more than 90 percent of those of estates. Yields began to rise rapidly as new trees reached maturity. Nonetheless, due to falling rubber prices the share of acreage of small holders replanted in rubber and its production declined in the years 1980/81 to 1989/90.

The impetus for increased crop production came from a number of institutional arrangements and incentives as well. For instance, the government run Agricultural Bank of Malaysia (ABM), and various cooperative banks provided a total of 225 million Malaysian dollars in loans to finance the farming activities in 1982 alone. Also, outright subsidies on the procurement of farming supplies accounted for 6 percent of all agricultural development expenditures during the 1981-85 period. A National Agricultural Extension program trained a number of extension workers who were instrumental in imparting the modern farming techniques that raised crop productivity. In brief, small holders in rice and rubber, being the largest agricultural group in Malaysia, received priority in getting the required growth inputs and institutional support from the government. This priority treatment led to an increase in the average yield of two main crops (rice and rubber) during the years 1980/81 to 1989/90, and this in turn resulted in a slightly higher rate of growth in the Malaysian crop production during this period.
5.1.4 Nepal

In Nepal, two major crops—rice and sugar cane—constituted nearly 60 percent of total crops produced in 1990. The crop production sector also contributed nearly 89 percent of the value added (in 1977/78 prices) to GDP in 1989/90. From 1975 to 1990 the development expenditures allocated to this sector increased by a significant 126 percent (in nominal terms). During the years 1970/71 to 1979/80, this sector grew at an average annual rate of 3.0 percent, whereas in the years 1980/81 to 1989/90, the growth rate rose to 4.6 percent, an increase of 53.0 percent (see rows four and six in table 3-8). We will now interpret this substantial increase in the production of crops.

During the years 1970/71 to 1979/80, the Agricultural sector of Nepal was characterized by several serious shortcomings that led to an extremely low rate of growth in output for this sector. The main problems besetting the agricultural sector were: A failure to develop yield raising technologies, weak extension coverage, inadequate levels of modern inputs and services and increased cultivation of marginal lands. While these factors are generally common to most countries in our study, they were particularly severe to Nepal.

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19 The other crops are maize, wheat and potatoes. They are excluded from the analyses as reliable data prior to 1979/80 is not available. Since rice and sugar cane represent nearly 89 percent of the value added and 50 percent of total agricultural output in 1989/90, omitting others may not seriously weaken the overall assessment of this sector.

Table 5-4

Production of Major Crops, Area Under Major Crops and Under Irrigation and Fertilizer Consumptions (In Percentages)

<table>
<thead>
<tr>
<th>Rate of Growth (Average Annual Increase)</th>
<th>From 1974/75 to 1979/80</th>
<th>From 1980/81 to 1989/90</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Production of Major Crops</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rice (000 M. Tons)</td>
<td>2.1%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Sugar Cane (000 M. Tons)</td>
<td>2.5%</td>
<td>3.7%</td>
</tr>
<tr>
<td>2. Land Use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area Under Rice (000 Hectacres)</td>
<td>4.6%</td>
<td>1.4%</td>
</tr>
<tr>
<td>Area Under Sugar Cane (000 Hectacres)</td>
<td>1.8%</td>
<td>2.3%</td>
</tr>
<tr>
<td>3. Area Under Irrigation (000 Hectacres)</td>
<td>c 2.6%</td>
<td>3.8%</td>
</tr>
<tr>
<td>4. Fertilizer Consumption (Metric Tons)</td>
<td>c 3.6%</td>
<td>2.9%</td>
</tr>
</tbody>
</table>

Note C: Refers to years 1978-79 and 1979-80.

In table 5-4 data on the production of major crops, area under major crops and under irrigation and fertilizer consumption for selected years are given. Both rice and sugar cane production increased during the years 1980/81 to 1989/90 contributing to an overall increase in the production of crops for this period. This increase seems to have come from improvement in productivity for rice and due to an increase in the area cultivated for sugar cane. Total area under irrigation also has increased by nearly
46.0 percent. These positive developments were the results of various policy initiatives taken by the government of Nepal to raise production in the agricultural sector.

Nepal's agricultural policies and programs intended to raise the output of crops stem from three separate initiatives, the Structural Adjustment Program (SAP) undertaken at the urgings of the World Bank, the Basic Needs Program (BNP) and the Seventh Five-Year Plan (1985/89 - 1989/90). Although each of these policies had a different focus, each stressed the need to increase food grain production through better availability of agricultural inputs, services and infrastructure. Especially the SAP sought to strengthen the institutions that delivered inputs and services to farmers. One such institution that received support under SAP was the Agricultural Inputs Corporation (AIC) which was able to triple the consumption levels of fertilizer nutrient by the farmers during the years 1980/81 to 1989/90.21 Steps taken under the BNP program also were instrumental in raising farm production and productivity. For instance, these programs made it possible for the beneficiaries to participate in the development process in conformity with the government's decentralization measures and expanded the role of private sector through liberalization of economic policies. This had a positive impact on growth.

The Seventh Plan also implemented several measures designed to raise the production of food crops. These included improving the irrigation facilities and the

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delivery of other critical inputs and services. For example, under the Seventh Plan area irrigated expanded. During the years 1974/75 - 1987/88 only about 10 percent of the development expenditures were allocated to irrigation. Under the Seventh Plan this allocation was raised to 14 percent in order to develop an additional 47,100 hectares of irrigated area annually. The government has also established effective coordination mechanisms between the Ministry of Agriculture and the Department of Irrigation (DOI) which resulted in better management of irrigation facilities that enhanced growth in crop output during the years 1980/81 to 1989/90.

5.1.5 Pakistan

In Pakistan, rice, wheat, cotton, sugar cane and gram accounted for nearly 80 percent of total crops produced in 1990.\(^{22}\) From 1975 to 1990 the number of people employed in the crop production sector rose by 42.0 percent. During the years 1950/51 to 1959/60, this sector grew at an average annual rate of only 1.3 percent and then it rose to 4.9 percent in the years 1960/61 to 1969/70. During the years 1970/71 to 1979/80, the growth rate again rose to 7.0 percent rising further to 7.3 percent in the years 1980/81 to 1989/90 (see rows one, two, three, and four in table 3-8). We will interpret this substantial and steady growth in the agricultural sector over the four periods.

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\(^{22}\) The other crops are Maize and oil seeds. They are not included here to limit the scope of overall analyses.
Mention has been made in Chapter Four about the efforts of the Civil Service of Pakistan (CSP) to promote industrialization in the country because the partition left it with very little manufacturing base. In order to promote this base, the policymakers adopted a protectionist-trade regime which turned the terms of trade sharply against agriculture. Turning the terms of trade against agriculture had two kinds of effects on this sector. One, incentives to invest in agriculture declined. Second, the more favorable terms of trade for manufacturing taxed the agricultural sector and thereby transferred income to the industrial sector (to industrial profits). This left the crop production sector stagnating with an average annual growth of only 1.3 percent during the fifties.23

During the years 1960/61 to 1969/70 this trend was reversed and the growth rate rose to 4.9 percent. This was the period of Green Revolution when the government took a series of initiatives to boost the crop production sector. As in the case of other countries the central focus of these initiatives was to encourage the spread of technical knowledge among farmers in Pakistan. As a result, growth rates for wheat and cotton increased by 11.0 percent and 17.0 percent respectively. In table 5-5 the production of major crops, total cropped area and area under irrigation and fertilizer take-off for selected years are given. As can be seen from it, total cropped

\[23\] For a detailed analysis of the reasons for pursuing a policy of Industrialization in the 1950s and its adverse effects on agriculture, see: Economic Policy and Industrial Growth in Pakistan. (Op. cited).
area, area under irrigation and fertilizer usage all have gone up from the decade of the 1960s to 1970s.\textsuperscript{24}

Table 5-5

<table>
<thead>
<tr>
<th>Rate of Growth (Average Annual Increase)</th>
<th>Rate of Growth (Average Annual Increase)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Production of Major Crops</td>
<td></td>
</tr>
<tr>
<td>Rice (000 M. Tons)</td>
<td>3.1%</td>
</tr>
<tr>
<td>Wheat (000 M. Tons)</td>
<td>2.7%</td>
</tr>
<tr>
<td>Gram (000 Tons)</td>
<td>4.1%</td>
</tr>
<tr>
<td>Sugar Cane (000 Tons)</td>
<td>3.2%</td>
</tr>
<tr>
<td>Cotton (Lint)</td>
<td>2.3%</td>
</tr>
<tr>
<td>2. Land Use</td>
<td></td>
</tr>
<tr>
<td>Total Cropped Area (000 Acres)</td>
<td>1.0%</td>
</tr>
<tr>
<td>3. Area Under Irrigation (Mil. Hectacres)</td>
<td>1.3%</td>
</tr>
<tr>
<td>4. Fertilizer Take-off (000 Nutrient Tons)</td>
<td>3.5%\textsuperscript{A}</td>
</tr>
</tbody>
</table>

Note A: Refers to 1952-53 to 1959-60 average.


Besides encouraging the spread of technical knowledge, the policy package enunciated by the government also encouraged the farmers to take their investment and cropping decisions in response to price signals for inputs and outputs triggered by

the government. The government was also active in setting procurement prices for the main crops wheat, cotton and sugar cane and the prices of inputs like fertilizer and irrigation water. It also assumed a greater role in trading in wheat, rice and cotton and made substantial investments in providing the socioeconomic infrastructure such as construction and maintenance of dams, canals, electricity generation and rural road networks. In addition to taking the direct interventions just described, the government’s policy also sought to change the cropping pattern within agriculture and the sector’s overall position vis-à-vis the non-agricultural sector. Taking the cropping pattern first, it appears that as a result of the use of new high yield variety seeds and chemical fertilizer the farmers have altered the pattern of resource allocation among various crops, producing more wheat, sugar cane, and cotton during the years 1960/61 to 1969/70. Regarding the terms of trade, the evidence suggests that the agriculture’s net barter terms of trade has improved in the late sixties. The cumulative effect of these initiatives was to enhance the production of most crops from the 1970s to the 1980s.

From the 1970s to the 1980s, wheat production held steady whereas the production of cotton rose by 12 percent (see table 5-5). Production of gram also increased by a substantial 30 percent. The total crop output rose by 4.3 percent indicating other crops not included in our analyses also may have done well. This

increase in total output, though not substantial, was also the result of policy initiatives taken by the government. We have pointed out earlier that up to 1960 there was no coordinated agricultural policy in Pakistan. The economic ideology during that period was to promote industrialization and use the agricultural sector to extract maximum surplus to achieve that goal. The result of this policy inaction was poor intake of inputs, poor yields and terms of trade going against agriculture. However, from the early sixties this sector continued to get priority treatment at the hands of policymakers. This trend continued into the seventies (third decade) and eighties (fourth decade) raising output during those years.

The high average growth rate of the 1980s was sustained by a series of initiatives undertaken as part of a National Agricultural Policy (NAP) formulated in February 1980. This policy continued to guide governmental actions in the crop production and water sectors during the eighties and it contained the following major elements: (a) a progressive adjustment of prices of key inputs and outputs to reflect real resource costs, thereby phasing out input subsidies while providing appropriate incentives for increased production; (b) a gradual transfer of certain operations from the public to private sectors (e.g., the distribution of agricultural inputs and the exploitation of fresh ground water) to conserve scarce public managerial and financial resources; and (c) a reorientation of public recurrent and investment expenditures to

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optimize the use of existing facilities as against further investments in major new irrigation works.

The implementation of the provisions contained in the NAP was also swift. Subsidies on pesticides have been eliminated (in two largest provinces, Punjab and Sind). Fertilizer prices have been raised on several occasions leading to some reduction of those subsidies. To reflect the actual costs, the amounts allocated to provincial operation and maintenance of the Canal irrigation and public tube well systems have been increased, as have water charges so that an increasing proportion of such expenditures are now recovered through charges paid by the beneficiaries. Crop procurement/support prices have also been periodically increased bringing them more in line with international prices. In addition to these measures, the government of Pakistan's Three-Year Public Sector Development Program (FY 1982-84) provided for a shift of resources toward fast gestation, high yielding projects in agriculture and water management. Investments in agriculture stressed food grain storage, research and extension, improved seeds and credit facilities. In the area of water management this program emphasized rehabilitation and operation of the irrigation system, and improved water conservation through water logged and saline areas.

In spite of all these developments, increase in output growth between the 1970s and 1980s has been relatively small due to several reasons: The time period has

\[\text{An Agricultural Prices Commission (APCOM) has also been established to provide a more systematic basis for future input/output pricing decisions.}\]
been too short to have any real impact on output growth, and given budgetary constraints and the necessity of completing ongoing projects, the extent of the shift of resources toward fast gestation projects has been rather limited. Short falls were particularly large in programs for extension, improved seeds, and livestock and they kept yields low. The amounts and timing of water availability continued to fall short of farmers’ needs; fertilizer use remained below optimum requirements and improper cultivation practices were prevalent. Also, farm-level knowledge of seed bed preparation, appropriate seeds and seeding rates and optimum planting time were all limited, and they in turn kept the crop production rate relatively small compared to the growth rate between the 1960s and 1970s. Nonetheless, the crop production sector responded to the government’s policy initiatives in such a remarkable fashion, the growth rate continued to increase through the 1960s, 1970s, and 1980s.

5.1.6 Sri Lanka

In Sri Lanka, three major crops—rice, rubber, and tea—constituted nearly 50 percent of total crop produced in 1990. The number of people employed in this sector increased by 26 percent from 1981 to 1990. From 1975 to 1990 the expenditure allocated to this sector also rose by a substantial 183 percent (in nominal terms). During the years 1950/51 to 1959/60 this sector grew at an average annual rate of 2.3 percent and it rose slightly to 2.6 percent during 1960/61 to 1969/70. The

28 The other crops are coconut, sugar cane and Cassava. They are not dealt with as separate since reliable data is not available to permit analyses for all the three periods.
growth rate again rose to 3.8 percent during 1970/71 to 1979/80. We will endeavour to interpret this rather steady increase in growth over the three periods.

In Sri Lanka, the agricultural sector is divided between a clearly defined and mostly large scale and technologically sophisticated plantation sector on the one hand, and a country-side, small-scale traditional subsistence economy on the other. The Plantation sector, which produces mostly for export is based on tea, rubber, and coconuts. The subsistence economy is organized around the staple food stuff rice and other subsidiary food crops. Until the mid-fifties the economy was shaped and powered by the export-oriented plantation sector. After that, fall in world market prices and increase in unit costs due to aging of the trees have rendered the plantation sector less important than in the past.
Table 5-6
Production of Major Crops, Area Under Major Crops and Under Major Irrigation and Fertilizer Consumption (In Percentages)

<table>
<thead>
<tr>
<th></th>
<th>Rate of Growth (Average Annual Increase)</th>
<th>Rate of Growth (Average Annual Increase)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Production of Major Crops</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rice (000 M.Tons)</td>
<td>4.4%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Rubber (M. Kilos)</td>
<td>1.6%</td>
<td>2.1%</td>
</tr>
<tr>
<td>Tea (M. Kilos)</td>
<td>1.7%</td>
<td>1.4%</td>
</tr>
<tr>
<td>2. Land Use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area Under Crops</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rice (000 Acres)</td>
<td>2.0%</td>
<td>1.8%</td>
</tr>
<tr>
<td>Tea (Hectacres)</td>
<td>0.7%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Rubber (Hectacres)</td>
<td>0.4%</td>
<td>1.2%</td>
</tr>
<tr>
<td>3. Area Under Major Irrigation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rice (Maha &amp; Yala) (000 Acres)</td>
<td>3.6%</td>
<td>1.9%</td>
</tr>
<tr>
<td>4. Fertilizer Consumption (000 Tons)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N/A</td>
<td>4.5%B</td>
</tr>
</tbody>
</table>

Note: (A) 1970-76 Average. (B) 1961-68 Average.


Table 5-6 shows the production of major crops, area under major crops and under major irrigation and fertilizer consumption for the three periods. From the 1950s to the 1960s only the output of rubber increased contributing to an overall increase in output by 13 percent. This growth in rubber output may have come from an increase in acreage as the area under rubber cultivation increased three fold over the two periods. From the 1960s to 1970s, however, the momentum in the production of
rubber slowed, perhaps due to the fall in international prices after the Korean War and a lower demand for this product after the mid-fifties. The two crops that picked up in growth are rice and tea, that grew by 9.4 percent and 50.0 percent respectively and this led to an increase in total output by over 46.0 percent during the years 1970/71 to 1979/80.

The most important change in agriculture in the forty years following independence in Sri Lanka was the increase in rice production. After a period of slow growth in the sixties, its average rate of growth rose to 3.5 percent in the seventies. Reduced foreign exchange earnings from the export crops and an increase in population due to eradication of Malaria in the late forties have prompted the governments of all parties to undertake measures to increase the production of rice. Increase in rice production resulted mainly from better yields as a result of the application of modern technology (including irrigation). For example, irrigated area under rice rose by 84.0 percent between the years 1960/61 to 1969/70 and 1970/71 to 1979/80, and fertilizer consumption by 33.0 percent.

During the years 1950/51 to 1980/81, a period covering two different regimes, the government’s policy towards agriculture was dictated not by any ideological concerns, but was largely a response to solving practical difficulties in this sector, and raise agricultural productivity. Therefore, the aggregate growth over this

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29 Governments headed by the two major political parties, United Nationalist Party (UNP) and Sri Lankan Freedom Party (SLFP).
period was positive. Because of its overriding concern for increasing the productivity of the agricultural sector, the UNP government in 1966 formulated a comprehensive Five-Year Policy designed to increase efficiency in both the subsistence agriculture and Plantation sectors. Average yield of rice per hectare has indeed gone up as a result of the programs implemented under this policy. (During the years 1970/71 to 1979/80 while the average rate of production for rice increased, the area under cultivation decreased: See table 5-6). The central elements of this policy were: The prompt delivery of major production inputs, including credit on concessional terms, and effecting organizational reforms.\textsuperscript{30} Though the irrigation works proposed under this plan were classified into four types — multipurpose major irrigation schemes (those that provided irrigation for 2,000 acres and above), medium scale works (those that cost over 5 million Sri Lankan Rupees), village level works (costing between Rs. 1 to 4 million), the major emphasis was laid on completing work already on hand, and providing farmers with water at considerably less than actual cost and this represented a significant element of subsidy. In rice production, increases of 26, 21 and 15 percent subsidies have been recorded in 1966, 1967, and 1968 respectively.\textsuperscript{31} As a result, the


area replanted increased by 4.0 percent during 1966-70 and total production continued to increase in the seventies.\footnote{Increase in the production of tea during the third period was due mainly to the subsidies given as part of the tea planting scheme under the UNP Plan.}

The central problem of lack of coordination of the various services has been overcome by establishing a continuing ministerial committee and by vesting the responsibilities for all aspects of food production in twenty-two government agents. Under the previous government of SLFP, the senior agricultural policy-making body was a Cabinet-Subcommittee on Food Production, which included the Prime Minister, the Ministers of Agriculture, of Land, Irrigation and Power. Whereas the ministerial committee decentralized the decision making with regard to setting and achieving the production targets and this, in turn, facilitated production.\footnote{The Agricultural Policy of 1966 covered a much wider field than food crops (especially rice production). Specific targets were also assigned for subsidiary and export crops and since the major emphasis of the Plan was to increase rice production we mentioned only this aspect of the Plan.} Also under this plan, another innovative approach was developed and implemented: This was known as the Area Development Project (ADP), a program modeled on the package program scheme adopted earlier in India and based on the principle that substantial increases in production can be achieved only if all required inputs and improved agricultural practices recommended are applied at the same time.

In sum, we may conclude that the increase in total output registered during the years 1970/71 to 1979/80 may have come from increases in the production of rice and
The increases in the production of these two crops were largely the result of the implementation of Agricultural Policy initiated under the UNP government in 1966.

5.2 ANALYSES OF GROWTH DIFFERENCES ACROSS COUNTRIES

In sections 5.2.1 through 5.2.3 we will compare the growth differences of five SACs across countries (Nepal is not included for comparison for reasons mentioned in section 4.2 in Chapter Four). The three sectoral growth rates we will compare across countries are: (7a) Bangladesh’s 2.6 percent with Malaysia’s 4.0 percent; (8a) Sri Lanka’s 2.6 percent with India’s 1.9 percent; (9a) Pakistan’s 7.3 percent with Bangladesh’s 2.6 percent (they are given in table 3-8 in Chapter Three). These rates are selected for comparison across countries on the following basis: Recall the aggregate growth rates of five countries we compared across countries in Chapter Four (sections 4.2.1, 4.2.2 and 4.2.3). Those rates were different by at least 3 percentage points for the periods selected and that was the criteria used in selecting them for examination in that chapter. The sectoral rates for the same countries and same periods are examined here to see whether sector-specific policies were responsible for differences in sectoral (Agricultural) growth rates across countries.

Since comparisons between smaller number of countries are most helpful in highlighting policy differences in and between them, we will group these countries into two and then compare their rates. Pairing the countries into two for the purpose of comparison is also consistent with the methodology outlined in Chapter Two.
5.2.1 Bangladesh and Malaysian Growth Rates

In this section we will explain the differences in agricultural growth rates between Bangladesh and Malaysia, and then compare those rates across country. During the years 1980/81 to 1989/90 Bangladesh had a rate of growth of 2.6 percent and Malaysia 4.0 percent. We will first interpret and then compare these two rates across country.

In Bangladesh, only wheat showed an increase in output during the years 1980/81 to 1989/90 and this contributed to an increase in its total output. Wheat production increased as a result of the use of a combination of HYVs and fertilizers on irrigated land. As noted earlier in section 5.1.1, the overriding objective of the Agricultural policy in Bangladesh during the years 1980/81 to 1989/90 was to increase the output of rice and wheat as it was depended on imports for these two crops. Nonetheless, the agricultural sector remained mostly stagnant with the output of rice actually growing at a lower rate than in the years 1970/71 to 1979/80. Two important factors were largely responsible for this poor showing: One, a severe shortage of funds and second, a weak institutional support base for the delivery of critical inputs.

The main objectives of Malaysian agricultural policy may be understood well within the framework of NEP, under which the government initiated several measures

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34 Findings of cross-country comparisons of growth rates in the agricultural sector must be viewed with extreme caution. There are a number of factors other than those induced by policy(s) that influenced the growth rates of particular crops. To list a few, differences in soil fertility, rainfall, and Land Tenure Systems are all factors that may have contributed to differences in productivity and growth in the agricultural sector.
to reduce and eventually eradicate poverty and restructure the Malaysian society. The most important among them sought to raise the incomes of small holder cultivators in rice and rubber by providing the former with irrigation facilities and the latter with support programmes for replanting old trees with new high yielding varieties.

In comparing the two growth rates we may note that the higher rate of Malaysia (4.0 percent) may be due mainly to the strong emphasis policymakers laid on improving the economic status of small-holders. They were a politically important and large group which policymakers felt necessary to support on political considerations. Whereas, the Bangladesh growth rate was lower largely because of a general shortage of funds (owing to reduced volume of foreign aid) and a weak institutional support base, both of which tended to slow growth in total crop output.

5.2.2 Indian and Sri Lankan Growth Rates

In this section we will explain and then compare the differences in Agricultural growth rates between India and Sri Lanka for the years 1960/61 to 1969/70. During this period, India grew at an average annual rate of 1.9 percent and Sri Lanka at 2.6 percent.

India’s growth rate during the years 1960/61 to 1969/70 was exceedingly low because of three factors: ³⁵ [see section 5.1.2 above] (i) a critical shortage of funds due to increased defense expenditures in the sixties; (ii) an absence of productivity growth

³⁵ Weather also played an important role. The drought of 1966 was severe, and as a result in 1966-67, crop production declined to an unprecedentedly low level.
during the first half of the sixties due mainly to several institutional factors like the small farm size and the insecurity associated with the tenure systems then prevalent; and (iii) the continued dependence of crop production on rainfall. The second and third factors were the result of lack of a coherent policy towards the agricultural sector and this impacted negatively on production during the years 1960/61 to 1969/70.

While it is not necessary to go into the details of why the country lacked a comprehensive and effective agricultural policy during this period, we must mention the slow pace with which land reform measures were enacted and implemented and the desultory manner in which efforts were made to consolidate farm holdings. All these tended to reduce productivity and growth.

Sri Lanka's growth during the years 1960/61 to 1969/70 was shaped largely by an increase in the production of rubber which may have come from an increase in acreage under rubber cultivation. The overall output growth of 2.6 percent was the result of the agricultural policy of the UNP Government, formulated and began implementing in 1966. However, its full impact on production was felt only during the years 1960/61 to 1969/70. Achieving self-sufficiency in food grain production based on irrigation schemes has always been a major goal of the UNP leaders from the early 1930s, and after independence whenever they were in power the party has launched major initiatives to raise output of both cash and non-cash crops. A central element of their strategy was to build large-scale public sector investment in irrigation — cum
land development projects. As such, the major thrust of the UNP policy of 1966 was to raise agricultural production by making available inputs (including irrigated water) to farmers and effect organizational reforms that speed growth.

While comparing the two growth rates, we may safely infer that the higher rate of Sri Lanka was due to an effective and well coordinated policy implemented by the UNP Government which was determined to achieve self-sufficiency in food production. Whereas the Indian growth lagged mainly because of the absence of a coordinated policy to enhance crop production and partly to insufficient resources to allocate to this goal (as a result of the two wars).

5.2.3 Bangladesh and Pakistani Growth Rates

In this section we will give an explanation for differences in agricultural growth rates of Bangladesh and Pakistan for the years 1980/81 to 1989/90 and then compare those rates between the two countries. During this period, Bangladesh grew at an average annual rate of 2.6 percent and Pakistan at 7.3 percent.

As noted earlier in this chapter, the overriding objective of the Agricultural policy of Bangladesh during the years 1980/81 to 1989/90 was to raise the output of rice and wheat as the country was importing them to meet the domestic consumption requirements. However, this sector remained stagnant during the years 1980/81 to 1989/90 (for reasons mentioned in section 5.2.1). Those factors kept the Bangladeshi rate low relative to that of Pakistan. The higher average rate of growth in Pakistan was generated by a series of initiatives as part of its NAP. The major thrust of this
policy was to introduce market forces into the agricultural sector and thus make it easy for the private sector to participate in it (see section 5.1.5). In addition to the measures contained in the NAP, steps were also taken as part of the government’s Three Year Public Sector Development Programme (1982-84) that facilitated growth during the years 1980/81 to 1989/90.

In comparing the two growth rates we may conclude that Pakistan’s rate was higher because of the cumulative effects of two policy measures on output growth; the NAP and the Three Year Public Sector Development Programme (1982-84) both sought to accelerate agricultural productivity and growth. Another factor that enhanced growth in Pakistan was the availability of funds to finance the agricultural development activities contained in these two broad policy measures. On the other hand, the Bangladeshi rate was lower as the country was struggling to find enough resources to finance agricultural development, and its built-in institutional problems further slowed growth.

In summing up our discussions of growth differences across countries we may note that the lower rate of Bangladesh during the years 1980/81 to 1989/90 was mainly due to the severe shortage of funds (as a result of reduced external assistance) and a weak institutional support base. On the other hand, the higher Malaysian rate was due to the increasing emphasis laid on improving the economic status of small holders, who were a potent political force by the policymakers, which the latter felt
necessary to support on political considerations. India’s rate was low during 1960/61 to 1969/70 chiefly due to three factors: (1) a critical shortage of funds due to increased defense expenditures, (2) an absence of productivity growth during the first half of the 1960s due to several institutional factors, and (3) a continued dependence of crop production on rainfall. Whereas, Sri Lanka’s higher growth was largely due to an increase in the production of rubber, which may have come from an increase in acreage. This was in turn due to an effective and well coordinated policy implemented by the UNP Government to increase the export earnings. Pakistan’s higher growth rate for the years 1980/81 to 1989/90, compared to Bangladesh’s rate (for the same period) was due to several innovative measures it took under its New Agricultural Policy (NAP).

From the above discussion it is indeed clear that specific policies in the agricultural sector can affect growth rates in that sector. This is evident in the case of Malaysia’s policies designed to increase the income of its small holders and the UNP Government’s policy of increasing food production in Sri Lanka. Also, India’s pursuance of a policy which involved large defense expenditures (as a result of two wars) and less investment in agriculture resulted in lower output and this lends further credence to our contention that differences in sectoral policies can lead to differences in sectoral growth rates.
5.3 GROWTH DIFFERENCES ASSOCIATED WITH THE FOUR EPISODES

In this section we will examine the growth differences in the agricultural sector for a period immediately following each episode in the same manner we analyzed aggregate growth rates in section 4.3 in Chapter Four.

5.3.1 Independence and its Aftermath

In the Indian context, the years 1950-55 coincided with the First Five-Year Plan in which agricultural sector received strong support in terms of investment. This was due to the firm commitment planners exhibited for attaining food self-sufficiency as a basic goal of Indian economic development. Whereas in Pakistan, the policy priority during this period was to build a strong manufacturing base to the complete neglect of agriculture. This accounts for the unusually low rate of agricultural output growth of 0.7 percent for this country (see section 5.1.5 above). During the same period the agricultural policy-making in Sri Lanka was not dictated by any ideological concerns, but by practical considerations, namely to raise food production so that the population can be adequately fed. During the early years after independence when the UNP Government was in power, it laid great emphasis on increasing the agricultural production to create a contended and prosperous rural population and this in turn, largely accounted for a 2.6 percent growth in agricultural output for Sri Lanka.

Let us now take a look at the differences in agricultural output growth across country for the years 1955-60 in terms of their policy differences. India adopted economic self-sufficiency as one of her basic development goals very early in its
overall planning, and this approach prompted it to give special attention to both agriculture and industry and this in turn made India’s agricultural output growth higher (9.6 percent) than Pakistan’s (0.7 percent) where the agricultural sector received only scant attention from its policymakers. The Sri Lankan growth was 2.6 percent which lies between the Indian and Pakistani rates. Though, after independence, the policymakers in Sri Lanka showed firm commitment to increase agricultural output, production of plantation crops, fluctuated widely resulting in only a modest rate of growth in crop production during the years 1955-60. There were two reasons why production of plantation crops, especially rubber, showed only modest average growth. One was a fall in external demand for this product as more countries began to substitute synthetic for natural rubber. A second (and related) reason was the decline in price associated with the fall in demand. After the Korean War there was a significant fall in the demand for rubber and thus a loss of foreign exchange earnings for the country. These two factors in combination acted to moderate rubber production and slowed overall growth.

5.3.2 First Oil Shock (1973-74)

In this section we will briefly review the initiatives taken by the SACs in the agricultural sector, if any, in response to the first oil shock (1973-74). A similar treatment of the second oil shock is given in section 5.3.3 below. These two episodes involved potential or actual balance of payments crisis for these countries, and as a result, created serious resource scarcity for them. Our review, therefore, will
concentrate on how they managed to conserve their resources when confronted with the rising oil bills and whether any priority treatment was given to increase the production of food crops in their overall macro policy management.

5.3.2.1 Bangladesh

During the first oil crisis Bangladesh did not face any serious shortage of development funds. Much of its shortfall in the external reserve has been offset by foreign assistance (see section 4.3.2.1). Therefore, Bangladesh’s agricultural policy did not undergo any significant changes and its government continued to emphasize increasing the production of food crops.

5.3.2.2 India

India’s balance of payments began to deteriorate in late 1973 as a result of the increase in the price of imported oil. But her external payments were financed more or less with foreign aid and growing remittances from Indians working abroad.36 However, India also experienced severe droughts in 1972 and 1974 creating serious food shortages for the country. The management of food supplies has always been an important instrument of Indian macroeconomic policy. Confronting the shortage, the government relied on the Public Distribution System (PDS) for food grains.37 The PDS (which are a government monopoly) mainly depended on imports as they could not procure food grains domestically as the country was experiencing droughts and

reduced output of crops. But after a brief delay, the government began to make the necessary investments to boost production in this sector, and together with the advent of Green Revolution output rose to 5.6 percent during 1974-77.

5.3.2.3 Malaysia

Unlike the other countries, Malaysia in the years 1973-74 did not experience any balance of payment crisis as it was able to earn substantial revenues by exporting petroleum. The government’s agricultural policy in its basic thrust (of providing assistance to small holders) remained unaltered during the years that followed the first oil shock and as a result output registered a modest rate of growth of 3.8 percent during 1974-77.

5.3.2.4 Pakistan

During the first oil shock Pakistan’s terms of trade did not fall for reasons mentioned in section 4.3.2.4. The favorable external resource position enabled the government to make the necessary investments for growth in the agricultural sector. Nonetheless, because of growing attempts by the Bhutto regime to take over many of the functions previously discharged by the private sector, overall efficiency in the crop production sector declined slowing average growth (2.3 percent) during 1974-77.

5.3.2.5 Sri Lanka

When Sri Lanka felt the first oil shock it was experiencing a severe balance of payment problem. On top of this, the country also had an enormous fiscal problem in the form of huge budget deficits (see section 4.3.2.5). These two problems together
created a shortage of funds available for investments in the agricultural sector. Real output during 1974-77 was only modest (3 percent) due to the poor performance of three major export crops. This may be attributed to declining investments in replanting and reduced fertilizer use (due to reduced imports).38

5.3.2.6 Explanations of Growth Differences

In this section we will give a summary of explanations for the differences in agricultural output growth of the five SACs after the first oil shock. Bangladesh, Pakistan and Sri Lanka had more or less similar growth rates. But this was not due to any similarities in their policies towards agriculture. Bangladesh and Pakistan did not experience any real shortage of funds as a result of the first oil shock and as such was able to continue to support their agricultural sectors with necessary investments. However, shortcomings unique to Bangladesh such as higher land-man ratio and lack of flood control devices, among other things, kept its growth rate low. Whereas in Pakistan, growing intervention in the agricultural sector by Prime Minister Bhutto (who claimed his was a socialist regime) was the major reason for slow growth. Therefore, we may reasonably assume the low Bangladeshi growth rate was not the result of any specific policy, but was due to its built-in shortcomings; and Pakistan’s rate was low because of policy initiatives taken by the Bhutto regime that limited private initiatives. India had the highest growth rate during this period and this was

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38 Fertilizer imports during the years 1971-74 averaged 312,000 tons per year. They fell to 183,000 tons in 1975 and continued to fall in the next two years. See: Macroeconomic Policies, Crises and Growth in Sri Lanka, 1969-1990, p. 73. (Op. cited).
largely due to several policy initiatives taken by the government to promote Green
Revolution and to the critical investments it made in the key areas of this sector to
promote higher productivity and growth.

5.3.3 Second Oil Shock (1979-82)

In this section we will examine the policy responses, if any, of all the SACs to
the second oil shock to learn whether we can attribute differences in their agricultural
growth rates to differences in their policy(s).

5.3.3.1 Bangladesh

Bangladesh was severely jolted by the second oil shock and as a result, its
terms of trade deteriorated during 1979-82. The volume of external assistance the
government received, from which it funded many of its programs in the
agricultural sector was smaller compared to what the government received after the
first oil shock. This reduced the investment in agriculture, and also as a result of its
weak institutional support base, this sector grew only at a modest rate of 1.3

5.3.3.2 India

India was experiencing many difficulties in the economic front when it faced
the second oil shock. One such difficulty was caused by the disastrous drought of
1979-80 and it led to a reduced output growth in the agricultural sector.\textsuperscript{39} The

\textsuperscript{39} As a result of the drought, food production dropped to 17.6 percent in 1979/80 from 1978/79.
government’s supply management policies at this time were more sensible as it learned
better lessons from the previous crisis. It released large amounts of food from the
PDS without delay. However, due to severe shortage of funds the government was
not able to sustain a reasonable rate of investment in the agricultural sector and this in
turn led to a very low rate of growth for India (at 0.7 percent) during 1983-85.

5.3.3.3 Malaysia

Unlike the first oil shock, the second shock in 1979 and the World recession of
1980-82 had severely strained the Malaysian economy. As a result, investment in the
Agricultural sector were reduced causing it to grow at a modest rate of only 2.7
percent during 1983-85, from a high of 3.8 percent during the first shock.

5.3.3.4 Nepal

Since Nepal was only importing small quantities of oil and adequate amount of
foreign assistance was forthcoming to pay for it, the second oil shock did not have any
negative impact on growth of its crop production sector. On the contrary, it registered
a robust growth rate of 6.0 percent during the years 1983-85.

5.3.3.5 Pakistan

Pakistan’s external resource position during the second oil shock was much
worse than when it faced the first shock. However, the government took a major step
in easing its external resource problem by unlinking the Pakistani rupee from the U.S.
dollar in 1982 (see section 4.1.5). This step, along with the country’s conservation
measures improved her external reserves and the government was able to allocate
sufficient funds to continue her development efforts in the agricultural sector. This factor, together with the various innovations introduced into this sector by the NAP of 1980, kept the rate of growth of output at an impressive rate of 6.1 percent during the years 1983-85.

5.3.3.6 Sri Lanka

When Sri Lanka experienced the second oil shock her economy was in a much stronger position than the first shock. Funds were also available in the form of foreign aid and private transfers (remittances from Sri Lankan workers abroad) that kept the necessary investment continuing so that agricultural growth did not suffer. Besides, the UNP government's strong commitment to raise food grain production also resulted in a series of initiatives that kept the output growth in this sector at a modest rate of growth of 2.9 percent during the years 1983-85.

It is also useful to compare the agricultural growth rates of the SACs over the two shocks to learn whether the policymakers were better prepared to handle the second shock when they encountered it as a result of their experience with the first shock. We will do this for Bangladesh, India, Nepal and Pakistan whose growth rates are significantly different from the rates they registered during the first oil shock. India and Bangladesh had the lowest growth rates (0.7 percent and 1.3 percent, respectively). This reduced growth was mainly due to shortage of funds necessary to make adequate investments in their agricultural sectors and, therefore, has nothing to do with their experience during the first oil shock. Whereas Pakistan and Nepal had
the highest rates (6.1 percent and 6.0 percent, respectively) after the second oil shock. In the case of Pakistan, she was able to generate enough resources to keep its agricultural programs funded by unlinking its rupee from the U.S. dollar and by undertaking measures to curtail the consumption of oil. This was in sharp contrast to the crisis management strategies of India and Bangladesh, the two countries who should have taken steps to generate resources externally. Nepal was able to continue its investments in the agricultural sector with external assistance, and this made it possible for the country to register a significant rate of growth of 6.0 percent after the second shock. It seems that Pakistan is the only country that appears to have taken steps to improve her external payment position in a systematic manner during the second oil crisis. This enabled the country to make the necessary investments in the agricultural sector which in turn helped it maintain a higher rate of growth of 6.1 percent.

5.3.3.7 Explanations of Growth Differences

In this section we will give a summary of explanations for the agricultural growth differences of SACs following the second oil shock. India and Bangladesh had the lowest growth rates. India’s rate was the lowest mainly because of the disastrous drought of 1979/80 which reduced agricultural output drastically. Whereas Bangladesh’s growth slowed partly as a result of the paucity of funds that she could invest in agriculture, and partly due to her weak institutional support base. Malaysia and Sri Lanka had more or less similar growth rates. Malaysia’s rate after the second
shock was lower than what it was after the first shock because of the severe shortage of funds she experienced due to world recession. On the other hand, Sri Lanka’s rate was more or less similar to her rate during the first oil shock and it was chiefly due to the UNP government’s policies designed to raise the agricultural output during this period. Pakistan and Nepal had the highest growth rates among all the SACs. The former achieved its highest rate as a result of several policy measures she introduced to raise the agricultural output under the New Agricultural Policy (NAP). Whereas Nepal’s growth was aided by the availability of sufficient funds to invest in her agricultural sector made possible by the generous foreign assistance she received during this period from the international community.

5.3.4 Public Sector Investment Boom (PSIB)

In this section we will examine the effects of Public Sector Investment Boom (PSIB) on the growth of agricultural output in three countries: Malaysia, Pakistan, and Sri Lanka. (In the other three countries we have not been able to observe clear patterns of increased public investment as countercyclical measures and therefore they are not included for analysis in this section). In Malaysia, the total investment during 1983-85 amounted to 23 percent of its GDP, but only a small portion of it (5.2 percent) went to agricultural development, which is less than one fourth of the total. This small increase in investment, in turn, spurred only a modest growth in agricultural output (3.1 percent). Whereas in Pakistan, the government directed large amounts to fund key projects in the agricultural sector and along with its efforts to introduce
private sector activities into agriculture, she was able to boost production to a high rate of 6.3 percent for the years 1983-86 (see section 5.1.5 above). Sri Lanka’s growth rate of 3.7 percent lies in between Malaysia’s 3.1 percent and Pakistan’s 6.3 percent. Much of the capital expenditures undertaken by the Sri Lankan government during 1983-85 went to two projects: One, the Mahaweli Development Project, and two, a housing-cum development project. The former was instrumental in raising the output of crops at an average rate of 3.7 percent as it generated additional irrigated water.  

We will now explain briefly the differences in growth rates across country in terms of their policy differences. Malaysia’s average growth in the Agricultural sector was only modest (3.1 percent) as its resources were allocated to other sectors as those were considered more critical to overall growth by her policymakers. Pakistan, on the other hand, invested large amounts in key areas like irrigation, research and infrastructure that substantially raised production and productivity (6.3 percent). Sri Lanka’s growth during this period (3.7 percent) was influenced by only a single project, (Mahaweli) and its full impact on production was not felt until a much later period than 1983-86. To sum up, the differences in agricultural growth rates across the three countries may be explained in terms of priority policymakers assigned to agriculture in their allocative decisions, (Malaysia and Pakistan) and the type of investments they chose to make (for instance, in Sri Lanka quick maturing and

diversified projects may have raised agricultural output more than a single long gestation project like the Mahaweli).

5.4 A COMPARATIVE ANALYSES OF THE GROWTH RATES WITH EMPHASIS ON NONECONOMIC FACTORS

In this section we will give a comparative analyses of period-wise growth differences in the agricultural sector of the SACs. The central focus of this analyses will be on the contextual (noneconomic) factors that shaped each country's policy responses to their main task of raising agricultural production and productivity (as an integral part of their overall economic development). However, a comprehensive analyses of comparative growth differences is not attempted here as it is rather difficult to attribute such differences to differences in policy alone (see footnote 34 in this chapter). This is more so with respect to differences in growth rates associated with the four episodes. An additional difficulty with them is the short time span between the episode and the period for which we computed the growth rates to explain their differences. Various types of investments made by different countries may impact on production in different periods and this could make comparisons across country tenuous. Nonetheless, as we move along, observations that are relevant to comparative growth differences will be made in a few instances in which different contextual factors appear to be the dominant factors that shaped policy differences and hence differences in growth rates.
We will first compare the period-wise growth rates of one country (India) that experienced a drop in its rate in terms of her policies in the agricultural sector between the 1950s and 1960s. Then a comparison of period-wise growth rates for another country (Pakistan) whose rate has increased for the same period will be done in terms of that country's agricultural policies. We will then compare these rates across country to see whether the differences in growth rates were the result of differences in policies and also whether contextual factors were relevant in shaping those policies. As with the aggregate growth rates in Chapter Four, this type of comparison will establish the link, if any, that exists between policies and growth rates.

India's rate during the years 1950/51 to 1959/60 was 3.2 percent and it dropped to 1.9 percent during 1960/61 to 1969/70. There were several reasons for this smaller rate of output growth. We will mention only two here: One was the critical shortage of funds she experienced to finance the development expenditures because of higher defense spending due to two wars in 1962 and 1965. As a result, investments in agriculture were pared down and more resources went to defense. Allocating more funds to defense, though a policy decision, was mainly influenced by a noneconomic factor (the need to finance wars). Policymakers perceived a threat to their national security and decided to finance the wars as a top priority. A second reason was the low productivity of the agricultural sector during the first half of the
1960s. This was partly due to the institutional setup created during the colonial era (a historical factor) in which the tenure system was harmful to growth and productivity.

Pakistan registered an increase in output during the years 1960/61 to 1969/70 over the years 1950/51 to 1959/60. This was due to the deliberate effort on the part of the Civil Service of Pakistan (CSP) to rectify their earlier mistake of not giving enough attention to this sector during the years 1950/51 to 1959/60. The historical reasons for Pakistan having a weak agricultural base immediately after independence has already been referred to in section 5.1.5 above. During the years 1960/61 to 1969/70, the government took a series of measures to boost its crop production sector. They included among others the government making substantial investments in providing farmers with socioeconomic infrastructure and providing inputs like better seeds, fertilizer and credit in a timely fashion. From this it is evident that the priority given to agriculture by the two countries, in terms of allocating its resources, over the two periods were indeed different. In the case of India, another major historical factor, the tenure system inherited from the colonial era, constrained its productivity. This historical factor together with a noneconomic factor (war) acted to slow growth during the years 1960/61 to 1969/70.

We will also examine one set of growth rates across two countries for evidence that will support our premise that differences in growth rates can be explained in terms of differences in policies, and the contextual factor(s) that shape those policies. The
two countries are India and Sri Lanka. The reasons for the smaller rate of output growth for India from the 1950s to 1960s have been explained elsewhere in this chapter. For Sri Lanka the slightly higher rate of output growth than India for the years 1960/61 to 1969/70 was due to the UNP government's agricultural policy of 1966. A major thrust of this policy was to build large scale public sector investment in irrigation-cum-land development projects and thus to increase agricultural production. This policy was the result of a firm commitment showed by the leaders of UNP who were determined to create a prosperous and contended rural population in Sri Lanka. We may, therefore, conclude that the higher rate of growth in Sri Lanka was due to an effective and well coordinated policy implemented by the UNP government whose leaders were determined to achieve self-sufficiency in food production and the Indian growth lagged because of the absence of well coordinated policy towards this sector during the years 1960/61 to 1969/70.

Another source of support for our premise may be found in the comparative analyses of growth differences following two episodes: One, independence and its aftermath, and two, the PSIB. For a period immediately after the independence (first episode) India had a growth rate of 9.6 percent, Pakistan 0.7 percent, and Sri Lanka 2.6 percent. After independence, India had the highest growth rate and this was evidently the result of strong support this sector received from the policymakers during the First Five-Year Plan in the form of heavy investments. Planners were firmly
committed to food self-sufficiency as a basic goal of India’s economic development, whereas in Pakistan, the policy priority was to build the manufacturing base. These differences in priorities were shaped by historical factors (see sections 5.1.2 and 5.1.5 above) and they were in turn responsible for the differences in agricultural growth rates between these two countries. Sri Lanka’s average growth rate was only 2.6 percent in spite of the strong support this sector received from its policymakers. This was due to the openness of her economy to external market forces. There were often wide fluctuations in the production of plantation crops (rubber and tea) in response to changes in external demand and this was an important reason for the smaller average growth in Sri Lanka, compared to India and Pakistan (see section 5.3.1 above).

The second episode that offers support to our premise is the PSIB and this involved three countries: Malaysia, Pakistan, and Sri Lanka. Their growth rates were 3.1 percent, 6.3 percent and 3.7 percent respectively. Pakistan had the highest growth rate and this was chiefly due to its large investments in the key areas of agricultural sector and the introduction of private sector activities into agriculture with the assumption to power of Zia ul Huq, who was not inclined to follow the radical economic policies of Bhutto. Malaysian rate was the smallest as its policymakers gave higher priority in their allocative decisions to other sectors like power and transportation. In the meantime, the Sri Lankan rate was moderated by a decision of the UNP leaders to concentrate on a single project instead diversifying their
investments into quick maturing small projects. In brief, these two episodes show clearly that growth differences can be explained in terms of policy differences.

It is also useful to highlight the contextual factors that shaped the relevant policies we have discussed in relation to the two episodes. We will do this for one instance each from the two episodes. Pakistan had the lowest growth rate after its independence. This was the result of a deliberate decision made by its policymakers, the CSP, and was due to the strong desire they had to create a manufacturing base, which they lacked. This decision, in turn, was the result of a historical factor, viz., the partition of the Indian sub-continent into India and Pakistan. With respect to the second episode, Malaysian rate was the lowest. This was due to the lower priority policymakers assigned to this sector, partly because of a desire to develop other sectors like power, transportation, and manufacturing. This reordering of the priorities may have been due to a decline in urgency of the programmes initiated under the NEP.

To sum up, three following conclusions emerge from our analyses of agricultural sectors of the SACs.

One, in most instances there is clear evidence to show that there is a link between policy and growth rate in the agricultural sector. For example, India’s constructive policies that supported its agriculture led to a reasonable growth rate of
9.6 percent and Pakistan's lack of policy towards this sector resulted in an unusually low growth rate of 0.7 percent during the period after independence (1955-60).

Two, contextual (noneconomic) factors do shape their agricultural policies. This is evident from the strong support Malaysian policymakers gave to lifting the economic status of small holders in their NEP. This in turn, was due to the political necessity of enhancing the welfare of 'Bhumi Putras' (sons of soil).

Three, in most periods contextual factors were different, both within and among the SACs and this supports our premise that these differences in contextual factors can be used to explain growth differences in the agricultural sector. We will mention two instances: One, India's growth rate between the 1950s and 1960s, and two, the growth rates among Bangladesh and Pakistan. India gave priority treatment to her agricultural programmes during the years 1950/51 to 1959/60 (to attain food self-sufficiency), but was not able to continue the same level of funding during the years 1960/61 to 1969/70 due to differences in the policy-making context. During the years 1960/61 to 1969/70 she was facing a serious shortage of funds due to two wars and, therefore, had to curtail much of her development expenditures leading to a smaller rate of output growth (1.9 percent) Bangladesh's rate was lower (2.6 percent) than Pakistan's (7.3 percent) during the years 1980/81 to 1989/90. This could be attributed to (among other things) differences in their institutional environment. Bangladesh had a very weak institutional support base, and this lowered its growth
rate while Pakistan’s support base was relatively stronger resulting in a much higher rate of growth for this country.

The evidence presented in this chapter based on extensive analyses of sectoral (Agriculture) growth rates, clearly, provide crucial support to our basic premise (in addition to those based on aggregate analyses in Chapter Four) that policy differences, and hence, the contextual factors that shape those differences, can be used to explain differences in growth rates. In the following chapter we will examine the growth rates in the Industries sector.