## 2.2.3 Growth of Commodity Producing Sector

### (1) Methodology

#### 1) Base year

The base year for projections of Pakistan economy is set at fiscal 1980-81. The most comprehensive statistical data was compiled in the "Economic Survey" for each year issued by the Economic Adviser's Wing of Finance Division of the Government of Pakistan. The economic projections were carried out mainly using the Economic Survey and statistical data issued by related ministries and agencies. The constant price used in the Economic Survey was based on 1959-60 until 1987-88; then, this was changed to 1980-81 price in 1987 due to a change in calculation methodology. Since 1987-88, the base year of the Economic Survey is fiscal 1980-81; therefore, the base year is used for consistancy and for the attached ease in monitoring and evaluation of changes in national economy and changes in the transport sector development.

#### 2) Valuation of Prices

As mentioned above, all the prices are valued at 1980-81 constant prices, and projections were carried out using the following process and method:

a. Select identical commodities of each economic sector;

"The commodities selected for evaluation and projection are the same items used in the previous National Transport Plan Study conducted by JICA in 1988 to maintain continuity and to be able to make comparison of past trends and projections easier."

b. Analyze trend of production and relative growth factors of each commodity volume;

"The growth rate of production of selected commodities per five year plan period indicated as an Average Annual Growth Rate (AAGR) by volume are obtained by the figures recorded at the beginning year and the terminal year of 5 years plan period. If data available with regard to various kind of elements and limiting factors constituting a decrease or increase of production of selected commodity, these AAGR of different elements should be obtained to find out a correlation with growth of production."

c. Obtain probable growth rates of each commodity for each five year plan period through the 8th to 10th FYP or to fiscal 2005-06 in volume based on past trend of production as well as possible limiting factors of future production growth;

d. Analyze trends in consumption for each commodities or for a group of commodities based on past trend and probable increase/decrease in the future due to increasing of income per capita and/or the need for relevant products for processing, manufacturing, services etc.

"Average annual consumption of selected commodities in volume per capita can be obtained from the consumption data in the past 5 or 10 years."

e. Examine the trends of trade of each commodity or group of commodities in volume based on past trend;

"The differences between volume of production and consumption are the volume either import or export. Consumption may be limited by income per capita and consumption of goods per capita. If production exceeded its consumption considerably, market price of such commodities would collapse or decrease in domestic market unless such commodity was export, if prospect existed externally. Where such external demand does not exist or where there is difficult to export subject goods, the producers of concerned commodity will avoid producing to maintain their profit level as high as possible. The past trends of trade constitute; an important element in forecasting production levels relate with consumption level."

f. Check and adjust growth projections in production volume by AAGR taking into the previous results.

g. Determine AAGR of production for each selected commodity as well as projected volume of each selected commodity for the the 8th - 10th FYP periods using the above process;

"For the 8th FYP period, the combined AAGR of each economic sector as projected in accordance with the target AAGR mentioned in the 8th FYP prepared by the Planning Commission in June, 1994. However, the AAGRs of each economic sub-sector or major commody groups are projected in accordance with the past trend taking into account of probable growth of production of selected commodities. Projected AAGR for the 9th and 10th FYP periods are determined based on the projection of the 8th FYP and difference in consumption, production and trade."

h. Convert the value of commodity groups using 1980-81 base price;

"The values obtained in the process above is divided by the volume of relative commodities recorded in 1985-86 to obtain unit prices. (Distribution of each economic sectors' GDP to sub-sectors or group of commodities were based on of 1988 National Transport Plan Study.) Multiply volume of same commodities recorded in 1992-93 by unit prices of the above process to obtain value of each group of commodities in 1992-93 at 1980-81 constant price basis as shown in Table 2.2.3.1 "Price Conversion Table."

i. Multiply projected AAGR of each five year plan period by value of each commodity in 1992-93 to obtain projected value of each group of commodity until year 2005-06 at 1980-81 constant price; and

j. Compile all values of each commodity to obtain overall GDP growth rate for each FYP period as shown by AAGR in terms of value.

3) Projection Periods

The economic forecasts are for 13 years from the first year of the 8 th FYP period 1993-94 until 2005-06 which is the amid year of the10th FYP period. Although the first year of the 8th FYP period 1993-94 has already passed, its concrete data was not available fully at the time of this study; therefore, base of the projection is set at fiscal 1992-93 which is the end year of the 7th FYP period. The ending years of the 8th FYP period 1997-98 and 2005-06 were selected as the bench mark years for this study.

4) Inter-Relationship Among Economic Blocks

The projection of the national economy was carried out by using the methodology in the previous National Transport Plan in March 1988 to maintain continuity of the national transport studies. The projections are undertaken for production side, expenditure side and balance of payment side. The result of each projection was coordinated under various considerations and are brought to converge to specific projected figures. Consistency among inter-relationships among these three items are maintained and mutual checks are carried out.

# Table 2.2.3.1 Price Conversion Table

| Sector | Value in 1985/86 Price | Converted 1980/81 Price | Volume (,000 Tons) 1985/86 | Value per Unit | Unit | Volume (,000 Tons) 1992/93 | Value in 1980/81 for 1992/93 |
|---|---|---|---|---|---|---|---|
| **1  AGRICULTURE** | **118,670** | **93,443** | | | | | **118,802** |
| 1.1  MAJOR CROPS | 60,311 | 46,212 | | | | | 53,277 |
| 1.1.1  Wheat | 25,291 | 19,379 | 13,923 | 1,391.8 | tonne | 16,157 | 22,488 |
| 1.1.2  Rice | 7,390 | 5,662 | 2,919 | 1,939.9 | tonne | 3,116 | 6,045 |
| 1.1.3  Gram | 2,478 | 1,899 | 586 | 3,240.1 | tonne | 520 | 1,685 |
| 1.1.4  Maiz | 2,104 | 1,612 | 1,010 | 1,596.2 | tonne | 1,178 | 1,880 |
| 1.1.5  Cotton | 14,001 | 10,728 | 1,238 | 8,665.6 | tonne | 1,540 | 13,345 |
| 1.1.6  Sugar Cane | 6,107 | 4,679 | 27,856 | 168.0 | tonne | 38,059 | 6,393 |
| 1.1.7  Others | 2,940 | 2,253 | 797 | 2,826.5 | tonne | 700 | 1,441 |
| 1.2  MINOR CROPS | 18,590 | 16,742 | | | | | 21,063 |
| 1.2.1  Fruits & Veg. | 13,428 | 12,093 | 5,676 | 2,130.6 | tonne | 7,130 | 15,191 |
| 1.2.2  Others | 5,162 | 4,649 | 619 | 7,510.3 | tonne | 790 | 5,872 |
| 1.3  LIVESTOCK | 35,709 | 25,865 | | | | | 38,308 |
| 1.3.1  Milk | 20,555 | 14,889 | 9,304 | 1,600.2 | tonne | 13,100 | 20,963 |
| 1.3.2  Others | 15,154 | 10,976 | 1,268 | 8,656.5 | tonne | 1,871 | 17,345 |
| 1.4  FISHERY | 3,669 | 3,554 | 410 | 8,668.3 | tonne | 500 | 4,909 |
| 1.5  FORESTRY | 391 | 1,070 | 698 | 1,533.0 | tonne | 960 | 1,245 |
| **2  MINING & QUARRYING** | **11,448** | **1,657** | | | | | **2,642** |
| 2.1  Crude Oil | 4,364 | 632 | 1,925 | 328.3 | tonne | 2,936 | 964 |
| 2.2  Natural Gas | 3,999 | 579 | 384 | 1,508.2 | mmcft | 583 | 879 |
| 2.3  Coal | 1,176 | 170 | 2,202 | 77.3 | tonne | 3,266 | 253 |
| 2.4  Limestone | 1,079 | 156 | 6,313 | 24.8 | tonne | 9,015 | 223 |
| 2.5  Others | 833 | 121 | 1,983 | 60.8 | tonne | 2,865 | 323 |
| **3  MANUFACTURING** | **18,590** | **16,742** | | | | | **89,916** |
| 3.1  Foods | 20,224 | 13,822 | 2,205 | 6,268.5 | tonne | 2,991 | 18,749 |
| 3.2  Tobbaco | 950 | 649 | 39,000 | 16.6 | box | 30,000 | 499 |
| 3.3  Textile | 8,977 | 6,135 | 482 | 12,728.2 | tonne | 1,170 | 14,892 |
| 3.4  Apparel | 7,511 | 5,133 | 253 | 20,288.5 | tonne | 307 | 6,229 |
| 3.5  Wood & Paper | 4,041 | 2,762 | 91 | 30,351.6 | tonne | 67 | 2,034 |
| 3.6  Chemical | 14,110 | 9,643 | 2,687 | 3,588.8 | tonne | 2,870 | 10,300 |
| 3.7  Non-Metalic | 2,888 | 1,974 | 5,773 | 341.9 | tonne | 8,321 | 2,845 |
| 3.8  Metal & Products | 12,232 | 8,360 | | | | | 11,746 |
| 3.9  Machinery | 7,040 | 4,811 | | | | | 10,194 |
| 3.1  Others | 5,691 | 3,890 | | | | | 12,429 |

Source:
(1) JICA National Transport Plan Study 1988
(2) Economic Survey 1993-94, Economic Advisor's Wing, Finance Division
(3) JICA Study Team

(2) Projections up to 2005-06

1) General:

a. Balance of Payment Block

The factors of the balance-of-payment block consists of changes in the terms of trade, trade balance, debt servicing, etc. Assumptions for projections of such factors are set as follows:

I) Export, Import and Trade Balance

Table 2.2.1.6 "Export, Import and Trade Balance (in US Dollar)" shows the changes of balance of payment for the period 1980-81 - 1992-93 in terms of share of trade balance in GDP. As the share of trade balance in GDP constantly decreased because of faster growth of exports than imports. It is assumed that the trade balance, negative at present, will become to nil by year 2007-08, the ending year of the 10th FYP period.

II) Official Long-term Foreign Loans

As shown in Table 2.2.1.5 "Loans and Grants" total long-term foreign loans has increased annually since 1982-83 to 1988-89 as a peak year during 1982 - 1983 amounting to 2.57 billion US dollars. Since 1988-89, amount of loan received has started to decline sharply year by year to 1.67 billion US dollar in 1992-93. This trend reflects the amount received as grant aid as well.

As shown in Table 2.2.1.4 "Debt Servicing", the debt outstanding increased during the 6th FYP at an average annual rates of increase, 6.0 % and 6.5 % in the 7th FYP. Debt servicing rate per outstanding has increased 7.3 % to 8.5 % through the 6th and 7th FYPs periods. Debt servicing ratio for exports and foreign exchange earning were 26.2 % and 11.1 % for the 6th FYP period; and 25.1 % and 14.6 % respectively. Debt servicing ratio per unit of export decreased slightly due to favorable growth of exports. On the contrary the debt servicing ratio per unit of foreign exchange earning increased. This is due to the decrease of workers' remittance from abroad. Trend of increasing debt servicing ratio against total foreign exchange earning is projected to continue as in Table 2.2.1.4.

III) Import Dependence Ratio

Table 2.2.1.6 "Export, Import and Trade Balance (in US Dollar)", shows the historical changes in export, import and trade balance as well as import dependence ratio per GDP. As this table indicates, the annual growth rate of import has increased at an annual average rate of growth at 10.1 %, 3.7 % and 8.7 % during the 5th - 7th FYP periods. During the same period the exports has increased by 12.4 %, 13.1 % and 10.0 %. Accordingly, the import dependence ratios of goods in GDP have changed 21.0 %, 19.4 % and 20.3 % during the 5th - 7th FYP periods in average per year. And goods plus non-factor service in total have changed 29.0 %, 27.2 % and 22.9 % and share of goods alone per GDP was 21.0 %, 19.4 % and 20.3 % during the same periods as shown in Table 2.2.3.2 "Import Dependence". The sign of decreased import dependency and increased export share to GDP may result in decrease of import dependency and in increase of export share to GDP; and it would continue for coming FYPs. As in Table 2.2.3.3 "Imports and Exports of Major Items", the import fills the gap between consumption and production of each commodity selected and listed therein.

IV) Export Growth Rate Requested

During the 5th - 7th FYP periods, the net export ratio to GNP increased successively by 8.6 %, 9.4 % and 11.2 % as shown in Table 2.2.3.4. As shown in this table, the export of goods as been continuously expanding. Export growth is projected as shown in Table 2.2.1.5 to maintain both an import dependency rate to be not more than 21.4 % of GDP recorded in the 5th FYP period and to realize a decrease in trade balance. It is projected that the trade balance would become positive in the 10th FYP period as shown in the table above. In order to achieve this favorable projection in view of trade balance and foreign exchange reserve conditions, the export is requested to increase at an average annual growth rate of 12.5 %, 10.0 % and 8.0 % during the 8th, 9th and 10th FYP periods.

During the same period imports are projected to increase at 7.5 %, 8.0 % and 7.0 % on condition that the imports per GDP will be maintained between 19.3 %, 20.5 % and 21.6 % and the exports will be at 15.2 %, 18.6 % and 20.9 % which would grow gradually. This trend implies a decrease of trade balance from 3.26 billion US$ in 1992-93 to zero in 2010 or in the beginning of the 11th FYP period, thereafter, the trade balance is projected to record black figures.

V) Trade Balance

Trade balance has been improving since the beginning of the 7th FYP and is projected to continue due to favorable growth in exports. As shown in Table 2.2.3.4 "Net Export Ratio to GNP" the ratio of export's share in GNP have been increasing constantly by 8.6 %, 9.4 % and 11.2 % for the periods of the 5th - 7th FYPs. It is assumed that if the annual growth of export in terms of US Dollar increase at the rates of 12.5 %, 10.0 % and 8.0 %, and import moves 7.5 %, 8.0 % and 7.0 % during the same periods, then, the growth of trade balance would be - 8.7 %, - 8.2 % and -13.1 %. during the same period. The share of trade balance in GNP would decrease accordingly to 4.9 %, 2.4 % and 1.1 % in the same period as shown in Table 2.2.1.6.

## 2) GDP block

### a. Growth Rate

Average growth rate of GDP per annum in the 6th FYP and 7th FYP periods were 6.8 % and 5.0 % respectively as in Table 2.2.1.2 "GNP at Constant Price of 1980-81". Except for electricity and gas distribution sub-sectors of the industrial sector, all sector's GDP growth rates have decreased gradually as shown in the above table. GDP growth rate of 6.4 % projected in previous study for the 7th FYP period was not achieved. Table 2.2.2.4 shows a comparison between previous study, actual figures, and projection in the previous study.

### b. Scale of National Economy

The past trends of GDP over the period 1982-83 - 1992-93 with its composition are shown in Table 2.2.1.1 "GNP at Current Factor Price". As shown therein the GDP at factor cost in 1992-93 was 1.2 trillion Rs. (equivalent to US$46 billion = 25.9 Rs./US$) shared by agriculture sector at 298 billion Rs.(US$11 billion), industrial sector at 303 billion Rs. (US$12 billion) and service sector at 599 billion Rs. (US$23 billion) respectively.

Table 2.2.1.2 "GNP Constant Price of 1980-81" for the 6th and 7th five year plan period is prepared to be consistent with the past trends and projections of GDP. Projections of GDP for the 8th - 10th FYP period (1993-94 - 2007-08) are prepared in Table 2.2.3.5 "GNP Projection in Constant Price of 1980-81). To compare with the previous Master Plan Study's economic framework, the trends and projections of GDP was prepared on constant basis as in Table 2.2.3.6 "GNP at Constant Factor Cost in 1985-86 price" for consistency and for facilitating evaluation.

A summarized average annual compound growth rates of GDP for the past the 6th and 7th FYP and the projected growth rate for respective periods of the 8th - 10th FYP are shown in the below table 2.2.3.7.

## Table 2.2.3.2 Import Defendence * ( Imports G&NFS) / GDP at Current Factor Cost)

| Fiscal Year | (A)<br>GDP | (B)<br>G&NFS | (C)<br>Goods | (C)/(A)<br>Ratio (%) | (D)<br>NFS | (B)/(A)<br>Ratio (%) |
|---|---|---|---|---|---|---|
| 1978/79 | 178,031 | 42,529 | 36,388 | 20.4% | 6,141 | 23.9% |
| 1979/80 | 214,593 | 54,578 | 46,929 | 21.9% | 7,649 | 25.4% |
| 1980/81 | 247,831 | 76,236 | 53,544 | 21.6% | 22,692 | 30.8% |
| 1981/82 | 292,153 | 84,831 | 59,482 | 20.4% | 25,349 | 29.0% |
| 1982/83 | 328,412 | 107,546 | 68,151 | 20.8% | 39,395 | 32.7% |
| 5th FYP | 1,261,020 | 365,720 | 264,494 | **21.0%** | 101,226 | 29.0% |
| 1983/84 | 374,349 | 116,302 | 76,707 | 20.5% | 39,595 | 31.1% |
| 1984/85 | 425,064 | 128,089 | 89,778 | 21.1% | 38,311 | 30.1% |
| 1985/86 | 466,319 | 132,305 | 90,946 | 19.5% | 41,359 | 28.4% |
| 1986/87 | 515,432 | 128,809 | 92,431 | 17.9% | 36,378 | 25.0% |
| 1987/88 | 601,025 | 141,646 | 112,551 | 18.7% | 29,095 | 23.6% |
| 6th FYP | 2,382,189 | 647,151 | 462,413 | **19.4%** | 184,738 | 27.2% |
| 1988/89 | 683,138 | 163,846 | 135,841 | 19.9% | 28,005 | 24.0% |
| 1989/90 | 759,854 | 185,753 | 148,853 | 19.6% | 36,900 | 24.4% |
| 1990/91 | 908,374 | 195,022 | 171,114 | 18.8% | 23,908 | 21.5% |
| 1991/92 | 1,077,803 | 242,424 | 229,889 | 21.3% | 12,535 | 22.5% |
| 1992/93 | 1,217,456 | 276,043 | 258,643 | 21.2% | 17,400 | 22.7% |
| 7th FYP | 4,646,625 | 1,063,088 | 944,340 | **20.3%** | 118,748 | 22.9% |

## Table 2.2.3.4 Net Exports Ratio to GNP (At Current Factor Cost)

| Fiscal Year | GNP<br>(A) | Export<br>(B) | Export Ratio<br>(B)/(A) | Import | Balance | Ratio (%) |
|---|---|---|---|---|---|---|
| 1978/79 | 209,448 | 16,925 | 8.1% | 36,388 | -19,463 | -9.3% |
| 1979/80 | 252,463 | 23,410 | 9.3% | 46,929 | -23,519 | -9.3% |
| 1980/81 | 300,888 | 29,280 | 9.7% | 53,544 | -24,264 | -8.1% |
| 1981/82 | 349,508 | 26,270 | 7.5% | 59,482 | -33,212 | -9.5% |
| 1982/83 | 403,782 | 34,442 | 8.5% | 68,151 | -33,709 | -8.3% |
| 5th FYP | 1,516,089 | 130,327 | **8.6%** | 264,494 | -134,167 | **-8.8%** |
| 1983/84 | 459,397 | 37,339 | 8.1% | 76,707 | -39,368 | -8.6% |
| 1984/85 | 510,468 | 37,979 | 7.4% | 89,778 | -51,799 | -10.1% |
| 1985/86 | 555,891 | 49,592 | 8.9% | 90,946 | -41,354 | -7.4% |
| 1986/87 | 608,857 | 63,355 | 10.4% | 92,431 | -29,076 | -4.8% |
| 1987/88 | 704,484 | 78,445 | 11.1% | 112,551 | -34,106 | -4.8% |
| 6th FYP | 2,839,097 | 266,710 | **9.4%** | 462,413 | -195,703 | **-6.9%** |
| 1988/89 | 797,750 | 90,183 | 11.3% | 135,841 | -45,658 | -5.7% |
| 1989/90 | 892,843 | 106,469 | 11.9% | 148,853 | -42,384 | -4.7% |
| 1990/91 | 1,044,508 | 138,280 | 13.2% | 171,114 | -32,834 | -3.1% |
| 1991/92 | 1,223,780 | 171,728 | 14.0% | 229,889 | -58,161 | -4.8% |
| 1992/93 | 1,376,738 | 177,028 | 12.9% | 258,643 | -81,615 | -5.9% |
| 7th FYP | 5,335,619 | 683,688 | **12.8%** | 944,340 | -260,652 | -4.9% |
| 5-7 FYP | 9,690,805 | 1,080,725 | **11.2%** | 1,671,247 | -590,522 | **-6.1%** |

Source: National Economic Survey 1993-94, Economic Advisor's Wing, Finance Division

# Table 2.2.3.5 Projected Gross National Product ( at Current Factor Cost of 1980-81, Rs.million)

| Fiscal Years | 1992/93 | Projected Growth 8th FYP | 1993/94 | 1994/95 | 1995/96 | 1996/97 | 1997/98 | Projected Growth 9th FYP | 1998/99 | 1999/2000 | 2000/01 | 2001/02 | 2002/03 | Projected Growth 10th FYP | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Agriculture** | 118,802 | 4.7 | 124,411 | 130,295 | 136,469 | 142,947 | 149,744 | 4.4 | 156,359 | 163,271 | 170,492 | 178,037 | 185,920 | 4.0 | 193,439 | 201,264 | 209,407 | 217,880 | 226,698 |
| Major Crops | 53,277 | 4.3 | 55,568 | 57,957 | 60,449 | 63,049 | 65,760 | 4.3 | 68,588 | 71,537 | 74,613 | 77,821 | 81,168 | 4.2 | 84,577 | 88,129 | 91,830 | 95,687 | 99,706 |
| Minor Crops | 21,063 | 4.0 | 21,906 | 22,782 | 23,693 | 24,641 | 25,626 | 3.9 | 26,626 | 27,664 | 28,743 | 29,864 | 31,029 | 3.7 | 32,177 | 33,367 | 34,602 | 35,882 | 37,210 |
| Livestock | 38,308 | 6.0 | 40,606 | 43,043 | 45,625 | 48,363 | 51,265 | 5.0 | 53,828 | 56,519 | 59,945 | 62,313 | 65,428 | 4.1 | 68,111 | 70,903 | 73,810 | 76,837 | 79,987 |
| Fishery | 4,909 | 2.9 | 5,051 | 5,198 | 5,349 | 5,504 | 5,663 | 3.4 | 5,856 | 6,055 | 6,261 | 6,474 | 6,694 | 3.7 | 6,941 | 7,198 | 7,465 | 7,741 | 8,027 |
| Forestry | 1,245 | 2.8 | 1,280 | 1,316 | 1,353 | 1,390 | 1,429 | 2.3 | 1,462 | 1,496 | 1,530 | 1,565 | 1,601 | 2.0 | 1,633 | 1,666 | 1,699 | 1,733 | 1,768 |
| **Industry** | 131,264 | 9.3 | 143,488 | 156,817 | 171,419 | 187,393 | 204,869 | 7.0 | 219,245 | 234,634 | 251,108 | 268,743 | 287,622 | 6.9 | 307,571 | 328,910 | 351,735 | 376,151 | 402,268 |
| Mining & Quarrying | 2,642 | 11.4 | 2,943 | 3,279 | 3,652 | 4,069 | 4,533 | 8.1 | 4,900 | 5,297 | 5,726 | 6,190 | 6,691 | 7.0 | 7,159 | 7,660 | 8,197 | 8,770 | 9,384 |
| Manufacturing | 89,916 | 9.8 | 98,728 | 108,403 | 119,027 | 130,691 | 143,499 | 7.2 | 153,831 | 164,907 | 176,780 | 189,508 | 203,153 | 7.2 | 217,780 | 233,460 | 250,269 | 268,288 | 287,605 |
| Large Scale | 63,604 | 9.8 | 69,837 | 76,681 | 84,196 | 92,447 | 101,507 | 7.2 | 108,816 | 116,650 | 125,049 | 134,053 | 143,704 | 7.2 | 154,051 | 165,143 | 177,033 | 189,779 | 203,444 |
| Small Scale | 26,312 | 9.8 | 28,891 | 31,722 | 34,831 | 38,244 | 41,992 | 7.2 | 45,015 | 48,256 | 51,731 | 55,455 | 59,448 | 7.2 | 63,729 | 68,317 | 73,236 | 78,509 | 84,161 |
| Construction | 20,701 | 7.8 | 22,316 | 24,056 | 25,993 | 27,955 | 30,136 | 6.0 | 31,944 | 33,861 | 35,892 | 38,046 | 40,329 | 6.0 | 42,748 | 45,313 | 48,032 | 50,914 | 53,969 |
| Electricity & Gas | 18,005 | 8.2 | 19,481 | 21,079 | 22,807 | 24,678 | 26,701 | 7.0 | 28,570 | 30,570 | 32,710 | 35,000 | 37,450 | 6.5 | 39,884 | 42,476 | 45,237 | 48,178 | 51,309 |
| **Services** | 241,279 | 6.7 | 257,335 | 274,495 | 292,838 | 312,448 | 333,416 | 6.7 | 355,614 | 379,374 | 404,808 | 432,098 | 461,195 | 6.6 | 491,423 | 523,757 | 558,350 | 595,364 | 634,789 |
| Transport & Communication | 50,148 | 5.8 | 53,057 | 56,134 | 59,390 | 62,894 | 66,479 | 6.5 | 70,800 | 75,402 | 80,303 | 85,522 | 91,081 | 6.5 | 97,002 | 103,307 | 110,022 | 117,173 | 124,789 |
| Commerce | 81,016 | 8.3 | 87,740 | 95,023 | 102,910 | 111,451 | 120,702 | 8.0 | 130,358 | 140,786 | 152,049 | 164,213 | 177,350 | 8.0 | 191,538 | 206,861 | 223,410 | 241,283 | 260,586 |
| Banking & Insurance | 11,173 | 5.8 | 11,821 | 12,507 | 13,232 | 13,999 | 14,811 | 7.5 | 15,922 | 17,117 | 18,400 | 19,780 | 21,264 | 7.5 | 22,859 | 24,573 | 26,416 | 28,397 | 30,527 |
| Housing | 26,939 | 5.3 | 28,367 | 29,870 | 31,453 | 33,120 | 34,876 | 6.0 | 36,968 | 39,186 | 41,538 | 44,090 | 46,672 | 6.0 | 49,472 | 52,440 | 55,587 | 58,922 | 62,457 |
| Public Adm. & Defence | 33,295 | 5.5 | 35,126 | 37,038 | 39,096 | 41,247 | 43,515 | 3.0 | 44,821 | 46,165 | 47,550 | 48,977 | 50,446 | 2.5 | 51,707 | 53,000 | 54,325 | 55,683 | 57,075 |
| Other Services | 38,708 | 6.5 | 41,224 | 43,904 | 46,757 | 49,797 | 53,033 | 7.0 | 56,746 | 60,718 | 64,968 | 69,516 | 74,382 | 6.0 | 78,845 | 83,576 | 88,590 | 93,906 | 99,540 |
| **GDP at Factor Cost** | 491,345 | 7.0 | 525,214 | 561,608 | 600,727 | 642,788 | 688,028 | 6.3 | 731,219 | 777,280 | 826,409 | 878,819 | 934,737 | 6.2 | 992,433 | 1,053,931 | 1,119,492 | 1,189,395 | 1,263,940 |
| Indirect Taxes | 62,155 | 5.8 | 68,278 | 73,009 | 78,094 | 83,562 | 89,444 | 5.9 | 95,058 | 101,046 | 107,433 | 114,246 | 121,516 | 6.6 | 129,016 | 137,011 | 145,534 | 154,621 | 164,312 |
| Subsidies | 4,029 | -2.0 | 3,948 | 3,869 | 3,792 | 3,716 | 3,642 | -2.0 | 3,569 | 3,498 | 3,428 | 3,359 | 3,292 | -2.0 | 3,226 | 3,162 | 3,098 | 3,036 | 2,976 |
| GDP (market price) | 549,471 | 7.3 | 589,544 | 630,748 | 675,029 | 722,634 | 773,830 | 6.4 | 822,708 | 874,828 | 930,414 | 989,706 | 1,052,961 | 6.3 | 1,118,223 | 1,187,780 | 1,261,927 | 1,340,980 | 1,425,277 |
| Net Factor In from abroad | 5,601 | 1.0 | 5,657 | 5,714 | 5,771 | 5,828 | 5,887 | 2.5 | 6,034 | 6,185 | 6,339 | 6,498 | 6,660 | 2.0 | 6,793 | 6,929 | 7,068 | 7,229 | 7,353 |
| **GNP at Factor Cost** | 496,946 | 6.9 | 530,871 | 567,321 | 606,497 | 648,617 | 693,915 | 6.3 | 737,253 | 783,464 | 832,748 | 885,317 | 941,397 | 6.2 | 999,227 | 1,060,860 | 1,126,559 | 1,196,604 | 1,271,294 |
| GNP at Market Price | 555,072 | 7.0 | 595,201 | 636,461 | 680,800 | 728,463 | 779,717 | 6.3 | 828,742 | 881,013 | 936,754 | 996,204 | 1,059,621 | 6.2 | 1,125,017 | 1,194,710 | 1,268,995 | 1,348,189 | 1,432,630 |
| Population (in million) | 120,955 | 3.0 | 124,584 | 128,321 | 132,171 | 136,136 | 139,975 | 2.6 | 143,614 | 147,923 | 152,360 | 156,931 | 161,011 | 2.6 | 165,198 | 169,493 | 172,485 | 176,970 | 181,571 |
| Per Capita Income (fc) | 4,109 | 3.9 | 4,261 | 4,421 | 4,589 | 4,764 | 4,957 | 3.3 | 5,134 | 5,296 | 5,466 | 5,641 | 5,847 | 3.7 | 6,049 | 6,259 | 6,531 | 6,762 | 7,002 |
| Per Capita Income (mp) | 4,589 | 3.9 | 4,778 | 4,960 | 5,151 | 5,351 | 5,570 | 3.3 | 5,771 | 5,956 | 6,148 | 6,348 | 6,581 | 3.7 | 6,810 | 7,049 | 7,357 | 7,618 | 7,890 |

Source: JICA Study Team

## Table 2.2.3.6 (a) Gross National Product (at Current Factor Cost of 1985-86, Rs. million)

| Fiscal Years | 1983/84 | 1984/85 | 1985/86 | 1986/87 | 1987/88 | Growth pa 6th FYP | 1988/89 | 1989/90 | 1990/91 | 1991/92 | 1992/93 | Growth pa 7th FYP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.0 Agriculture | 79,502 | 88,187 | 93,433 | 96,473 | 99,108 | 5.7 | 105,917 | 109,127 | 114,542 | 125,668 | 120,783 | 3.3 |
|  | 109,597 | 121,569 | 128,801 | 132,992 | 136,624 |  | 146,011 | 150,436 | 157,901 | 173,238 | 166,504 |  |
| 1.1 Major Crops | 36,710 | 43,390 | 46,212 | 46,965 | 48,452 | 7.2 | 51,842 | 51,795 | 54,741 | 63,165 | 53,277 | 0.7 |
|  | 46,155 | 54,554 | 58,102 | 59,049 | 60,918 |  | 65,181 | 65,121 | 68,825 | 79,417 | 66,985 |  |
| 1.2 Minor Crops | 15,668 | 16,109 | 16,742 | 17,317 | 16,756 | 1.7 | 18,205 | 19,147 | 19,820 | 20,290 | 21,063 | 3.7 |
|  | 23,137 | 23,788 | 24,723 | 25,572 | 24,744 |  | 26,883 | 28,274 | 29,268 | 29,962 | 31,104 |  |
| 1.3 Livestock | 22,956 | 24,356 | 25,865 | 27,351 | 28,909 | 5.9 | 30,614 | 32,481 | 34,105 | 36,133 | 38,308 | 5.8 |
|  | 36,263 | 38,474 | 40,858 | 43,205 | 45,666 |  | 48,360 | 51,309 | 53,874 | 57,078 | 60,514 |  |
| 1.4 Fishery | 3,130 | 3,293 | 3,544 | 3,650 | 3,776 | 4.8 | 3,999 | 4,325 | 4,430 | 4,600 | 4,909 | 5.3 |
|  | 3,350 | 3,524 | 3,793 | 3,906 | 4,041 |  | 4,280 | 4,629 | 4,741 | 4,923 | 5,254 |  |
| 1.5 Forestry | 1,038 | 1,039 | 1,070 | 1,190 | 1,218 | 4.1 | 1,257 | 1,379 | 1,446 | 1,480 | 1,245 | -0.2 |
|  | 1,285 | 1,287 | 1,325 | 1,474 | 1,508 |  | 1,557 | 1,708 | 1,791 | 1,833 | 1,542 |  |
| 2.0 Industry | 69,688 | 75,147 | 81,234 | 88,257 | 96,925 | 8.6 | 101,433 | 107,954 | 115,359 | 124,504 | 131,264 | 6.7 |
|  | 93,381 | 100,696 | 108,853 | 118,264 | 129,879 |  | 135,920 | 144,658 | 154,580 | 166,835 | 175,893 |  |
| 2.1 Mining & Quarrying | 1,181 | 1,340 | 1,657 | 1,782 | 2,029 | 14.5 | 2,071 | 2,269 | 2,504 | 2,580 | 2,642 | 6.3 |
|  | 2,338 | 2,653 | 3,281 | 3,529 | 4,018 |  | 4,101 | 4,493 | 4,958 | 5,109 | 5,231 |  |
| 2.2 Manufacturing | 49,187 | 53,166 | 57,180 | 61,484 | 67,622 | 8.3 | 70,300 | 74,323 | 78,969 | 85,489 | 89,916 | 6.3 |
|  | 65,274 | 70,554 | 75,881 | 81,593 | 89,738 |  | 93,292 | 98,631 | 104,796 | 113,449 | 119,323 |  |
| 2.3 Large Scale | 36,455 | 39,365 | 42,220 | 45,267 | 50,043 | 8.2 | 51,244 | 53,667 | 56,577 | 61,216 | 63,604 | 5.6 |
|  | 47,337 | 51,116 | 54,823 | 58,780 | 64,981 |  | 66,541 | 69,687 | 73,466 | 79,489 | 82,590 |  |
| 2.4 Small Scale | 12,732 | 13,801 | 14,960 | 16,217 | 17,579 | 8.4 | 19,056 | 20,657 | 22,392 | 24,273 | 26,312 | 8.4 |
|  | 17,922 | 19,427 | 21,058 | 22,827 | 24,745 |  | 26,824 | 29,077 | 31,519 | 34,167 | 37,037 |  |
| 2.5 Construction | 12,025 | 13,155 | 14,035 | 15,784 | 16,563 | 8.3 | 16,937 | 17,466 | 18,462 | 19,566 | 20,701 | 5.1 |
|  | 16,323 | 17,857 | 19,052 | 21,426 | 22,484 |  | 22,991 | 23,709 | 25,061 | 26,560 | 28,101 |  |
| 2.6 Electricity & Gas | 7,295 | 7,486 | 8,362 | 9,207 | 10,711 | 10.1 | 12,125 | 13,896 | 15,424 | 16,869 | 18,005 | 10.4 |
|  | 9,281 | 9,524 | 10,639 | 11,714 | 13,628 |  | 15,427 | 17,680 | 19,624 | 21,462 | 22,908 |  |
| 3.0 Services | 146,787 | 158,417 | 167,557 | 177,380 | 189,383 | 6.6 | 196,598 | 205,402 | 216,104 | 230,062 | 241,279 | 5.3 |
|  | 200,320 | 216,192 | 228,665 | 242,070 | 258,451 |  | 268,297 | 280,312 | 294,917 | 313,966 | 329,273 |  |
| 3.1 Transport & Communication | 30,283 | 32,688 | 34,305 | 36,785 | 39,293 | 6.7 | 37,716 | 40,184 | 42,719 | 46,407 | 50,148 | 7.4 |
|  | 36,366 | 39,254 | 41,196 | 44,174 | 47,186 |  | 45,292 | 48,256 | 51,300 | 55,729 | 60,221 |  |
| 3.2 Commerce | 46,440 | 51,876 | 55,361 | 58,661 | 63,932 | 8.3 | 67,305 | 69,655 | 73,380 | 78,914 | 81,016 | 4.7 |
|  | 61,020 | 68,163 | 72,742 | 77,078 | 84,604 |  | 88,436 | 91,524 | 96,418 | 103,690 | 106,452 |  |
| 3.3 Banking & Insurance | 8,767 | 8,752 | 9,057 | 9,111 | 9,452 | 1.9 | 9,743 | 9,793 | 9,913 | 10,323 | 11,173 | 3.5 |
|  | 14,379 | 14,355 | 14,855 | 14,944 | 15,503 |  | 15,980 | 16,062 | 16,259 | 16,931 | 18,326 |  |
| 3.4 Housing | 16,200 | 17,849 | 18,791 | 19,784 | 20,828 | 6.5 | 21,928 | 23,086 | 24,305 | 25,583 | 26,939 | 5.3 |
|  | 20,227 | 22,286 | 23,462 | 24,702 | 26,005 |  | 27,379 | 28,825 | 30,347 | 31,949 | 33,635 |  |
| 3.5 Public Adm. & Defence | 23,192 | 23,916 | 25,183 | 26,556 | 27,666 | 4.5 | 29,852 | 30,667 | 31,679 | 32,495 | 33,295 | 2.8 |
|  | 38,728 | 39,937 | 42,053 | 44,346 | 46,199 |  | 49,850 | 51,211 | 52,901 | 54,263 | 55,599 |  |
| 3.6 Other Services | 21,905 | 23,336 | 24,860 | 26,483 | 28,212 | 6.5 | 30,054 | 32,017 | 34,108 | 36,335 | 38,708 | 6.5 |
|  | 30,273 | 32,251 | 34,357 | 36,600 | 38,990 |  | 41,535 | 44,248 | 47,138 | 50,216 | 53,495 |  |
| 4.0 GDP at Factor Cost | 295,977 | 321,751 | 342,224 | 362,110 | 385,416 | 6.8 | 403,948 | 421,284 | 446,005 | 480,234 | 491,345 | 5.0 |
|  | 403,302 | 438,422 | 466,319 | 493,416 | 525,173 |  | 550,425 | 575,410 | 607,732 | 654,373 | 669,513 |  |
| 5.0 Indirect Taxes | 43,038 | 43,103 | 42,501 | 44,800 | 53,406 | 5.5 | 57,269 | 58,359 | 59,345 | 63,722 | 62,155 | 2.1 |
|  | 58,940 | 59,029 | 58,205 | 61,353 | 73,139 |  | 78,430 | 79,922 | 81,273 | 87,267 | 85,121 |  |
| 6.0 Subsidies | 6,512 | 7,107 | 7,296 | 5,128 | 6,403 | -0.4 | 7,351 | 6,741 | 5,390 | 5,004 | 4,029 | -14.0 |
|  | 8,918 | 9,733 | 9,992 | 7,023 | 8,769 |  | 10,067 | 9,232 | 7,382 | 6,853 | 5,518 |  |
| 7.0 GDP (market price) | 332,503 | 357,747 | 377,429 | 401,782 | 432,419 | 6.8 | 453,866 | 474,102 | 499,960 | 538,952 | 549,471 | 4.9 |
|  | 453,286 | 487,700 | 514,532 | 547,731 | 589,497 |  | 618,735 | 646,322 | 681,573 | 734,729 | 749,069 |  |
| 8.0 Net Factor In from abroad | 31,630 | 28,814 | 31,282 | 26,575 | 17,100 | -14.3 | 14,933 | 17,163 | 9,457 | 4,948 | 5,601 | -21.7 |
|  | 41,819 | 38,096 | 41,359 | 35,136 | 22,608 |  | 19,743 | 22,692 | 12,903 | 6,542 | 7,405 |  |
| 9.0 GNP at Factor Cost | 327,609 | 350,565 | 373,506 | 388,685 | 402,516 | 5.3 | 418,881 | 439,647 | 455,462 | 485,182 | 496,946 | 4.4 |
|  | 445,294 | 476,496 | 507,678 | 528,310 | 547,109 |  | 569,353 | 597,578 | 619,074 | 659,471 | 675,461 |  |
| 10.0 GNP at Market Price | 364,133 | 386,561 | 408,711 | 428,357 | 449,519 | 5.4 | 468,799 | 491,265 | 509,417 | 543,900 | 555,072 | 4.3 |
|  | 495,260 | 525,765 | 555,891 | 582,612 | 611,394 |  | 637,617 | 668,173 | 692,862 | 739,763 | 754,958 |  |
| 11.0 Population (.000) | 91,880 | 94,730 | 97,670 | 10,070 | 103,820 | 3.1 | 107,040 | 110,360 | 113,780 | 117,320 | 120,955 | 3.1 |
|  | 91,880 | 94,730 | 97,670 | 10,070 | 103,820 |  | 107,040 | 110,360 | 113,780 | 117,320 | 120,955 |  |
| 12.0 Per Capita Income (Rs. fc) | 3,566 | 3,701 | 3,824 | 3,860 | 3,877 | 2.1 | 3,913 | 3,984 | 4,003 | 4,136 | 4,112 | 1.2 |
|  | 4,846 | 5,030 | 5,198 | 52,464 | 5,270 |  | 5,319 | 5,415 | 5,441 | 5,621 | 5,584 |  |
| 13.0 Per Capita Income (Rs. mp) | 3,963 | 4,081 | 4,185 | 4,254 | 4,320 | 2.2 | 4,380 | 4,451 | 4,477 | 4,636 | 4,593 | 1.2 |
|  | 5,390 | 5,550 | 5,692 | 57,856 | 5,889 |  | 5,957 | 6,054 | 6,089 | 6,306 | 6,242 |  |

Source: Economic Survey 1993-94, Economic Advisor's Wing, Finance Division

# Table 2.2.3.6 Projected Gross National Product (at Constant Factor Cost of 1985-86, Rs. million)

| Fiscal Years | 1992/93 | Projected Growth 8th FYP | 1993/94 | 1994/95 | 1995/96 | 1996/97 | 1997/98 | Projected Growth 9th FYP | 1998/99 | 1999/2000 | 2000/01 | 2001/02 | 2002/03 | Projected Growth 10th FYP | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.0 Agriculture | 118,802 | 4.7 | 124,411 | 130,295 | 136,469 | 142,047 | 149,744 | 4.4 | 156,359 | 163,271 | 170,492 | 178,057 | 185,920 | 4.0 | 193,439 | 201,264 | 209,407 | 217,880 | 226,694 |
| 1.1 Major Crops | 167,854 | 4.3 | 175,941 | 184,399 | 193,280 | 202,605 | 212,397 | 4.3 | 223,852 | 231,734 | 242,062 | 243,704 | 254,528 | 4.2 | 264,811 | 275,512 | 286,647 | 298,234 | 310,292 |
| 1.2 Minor Crops | 53,277 | 4.0 | 55,568 | 57,957 | 60,449 | 63,049 | 65,760 | 3.9 | 68,588 | 71,537 | 74,613 | 77,821 | 81,168 | 3.7 | 84,577 | 88,129 | 91,830 | 95,687 | 99,706 |
| 1.3 Livestock | 69,551 | | 72,542 | 75,661 | 78,914 | 82,308 | 85,847 | | 89,558 | 93,389 | 97,404 | 101,593 | 105,961 | | 110,411 | 115,049 | 119,881 | 124,916 | 130,162 |
| 1.4 Fishery | 21,063 | | 21,906 | 22,782 | 23,693 | 24,641 | 25,626 | | 26,626 | 27,664 | 28,743 | 29,864 | 31,029 | | 32,117 | 33,367 | 34,602 | 35,882 | 37,210 |
| 1.5 Forestry | 30,927 | | 32,164 | 33,451 | 34,789 | 36,180 | 37,627 | | 39,095 | 40,620 | 42,204 | 43,850 | 45,560 | | 47,246 | 48,994 | 50,806 | 52,686 | 54,636 |
| 2.0 Industry | 38,308 | 6.0 | 40,606 | 43,043 | 45,625 | 48,363 | 51,265 | 5.0 | 53,828 | 56,519 | 59,345 | 62,313 | 65,428 | 4.1 | 68,111 | 70,903 | 73,810 | 76,837 | 79,987 |
| 2.1 Mining & Quarrying | 60,514 | | 64,145 | 67,994 | 72,073 | 76,398 | 80,981 | | 85,030 | 89,282 | 93,746 | 98,282 | 93,736 | | 97,590 | 101,591 | 105,756 | 110,092 | 114,606 |
| 2.2 Manufacturing | 4,909 | 2.9 | 5,051 | 5,198 | 5,349 | 5,504 | 5,663 | 3.4 | 5,856 | 6,055 | 6,261 | 6,474 | 6,694 | 3.7 | 6,941 | 7,198 | 7,465 | 7,741 | 8,027 |
| 2.3 Large Scale | 5,116 | 2.8 | 5,264 | 5,417 | 5,574 | 5,736 | 5,902 | | 6,103 | 6,310 | 6,525 | 6,747 | 6,976 | | 7,224 | 7,502 | 7,779 | 8,067 | 8,366 |
| 2.4 Small Scale | 1,245 | | 1,290 | 1,316 | 1,353 | 1,390 | 1,429 | 2.3 | 1,462 | 1,496 | 1,530 | 1,566 | 1,601 | 2.0 | 1,633 | 1,666 | 1,699 | 1,733 | 1,768 |
| 2.5 Construction | 1,776 | | 1,826 | 1,877 | 1,929 | 1,983 | 2,039 | | 2,096 | 2,134 | 2,183 | 2,233 | 2,284 | | 2,330 | 2,377 | 2,424 | 2,473 | 2,522 |
| 2.6 Electricity & Gas | 131,254 | 9.3 | 143,468 | 156,817 | 171,419 | 187,393 | 204,869 | 7.0 | 219,345 | 234,634 | 251,104 | 268,743 | 287,622 | 6.9 | 307,571 | 328,910 | 351,735 | 376,153 | 402,268 |
| 3.0 Services | 176,854 | | 193,328 | 211,351 | 231,069 | 252,645 | 276,254 | | 295,663 | 316,441 | 338,685 | 362,500 | 387,997 | | 414,904 | 443,684 | 474,468 | 507,398 | 542,622 |
| 3.1 Transport & Communication | 2,642 | 11.4 | 2,943 | 3,279 | 3,652 | 4,069 | 4,533 | 8.1 | 4,000 | 5,297 | 5,726 | 6,190 | 6,691 | 7.0 | 7,159 | 7,660 | 8,197 | 8,770 | 9,384 |
| 3.2 Commerce | 5,223 | | 5,821 | 6,484 | 7,223 | 8,047 | 8,964 | | 9,690 | 10,425 | 11,324 | 12,241 | 13,232 | | 14,159 | 15,190 | 16,210 | 17,345 | 18,559 |
| 3.3 Banking & Insurance | 89,916 | 9.8 | 98,723 | 108,403 | 119,027 | 130,691 | 143,499 | 7.2 | 153,831 | 164,907 | 176,780 | 189,508 | 203,153 | 7.2 | 217,780 | 233,460 | 250,269 | 268,238 | 287,605 |
| 3.4 Housing | 119,833 | | 131,577 | 144,471 | 158,629 | 174,175 | 191,244 | | 205,014 | 219,775 | 235,598 | 252,562 | 270,746 | | 290,240 | 311,137 | 333,539 | 357,554 | 383,297 |
| 3.5 Public Adm. & Defence | 63,604 | 9.8 | 69,837 | 76,681 | 84,196 | 92,447 | 101,507 | 7.2 | 108,816 | 116,650 | 125,049 | 134,053 | 143,704 | 7.2 | 154,051 | 165,143 | 177,033 | 189,779 | 203,444 |
| 3.6 Other Services | 83,049 | 9.8 | 91,232 | 100,172 | 109,989 | 120,758 | 132,604 | | 142,151 | 152,386 | 163,558 | 175,119 | 187,728 | | 201,244 | 215,734 | 231,267 | 247,918 | 265,768 |
| 4.0 GDP at Factor Cost | 26,313 | 9.8 | 28,891 | 31,722 | 34,831 | 38,244 | 41,992 | 7.2 | 45,015 | 48,256 | 51,751 | 55,456 | 59,448 | 7.2 | 63,729 | 68,317 | 73,236 | 78,509 | 84,161 |
| 5.0 Indirect Taxes | 33,635 | 9.8 | 36,940 | 40,660 | 44,652 | 49,028 | 53,833 | | 58,364 | 67,926 | 72,817 | 78,060 | 83,680 | | 89,705 | 96,164 | 103,087 | 110,510 | 118,466 |
| 6.0 Subsidies | 37,037 | 7.8 | 40,667 | 44,652 | 49,028 | 53,833 | 59,108 | 6.0 | 63,364 | 33,861 | 35,892 | 38,036 | 40,339 | 6.0 | 42,748 | 45,313 | 48,032 | 50,914 | 53,969 |
| 7.0 GDP (market price) | 20,701 | 7.8 | 22,316 | 24,056 | 25,933 | 27,955 | 30,136 | | 31,944 | 46,104 | 48,870 | 51,802 | 54,911 | | 58,205 | 61,698 | 65,399 | 69,323 | 73,483 |
| 8.0 Net Factor Income from abroad | 18,005 | 8.2 | 19,481 | 21,079 | 22,807 | 24,678 | 26,701 | 7.0 | 28,570 | 30,570 | 32,710 | 35,000 | 37,450 | 6.5 | 39,884 | 42,476 | 45,237 | 48,178 | 51,309 |
| 9.0 GNP at Factor Cost | 23,610 | | 25,546 | 27,641 | 29,907 | 32,360 | 35,013 | | 37,464 | 40,087 | 42,893 | 45,895 | 49,108 | | 52,390 | 55,699 | 59,320 | 63,176 | 67,282 |
| 10.0 GNP at Market Price | 241,279 | 6.7 | 257,235 | 274,495 | 292,838 | 312,448 | 333,416 | 6.7 | 355,614 | 379,324 | 404,808 | 432,038 | 461,195 | 6.6 | 491,423 | 523,757 | 558,350 | 595,364 | 634,974 |
| 11.0 Population (in million) | 328,316 | 5.8 | 350,065 | 373,303 | 398,135 | 424,675 | 453,043 | 6.5 | 482,995 | 514,418 | 548,363 | 584,691 | 623,573 | 6.5 | 663,744 | 706,699 | 752,637 | 801,775 | 854,342 |
| 12.0 Per Capita Income (fc) | 50,148 | 5.8 | 53,057 | 56,134 | 59,390 | 62,834 | 66,479 | | 70,800 | 75,402 | 80,303 | 85,522 | 91,081 | | 97,002 | 103,307 | 110,022 | 117,173 | 124,789 |
| 13.0 Per Capita Income (mp) | 60,472 | 8.3 | 63,979 | 67,690 | 71,616 | 75,770 | 80,165 | 8.0 | 85,375 | 90,955 | 96,835 | 103,129 | 109,832 | 8.0 | 116,972 | 124,575 | 132,672 | 141,296 | 150,480 |

| | 61,016 | 8.3 | 87,740 | 95,023 | 102,910 | 111,451 | 120,702 | | 130,358 | 140,786 | 152,049 | 164,213 | 177,350 | | 191,518 | 206,861 | 223,410 | 241,213 | 260,586 |
| | 106,739 | | 115,599 | 125,199 | 135,514 | 146,837 | 159,025 | | 171,747 | 185,487 | 200,326 | 216,352 | 233,660 | | 252,353 | 272,541 | 294,344 | 317,892 | 343,323 |
| | 11,173 | 5.8 | 11,821 | 12,507 | 13,232 | 13,999 | 14,811 | 7.5 | 15,922 | 17,117 | 18,400 | 19,780 | 21,264 | 7.5 | 22,859 | 24,573 | 26,416 | 28,397 | 30,527 |
| | 17,861 | | 18,997 | 19,993 | 21,153 | 22,379 | 23,677 | | 25,453 | 27,362 | 29,414 | 31,630 | 33,992 | | 36,541 | 39,282 | 42,228 | 45,395 | 48,800 |
| | 26,939 | 5.3 | 28,367 | 29,870 | 31,453 | 33,120 | 34,876 | 6.0 | 36,968 | 39,186 | 41,538 | 44,030 | 46,672 | 6.0 | 49,472 | 52,440 | 55,587 | 58,922 | 62,457 |
| | 33,635 | | 35,418 | 37,295 | 39,271 | 41,353 | 43,544 | | 46,157 | 48,927 | 51,862 | 54,974 | 58,272 | | 61,709 | 65,475 | 69,403 | 73,568 | 77,982 |
| | 33,395 | 5.5 | 35,126 | 37,058 | 39,096 | 41,247 | 43,515 | 3.0 | 44,821 | 46,165 | 47,550 | 48,977 | 50,446 | 2.5 | 51,707 | 53,000 | 54,325 | 55,683 | 57,075 |
| | 56,114 | 6.5 | 59,200 | 62,456 | 65,891 | 69,515 | 73,339 | 7.0 | 75,539 | 77,805 | 80,139 | 82,543 | 85,020 | 6.0 | 87,145 | 89,324 | 91,557 | 93,846 | 96,192 |
| | 38,708 | | 41,224 | 43,904 | 46,757 | 49,797 | 53,033 | | 56,746 | 60,718 | 64,968 | 69,516 | 74,381 | | 78,845 | 83,576 | 88,590 | 93,906 | 99,540 |
| | 53,495 | 7.8 | 56,972 | 60,675 | 64,619 | 68,820 | 73,298 | | 78,423 | 83,913 | 89,787 | 96,072 | 102,797 | | 108,966 | 115,503 | 122,433 | 129,779 | 137,565 |
| | 491,345 | | 525,214 | 561,608 | 600,727 | 642,788 | 688,028 | 6.3 | 731,219 | 777,230 | 826,409 | 878,819 | 934,727 | 6.2 | 992,433 | 1,053,951 | 1,119,492 | 1,189,395 | 1,263,540 |
| | 673,054 | 7.8 | 719,733 | 769,062 | 822,484 | 879,924 | 941,694 | | 1,000,210 | 1,062,599 | 1,129,110 | 1,190,895 | 1,266,098 | 6.6 | 1,343,459 | 1,425,895 | 1,513,753 | 1,607,407 | 1,707,255 |
| | 62,155 | 5.8 | 66,278 | 73,009 | 78,094 | 83,562 | 89,444 | 5.9 | 95,058 | 101,046 | 107,433 | 114,139 | 121,516 | | 129,016 | 137,011 | 145,534 | 154,621 | 164,312 |
| | 84,332 | | 89,917 | 96,332 | 102,810 | 109,991 | 117,712 | | 125,026 | 132,824 | 141,139 | 148,862 | 158,262 | | 167,932 | 178,237 | 189,219 | 200,926 | 213,407 |
| | 4,029 | -2.0 | 3,948 | 3,869 | 3,792 | 3,716 | 3,642 | -2.0 | 3,569 | 3,498 | 3,428 | 3,359 | 3,292 | -2.0 | 3,226 | 3,162 | 3,098 | 3,036 | 2,976 |
| | 4,711 | | 4,617 | 4,525 | 4,434 | 4,346 | 4,259 | | 4,174 | 4,090 | 4,008 | 3,928 | 3,850 | | 3,773 | 3,697 | 3,623 | 3,551 | 3,480 |
| | 549,471 | 7.3 | 589,544 | 630,747 | 675,029 | 722,634 | 773,830 | 6.4 | 822,708 | 874,823 | 930,414 | 989,706 | 1,052,961 | 6.2 | 1,124,676 | 1,194,104 | 1,268,124 | 1,347,053 | 1,431,224 |
| | 761,897 | | 813,807 | 869,709 | 929,729 | 994,280 | 1,063,664 | | 1,129,410 | 1,199,507 | 1,274,257 | 1,343,685 | 1,432,210 | | 1,515,164 | 1,607,833 | 1,706,595 | 1,811,883 | 1,924,142 |
| | 5,601 | 1.0 | 5,657 | 5,714 | 5,771 | 5,828 | 5,887 | 2.5 | 6,034 | 6,185 | 6,339 | 6,498 | 6,660 | 2.0 | 6,793 | 6,929 | 7,068 | 7,209 | 7,353 |
| | 7,791 | | 7,469 | 7,948 | 8,027 | 8,107 | 8,188 | | 8,393 | 8,603 | 8,818 | 9,038 | 9,264 | | 9,450 | 9,639 | 9,832 | 10,028 | 10,229 |
| | 491,945 | 6.3 | 680,845 | 507,321 | 606,497 | 648,617 | 693,915 | 6.3 | 737,253 | 783,464 | 832,748 | 885,317 | 941,397 | 6.2 | 999,227 | 1,060,860 | 1,126,559 | 1,196,604 | 1,271,294 |
| | 680,845 | 7.0 | 727,202 | 777,000 | 830,511 | 888,032 | 949,882 | 5.9 | 1,008,603 | 1,071,196 | 1,137,921 | 1,199,933 | 1,275,362 | 6.2 | 1,352,909 | 1,435,533 | 1,523,584 | 1,617,435 | 1,717,484 |
| | 555,072 | | 595,301 | 636,461 | 680,800 | 728,463 | 779,717 | | 828,742 | 881,013 | 936,754 | 996,054 | 1,099,621 | | 1,131,469 | 1,201,033 | 1,275,192 | 1,354,262 | 1,438,582 |
| | 769,688 | 3.0 | 821,726 | 877,686 | 937,786 | 1,002,368 | 1,071,803 | 2.6 | 1,137,803 | 1,208,110 | 1,283,075 | 1,352,723 | 1,457,474 | 2.6 | 1,524,614 | 1,617,467 | 1,716,427 | 1,821,911 | 1,934,371 |
| | 120,955 | | 124,584 | 128,321 | 132,171 | 136,136 | 139,975 | | 143,614 | 151,179 | 155,110 | 155,110 | 159,143 | | 163,281 | 167,526 | 172,485 | 176,970 | 181,571 |
| | 4,109 | 3.9 | 4,261 | 4,421 | 4,589 | 4,764 | 4,957 | 3.6 | 5,134 | 5,317 | 5,508 | 5,708 | 5,915 | 4.1 | 6,120 | 6,333 | 6,531 | 6,762 | 7,184 |
| | 5,629 | | 5,837 | 6,055 | 6,234 | 6,523 | 6,786 | | 7,023 | 7,270 | 7,527 | 7,736 | 8,014 | | 8,286 | 8,569 | 8,833 | 9,140 | 9,459 |
| | 4,589 | 3.9 | 4,774 | 4,960 | 5,151 | 5,351 | 5,570 | 3.6 | 5,771 | 5,979 | 6,196 | 6,423 | 6,658 | 4.1 | 6,930 | 7,109 | 7,393 | 7,653 | 8,129 |
| | 6,363 | | 6,596 | 6,840 | 7,095 | 7,363 | 7,657 | | 7,923 | 8,199 | 8,487 | 8,721 | 9,033 | | 9,337 | 9,655 | 9,951 | 10,295 | 10,654 |

Table 2.2.3.7  Trend and Projection of Growth Rate

(unit: percent)

| Plan Period | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|
| GDP | 6.8 | 5.0 | 7.0 | 6.3 | 6.2 |
| Agriculture | 5.7 | 2.9 | 4.7 | 4.4 | 4.0 |
| Industry | 8.6 | 6.7 | 9.3 | 7.0 | 6.9 |
| Service | 6.8 | 5.0 | 6.7 | 6.7 | 6.6 |

According to GDP projections shown in Table 2.2.3.8 "GNP Projection, constant price of 1992-93", the scale of national economy will grow from 1.2 trillion Rupees in 1992-93, 1.7 trillion Rupees in 1997-98, and 2.7 trillion Rupees in 2005-06 at constant price of 1992-93. Per capita GNP at market price were projected to grow from 11,229 rupees in 1992-93 to 13,658 rupees in 1997-98, and 17,776 rupees in 2005-06 at 1992-93 price.

c. Change of Economic Structure

The economic structure changes as the economiy grows. Table 2.2.3.9 "GDP, Changes of Sector Share (Trend)" shows past trends of GDP shares by commodity producing sector and service sector as well as by sub-sector.

As shown in the above tables, the share of GDP by service sector in the 7th FYP slightly decreased from the 6th FYP. In the production side, figures in the previous study, which was focused on the share of agriculture, will decline from 24.5 % of GDP at factor cost in 1980-81 to 21.2 % in 1992-93, and 16.1 % in 2005-06, while that of manufacturing will rise from 17.2 % in 1985-6 to 19.3 % in 1992-93 and 22.0 % in 2005-06. However, actual rates were 16.7 % in 1985-86 and 18.3 % in 1992-93. Then, the same in 2005-06 is projected to be 22.3 % at present. This implies that despite the slow pace of industrialization in the 6th and 7th FYP, which was expected during these periods, industrialization shall be accelerated in the coming FYPs.

Table 2.2.3.8 Projected Gross National (at Current Factor Cost of 1992-93, Rs. million)

| Fiscal Years | 1992/93 | Projected Growth 8th FYP | 1993/94 | 1994/95 | 1995/96 | 1996/97 | 1997/98 | Projected Growth 9th FYP | 1998/99 | 1999/2000 | 2000/01 | 2001/02 | 2002/03 | Projected Growth 10th FYP | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.0 Agriculture | | 4.7 | | | | | | 4.4 | | | | | | 4.9 | | | | | |
| 1.1 Major Crops | | 4.3 | | | | | | 4.3 | | | | | | 4.2 | | | | | |
| 1.2 Minor Crops | | 4.0 | | | | | | 3.9 | | | | | | 3.7 | | | | | |
| 1.3 Livestock | | 6.0 | | | | | | 5.0 | | | | | | 4.1 | | | | | |
| 1.4 Fishery | | 2.9 | | | | | | 3.4 | | | | | | 3.7 | | | | | |
| 1.5 Forestry | | 2.8 | | | | | | 2.3 | | | | | | 2.0 | | | | | |
| 2.0 Industry | | 9.3 | | | | | | 7.0 | | | | | | 6.9 | | | | | |
| 2.1 Mining & Quarrying | | 11.4 | | | | | | 8.1 | | | | | | 7.0 | | | | | |
| 2.2 Manufacturing | | 9.8 | | | | | | 7.2 | | | | | | 7.2 | | | | | |
| 2.3 Large Scale | | 9.8 | | | | | | 7.2 | | | | | | 7.2 | | | | | |
| 2.4 Small Scale | | 9.8 | | | | | | 7.2 | | | | | | 7.2 | | | | | |
| 2.5 Construction | | 7.8 | | | | | | 6.0 | | | | | | 6.0 | | | | | |
| 2.6 Electricity & Gas | | 8.2 | | | | | | 7.0 | | | | | | 6.5 | | | | | |
| 3.0 Services | | 6.7 | | | | | | 6.7 | | | | | | 6.4 | | | | | |
| 3.1 Transport & Communication | | 5.8 | | | | | | 6.5 | | | | | | 6.5 | | | | | |
| 3.2 Commerce | | 8.3 | | | | | | 8.0 | | | | | | 8.0 | | | | | |
| 3.3 Banking & Insurance | | 5.8 | | | | | | 7.5 | | | | | | 7.5 | | | | | |
| 3.4 Housing | | 5.3 | | | | | | 6.0 | | | | | | 6.0 | | | | | |
| 3.5 Public Adm. & Defence | | 5.5 | | | | | | 3.0 | | | | | | 2.5 | | | | | |
| 3.6 Other Services | | 6.5 | | | | | | 7.0 | | | | | | 6.0 | | | | | |
| 4.0 GDP at Factor Cost | | 7.0 | | | | | | 6.3 | | | | | | 6.2 | | | | | |
| 5.0 Indirect Taxes | | 5.8 | | | | | | 5.9 | | | | | | 6.6 | | | | | |
| 6.0 Subsidies | | -2.0 | | | | | | -2.0 | | | | | | -2.0 | | | | | |
| 7.0 GDP (market price) | | 7.3 | | | | | | 6.4 | | | | | | 6.3 | | | | | |
| 8.0 Net Factor In from abroad | | 1.0 | | | | | | 2.5 | | | | | | 2.0 | | | | | |
| 9.0 GNP at Factor Cost | | 6.9 | | | | | | 6.3 | | | | | | 6.2 | | | | | |
| 10.0 GNP at Market Price | | 7.0 | | | | | | 5.9 | | | | | | 6.3 | | | | | |
| 11.0 Population (in million) | | 3.0 | | | | | | 2.6 | | | | | | 2.6 | | | | | |
| 12.0 Per Capita Income (fc) | | 3.9 | | | | | | 3.6 | | | | | | 4.1 | | | | | |
| 13.0 Per Capita Income (mp) | | 3.9 | | | | | | 3.6 | | | | | | 4.1 | | | | | |

Source:
(1) Economic Survey 1993-94, Economic Adviser's Wing, Finance Division
(2) JICA Study Team

# Table 2.2.3.9 GDP Change of Sector Share (Trend)

| Fiscal Years | 1982/83 | Sector Share (%) 5th FYP | 1983/84 | 1984/85 | 1985/86 | 1986/87 | 1987/88 | Total 6th FYP | Sector Share (%) 6th FYP |
|---|---|---|---|---|---|---|---|---|---|
| (A) Commodity Producing Sector | 148,623 | 52.2 | 149,190 | 163,334 | 174,667 | 184,730 | 196,033 | 867,954 | 50.8 |
| 1 Agriculture | 83,532 | 29.3 | 79,502 | 88,187 | 93,433 | 96,473 | 99,108 | 456,703 | 26.7 |
| 2 Mining & Quarrying | 1,164 | 0.4 | 1,181 | 1,340 | 1,657 | 1,782 | 2,029 | 7,989 | 0.5 |
| 3 Manufacturing | 45,592 | 16.0 | 49,187 | 53,166 | 57,180 | 61,484 | 67,622 | 288,639 | 16.9 |
| 4 Construction | 11,910 | 4.2 | 12,025 | 13,155 | 14,035 | 15,784 | 16,563 | 71,562 | 4.2 |
| 5 Electricity & Gas | 6,415 | 2.3 | 7,295 | 7,486 | 8,362 | 9,207 | 10,711 | 43,061 | 2.5 |
| (B) Services | 136,044 | 47.8 | 146,787 | 158,417 | 167,557 | 177,380 | 189,383 | 839,524 | 49.2 |
| 1 Transport & Communication | 27,971 | 9.8 | 30,283 | 32,688 | 34,305 | 36,785 | 39,293 | 173,354 | 10.2 |
| 2 Commerce | 44,397 | 15.6 | 46,440 | 51,876 | 55,361 | 58,661 | 63,932 | 276,270 | 16.2 |
| 3 Banking & Insurance | 7,498 | 2.6 | 8,767 | 8,752 | 9,057 | 9,111 | 9,452 | 45,139 | 2.6 |
| 4 Housing | 14,125 | 5.0 | 16,200 | 17,849 | 18,791 | 19,784 | 20,828 | 93,452 | 5.5 |
| 5 Public Adm. & Defence | 21,490 | 7.5 | 23,192 | 23,916 | 25,183 | 26,556 | 27,666 | 126,513 | 7.4 |
| 6 Other Services | 20,563 | 7.2 | 21,905 | 23,336 | 24,860 | 26,483 | 28,212 | 124,796 | 7.3 |
| (C) GDP at Factor Cost | 284,667 | 100.0 | 295,977 | 321,751 | 342,224 | 362,110 | 385,416 | 1,707,478 | 100.0 |

| Fiscal Years | 1988/89 | 1989/90 | 1990/91 | 1991/92 | 1992/93 | Total 7th FYP | Sector Share (%) 7th FYP |
|---|---|---|---|---|---|---|---|
| (A) Commodity Producing Sector | 207,350 | 217,081 | 229,901 | 250,172 | 250,066 | 1,154,570 | 51.5 |
| 1 Agriculture | 105,917 | 109,127 | 114,542 | 125,668 | 118,802 | 574,056 | 25.6 |
| 2 Mining & Quarrying | 2,071 | 2,269 | 2,504 | 2,580 | 2,642 | 12,066 | 0.5 |
| 3 Manufacturing | 70,300 | 74,323 | 78,969 | 85,489 | 89,916 | 398,997 | 17.8 |
| 4 Construction | 16,937 | 17,466 | 18,462 | 19,566 | 20,701 | 93,132 | 4.2 |
| 5 Electricity & Gas | 12,125 | 13,896 | 15,424 | 16,869 | 18,005 | 76,319 | 3.4 |
| (B) Services | 196,598 | 205,402 | 216,104 | 230,062 | 241,279 | 1,089,445 | 48.6 |
| 1 Transport & Communication | 37,716 | 40,184 | 42,719 | 46,407 | 50,148 | 217,174 | 9.7 |
| 2 Commerce | 67,305 | 69,655 | 73,380 | 78,914 | 81,016 | 370,270 | 16.5 |
| 3 Banking & Insurance | 9,743 | 9,793 | 9,913 | 10,323 | 11,173 | 50,945 | 2.3 |
| 4 Housing | 21,928 | 23,086 | 24,305 | 25,588 | 26,939 | 121,846 | 5.4 |
| 5 Public Adm. & Defence | 29,852 | 30,667 | 31,679 | 32,495 | 33,295 | 157,988 | 7.0 |
| 6 Other Services | 30,054 | 32,017 | 34,108 | 36,335 | 38,708 | 171,222 | 7.6 |
| (C) GDP at Factor Cost | 403,948 | 422,284 | 446,005 | 480,234 | 491,345 | 2,243,816 | 100.0 |

Source: (1) Economic Survey 1993-94, Economic Advisor's Wing, Finance Division
(2) JICA Study Team

# Table 2.2.3.10 GDP Sector Share (Projection)

| Fiscal Years | Projected Growth 8th FYP | 1992/93 | 1993/94 | 1994/95 | 1995/96 | 1996/97 | 1997/98 | Total GDP 8th FYP | Sector Share(%) 8th FYP |
|---|---|---|---|---|---|---|---|---|---|
| (A) Commodity Producing Sector | 7.3 | 250,066 | 267,879 | 287,112 | 307,888 | 330,340 | 354,613 | 1,547,832 | 51.3 |
| 1 Agriculture | 4.7 | 118,802 | 124,411 | 130,295 | 136,469 | 142,947 | 149,744 | 683,866 | 22.7 |
| 2 Mining & Quarrying | 11.4 | 2,642 | 2,943 | 3,279 | 3,652 | 4,069 | 4,533 | 18,476 | 0.6 |
| 3 Manufacturing | 9.8 | 89,916 | 98,728 | 108,403 | 119,027 | 130,691 | 143,499 | 600,348 | 19.9 |
| 4 Construction | 7.8 | 20,701 | 22,316 | 24,056 | 25,933 | 27,955 | 30,136 | 130,396 | 4.3 |
| 5 Electricity & Gas | 8.2 | 18,005 | 19,481 | 21,079 | 22,807 | 24,678 | 26,701 | 114,746 | 3.8 |
| (B) Service Sector | 6.7 | 241,279 | 257,335 | 274,495 | 292,838 | 312,448 | 333,416 | 1,470,533 | 48.7 |
| 1 Transport & Communication | 5.8 | 50,148 | 53,057 | 56,134 | 59,390 | 62,834 | 66,479 | 297,893 | 9.9 |
| 2 Commerce | 8.3 | 81,016 | 87,740 | 95,023 | 102,910 | 111,451 | 120,702 | 517,826 | 17.2 |
| 3 Banking & Insurance | 5.8 | 11,173 | 11,821 | 12,507 | 13,232 | 13,999 | 14,811 | 66,371 | 2.2 |
| 4 Housing | 5.3 | 26,939 | 28,367 | 29,870 | 31,453 | 33,120 | 34,876 | 157,686 | 5.2 |
| 5 Pblic Adm. & Defence | 5.5 | 33,295 | 35,126 | 37,058 | 39,096 | 41,247 | 43,515 | 196,043 | 6.5 |
| 6 Other Services | 6.5 | 38,708 | 41,224 | 43,904 | 46,757 | 49,797 | 53,033 | 234,715 | 7.8 |
| (C) GDP at Factor Cost | 7.0 | 491,345 | 525,214 | 561,607 | 600,726 | 642,789 | 688,029 | 3,018,365 | 100.0 |

| Fiscal Years | Projected Growth 9th FYP | 1997/98 | 1998/99 | 1999/2000 | 2000/01 | 2001/02 | 2002/02 | Total GDP 9th FYP | Sector Share(%) 9th FYP |
|---|---|---|---|---|---|---|---|---|---|
| (A) Commodity Producing Sector | 6.0 | 354,613 | 375,605 | 397,905 | 421,600 | 446,780 | 473,542 | 2,115,433 | 51.0 |
| 1 Agriculture | 4.4 | 149,744 | 156,360 | 163,271 | 170,492 | 178,037 | 185,920 | 854,080 | 20.6 |
| 2 Mining & Quarrying | 8.1 | 4,533 | 4,900 | 5,297 | 5,726 | 6,190 | 6,691 | 28,803 | 0.7 |
| 3 Manufacturing | 7.2 | 143,499 | 153,831 | 164,907 | 176,780 | 189,508 | 203,153 | 888,178 | 21.4 |
| 4 Construction | 6.0 | 30,136 | 31,944 | 33,861 | 35,892 | 38,046 | 40,329 | 180,072 | 4.3 |
| 5 Electricity & Gas | 7.0 | 26,701 | 28,570 | 30,570 | 32,710 | 35,000 | 37,450 | 164,300 | 4.0 |
| (B) Service Sector | 6.7 | 333,416 | 355,614 | 379,374 | 404,808 | 432,038 | 461,195 | 2,033,030 | 49.0 |
| 1 Transport & Communication | 6.5 | 66,479 | 70,800 | 75,402 | 80,303 | 85,522 | 91,081 | 403,108 | 9.7 |
| 2 Commerce | 8.0 | 120,702 | 130,358 | 140,786 | 152,049 | 164,213 | 177,350 | 764,757 | 18.4 |
| 3 Banking & Insurance | 7.5 | 14,811 | 15,922 | 17,117 | 18,400 | 19,780 | 21,264 | 92,483 | 2.2 |
| 4 Housing | 6.0 | 34,876 | 36,968 | 39,186 | 41,538 | 44,030 | 46,672 | 208,394 | 5.0 |
| 5 Pblic Adm. & Defence | 3.0 | 43,515 | 44,821 | 46,165 | 47,550 | 48,977 | 50,446 | 237,959 | 5.7 |
| 6 Other Services | 7.0 | 53,033 | 56,746 | 60,718 | 64,968 | 69,516 | 74,382 | 326,329 | 7.9 |
| (C) GDP at Factor Cost | 6.3 | 688,029 | 731,219 | 777,279 | 826,408 | 878,819 | 934,737 | 4,148,463 | 100.0 |

| Fiscal Years | Projected Growth 10th FYP | 2002/03 | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 | Total GDP 10th FYP | Sector Share(%) 10th FYP |
|---|---|---|---|---|---|---|---|---|---|
| (A) Commodity Producing Sector | 5.9 | 473,542 | 501,010 | 530,174 | 561,142 | 594,031 | 628,966 | 2,815,323 | 50.1 |
| 1 Agriculture | 4.0 | 185,920 | 193,439 | 201,264 | 209,407 | 217,880 | 226,698 | 1,048,688 | 18.7 |
| 2 Mining & Quarrying | 7.0 | 6,691 | 7,159 | 7,660 | 8,197 | 8,770 | 9,384 | 41,171 | 0.7 |
| 3 Manufacturing | 7.2 | 203,153 | 217,780 | 233,460 | 250,269 | 268,288 | 287,605 | 1,257,402 | 22.4 |
| 4 Construction | 6.0 | 40,329 | 42,748 | 45,313 | 48,032 | 50,914 | 53,969 | 240,977 | 4.3 |
| 5 Electricity & Gas | 6.5 | 37,450 | 39,884 | 42,476 | 45,237 | 48,178 | 51,309 | 227,085 | 4.0 |
| (B) Service Sector | 6.6 | 461,195 | 491,423 | 523,757 | 558,350 | 595,364 | 634,974 | 2,803,867 | 49.9 |
| 1 Transport & Communication | 6.5 | 91,081 | 97,002 | 103,307 | 110,022 | 117,173 | 124,789 | 552,293 | 9.8 |
| 2 Commerce | 8.0 | 177,350 | 191,538 | 206,861 | 223,410 | 241,283 | 260,586 | 1,123,679 | 20.0 |
| 3 Banking & Insurance | 7.5 | 21,264 | 22,859 | 24,573 | 26,416 | 28,397 | 30,527 | 132,771 | 2.4 |
| 4 Housing | 6.0 | 46,672 | 49,472 | 52,440 | 55,587 | 58,922 | 62,457 | 278,878 | 5.0 |
| 5 Pblic Adm. & Defence | 2.5 | 50,446 | 51,707 | 53,000 | 54,325 | 55,683 | 57,075 | 271,790 | 4.8 |
| 6 Other Services | 6.0 | 74,382 | 78,845 | 83,576 | 88,590 | 93,906 | 99,540 | 444,456 | 7.9 |
| (C) GDP at Factor Cost | 6.2 | 934,737 | 992,433 | 1,053,931 | 1,119,492 | 1,189,394 | 1,263,940 | 5,619,190 | 100.0 |

Source: JICA Study Team

The share of GDP in the 5th - 7th FYP periods as a record and for the 8th - 10th as a projection are shown in the below table upon analysis of GDP projection as appeared in Table 2.2.3.10 "GDP, Sector Share (Projection)". This projection is based on the past record of sector share of GDP as well as the projection of GDP delineated from the projection analysis on GDP as shown in Table 2.2.3.5. The past trend and projection of share of GDP by economic sectors is summarized in below Table 2.2.3.11.

Table 2.2.3.11 Trend and Projection of Share in GDP by Economic Sector

(unit: Percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Commodity Sector | 52.2 | 50.8 | 51.5 | 51.3 | 51.0 | 50.1 |
| Agriculture | 29.3 | 26.7 | 25.6 | 22.7 | 20.6 | 18.7 |
| Mining and Quarry | 0.4 | 0.5 | 0.5 | 0.6 | 0.7 | 0.7 |
| Manufacturing | 16.0 | 16.9 | 17.8 | 19.9 | 21.4 | 22.4 |
| Construction | 4.2 | 4.2 | 4.2 | 4.3 | 4.3 | 4.3 |
| Electrisity & Gas | 2.3 | 2.5 | 3.4 | 3.8 | 4.0 | 4.0 |
| | | | | | | |
| Services Sector | 47.8 | 49.2 | 48.6 | 48.7 | 49.0 | 49.9 |
| Transport & Communications | 9.8 | 10.2 | 9.7 | 9.9 | 9.7 | 9.8 |
| Commerce | 15.6 | 16.2 | 16.5 | 17.2 | 18.4 | 20.0 |
| Banking & Insurance | 2.6 | 2.6 | 2.3 | 2.2 | 2.2 | 2.4 |
| Housing | 5.0 | 5.5 | 5.4 | 5.2 | 5.0 | 5.0 |
| Public Adm & Defense | 7.5 | 7.4 | 7.0 | 6.5 | 5.7 | 4.8 |
| Other Services | 7.2 | 7.3 | 7.6 | 7.8 | 7.9 | 7.9 |

Source: (1) Economic Survey 1993-94, Economic Advisor's Wing, Finance Division.
        (2) JICA Study Team

For the expenditure side, the share of gross domestic fixed capital formation will increase to 20.2 % in 2005-6 from 17.3 % in 1985-6 and 15.9 % for 1987-88. The share of exports will rise from 8.9 % of GNP at market prices in 1985-6 to 13.0% in 1992-3 and 16.8 % in 1997-98 to 20.9 % in 2005-6, while the share of imports will stay approximately 19 to 21 % through all the project years shown in Table 2.2.1.6 "Export, Import and Trade Balance (at Current Market Price)".

d. Projection of Economic Growth in 8th - 10th FYPs

The projection of growth rate for each economic activity for the period of the 8th - 10th FYPs are tabulated in Table 2.2.3.5 "GDP Projection in Constant Price of 1980-81". Below Table 2.2.3.12 shows the past trend and projection of the same.

Table 2.2.3.12 Summary of Economic Growth by Rate

(unit: Percent)

| Plan Period | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|
| Agriculture | 5.7 | 2.9 | 4.7 | 4.4 | 4.0 |
| Livestock | 5.9 | 5.8 | 6.0 | 5.0 | 4.1 |
| Fishery | 4.8 | 5.3 | 2.9 | 3.4 | 3.7 |
| Forestry | 4.1 | -0.2 | 2.8 | 2.3 | 2.0 |
| Industry | 8.6 | 6.7 | 9.3 | 7.0 | 6.9 |
| Mining and Quarrying | 14.5 | 6.3 | 11.4 | 8.1 | 7.0 |
| Manufacturing | 8.3 | 6.3 | 9.8 | 7.2 | 7.2 |
| Housing | 8.3 | 5.1 | 7.8 | 6.0 | 6.0 |
| Electricity & Gas | 10.1 | 10.4 | 8.2 | 7.0 | 6.5 |
| Services | 6.6 | 5.3 | 6.7 | 6.7 | 6.6 |
| Transport & Communications | 6.7 | 7.4 | 5.8 | 6.5 | 6.5 |
| Commerce | 8.3 | 4.7 | 8.3 | 8.0 | 8.0 |
| Banking & Insurance | 1.9 | 3.5 | 5.8 | 7.5 | 7.5 |
| Housing | 6.5 | 5.3 | 5.3 | 6.0 | 6.0 |
| Public Adm. & Defense | 4.5 | 2.8 | 5.5 | 3.0 | 2.5 |
| Other Services | 6.5 | 6.5 | 6.5 | 7.0 | 6.0 |
| Overall GDP | 6.8 | 5.0 | 7.0 | 6.3 | 6.2 |

It is foreseen that the economy as a whole in the 8th FYP would follow the declining trend as in the 6th and 7th FYP periods in most sectors. Since the amid of the 7th FYP the deregulation of the centralized government administration on the national economy; legalization of enhancement of foreign investment and acceleration of privatization of public corporations; and promotion of free market economy system have commenced. The effects deregulation and reform of the economic system will take shape in various forms in the first half of the 8th FYP period. Implementation of new investments, deregulation or privatization of public corporation and government controlled economic entities, will be realized by establishment of new production facilities, organizations, and business systems. This implies that effects of such economic reform can appear in figures of GDP in the succeeding 9th FYP period.

A "monoculture" economy of Pakistan based on agriculture and agricultural industries, such as cotton yarn production and cotton based textile industry, will be rapidly diversified by new type of industries to generate varieties of employment opportunities and to enhance foreign exchange earnings through exports of value added products. The Government of Pakistan emphasizes rapid industrialization which would fit into the present international market beside traditional export commodities such as cotton based products.

Foreign investment shall enhance the production of non-traditional commodities for the international market. Various laws and regulations were amended to open up the market further and to accelerate capital inflow through private sectors of the country and of the international financial market. A preparation of such process will take time and may be completed by the end of the 8th FYP period. As the transformation of economic process continues, in the meantime, infrastructure for industrialization such as power generation facilities shall be furnished either by government or private finance initiative which include foreign investment and other form of foreign capital.

3) GNP Block

a. Expenditure on GNP

The share of expenditure in GNP at Factor Cost and average compound growth rate per FYP periods of private consumption expenditure and general government expenditure as well as Gross Domestic Capital Formation (hereinafter referred to as the GFCF) for the 6th and 7th FYP periods are summarized in Table 2.2.3.13.

Table 2.2.3.13 Growth Rate and Share of Expenditure by Type

|  | Sixth Plan | | Seventh Plan | |
|---|---|---|---|---|
| Period | Growth | Share | Growth | Share |
| Private Consumption Expenditure | 6.8 | 69.8 | 4.3 | 67.5 |
| General Government Expenditure | 11.7 | 11.8 | -1.7 | 12.8 |
| Gross Domestic Fixed Capital Formation | 5.8 | 16.8 | 5.4 | 17.0 |
| Change in Stocks | 2.6 | 1.7 | 5.0 | 1.7 |
| Total Expenditure | 7.2 | 100.0 | 3.6 | 100.0 |

(Unit: percent)

As shown in Table 2.2.3.13, the average annual growth rate of total expenditure for each period decreased in corresponding to the decreased growth rate of GNP as 5.3 % to 4.4 % or 6.8 % to 5.0 % in terms of GDP for the same FYP periods. The decline of the government expenditure is significant. This might be due to budgetary constraints and a low rate of utilization of allocated budget for infrastructure developments. Despite of such decline of growth on GDP and GNP, the average annual growth rates of GFCF have not decreased with those indicators. This can be interpreted that the rate of investment would continue strong for years afterward.

The total expenditure in 1992-93 was Rs. 1,420,588 million at current market price as shown in Table 2.2.3.14. The annual growth rate of expenditure and share by private consumption, general government and Gross Domestic Capital Formation (GFCF) through the 6th and 7th FYP periods were analyzed in Table 2.2.3.15 (a) "Expenditure on GNP (Trend) at Constant 1980-81 price".

The projection of growth rate and share of expenditure through the 8th to 10 the FYP periods are analyzed in Table 2.2.3.16 (a) and (b) "Expenditure on GNP (Projection), at Constant 1980-81 price). Table 2.2.3.17 summarizes the trends and projections of the growth rates and shares of expenditure on GNP by economic activities.

Table 2.2.3.14 Expenditure on Gross National Products and Each Share

| # | Years | 1983/84 | 1984/85 | 1985/86 | 1986/87 | 1987/88 | Total Amount 6th FYP | Average GR/Year 6th FYP | Average Share 6th FYP | 1988/89 | 1989/90 | 1990/91 | 1991/92 | 1992/93 | Total Amount 7th FYP | Average GR/Year 7th FYP | Average Share 7th FYP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Private Consumption Expenditure | 336,747<br>72.5 | 385,346<br>72.8 | 392,532<br>70.8 | 415,674<br>69.0 | 486,565<br>68.2 | 2,016,864 | 9.6 | 70.7 | 543,297<br>66.4 | 611,015<br>67.7 | 697,448<br>67.7 | 849,954<br>68.0 | 968,164<br>68.2 | 3,669,878 | 15.5 | 67.5 |
| 2 | General Govmt Current Consumption Expenditure | 50,741<br>10.9 | 57,126<br>10.8 | 65,662<br>11.8 | 77,482<br>12.9 | 104,754<br>14.7 | 355,765 | 19.9 | 12.2 | 129,201<br>15.8 | 129,562<br>14.4 | 145,575<br>14.0 | 155,567<br>12.4 | 174,680<br>12.3 | 734,585 | 7.8 | 13.8 |
| 3 | Gross Domestic Capital Formation | 69,212<br>14.9 | 77,925<br>14.7 | 87,545<br>15.8 | 100,040<br>16.6 | 111,266<br>15.6 | 445,988 | 12.6 | 15.5 | 133,170<br>16.3 | 148,076<br>16.4 | 177,646<br>17.1 | 225,360<br>18.0 | 256,644<br>18.1 | 940,896 | 17.8 | 17.2 |
| 4 | Change in Stocks | 7,489<br>1.6 | 8,600<br>1.7 | 9,000<br>1.6 | 9,500<br>1.6 | 10,400<br>1.5 | 44,989 | 8.6 | 1.6 | 12,400<br>1.6 | 14,000<br>1.6 | 15,800<br>1.5 | 18,700<br>1.5 | 21,100<br>1.6 | 82,000 | 14.2 | 1.5 |
| 5 | Total (1+2+3+4) | 464,189<br>100.0 | 528,997<br>100.0 | 554,739<br>100.0 | 602,696<br>100.0 | 712,985<br>100.0 | 2,863,606 | 11.3 | 100.0 | 818,068<br>100.0 | 902,653<br>100.0 | 1,036,469<br>100.0 | 1,249,581<br>100.0 | 1,420,588<br>100.0 | 5,427,359 | 14.8 | 100.0 |
| 6 | Export of Goods and Non-factor Services | 47,835<br>11.6 | 49,889<br>10.8 | 63,268<br>12.5 | 79,056<br>14.3 | 93,601<br>14.9 | | 18.3 | 12.8 | 108,318<br>15.2 | 126,583<br>15.9 | 172,812<br>18.5 | 209,215<br>19.2 | 217,418<br>17.9 | | 19.0 | 17.3 |
| 7 | (Less) import of Goods and Non-factor Services | 92,222<br>22.3 | 106,729<br>23.0 | 103,475<br>20.4 | 109,273<br>19.8 | 131,179<br>20.8 | | 9.2 | 21.3 | 156,641<br>22.0 | 173,293<br>21.7 | 188,681<br>20.2 | 247,411<br>22.7 | 296,051<br>24.4 | | 17.3 | 22.2 |
| 8 | Expenditure on GDP at Market Prices | 419,802<br>101.4 | 472,157<br>101.9 | 514,532<br>101.4 | 572,479<br>103.7 | 675,407<br>107.2 | | 12.6 | 103.1 | 769,745<br>108.2 | 855,943<br>107.4 | 1,020,600<br>109.5 | 1,211,385<br>111.1 | 1,341,955<br>110.4 | | 14.9 | 109.3 |
| 9 | Plus Net Factor Income from abroad | 39,595<br>9.6 | 38,311<br>8.3 | 41,359<br>8.1 | 36,378<br>6.6 | 29,095<br>4.6 | | -7.4 | 7.4 | 28,005<br>3.9 | 36,900<br>4.6 | 23,908<br>2.6 | 12,537<br>1.1 | 14,938<br>1.2 | | -14.5 | 2.7 |
| 10 | Expenditure on GNP at Market Prices | 459,397<br>111.0 | 510,468<br>110.2 | 555,891<br>109.5 | 608,857<br>110.3 | 704,502<br>111.8 | | 11.3 | 110.6 | 797,750<br>112.2 | 892,843<br>112.1 | 1,044,508<br>112.0 | 1,223,922<br>112.2 | 1,356,893<br>111.6 | | 14.2 | 112.0 |
| 11 | Less indirect tax | 53,557<br>12.9 | 56,396<br>12.2 | 58,205<br>11.5 | 64,422<br>11.7 | 84,494<br>13.4 | | 12.1 | 12.3 | 99,361<br>14.0 | 108,641<br>13.6 | 123,473<br>13.2 | 144,815<br>13.3 | 151,300<br>12.4 | | 11.1 | 13.3 |
| 12 | Plus Subsidies | 8,104<br>2.0 | 9,303<br>2.0 | 9,992<br>2.0 | 7,374<br>1.3 | 10,130<br>1.6 | | 5.7 | 1.8 | 12,754<br>1.8 | 12,549<br>1.6 | 11,211<br>1.2 | 11,373<br>1.0 | 9,800<br>0.8 | | -6.4 | 1.3 |
| 13 | GNP at Factor Cost | 413,944<br>100.0 | 463,375<br>100.0 | 507,678<br>100.0 | 551,809<br>100.0 | 630,138<br>100.0 | | 11.1 | 100.0 | 711,143<br>100.0 | 796,751<br>100.0 | 932,246<br>100.0 | 1,090,480<br>100.0 | 1,215,393<br>100.0 | | 14.3 | 100.0 |

Table 2.2.3.15 Expenditure on Gross National Product (Trend)
(at Current 1980-81 prices, Rs. million)

| Flows | 1983/84 | 1984/85 | 1985/86 | 1986/87 | 1987/88 | Average GR/Year 6th FYP | Average Share 6th FYP | 1988/89 | 1989/90 | 1990/91 | 1991/92 | 1992/93 | Average GR/Year 7th FYP | Average Share 7th FYP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Private Consumption Expenditure | 243,703 71.0 | 258,725 70.7 | 278,194 69.1 | 288,006 68.3 | 317,345 70.1 | 6.8 | 69.8 | 319,912 67.7 | 334,306 68.4 | 329,866 67.7 | 375,700 70.0 | 377,990 69.3 | 4.3 | 68.6 |
| 2. General Govmt Current Consumption Expenditure | 36,288 10.6 | 40,716 11.1 | 47,826 11.9 | 54,158 12.8 | 56,518 12.5 | 11.7 | 11.8 | 68,052 14.4 | 65,896 13.5 | 65,566 13.5 | 60,407 11.3 | 63,440 11.6 | -1.7 | 12.8 |
| 3. Gross Domestic Capital Formation (GFCF) | 57,502 16.7 | 60,441 16.5 | 69,807 17.3 | 72,969 17.3 | 71,977 15.9 | 5.8 | 16.8 | 77,300 16.4 | 81,271 16.6 | 83,871 17.2 | 92,456 17.2 | 95,536 17.5 | 5.4 | 17.0 |
| 4. Change in Stocks | 5,924 1.8 | 6,018 1.7 | 6,572 1.8 | 6,606 1.7 | 6,574 1.6 | 2.6 | 1.7 | 7,147 1.7 | 7,520 1.7 | 7,596 1.7 | 8,228 1.7 | 8,678 1.7 | 5.0 | 1.7 |
| 5. Total (1+2+3+4) | 343,417 100.0 | 365,900 100.0 | 402,399 100.0 | 421,739 100.0 | 452,414 100.0 | 7.1 | 100.0 | 472,411 100.0 | 488,993 100.0 | 486,899 100.0 | 536,791 100.0 | 545,644 100.0 | 3.7 | 100.0 |
| 6. Export of Goods and Non-factor Services | 41,819 12.8 | 40,275 11.5 | 53,296 14.3 | 59,868 15.4 | 57,112 14.2 | 8.1 | 13.6 | 64,979 15.5 | 65,710 14.9 | 87,700 19.3 | 99,821 20.6 | 108,831 21.9 | 13.8 | 18.4 |
| 7. (Less) import of Goods and Non-factor Services | 68,703 21.0 | 73,762 21.0 | 78,266 21.0 | 79,825 20.5 | 77,107 19.2 | 2.9 | 20.5 | 83,524 19.9 | 80,601 18.3 | 74,639 16.4 | 97,660 20.1 | 101,346 20.4 | 5.0 | 19.0 |
| 8. Expenditure on GDP at Market Prices | 316,533 96.6 | 332,413 94.8 | 377,429 101.1 | 401,782 103.4 | 432,419 107.4 | 8.1 | 100.7 | 453,866 108.4 | 474,102 107.8 | 499,960 109.8 | 538,952 111.1 | 553,129 111.3 | 5.1 | 109.7 |
| 9. Plus Net Factor Income from abroad | 33,000 10.1 | 31,630 9.0 | 31,292 8.4 | 26,575 6.8 | 17,100 4.2 | -15.2 | 7.7 | 14,933 3.6 | 17,163 3.9 | 9,457 2.1 | 4,948 1.0 | 5,893 1.2 | -20.7 | 2.4 |
| 10. Expenditure on GNP at Market Prices | 349,533 106.7 | 364,133 103.9 | 408,711 109.4 | 428,357 110.2 | 449,519 111.7 | 6.5 | 108.4 | 468,799 111.9 | 491,265 111.7 | 509,417 111.8 | 543,900 112.1 | 559,022 112.5 | 4.5 | 112.0 |
| 11. Less indirect tax | 38,447 11.7 | 43,038 12.3 | 42,501 11.4 | 44,800 11.5 | 53,406 13.3 | 8.6 | 12.0 | 57,269 13.7 | 58,359 13.3 | 59,345 13.0 | 63,722 13.1 | 61,772 12.4 | 1.9 | 13.1 |
| 12. Plus Subsidies | 6,641 2.0 | 6,512 1.9 | 9,276 2.5 | 5,128 1.3 | 6,403 1.6 | -0.9 | 1.9 | 7,351 1.8 | 6,741 1.5 | 5,390 1.2 | 5,004 1.0 | 3,463 0.7 | -17.2 | 1.2 |
| 13. GNP at Factor Cost | 327,609 100.0 | 350,565 100.0 | 373,506 100.0 | 388,685 100.0 | 402,516 100.0 | 5.3 | 100.0 | 418,881 100.0 | 439,647 100.0 | 455,462 100.0 | 485,182 100.0 | 496,946 100.0 | 4.4 | 100.0 |
| 14. GDP at Factor Cost | 295,977 | 321,751 | 342,224 | 362,110 | 385,416 | 6.8 | | 403,948 | 422,284 | 446,005 | 480,234 | 491,345 | 5.0 | |
| 15. Marginal Co-efficiency | 11.5 | 17.9 | 17.7 | 19.3 | 18.9 | 17.0 | | 17.8 | 18.3 | 18.2 | 17.5 | 18.8 | 18.1 | |

Source: National Economic Survey 1993-94, Economic Advisor's Wing, Finance Division

Table 2.2.3.16 (a) Expenditure on Gross National Product (Projection)
(at Current 1980-81, prices, Rs. million)

| Flows | 1993/94 | 1994/95 | 1995/96 | 1996/97 | 1997/98 | Average GR/Year 8th FYP | Average Share 8th FYP | 1998/99 | 1999/2000 | 2000/01 | 2001/02 | 2002/03 | Average GR/year 9th FYP | Average Share 9th FYP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 Private Consumption Expenditure | 403,315 (69.7) | 430,337 (69.9) | 459,170 (70.2) | 489,934 (70.3) | 522,760 (70.4) | 6.7 | 70.1 | 556,217 (71.1) | 591,815 (71.5) | 629,691 (72.0) | 669,991 (72.4) | 712,870 (72.8) | 6.4 | 72.0 |
| 2 General Government Consumption Expenditure | 61,537 (10.6) | 59,691 (9.7) | 57,900 (8.8) | 56,163 (8.1) | 54,478 (7.3) | -3.0 | 8.9 | 53,933 (6.9) | 53,394 (6.5) | 52,860 (6.0) | 52,331 (5.7) | 51,808 (5.3) | -1.0 | 6.1 |
| 3 Gross Domestic Capital Formation | 105,090 (18.2) | 115,599 (18.8) | 127,158 (19.4) | 139,874 (20.1) | 153,862 (20.7) | 10.0 | 19.4 | 162,324 (20.7) | 171,252 (20.7) | 180,671 (20.7) | 190,608 (20.6) | 201,091 (20.5) | 5.5 | 20.6 |
| 4 Change in Stocks | 9,025 (1.7) | 9,644 (1.7) | 10,310 (1.7) | 11,026 (1.7) | 11,797 (1.7) | 6.9 | 1.7 | 10,322 (1.4) | 10,968 (1.4) | 11,658 (1.4) | 12,394 (1.4) | 13,180 (1.4) | 6.0 | 1.4 |
| 5.1 Total (1+2+3+4) | 578,967 (100.0) | 615,271 (100.0) | 654,539 (100.0) | 696,998 (100.0) | 742,896 (100.0) | 6.4 | 100.0 | 782,796 (100.0) | 827,429 (100.0) | 874,880 (100.0) | 925,324 (100.0) | 978,949 (100.0) | 5.7 | 100.0 |
| 6 Export of Goods and Non-factor Services | 122,435 (23.1) | 137,739 (24.3) | 154,957 (25.5) | 174,326 (26.9) | 196,117 (28.3) | 12.5 | 25.6 | 215,729 (29.3) | 237,302 (30.3) | 261,032 (31.3) | 287,135 (32.4) | 315,848 (33.6) | 10.0 | 31.4 |
| 7 Less import of Goods and Non-factor Services | 108,947 (20.5) | 117,118 (20.6) | 125,902 (20.8) | 135,344 (20.9) | 145,495 (21.0) | 7.5 | 20.8 | 157,135 (21.3) | 169,706 (21.7) | 183,282 (22.0) | 197,945 (22.4) | 213,780 (22.7) | 8.0 | 22.0 |
| 8 Expenditure on GDP at Market Prices | 592,454 (111.6) | 635,892 (112.1) | 683,594 (112.7) | 735,980 (113.5) | 793,518 (114.4) | 7.0 | 112.8 | 841,389 (114.1) | 895,025 (114.2) | 952,630 (114.4) | 1,014,515 (114.6) | 1,081,017 (114.8) | 6.5 | 114.4 |
| 9 Plus Net Factor Income from abroad | 5,657 (1.1) | 5,714 (1.0) | 5,771 (1.0) | 5,828 (0.9) | 5,887 (0.8) | 1.0 | 1.0 | 6,034 (0.8) | 6,185 (0.8) | 6,339 (0.8) | 6,498 (0.7) | 6,660 (0.7) | 2.5 | 0.8 |
| 10 Expenditure on GNP at Market Prices | 595,201 (112.1) | 636,461 (112.2) | 680,799 (112.3) | 728,463 (112.3) | 779,717 (112.4) | 7.0 | 112.2 | 828,742 (112.4) | 881,012 (112.5) | 936,753 (112.5) | 996,204 (112.5) | 1,059,621 (112.6) | 6.3 | 112.5 |
| 11 Less indirect tax | 68,278 (12.9) | 73,009 (12.9) | 78,094 (12.9) | 83,562 (12.9) | 89,444 (12.9) | 7.0 | 12.9 | 95,058 (12.9) | 101,046 (12.9) | 107,433 (12.9) | 114,246 (12.9) | 121,516 (12.9) | 6.3 | 12.9 |
| 12 Plus Subsidies | 3,948 (0.7) | 3,869 (0.7) | 3,792 (0.6) | 3,716 (0.6) | 3,642 (0.5) | -2.0 | 0.6 | 3,569 (0.5) | 3,498 (0.4) | 3,428 (0.4) | 3,359 (0.4) | 3,292 (0.3) | -2.0 | 0.4 |
| 13 GNP at Factor Cost | 530,871 (100.0) | 567,321 (100.0) | 606,497 (100.0) | 648,617 (100.0) | 693,915 (100.0) | 6.9 | 100.0 | 737,253 (100.0) | 783,464 (100.0) | 832,748 (100.0) | 885,317 (100.0) | 941,397 (100.0) | 6.3 | 100.0 |
| 14 GDP at Factor Cost | 525,214 | 561,608 | 600,727 | 642,788 | 688,028 | 7.0 | | 731,219 | 777,280 | 826,409 | 878,819 | 934,737 | 6.3 | |
| 15 Marginal Co-efficiency | 18.2 | 18.7 | 19.2 | 19.8 | 20.3 | 19.3 | | 21.0 | 20.9 | 20.7 | 20.6 | 20.4 | 20.7 | |

Source: National Economic Survey 1993-94, Economic Advisor's Wing, Finance Division

## Table 2.2.3.16 (b) Expenditure on Gross National Product (Projection)
### (at Current 1980-81 prices, Rs. million)

| | Flows | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 | Average GR/Year 10th FYP | Average Share 10th FYP |
|---|---|---|---|---|---|---|---|---|
| 1 | Private Consumption | 758,494 | 807,038 | 858,688 | 913,644 | 972,117 | 6.4 | |
| | Expenditure | 73.2 | 73.6 | 74.0 | 74.4 | 74.7 | | 74.0 |
| 2 | General Government | 51,808 | 51,808 | 51,808 | 51,808 | 51,808 | 0.0 | |
| | Consumption Expenditure | 5.0 | 4.7 | 4.5 | 4.2 | 4.0 | | 4.5 |
| 3 | Gross Domestic Capital | 211,548 | 222,548 | 234,121 | 246,295 | 259,102 | 5.2 | |
| | Formation | 20.4 | 20.3 | 20.2 | 20.0 | 19.9 | | 20.2 |
| 4 | Change in Stocks | 13,989 | 14,852 | 15,772 | 16,752 | 17,798 | 6.2 | |
| | | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | | 1.4 |
| 5 | Total (1+2+3+4) | 1,035,839 | 1,096,246 | 1,160,389 | 1,228,500 | 1,300,826 | 5.9 | |
| | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 |
| 6 | Export of Goods and | 341,116 | 368,406 | 397,878 | 429,708 | 464,085 | 8.0 | |
| | Non-factor Services | 34.1 | 34.7 | 35.3 | 35.9 | 36.5 | | 35.3 |
| 7 | Less import of Goods | 228,745 | 244,757 | 261,890 | 280,222 | 299,838 | 7.0 | |
| | and Non-factor Services | 22.9 | 23.1 | 23.2 | 23.4 | 23.6 | | 23.2 |
| 8 | Expenditure on GDP at | 1,148,210 | 1,219,895 | 1,296,377 | 1,377,986 | 1,465,073 | 6.3 | |
| | Market Prices | 114.9 | 115.0 | 115.1 | 115.2 | 115.2 | | 115.1 |
| 9 | Plus Net Factor Income | 6,793 | 6,929 | 7,068 | 7,209 | 7,353 | 2.0 | |
| | from abroad | 0.7 | 0.7 | 0.6 | 0.6 | 0.6 | | 0.6 |
| 10 | Expenditure on GNP at | 1,125,017 | 1,194,709 | 1,268,995 | 1,348,189 | 1,432,630 | 6.2 | |
| | Market Prices | 112.6 | 112.6 | 112.6 | 112.7 | 112.7 | | 112.6 |
| 11 | Less indirect tax | 129,016 | 137,011 | 145,534 | 154,621 | 164,312 | 6.2 | |
| | | 12.9 | 12.9 | 12.9 | 12.9 | 12.9 | | 12.9 |
| 12 | Plus Subsidies | 3,226 | 3,162 | 3,098 | 3,036 | 2,976 | -2.0 | |
| | | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | | 0.3 |
| 13 | GNP at Factor Cost | 999,227 | 1,060,860 | 1,126,559 | 1,196,604 | 1,271,294 | 6.2 | |
| | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 |
| 14 | GDP at Factor Cost | 992,433 | 1,053,931 | 1,119,492 | 1,189,395 | 1,263,949 | 6.2 | |
| 15 | Marginal Co-efficiency | 20.3 | 20.1 | 19.9 | 19.7 | 19.5 | 19.9 | |

Source: National Economic Survey 1993-94, Economic Advisor's Wing, Finance Division

Table 2.2.3.17 Trend and Projection of Expenditure

(Unit: percent)

| Period | Eighth Plan | | Ninth Plan | | Tenth Plan | |
|---|---|---|---|---|---|---|
| | Growth | Share | Growth | Share | Growth | Share |
| Private Consumption Expenditure | 6.7 | 70.1 | 6.4 | 72.0 | 6.4 | 74.0 |
| General Government Expenditure | -3.0 | 8.9 | -1.0 | 6.1 | 0.0 | 4.5 |
| Gross Domestic Fixed Capital Formation | 10.0 | 19.4 | 5.5 | 20.5 | 5.2 | 20.2 |
| Change in Stocks | 6.9 | 1.7 | 6.0 | 1.4 | 6.2 | 1.4 |
| Total Expenditure | 6.4 | 100.0 | 5.7 | 100.0 | 5.9 | 100.0 |

As shown in Table 2.2.3.17, the private consumption expenditure is forecasted to grow continuously toward the 10th FYP because of steady economic growth and decline of public expenditure due to further and continuous privatization of economy taking place. GFCF is forecasted to grow continuously and its share will reach the level of more than 20 % in total expenditure to guide the economic growth anticipated. As shown in Table 2.2.3.15, the marginal co-efficiency of investment were 17.0 % and 18.1 % in the 6th and 7th FYP periods on average. The same are projected to be 19.3 %, 20.7 % and 19.9 % for the 8th - 10th FYP periods as shown in Table 2.2.3.15.

b. Gross Domestic Fixed Capital Formation

A core of the projection is in gross domestic capital formation (investment) specially in investment ratio to GDP. Such investment ratio was 16.8 % in the 6th FYP period and projected to be 19.1 %, 20.1 % and 21.4 % for the 7th, 8th FYP periods and for the years afterward in the previous 1988 Master Plan Study. The actual figures of these shares during the 6th and 7th FYP periods and the projections of the same for the 8th - 10th FYP periods are shown in the table.

Table 2.2.3.18 "GFCF by Economic Activities (Trend)" shows a share of GFCF by each sector classified by economic activity, as appeared therein the sector-shares of GFCF by the transport and communication sector were 14.43 % and 12.52 % in GFCF; and 1.79 % and 2.13 % in GDP for the periods of 6th and 7th FYPs.

# Table 2.2.3.18 Gross Fixed Capital Formation (GFCF) by Economic Activity (Trend)
## (at Current 1980-81 Price, Rs. million)

| Fiscal Year | 1983/84 | Sector Share | GDP Share | 1984/85 | Sector Share | GDP Share | 1985/86 | Sector Share | GDP Share | 1986/87 | Sector Share | GDP Share | 1987/88 | Sector Share | GDP Share | 6th FYP Total | GDP Share | GFCF Share | AAGR 6th FYP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.0 GFCF (A+B+C) | 33,897 | 100.00 | 10.19 | 37,987 | 100.00 | 10.62 | 48,049 | 100.00 | 12.73 | 54,907 | 100.00 | 13.67 | 61,068 | 100.00 | 14.12 | 235,908 | 12.40 | 100.00 | 15.9 |
| A Private Sector | 13,650 | 40.27 | 4.11 | 16,028 | 42.19 | 4.48 | 20,384 | 42.42 | 5.40 | 22,624 | 41.20 | 5.63 | 26,409 | 43.25 | 6.11 | 99,095 | 5.21 | 42.01 | 17.9 |
| B Public Sector | 12,479 | 36.81 | 3.75 | 13,293 | 34.99 | 3.72 | 16,618 | 34.59 | 4.40 | 19,619 | 35.73 | 4.88 | 19,911 | 32.60 | 4.60 | 81,920 | 4.31 | 34.73 | 12.4 |
| C General Government | 7,768 | 22.92 | 2.34 | 8,666 | 22.81 | 2.42 | 11,047 | 22.99 | 2.93 | 12,664 | 23.06 | 3.15 | 15,235 | 24.15 | 3.52 | 55,380 | 2.91 | 23.48 | 18.3 |
| D GFCF(A+B) | 26,129 | | | 29,321 | | | 37,002 | | | 42,243 | | | 46,320 | | | 181,015 | 9.52 | 100.00 | |
| A' Private Sector | 13,650 | 52.24 | 4.11 | 16,028 | 54.66 | 4.48 | 20,384 | 55.09 | 5.40 | 22,624 | 53.56 | 5.63 | 26,409 | 57.01 | 6.11 | 99,095 | 5.21 | 54.74 | 17.9 |
| B' Public Sector | 12,479 | 47.76 | 3.75 | 13,293 | 45.34 | 3.72 | 16,618 | 44.91 | 4.40 | 19,619 | 46.44 | 4.88 | 19,911 | 42.99 | 4.60 | 81,920 | 4.31 | 45.26 | 12.4 |
| 2.0 SECTOR-WISE | | | | | | | | | | | | | | | | | | | |
| 2.1 Agriculture | 4,145 | | 1.25 | 4,956 | | 1.39 | 5,667 | | 1.50 | 6,181 | | 1.54 | 6,977 | | 1.61 | 27,926 | 1.47 | 11.84 | 13.9 |
| 2.2 Mining and quarrying | 175 | | 0.05 | 543 | | 0.15 | 1,295 | | 0.34 | 1,729 | | 0.43 | 1,258 | | 0.29 | 5,000 | 0.26 | 2.12 | 63.7 |
| 2.3 Manufacturing | 4,567 | | 1.37 | 5,453 | | 1.52 | 6,456 | | 1.71 | 6,407 | | 1.59 | 7,494 | | 1.73 | 30,377 | 1.60 | 12.88 | 13.2 |
| 2.3 Large Scale | 3,741 | | 1.13 | 4,505 | | 1.26 | 5,256 | | 1.39 | 5,157 | | 1.28 | 5,990 | | 1.39 | 24,649 | 1.30 | 10.45 | 12.5 |
| 2.3 Small Scale | 807 | | 0.24 | 898 | | 0.25 | 1,193 | | 0.32 | 1,284 | | 0.32 | 1,572 | | 0.36 | 5,754 | 0.30 | 2.44 | 18.1 |
| 2.4 Construction | 974 | | 0.29 | 715 | | 0.20 | 823 | | 0.22 | 1,032 | | 0.26 | 1,220 | | 0.28 | 4,764 | 0.25 | 2.02 | 5.8 |
| 2.5 Electricity and gas | 3,744 | | 1.13 | 3,709 | | 1.04 | 5,050 | | 1.34 | 7,064 | | 1.76 | 7,994 | | 1.85 | 27,561 | 1.45 | 11.68 | 20.9 |
| 2.6 Transport and communication | 4,261 | | 1.28 | 5,155 | | 1.44 | 7,501 | | 1.99 | 8,843 | | 2.20 | 8,280 | | 1.91 | 34,040 | 1.79 | 14.43 | 18.1 |
| 2.7 Wholesale and retail trade | 268 | | 0.08 | 301 | | 0.08 | 395 | | 0.10 | 429 | | 0.11 | 563 | | 0.13 | 1,956 | 0.10 | 0.83 | 20.4 |
| 2.8 Financial institution | 5,641 | | 1.70 | 6,289 | | 1.76 | 7,483 | | 1.98 | 8,118 | | 2.02 | 9,186 | | 2.12 | 36,717 | 1.93 | 15.56 | 13.0 |
| 2.9 Services | 1,902 | | 0.57 | 2,085 | | 0.58 | 2,717 | | 0.72 | 3,234 | | 0.80 | 3,904 | | 0.90 | 13,842 | 0.73 | 5.87 | 19.7 |
| 3.0 GDP Market Price | 332,503 | | 9.09 | 357,747 | | 9.67 | 377,429 | | 11.61 | 401,782 | | 12.31 | 432,419 | | 12.59 | 1,901,880 | 11.18 | | 6.8 |

| Fiscal Year | 1988/89 | Sector Share | GDP Share | 1989/90 | Sector Share | GDP Share | 1990/91 | Sector Share | GDP Share | 1991/92 | Sector Share | GDP Share | 1992/93 | Sector Share | GDP Share | 7th FYP Total | GDP Share | GFCF Share | AAGR 6th FYP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.0 GFCF (A+B+C) | 73,090 | 100.00 | 16.10 | 81,271 | 100.00 | 17.14 | 83,871 | 100.00 | 16.78 | 92,512 | 100.00 | 17.16 | 96,420 | 100.00 | 17.55 | 427,164 | 16.97 | 100.00 | 7.2 |
| A Private Sector | 32,731 | 44.78 | 7.21 | 39,057 | 48.06 | 8.24 | 40,203 | 47.93 | 8.04 | 44,903 | 48.54 | 8.33 | 46,551 | 48.28 | 8.47 | 203,445 | 8.08 | 47.63 | 9.2 |
| B Public Sector | 24,602 | 33.66 | 5.42 | 24,301 | 29.90 | 5.13 | 24,580 | 29.31 | 4.92 | 27,679 | 29.92 | 5.13 | 29,471 | 30.57 | 5.36 | 130,633 | 5.19 | 30.58 | 4.6 |
| C General Government | 15,757 | 21.56 | 3.47 | 17,913 | 22.04 | 3.78 | 19,088 | 22.76 | 3.82 | 19,930 | 21.54 | 3.70 | 20,398 | 21.16 | 3.71 | 93,086 | 3.70 | 21.79 | 6.7 |
| D GFCF(A+B) | 57,333 | | | 63,358 | | | 64,783 | | | 72,582 | | | 76,022 | | | 334,078 | 13.28 | 100.00 | |
| A' Private Sector | 32,731 | 57.09 | 7.21 | 39,057 | 61.64 | 8.24 | 40,203 | 62.06 | 8.04 | 44,903 | 61.87 | 8.33 | 46,551 | 61.23 | 8.47 | 203,445 | 8.08 | 60.90 | 9.2 |
| B' Public Sector | 24,602 | 42.91 | 5.42 | 24,301 | 38.36 | 5.13 | 24,580 | 37.94 | 4.92 | 27,679 | 38.13 | 5.13 | 29,471 | 38.77 | 5.36 | 130,633 | 5.19 | 39.10 | 4.6 |
| 2.0 SECTOR-WISE | | | | | | | | | | | | | | | | | | | |
| 2.1 Agriculture | 7,695 | | 1.70 | 8,832 | | 1.86 | 8,712 | | 1.74 | 7,911 | | 1.47 | 8,279 | | 1.51 | 41,429 | 1.65 | 9.70 | 1.8 |
| 2.2 Mining and quarrying | 1,978 | | 0.44 | 1,137 | | 0.24 | 1,309 | | 0.26 | 1,714 | | 0.32 | 1,447 | | 0.26 | 7,585 | 0.30 | 1.78 | -7.5 |
| 2.3 Manufacturing | 9,906 | | 2.18 | 12,184 | | 2.57 | 13,090 | | 2.62 | 18,010 | | 3.34 | 17,862 | | 3.25 | 71,052 | 2.82 | 16.63 | 15.9 |
| 2.3 Large Scale | 7,977 | | 1.76 | 9,904 | | 2.09 | 10,544 | | 2.11 | 15,292 | | 2.84 | 14,917 | | 2.71 | 58,634 | 2.33 | 13.73 | 16.9 |
| 2.3 Small Scale | 1,980 | | 0.44 | 2,280 | | 0.48 | 2,546 | | 0.51 | 2,718 | | 0.50 | 2,945 | | 0.54 | 12,469 | 0.50 | 2.92 | 10.4 |
| 2.4 Construction | 1,300 | | 0.29 | 1,550 | | 0.33 | 2,714 | | 0.54 | 2,621 | | 0.49 | 1,939 | | 0.35 | 10,124 | 0.40 | 2.37 | 10.5 |
| 2.5 Electricity and gas | 13,545 | | 2.98 | 14,176 | | 2.99 | 12,458 | | 2.49 | 14,036 | | 2.60 | 14,266 | | 2.60 | 68,481 | 2.72 | 16.03 | 1.3 |
| 2.6 Transport and communication | 8,927 | | 1.97 | 9,283 | | 1.96 | 9,864 | | 1.97 | 11,140 | | 2.07 | 14,265 | | 2.60 | 53,479 | 2.13 | 12.52 | 12.4 |
| 2.7 Wholesale and retail trade | 619 | | 0.14 | 716 | | 0.15 | 880 | | 0.18 | 905 | | 0.17 | 866 | | 0.16 | 3,986 | 0.16 | 0.93 | 8.8 |
| 2.8 Financial institution | 10,018 | | 2.21 | 11,337 | | 2.39 | 11,450 | | 2.29 | 11,774 | | 2.18 | 12,348 | | 2.25 | 56,927 | 2.26 | 13.33 | 5.4 |
| 2.9 Services | 3,858 | | 0.85 | 4,143 | | 0.87 | 4,306 | | 0.86 | 4,471 | | 0.83 | 4,751 | | 0.86 | 21,529 | 0.86 | 5.04 | 5.3 |
| 3.0 GDP Market Price | 453,866 | | 14.94 | 474,102 | | 15.93 | 499,960 | | 15.58 | 539,131 | | 16.80 | 549,475 | | 17.09 | 2,516,534 | 16.12 | | 4.9 |

Source: (1) Economic Survey 1993-94, Economic Advisor's Wing, Finance Division
(2) Economic Survey 1992-93, Economic Advisor's Wing, Finance Division
(3) JICA Study Team

The share of GFCF by the sectors of type and their shares in GDP are shown in the Table 2.2.3.19 below as well.

Table 2.2.3.19 Share of GFCF

(Unit: percent)

| Period | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|
| GFCF Sector Share | | | | | |
| GFCF Total | 100.0 | 100.0 | 100.0 | 99.0 | 100.0 |
| Private Sector | 42.0 | 47.6 | 60.2 | 67.3 | 74.2 |
| Public Sector | 34.7 | 30.6 | 22.0 | 15.4 | 10.8 |
| General Government | 23.3 | 21.8 | 17.8 | 16.3 | 15.0 |
| | | | | | |
| GFCF Share in GNP | 9.5 | 13.3 | 18.4 | 19.7 | 21.0 |
| | | | | | |
| GFCF share in GDP | | | | | |
| Total GFCF | 12.4 | 17.0 | 20.1 | 21.4 | 21.4 |
| Private Sector | 5.2 | 10.0 | 12.1 | 14.6 | 15.9 |
| Public Sector | 4.3 | 5.6 | 4.4 | 3.3 | 2.3 |
| General Government | 2.9 | 3.7 | 3.6 | 3.5 | 3.2 |

The projected share of GFCF in GDP for 7th FYP period was 19.1 % in the previous 1988 Master Plan Study, however, the actual figure of the same period was 17.0 % which was slightly lower than that of the projection. Taking this into account and its difference with the actual figure very marginal, the projected shares for the 8th and for the years afterward respectively would become 20.1 % and 21.4 % as shown in the table above.

The objectives for investments and source of origins are forecaster that the shifts of these from the official financial source to the private source in the 8th FYP period and afterward will become speedier year by year due to the emphasis by the Government and requirement of reformation of economic administration system on the enhancement of privatization and the rapid realization of so called free market economic policies. The mixture of these effects might lead to an increase of both shares by private sectors with respect to GFCF as projected and as appeared in the above table.

c. Financing under Annual Development Programme

The expended amount and share in GDP of the Annual Development Programme for the 6th and the 7th FYP periods are shown in Appendix Table 5.3.15 (F). Total amount expended during the 6th FYP period was Rs. 187 billion and Rs. 403 billion for the 7th FYP period.

Three major objectives of investment under ADP have been in the order of power, transport and communication; and water related infrastructure has been prioritized in the past since 1980 without exception of the 6th and 7th FYP periods. This trend is expected to continue for the 8th and 9th FYP periods, although share for power sector would grow rapidly in the 8th FYP.

Total expenditure by item of investments under Annual Development Programme for the 6th and 7th FYP periods are as in Table 2.2.3.20.

Table 2.2.3.20  Annual Development Programme by Sector

(unit:million Rs.)

| Period | Sixth Plan | | Seventh Plan | |
|---|---|---|---|---|
| | Amount | Share | Amount | Share |
| Power | 46,473 | 24.79 | 113,720 | 28.19 |
| Transport and Communications | 28,705 | 15.31 | 88,515 | 21.94 |
| Fuel and Minerals | 12,514 | 6.68 | 34,059 | 8.44 |
| Water | 20,178 | 10.76 | 29,659 | 7.35 |
| Physical planning | 17,729 | 9.46 | 23,093 | 5.72 |
| Education & Training | 13,320 | 7.11 | 20,782 | 5.15 |
| Agriculture | 16,867 | 9.00 | 17,197 | 4.26 |
| Others | | 16.89 | | 18.95 |

The shares of total amount of Annual Development Programme in GDP for the 6th and 7th FYP periods were 7.8 % and 8.4 %. The total amount of Annual Development Programme of the 6th and 7th FYP periods were Rs. 187,470 million and Rs.403,472 million.

4) Restraint Factor for Economic Growth

a. Balance of Payments

As mentioned in the previous Master Plan Study, the balance-of-payments function has been the biggest restraint factor for economic growth and would be so until the ending year of the 10th FYP. It has been recognized that the balance of payment is a crucial factor as well as the biggest bottleneck for economic growth through all projected periods in this projection. In the past, the balance of payment depended on traditional export commodities and remittances delineated from labor exports abroad since the 1970s' to 1990. The government has been emphasizing a diversification of sources of foreign exchange earnings and adopted various policies and measures based on democratization and enforcement of more and more free market economic theory by means of legalization of new investment laws and regulations, sale of public sector enterprises to private interests, promotion of export industries, and etc.

Capital inflow to the private sector or to the privatized industries is expected to occur drastically in the form of foreign capital direct investment from abroad, issue of national and private bonds designed to raise the fund through international capital market. Such capital inflow is quite difficult to estimate quantitatively but it can be recognized as a strong trend which will continue through projected periods.

b. Shortage of Economic Infrastructure

A power shortage has been significant throughout the 7th FYP period. Power ration has continued since 1988 due to sharp increase of power demand especially in industrial sector. The government emphasizes to develop power generation and distribution as quick as possible. It is foreseen that the private sector will lead the power development as deregulation of investment made such private involvement into the power sector available and foreign capital participation are allowed to participate in such investment projects. Although the implementation of power development projects of various types may take some time, however, until the beginning of the 9th FYP major new development scheme will be commissioned to generate powers.

## 2.2.4 Detailed Analysis for Projection of Productions

(1) General:

GDP is classified into two groups of the economic sectors. A commodity producing sector as one group and a service sector as the other group. The commodity producing sector is composed of five sub-sectors such as 1) agriculture, 2) manufacturing,(3) mining and quarrying, 4) construction; and 5) electricity and gas distribution sub-sectors. The service sector is composed of six sub-sectors such as 6) commerce, 7) transport and communication, 8) banking and insurance, 9) housing, 10) public administration and defense; and 11) other services sub-sectors.

(2) Growth Trend and Projection:

Growth trend and projection of each economic sectors which is composed with various items of commodities or services from 1992-93 to 2007-08 through the 8th to 10th FYP periods were projected as shown in Table 2.2.3.5 "Projected GNP (at Constant 1980-81 price)". The growth rates of each sub-sector was projected based on the growth projection of each identical major commodity of respective economic sub-sectors as well as target production indicated in the 8th FYP. Growth trend of each commodity composing the above mentioned eleven (11) sub-sectors are analyzed respectively as follows:

### 1) Agriculture

As shown in Table 2.2.4.1 "Output of Agriculture Sector" an average annual growth rate of output of agriculture sector were 5.7 % in the 6th FYP and 2.9 % in the 7th FYP periods. This declining trend in attributed to mainly a drastic decline of growth rate of major crops as decreased from 7.2 % to 0.7 %. The possible reason of such decline trend are discussed below by each agriculture commodity. Although Pakistan achieved a self-sufficiency of staple foods and most of major crops in the 7th FYP period, it is foreseen that the production of major crop may not be able to catch a ever growing demand due to mostly by increase of population as well as gradual increase of income per capita which gave influence of increased consumption of food items.

Past and future growth trend of the agriculture sector is summarized in Table 2.2.4.2 "Annual Growth Trend and Projection of Agricultural Production". The below Table 2.2.4.3 "Trend and Projection of Growth Rate of Agricultural Production (in Volume)" outlines the growth trend of past and future by growth rate in terms of volume.

Growth projection of the agriculture sector as a whole was carried out by compilation of growth projection of major agricultural commodities respectively in volume. Table 2.2.4.4 (a) and (b) "Projection of Agricultural Production by Commodity in Volume" show the projection of agricultural production by commodities in volume. The volume of production obtained was converted into monetary value as shown in Table 2.2.4.5 (a) and (b) "GDP at Factor Cost by Economic Activities (Agriculture Sector) at Constant 1980-81 price". The conversion from volume to value was done using an analysis conducted in the previous study in 1985 as a base figure as shown in Table 2.2.2.9 "Price Conversion Table".

## Table 2.2.4.1 Agriculture Sector Output (the 6th-7th FYP)

| Fiscal Year | 1983/84 | 1984/85 | 1985/86 | 1986/87 | 1987/88 | 6th FYP Average Growth pa | 1988/89 | 1989/90 | 1990/91 | 1991/92 | 1992/93 | 7th FYP Average Growth pa | 6-7 FYP Average Growth pa |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1.0 Population** | 91,880 | 94,730 | 97,670 | 100,700 | 103,820 | 3.1 | 107,040 | 110,360 | 113,780 | 117,320 | 120,840 | 3.1 | 31.5 |
| Population Increase (%) | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | |
| Average in FYP period | | | | | | 3.1 | | | | | | 3.1 | 31.5 |
| **2.0 Output (80/81 Constant fc, mil Rs.)** | 79,502 | 88,187 | 93,433 | 96,473 | 99,108 | 5.7 | 105,917 | 109,127 | 114,542 | 125,668 | 118,802 | 2.9 | 4.6 |
| Major Crops | 36,710 | 43,390 | 46,212 | 46,965 | 48,452 | 7.2 | 51,842 | 51,795 | 54,741 | 63,165 | 53,277 | 0.7 | 4.2 |
| Minor Crops | 15,668 | 10,109 | 16,742 | 17,317 | 16,756 | 1.7 | 18,205 | 19,147 | 19,820 | 20,290 | 21,063 | 3.7 | 3.3 |
| Livestock | 22,956 | 24,356 | 25,865 | 27,351 | 28,906 | 5.9 | 30,614 | 32,481 | 34,105 | 36,133 | 38,308 | 5.8 | 5.9 |
| Fishery | 3,130 | 3,293 | 3,544 | 3,650 | 3,776 | 4.8 | 3,999 | 4,325 | 4,430 | 4,600 | 4,909 | 5.3 | 5.1 |
| Forestry | 1,038 | 1,039 | 1,070 | 1,190 | 1,218 | 4.1 | 1,257 | 1,379 | 1,446 | 1,480 | 1,245 | -0.2 | 2.0 |
| Growth Rate per Year | - | 10.9 | 5.9 | 3.3 | 2.7 | 5.7 | 6.9 | 3.0 | 5.0 | 9.7 | -5.5 | 2.9 | 4.6 |
| Average in FYP period | | | | | | 24.7 | | | | | | 12.2 | 49.4 |
| **2.1 Major Crops (000 tonnes)** | | | | | | | | | | | | | |
| Wheat | 10,882 | 11,703 | 13,923 | 12,016 | 12,675 | 3.9 | 14,419 | 14,316 | 14,565 | 15,684 | 16,157 | 2.9 | 4.5 |
| Rice | 3,340 | 3,315 | 2,919 | 3,486 | 3,241 | -0.7 | 3,200 | 3,220 | 3,261 | 3,243 | 3,116 | -0.7 | -0.8 |
| Bajra | 256 | 284 | 258 | 233 | 135 | -14.8 | 204 | 201 | 196 | 140 | 203 | 0.2 | -2.5 |
| Jowar | 222 | 230 | 219 | 236 | 181 | -5.0 | 248 | 262 | 239 | 224 | 238 | -1.0 | 0.8 |
| Maize | 1,014 | 1,028 | 1,009 | 1,111 | 1,127 | 2.7 | 1,204 | 1,179 | 1,185 | 1,203 | 1,178 | -0.5 | 1.7 |
| Barley | 140 | 132 | 134 | 134 | 112 | -5.4 | 123 | 131 | 142 | 140 | 158 | 6.5 | 1.4 |
| Total Food Grain | 15,854 | 16,692 | 18,462 | 17,216 | 17,471 | 2.5 | 19,395 | 19,312 | 19,588 | 20,634 | 21,050 | 2.1 | 3.2 |
| Growth Rate per Year | - | 5.3 | 10.6 | -6.7 | 1.5 | 2.5 | 11.0 | -0.4 | 1.4 | 5.3 | 2.0 | 2.1 | 3.2 |
| Average in FYP period | | | | | | 10.2 | | | | | | 8.5 | 32.8 |
| **2.2 Minor Crops (000 tonnes)** | | | | | | | | | | | | | |
| Gram | 522 | 524 | 586 | 583 | 372 | -8.1 | 456 | 562 | 531 | 513 | 347 | -6.6 | -4.4 |
| Sugarcane | 34,287 | 32,140 | 27,856 | 29,926 | 33,029 | -0.9 | 36,916 | 35,494 | 35,989 | 38,865 | 38,059 | 0.8 | 1.2 |
| Rapeseed and Mustard | 217 | 235 | 250 | 213 | 204 | -1.5 | 249 | 228 | 228 | 220 | 207 | -4.5 | -0.5 |
| Cotton | 503 | 1,026 | 1,238 | 1,343 | 1,494 | 31.3 | 1,451 | 1,481 | 1,666 | 2,218 | 1,541 | 1.5 | 13.2 |
| Tobacco | 80 | 87 | 78 | 69 | 70 | -3.3 | 74 | 68 | 75 | 97 | 100 | 7.8 | 2.5 |
| Total Fibre and Others | 35,609 | 34,012 | 30,008 | 32,134 | 35,169 | -0.3 | 39,146 | 37,838 | 38,489 | 41,913 | 40,254 | 0.7 | 1.4 |
| Growth Rate per Year | - | -4.5 | -11.8 | 7.1 | 9.4 | -0.3 | 11.3 | -3.3 | 1.7 | 8.9 | -4.0 | 0.7 | 1.4 |
| Average in FYP period | | | | | | -1.2 | | | | | | 7.1 | 13.0 |
| **3.0 Livestock (mln. Head)** | | | | | | | | | | | | | |
| Buffalo | 12.7 | 13.1 | 15.7 | 16.1 | 16.5 | 6.8 | 17.0 | 17.4 | 17.8 | 18.3 | 18.7 | 2.4 | 4.4 |
| Cattle | 16.3 | 16.5 | 16.7 | 16.9 | 17.1 | 1.2 | 17.2 | 17.8 | 17.7 | 17.7 | 17.8 | 0.9 | 1.0 |
| Goats | 28.7 | 29.7 | 30.8 | 31.2 | 32.6 | 3.2 | 34.0 | 35.4 | 37.0 | 38.6 | 40.2 | 4.3 | 3.8 |
| Sheep | 24.2 | 25.0 | 23.3 | 23.7 | 24.5 | 0.3 | 25.1 | 25.7 | 26.3 | 27.0 | 27.7 | 2.5 | 1.5 |
| Poultry | 100.6 | 113.7 | 109.5 | 130.0 | 145.4 | 9.6 | 162.1 | 153.9 | 146.9 | 151.2 | 182.6 | 3.0 | 6.8 |
| Production of meat (t.mt) | 1,010 | 1,079 | 1,199 | 1,271 | 1,357 | 7.7 | 1,447 | 1,507 | 1,581 | 1,685 | 1,763 | 5.1 | 6.4 |
| Growth Rate per Year | - | 6.8 | 11.1 | 6.0 | 6.8 | 7.7 | 6.6 | 4.1 | 4.9 | 6.6 | 4.6 | 5.1 | 6.4 |
| Average in FYP period | | | | | | 34.4 | | | | | | 21.8 | 74.6 |

Source: Economic Survey 1992-93, Economic Advisor's Wing, Finance Division

## Table 2.2.4.1 Agriculture Sector Output (the 6th - 7th FYP)

| | | | | | | Avg 6th FYP | | | | | | Avg 7th FYP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4.0 Land Utilization** | | | | | | | | | | | | |
| Cropped Area (Mln. ha) | 19.99 | 19.92 | 20.28 | 20.90 | 19.52 | | 21.82 | 21.46 | 21.82 | 21.72 | 21.73 | |
| Cultivable Waste | 11.78 | 11.10 | 9.47 | 10.33 | 9.26 | | 9.39 | 8.81 | 8.85 | 8.86 | 8.87 | |
| Growth Rate per Year | - | -0.4 | 1.8 | 3.1 | -6.6 | | 11.8 | -1.6 | 1.7 | -0.5 | 0.0 | 0.9 / -0.1 |
| | - | | | | -0.6 / -5.8 | | | | | | | -3.1 / -1.4 |
| Average in FYP period | | | | | | -0.6 / -2.4 | | | | | | 0.9 / -0.1 |
| | | | | | | | | | | | | 8.7 / -0.5 |
| **5.0 Water Availability (MAF)** | 103.69 | 102.81 | 104.73 | 109.72 | 112.22 | | 114.66 | 117.14 | 119.62 | 122.12 | 124.62 | |
| Growth Rate per Year | - | -0.8 | 1.9 | 4.8 | 2.3 | | 2.2 | 2.2 | 2.1 | 2.1 | 2.0 | 2.1 / 2.1 |
| Average in FYP period | | | | | | 8.2 | | | | | | 17.8 / 6.5 |
| **6.0 Fertilizer Off-take** | 1,202.66 | 1,253.26 | 1,511.70 | 1,783.84 | 1,720.20 | | 1,739.84 | 1,890.10 | 1,892.88 | 1,883.92 | 2,147.60 | |
| Growth Rate per Year | - | 4.2 | 20.6 | 18.0 | -3.6 | | 1.1 | 8.6 | 0.1 | -0.5 | 14.0 | 6.7 / 5.4 |
| Average in FYP period | | | | | | 43.0 | | | | | | 78.6 / 23.4 |
| **7.0 Yield per Hectare (kg)** | | | | | | | | | | | | |
| Wheat | 1,482 | 1,612 | 1,881 | 1,559 | 1,734 | | 1,865 | 1,825 | 1,841 | 1,990 | 1,946 | |
| Growth Rate per Year | - | 8.8 | 16.7 | -17.1 | 11.2 | | 7.6 | -2.1 | 0.9 | 8.1 | -2.2 | 3.1 / 1.1 |
| Average in FYP period | | | | | | 17.0 | | | | | | 31.3 / 4.3 |
| Rice | 1,671 | 1,659 | 1,567 | 1,688 | 1,651 | | 1,567 | 1,528 | 1,542 | 1,546 | 1,579 | |
| Growth Rate per Year | - | -0.7 | -5.5 | 7.7 | -2.2 | | -5.1 | -2.5 | 0.9 | 0.3 | 2.1 | -0.6 / 0.2 |
| Average in FYP period | | | | | | -1.2 | | | | | | -5.5 / 0.8 |
| Maize | 1,270 | 1,271 | 1,256 | 1,361 | 1,320 | | 1,391 | 1,367 | 1,401 | 1,420 | 1,357 | |
| Growth Rate per Year | - | 0.1 | -1.2 | 8.4 | -3.0 | | 5.4 | -1.7 | 2.5 | 1.4 | -4.4 | 0.7 / -0.6 |
| Average in FYP period | | | | | | 3.9 | | | | | | 6.9 / -2.4 |
| Gram | 588 | 517 | 567 | 539 | 453 | | 466 | 543 | 486 | 516 | 320 | |
| Growth Rate per Year | - | -12.1 | 9.7 | -4.9 | -16.0 | | 2.9 | 16.5 | -10.5 | 6.2 | -38.0 | -6.5 / -9.0 |
| Average in FYP period | | | | | | -23.0 | | | | | | -45.6 / -31.3 |
| Sugarcane | 38,224 | 35,553 | 35,713 | 39,273 | 39,227 | | 42,094 | 41,562 | 40,712 | 43,376 | 43,005 | |
| Growth Rate per Year | - | -7.0 | 0.5 | 10.0 | -0.1 | | 7.3 | -1.3 | -2.0 | 6.5 | -0.9 | 1.3 / 0.5 |
| Average in FYP period | | | | | | 2.6 | | | | | | 12.5 / 2.2 |
| Cotton | 223 | 450 | 515 | 527 | 572 | | 544 | 560 | 616 | 770 | 543 | |
| Growth Rate per Year | - | 101.8 | 14.4 | 2.3 | 8.5 | | -4.9 | 2.9 | 10.0 | 25.0 | -29.5 | 10.4 / 0.0 |
| Average in FYP period | | | | | | 156.5 | | | | | | 143.5 / -0.2 |

Source: Economic Survey 1993-94

Table 2.2.4.2 Annual Growth Trend and Projection of Agricultural Production (in Volume)

| | | Past Trend | | | Projections | | |
|---|---|---|---|---|---|---|---|
| Plan Period Year | | 5th FYP 1978-83 | 6th FYP 1983-88 | 7th FYP 1988-93 | 8th FYP 1993-98 | 9th FYP 1998-2003 | 10th FYP 2003-08 |
| Item | | | | | | | |
| **Agriculture - Total** | Production | - | 1.2 | 2.1 | 4.2 | 4.0 | 3.9 |
| **Major Crops** | | | | | | | |
| Wheat | Area | 2.6 | -0.1 | 0.6 | | | |
| | Production | 5.7 | 3.9 | 2.9 | 2.5 | 3.0 | 3.0 |
| | Yield | - | 4.0 | 2.2 | | | |
| Rice | Area | -0.6 | -0.4 | 16.7 | | | |
| | Production | 1.3 | -0.8 | -0.6 | 6.4 | 3.8 | 3.0 |
| | Yield | - | -0.3 | -0.4 | | | |
| Gram | Area | -7.6 | -5.9 | 0.6 | | | |
| | Production | -2.3 | -8.1 | 3.3 | 3.5 | 3.0 | 3.0 |
| | Yield | - | -6.3 | 3.5 | | | |
| Maize | Area | 5.0 | 1.7 | -0.7 | | | |
| | Production | 5.9 | 2.7 | -0.5 | 6.0 | 6.0 | 6.0 |
| | Yield | - | 1.0 | 0.7 | | | |
| Cotton | Area | 4.6 | 3.7 | 2.7 | | | |
| | Production | 14.8 | 31.3 | 1.5 | 6.5 | 6.5 | 6.0 |
| | Yield | - | 26.6 | 12.3 | | | |
| Sugar Cane | Area | 4.9 | -1.6 | 0.7 | | | |
| | Production | 4.5 | -0.9 | 0.7 | 3.9 | 4.0 | 4.0 |
| | Yield | - | 2.4 | 2.5 | | | |
| Major Others | Area | -5.5 | -1.6 | 4.7 | | | |
| | Production | -1.5 | -5.9 | 2.1 | 1.8 | 3.0 | 3.0 |
| **Total** | Production | - | 0.6 | 1.2 | 3.8 | 3.8 | 3.8 |
| **Minor Crops** | | | | | | | |
| Fruits | Area | 8.4 | 2.2 | 1.1 | | | |
| | Production | 9.5 | 4.2 | 1.8 | 4.5 | 4.5 | 4.5 |
| Vegetables | Area | 3.0 | 6.4 | 2.0 | | | |
| | Production | 3.3 | 7.1 | 2.2 | 3.3 | 3.0 | 3.0 |
| Fruits and Vegetables | Area | 6.8 | 3.4 | 1.4 | | | |
| | Production | 7.0 | 4.2 | 1.8 | 4.0 | 3.9 | 3.9 |
| Minor Others | Production | - | 2.5 | 5.2 | 4.0 | 4.0 | 3.3 |
| **Total** | Production | - | 4.0 | 2.9 | 4.0 | 3.9 | 3.9 |
| **Livestock** | | | | | | | |
| Milk | Production | - | 1.4 | 5.0 | 6.0 | 4.5 | 4.5 |
| Beef | Production | - | 7.9 | 5.0 | 5.6 | 6.6 | 4.5 |
| Mutton | Production | - | 1.0 | 7.1 | 6.0 | 4.0 | 2.5 |
| Poultry | Production | - | 15.7 | -2.4 | 8.0 | 6.0 | 4.0 |
| Egg | Production | - | 3.6 | 5.9 | 6.0 | 6.0 | 4.0 |
| **Total** | Production | - | 2.0 | 5.0 | 6.0 | 4.6 | 4.4 |
| **Fishery** | | | | | | | |
| Inland Fish | Production | - | 10.8 | 5.5 | 2.8 | 4.0 | 5.0 |
| Marine Fish | Production | - | 4.4 | 2.2 | 2.9 | 3.2 | 3.2 |
| **Total** | Production | - | 5.6 | 3.3 | 2.9 | 3.4 | 3.7 |
| **Forestry** | | | | | | | |
| Timber | Production | - | 8.9 | -8.2 | 2.5 | 3.5 | 3.5 |
| Fuelwood | Production | - | 6.6 | 18.1 | 2.9 | 2.0 | 1.5 |
| **Total** | Production | - | 7.6 | 9.0 | 2.8 | 2.3 | 2.0 |

Source: JICA Study Team

Table 2.2.4.3  Trend and Projection of Growth Rate of Agricultural Production  (in volume)

(unit: percent)

| Plan Period | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|
| Major Crops | 0.6 | 1.2 | 3.8 | 3.8 | 3.8 |
| Minor Crops | 4.0 | 2.9 | 4.0 | 3.9 | 3.9 |
| Livestock | 2.0 | 5.0 | 6.0 | 4.6 | 4.4 |
| Fishery | 5.6 | 3.3 | 2.9 | 3.4 | 3.7 |
| Forestry | 7.6 | 9.0 | 2.8 | 2.3 | 2.0 |
| Area | -1.6 | 4.7 | | | |
| Water | 2.0 | 2.1 | | | |
| Fertilizer | 1.0 | 0.7 | | | |
| Yield | 2.4 | 2.5 | | | |

A compilation of result of projection for various commodities broadly classified as major commodities, minor commodities, livestock, fishery, forestry are shown in respective table as attached Appendix Tables 2.2.3.1 - 2.2.3.28 which form an overall projection of production in agriculture sector.

The annual growth of each agricultural commodity is tabulated in the attached statistical tables which show the past trend of production, area utilized for respective production of agricultural commodities and geographical distribution of production. The projected average annual growth rates of the 8th - 10th FYP periods and projected volume of projection for each year up to 2007-08 are tabulated in appendices as mentioned above. The annual growth rate per each FYP period and production in volume for each commodity is projected according to following criteria and respective reasons mentioned below respectively.

a. Wheat:

Wheat is the most important staple food of Pakistan. In 1992-93 around 16 million tonnes of wheat was produced on 7.8 million hectares of cultivable land. Both production and land area of wheat are the largest among all agricultural production.

The past trend of wheat production and other relevant factors for the 6th - 7th FYP periods and the projection of wheat production for the 8th - 10th FYP periods are shown in Appendix Table 2.2.4.1. together with projected consumption and trade in volume. Below Table 2.2.4.6 "Trend and Projection of Growth Rate of Wheat Production" summarizes the average annual increase/decrease rates of production for respective FYP periods.

Table 2.2.4.4 (a) Projection of Agricultural Production by Commodity in Volume ( 000 tionnes)

| Year | Wheat | Rice | Gram | Maiz | Cotton | Sugar Cane | Others | Total | Growth Rate pa | Fruit & Veg. | Others | Total | Growth Rate pa |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | **Major Crops** | | | | | **Minor Crops** | | | |
| 1991/92 | 15,684 | 3,243 | 513 | 1,203 | 2,218 | 38,865 | 710 | 62,436 | | 6,800 | 1,200 | 8,000 | |
| 1992/93 | 16,157 | 3,116 | 520 | 1,178 | 1,540 | 38,059 | 700 | 61,270 | -1.9 | 7,130 | 790 | 7,920 | -1.0 |
| 8th FYP | 2.5 | 6.4 | 3.5 | 6.0 | 6.5 | 3.9 | 1.8 | 3.8 | | 4.0 | 4.0 | 4.0 | |
| 1993/94 | 16,561 | 3,315 | 538 | 1,249 | 1,640 | 39,543 | 713 | 63,559 | 3.7 | 7,415 | 822 | 8,237 | 4.0 |
| 1994/95 | 16,975 | 3,528 | 557 | 1,324 | 1,747 | 41,085 | 725 | 65,941 | 3.7 | 7,711 | 854 | 8,565 | 4.0 |
| 1995/96 | 17,399 | 3,753 | 577 | 1,403 | 1,860 | 42,688 | 738 | 68,419 | 3.8 | 8,019 | 889 | 8,908 | 4.0 |
| 1996/97 | 17,834 | 3,994 | 597 | 1,487 | 1,981 | 44,353 | 752 | 70,997 | 3.8 | 8,340 | 924 | 9,264 | 4.0 |
| 1997/98 | 18,280 | 4,249 | 618 | 1,576 | 2,110 | 46,082 | 765 | 73,681 | 3.8 | 8,674 | 961 | 9,635 | 4.0 |
| 9th FYP | 3.0 | 3.8 | 3.0 | 6.0 | 6.5 | 4.0 | 3.0 | 3.8 | | 3.9 | 4.0 | 3.9 | |
| 1998/99 | 18,829 | 4,411 | 636 | 1,671 | 2,247 | 47,926 | 788 | 76,507 | 3.8 | 9,011 | 1,000 | 10,011 | 3.9 |
| 1999/00 | 19,393 | 4,578 | 655 | 1,771 | 2,393 | 49,843 | 812 | 79,446 | 3.8 | 9,362 | 1,040 | 10,402 | 3.9 |
| 2000=01 | 19,975 | 4,752 | 675 | 1,878 | 2,549 | 51,836 | 836 | 82,501 | 3.8 | 9,727 | 1,081 | 10,808 | 3.9 |
| 2001=02 | 20,574 | 4,933 | 695 | 1,990 | 2,714 | 53,910 | 861 | 85,678 | 3.9 | 10,106 | 1,124 | 11,230 | 3.9 |
| 2002=03 | 21,192 | 5,120 | 716 | 2,110 | 2,891 | 56,066 | 887 | 88,982 | 3.9 | 10,501 | 1,169 | 11,670 | 3.9 |
| 10th FYP | 3.0 | 3.0 | 3.0 | 6.0 | 6.0 | 4.0 | 3.0 | 3.8 | | 3.9 | 3.3 | 3.9 | |
| 2003=04 | 21,827 | 5,274 | 737 | 2,236 | 3,064 | 58,309 | 914 | 92,362 | 3.8 | 10,912 | 1,208 | 12,120 | 3.9 |
| 2004=05 | 22,482 | 5,432 | 760 | 2,370 | 3,248 | 60,641 | 941 | 95,875 | 3.8 | 11,339 | 1,248 | 12,587 | 3.9 |
| 2005=06 | 23,157 | 5,595 | 782 | 2,513 | 3,443 | 63,067 | 969 | 99,526 | 3.8 | 11,784 | 1,289 | 13,073 | 3.9 |
| 2006=07 | 23,851 | 5,763 | 806 | 2,663 | 3,650 | 65,590 | 999 | 103,321 | 3.8 | 12,247 | 1,332 | 13,579 | 3.9 |
| 2007=08 | 24,567 | 5,936 | 830 | 2,823 | 3,869 | 68,213 | 1,029 | 107,266 | 3.8 | 12,729 | 1,376 | 14,105 | 3.9 |

Source: JICA Study Team

Table 2.2.4.4.(b) Projection of Agricultural, Production by Commodity in Volume

| Year | Milk | Livestock Others | Total | Growth Rate pa | Inland | Fishery Marine | Total | Growth Rate pa | Fuelwood | Forestry Timber | Total | Growth Rate pa | Agriculture Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1991/92 | 12,542 | 6,296 | 18,838 | | 116 | 375 | 491 | | 800 | 220 | 1,020 | | 90,785 |
| 1992/93 | 13,100 | 1,871 | 14,971 | -20.5 | 120 | 380 | 500 | 1.8 | 750 | 210 | 960 | -5.9 | 85,621 |
| 8th FYP | 6.0 | 6.0 | 6.0 | | 2.8 | 2.9 | 2.9 | | 2.9 | 2.5 | 2.8 | | 4.2 |
| 1993/94 | 13,886 | 1,983 | 15,869 | 6.0 | 123 | 391 | 514 | 2.9 | 772 | 215 | 987 | 2.8 | 89,166 |
| 1994/95 | 14,719 | 2,102 | 16,821 | 6.0 | 127 | 402 | 529 | 2.9 | 794 | 221 | 1,015 | 2.8 | 92,871 |
| 1995/96 | 15,602 | 2,228 | 17,830 | 6.0 | 130 | 414 | 544 | 2.9 | 817 | 226 | 1,043 | 2.8 | 96,744 |
| 1996/97 | 16,538 | 2,361 | 18,899 | 6.0 | 134 | 426 | 560 | 2.9 | 841 | 232 | 1,073 | 2.8 | 100,794 |
| 1997/98 | 17,531 | 2,503 | 20,034 | 6.0 | 138 | 438 | 576 | 2.9 | 865 | 238 | 1,103 | 2.8 | 105,029 |
| 9th FYP | 4.5 | 5.5 | 4.6 | | 4.0 | 3.2 | 3.4 | | 2.0 | 3.5 | 2.3 | | 4.0 |
| 1998/99 | 18,320 | 2,640 | 20,960 | 4.6 | 143 | 452 | 596 | 3.4 | 883 | 246 | 1,128 | 2.3 | 109,202 |
| 1999/00 | 19,144 | 2,784 | 21,928 | 4.6 | 149 | 467 | 616 | 3.4 | 900 | 255 | 1,155 | 2.3 | 113,546 |
| 2000-01 | 20,006 | 2,936 | 22,942 | 4.6 | 155 | 482 | 637 | 3.4 | 918 | 263 | 1,182 | 2.3 | 118,069 |
| 2001-02 | 20,906 | 3,098 | 24,004 | 4.6 | 161 | 497 | 658 | 3.4 | 937 | 273 | 1,209 | 2.3 | 122,780 |
| 2002-03 | 21,847 | 3,268 | 25,115 | 4.6 | 168 | 513 | 681 | 3.4 | 955 | 282 | 1,237 | 2.3 | 127,685 |
| 10th FYP | 4.5 | 3.7 | 4.4 | | 5.0 | 3.2 | 3.7 | | 1.5 | 3.5 | 2.0 | | 3.9 |
| 2003-04 | 22,830 | 3,388 | 26,218 | 4.4 | 176 | 530 | 706 | 3.6 | 970 | 292 | 1,262 | 2.0 | 132,667 |
| 2004-05 | 23,857 | 3,512 | 27,369 | 4.4 | 185 | 547 | 731 | 3.6 | 984 | 302 | 1,286 | 2.0 | 137,849 |
| 2005-06 | 24,930 | 3,641 | 28,571 | 4.4 | 194 | 564 | 758 | 3.7 | 999 | 313 | 1,312 | 2.0 | 143,241 |
| 2006-07 | 26,052 | 3,776 | 29,828 | 4.4 | 204 | 582 | 786 | 3.7 | 1,014 | 324 | 1,338 | 2.0 | 148,852 |
| 2007-08 | 27,225 | 3,915 | 31,140 | 4.4 | 214 | 601 | 815 | 3.7 | 1,029 | 335 | 1,364 | 2.0 | 154,689 |

Source: JICA Study Team

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## Table 2.2.4.5 (a) GDP at Factor Cost by Economic Activity , at 1980-81 Price (Agriculture Sector)

| Year | Major Crops | | | | | | | | Growth Rate pa | Minor Crops | | | Growth Rate pa |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Wheat | Rice | Gram | Maiz | Cotton | Sugar Cane | Others | Total | | Fruit & Veg. | Others | Total | |
| 1991/92 | 21,830 | 6,291 | 1,662 | 1,920 | 19,220 | 6,529 | - | 57,452 | | 14,473 | 5,817 | 20,290 | |
| 1992/93 | 22,488 | 6,045 | 1,685 | 1,880 | 13,345 | 6,393 | 1,441 | 53,277 | | 15,191 | 5,872 | 21,063 | 3.8 |
| 8th FYP | 2.5 | 6.4 | 3.5 | 6.0 | 6.5 | 3.9 | 1.8 | 4.3 | | 4.0 | 4.0 | 4.0 | |
| 1993/94 | 23,050 | 6,432 | 1,729 | 1,993 | 14,212 | 6,642 | 1,441 | 55,500 | 4.2 | 15,799 | 6,107 | 21,906 | 4.0 |
| 1994/95 | 23,626 | 6,844 | 1,790 | 2,112 | 15,136 | 6,901 | 1,467 | 57,876 | 4.3 | 16,431 | 6,351 | 22,782 | 4.0 |
| 1995/96 | 24,217 | 7,282 | 1,852 | 2,239 | 16,120 | 7,171 | 1,493 | 60,374 | 4.3 | 17,088 | 6,605 | 23,693 | 4.0 |
| 1996/97 | 24,823 | 7,748 | 1,917 | 2,373 | 17,168 | 7,450 | 1,520 | 62,999 | 4.3 | 17,771 | 6,869 | 24,641 | 4.0 |
| 1997/98 | 25,443 | 8,243 | 1,984 | 2,516 | 18,284 | 7,741 | 1,548 | 65,717 | 4.3 | 18,482 | 7,144 | 25,626 | 4.0 |
| 9th FYP | 3.0 | 3.8 | 2.5 | 6.0 | 6.5 | 4.0 | 3.0 | 4.3 | | 3.9 | 4.0 | 3.9 | |
| 1998/99 | 26,206 | 8,557 | 2,034 | 2,667 | 19,472 | 8,050 | 1,594 | 68,580 | 4.4 | 19,203 | 7,430 | 26,633 | 3.9 |
| 1999/00 | 26,993 | 8,882 | 2,085 | 2,827 | 20,738 | 8,372 | 1,642 | 71,538 | 4.3 | 19,952 | 7,727 | 27,679 | 3.9 |
| 2000/01 | 27,802 | 9,219 | 2,137 | 2,996 | 22,086 | 8,707 | 1,691 | 74,639 | 4.3 | 20,730 | 8,036 | 28,766 | 3.9 |
| 2001/02 | 28,636 | 9,570 | 2,190 | 3,176 | 23,522 | 9,056 | 1,742 | 77,891 | 4.4 | 21,538 | 8,358 | 29,896 | 3.9 |
| 2002/03 | 29,496 | 9,933 | 2,245 | 3,367 | 25,050 | 9,418 | 1,794 | 81,303 | 4.4 | 22,378 | 8,692 | 31,070 | 3.9 |
| 10th FYP | 3.0 | 3.0 | 2.5 | 6.0 | 6.0 | 4.0 | 3.0 | 4.2 | | 3.9 | 3.3 | 3.7 | |
| 2003/04 | 30,380 | 10,231 | 2,301 | 3,569 | 26,553 | 9,795 | 1,848 | 84,677 | 4.2 | 23,251 | 8,979 | 32,230 | 3.7 |
| 2004/05 | 31,292 | 10,538 | 2,358 | 3,783 | 28,147 | 10,186 | 1,903 | 88,208 | 4.2 | 24,158 | 9,275 | 33,433 | 3.7 |
| 2005/06 | 32,231 | 10,854 | 2,417 | 4,010 | 29,835 | 10,594 | 1,960 | 91,902 | 4.2 | 25,100 | 9,581 | 34,681 | 3.7 |
| 2006/07 | 33,197 | 11,180 | 2,478 | 4,250 | 31,626 | 11,017 | 2,019 | 95,768 | 4.2 | 26,079 | 9,897 | 35,977 | 3.7 |
| 2007/08 | 34,193 | 11,515 | 2,540 | 4,506 | 33,523 | 11,458 | 2,080 | 99,815 | 4.2 | 27,096 | 10,224 | 37,320 | 3.7 |

Source: JICA Study Team

Table 2.2.4.5 (b) GDP at Factor Cost by Economic Activity, at 1980-81 Price (Agriculture Sector)

| Year | Livestock | | | | Fishery Total | Growth Rate pa | Forestry Total | Growth Rate pa | Agriculture Total | Growth Rate pa |
|---|---|---|---|---|---|---|---|---|---|---|
| | Milk | Others | Total | Growth Rate pa | | | | | | |
| 1991/92 | 20,803 | 17,849 | 36,133 | | 4,600 | | 1,480 | | 119,955 | |
| 1992/93 | 20,963 | 17,345 | 38,308 | 6.0 | 4,909 | 6.7 | 1,245 | -15.9 | 118,802 | -1.0 |
| 8th FYP | 6.0 | 6.0 | 6.0 | | 2.9 | | 2.8 | | 4.7 | |
| 1993/94 | 22,221 | 18,386 | 40,606 | 6.0 | 5,051 | 2.9 | 1,280 | 2.8 | 124,343 | 4.7 |
| 1994/95 | 23,554 | 19,489 | 43,043 | 6.0 | 5,198 | 2.9 | 1,316 | 2.8 | 130,215 | 4.7 |
| 1995/96 | 24,967 | 20,658 | 45,625 | 6.0 | 5,349 | 2.9 | 1,353 | 2.8 | 136,393 | 4.7 |
| 1996/97 | 26,465 | 21,898 | 48,363 | 6.0 | 5,504 | 2.9 | 1,390 | 2.8 | 142,897 | 4.8 |
| 1997/98 | 28,053 | 23,212 | 51,265 | 6.0 | 5,663 | 2.9 | 1,429 | 2.8 | 149,701 | 4.8 |
| 9th FYP | 4.5 | 5.5 | 5.0 | | 3.4 | | 2.3 | | 4.4 | |
| 1998/99 | 29,316 | 24,488 | 53,804 | 5.0 | 5,856 | 3.4 | 1,462 | 2.3 | 156,335 | 4.4 |
| 1999/00 | 30,635 | 25,835 | 56,470 | 5.0 | 6,055 | 3.4 | 1,496 | 2.3 | 163,238 | 4.4 |
| 2000/01 | 32,013 | 27,256 | 59,269 | 5.0 | 6,261 | 3.4 | 1,530 | 2.3 | 170,466 | 4.4 |
| 2001/02 | 33,454 | 28,755 | 62,209 | 5.0 | 6,474 | 3.4 | 1,565 | 2.3 | 178,036 | 4.4 |
| 2002/03 | 34,959 | 30,337 | 65,296 | 5.0 | 6,694 | 3.4 | 1,601 | 2.3 | 185,964 | 4.5 |
| 10th FYP | 4.5 | 3.7 | 4.1 | | 3.7 | | 2.0 | | 4.1 | |
| 2003/04 | 36,533 | 31,459 | 67,992 | 4.1 | 6,941 | 3.7 | 1,633 | 2.0 | 193,474 | 4.0 |
| 2004/05 | 38,177 | 32,623 | 70,800 | 4.1 | 7,198 | 3.7 | 1,666 | 2.0 | 201,305 | 4.0 |
| 2005/06 | 39,895 | 33,830 | 73,725 | 4.1 | 7,465 | 3.7 | 1,699 | 2.0 | 209,472 | 4.1 |
| 2006/07 | 41,690 | 35,082 | 76,771 | 4.1 | 7,741 | 3.7 | 1,733 | 2.0 | 217,990 | 4.1 |
| 2007/08 | 43,566 | 36,380 | 79,946 | 4.1 | 8,027 | 3.7 | 1,768 | 2.0 | 226,876 | 4.1 |

Source: JICA Study Team

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Table 2.2.4.6    Trend and Projection of Growth Rate
(Wheat Production)

(Unit: Percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Production | 5.7 | 3.9 | 2.9 | 2.5 | 3.0 | 3.0 |
| Area | 2.6 | -0.1 | 0.6 | | | |
| Water | - | 2.0 | 2.1 | | | |
| Fertilizer | - | 9.4 | 2.7 | | | |
| Yield | - | 4.0 | 2.2 | | | |

The annual growth rate of area utilized for wheat production has been declining slightly over the past three FYP periods. Due to the geographical character of Pakistan, land suitable for agriculture is quite limited. In the past, agricultural development was the first priority for attain self-sufficiency. Physical development has been accelerated to meet the goa, especially for wheat production, which requires vast flat land for efficiency. Horizontal development of the agriculture sector, i.e. expansion of land suitable for agriculture associated with irrigation development along major rivers, alleviation of water logging area etc., has progressed intensively. However, as the growth rate of land area shows in the above table, such horizontal development seems to of reached its limit. In parallel with such horizontal agriculture development, vertical agricultural development, i.e. introduction of high yield variety, provision of fertilizer, increased water, agriculture extension services, production management, research and development of agricultural technologies, farm mechanization, etc., took place especially in the past three FYP periods.

Although massive efforts and investments were poured into the agriculture production, largely for wheat as a staple food, its annual growth of production has constantly decreased in the past successive FYP periods as appeared in the above table. The projection of annual growth for the 8th, 9th and 10th FYP periods are therefore projected taking into account past trends and various limiting factors of wheat production. It is projected that the average annual growth rate of production will not exceed the 7th FYP's record and decrease in the 8th FYP period. However, growth rate is assumed for the 9th and 10th FYP periods to be 3.0 % at least to meet with the growth of population. As the growth ratio of wheat production will, therefore, not match with the projected annual growth rate of population (3.1%), importation of wheat will increase constantly to meet with increased consumption of which minimum increase is 3.1%. In addition to this an increasing tendency of consumption of wheat per capita according to gradual increase of income per capita will lead the importation of wheat inevitable as appeared in Appendix Table 2.2.4.1.

b. Rice:

Rice is the next most important staple food after wheat and has been an important export commodity to earn foreign exchange. Annual out put in 1992-93 was around 3.1 million tonnes, of which 33.3 %, around 1 million tonnes was exported.

The past trend of rice production and other relevant factors for the 6th - 7th FYP periods and the projection of rice production for the 8th - 10th FYP period is shown in Appendix Table 2.2.4.2 combined with projected consumption and trade in volume. Table 2.2.4.7 "Trend and Projection of Growth Rate (Rice Production)" summarizes the average annual increase/decrease rates of production for respective FYP periods.

Table 2.2.4.7 Trend and Projection of Growth Rate (Rice Production)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Production | 1.3 | -0.8 | -0.6 | 6.4 | 3.8 | 3.0 |
| Area | -0.6 | -0.4 | 16.7 | | | |
| Water | - | 2.0 | 2.1 | | | |
| Fertilizer | - | 9.4 | 2.7 | | | |
| Yield | - | -0.3 | -0.4 | | | |

The annual growth rate of area utilized for rice production has been decreasing constantly over the past three FYP periods. As rice production requires and depends on water availability and its management, area suitable for rice production is quite limited. Horizontal development of rice production had progressed in the past and its land utilization has reached almost its ceiling level before the 5th FYP period as appeared in the above table. However, because of its importance to earn foreign exchange, rice production and expansion of land utilization for rice production has always been given importance and attention.

Although massive efforts and investments were poured as such into rice production in the past, its annual growth of production has constantly decreased as appeared in the above table. A decrease in yield of production per land area indicates that both horizontal and vertical development of rice production have almost reached their ceiling level. The average annual growth for the 8th, 9th and 10th FYP period respectively are therefore projected taking into account past trend and various limiting factors of rice production. It is projected that an average annual growth rate of production will not exceed the 7th FYP's record and decrease gradually.

c. Gram:

Gram is a staple food of Pakistan as are wheat and rice. Annual out put in 1992-93 was around 0.3 million tonnes and its acreage was about 1 million hectare.

The past trend of gram production and other relevant factors for the 5th - 7th FYP periods and the projection of gram production for the 8th - 10th FYP period is shown in Appendix Table 2.2.4.3 combined with projected consumption and trade in volume. Table 2.2.4.8 "Trend and Projection of Growth Rate (Gram Production)" summarizes the average annual increase/decrease rates of production for respective FYP periods.

The annual growth rate of area utilized for gram production decreased sharply in the 5th and 6th FYP periods, but such a sharp decrease stopped in the 7th FYP period. The average annual growth rate of production per each FYP period decreased constantly although decreasing rate of land area stopped in the 7th FYP period. This implies that gram production does not correspond to land utilization but is affected by other factors. Due to increased use of wheat as a main staple food, gram has become less important, since the populations' eating habit has changed. However, demand for gram, as a substitute staple food for wheat, will not diminish and its decreasing trend will cease until the 10th FYP period. The projection of average annual growth rate of production for the 8th, 9th and 10th FYP periods respectively are taken into account with the above mentioned factors.

Table 2.2.4.8    Trend and Projection of Growth Rate (Gram Production)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Production | -2.3 | -8.1 | 3.3 | 3.5 | 3.0 | 3.0 |
| Area | -7.6 | -5.9 | 0.6 | | | |
| Water | - | 2.0 | 2.1 | | | |
| Fertilizer | - | 9.4 | 2.7 | | | |
| Yield | - | -6.3 | -3.5 | | | |

d. Maize:

Maize is both a staple food of Pakistan and an important feeding material for livestock production, especially for poultry production. In 1992-93, around 1.2 million tonnes of maize was produced on 0.8 million hectares of cultivable land. The past trend of maize production and other relevant factors for the 5th - 7th FYP periods is shown in Appendix Table 5.3.32 and the projection of maize production for the 8th - 10th FYP period is shown in Appendix Table 2.2.4.4 combined with projected consumption and trade in volume. Below Table 2.2.4.9 "Trend and Projection of Growth Rate (Maize Production)" summarizes the average annual increase/decrease rates of production for respective FYP periods.

Table 2.2.4.9   Trend and Projection of Growth Rate
(Maize Production)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Production | 5.9 | 2.7 | -0.5 | 6.0 | 6.0 | 6.0 |
| Area | 5.0 | 1.7 | -0.7 | | | |
| Water | - | 2.0 | 2.1 | | | |
| Fertilizer | - | 1.0 | 0.7 | | | |
| Yield | - | -6.3 | -3.5 | | | |

The annual growth rate of area utilized for maize production sharply increased in the 5th FYP period but this sharp increase stopped and steady growth instead was recorded in the 6th and 7th FYP period. The average annual growth rate of production has paralleled the trend of land utilization. This implies that the production of maize is flexible to meet with market demand. The major element of market demand for maize might relate to poultry production which recorded a 15.7% raise in the 6th FYP period and -2.4% in the 7th FYP period. A modern poultry production method was introduced rapidly in the 5th FYP period throughout the country, and since that time the production of poultry has increased sharply. However, a sudden increase in mass poultry production might cause an excessive supply of poultry on the market (and corrupts of market price consecutively in the 7th FYP period). However, the demand of poultry will increase constantly along with the population increase. The projection of annual growth for the 8th, 9th and 10th FYP period are therefore projected taking into account the constant increase of market demand along with but not exceeding the rate of population increase.

e. Cotton:

Cotton is the most important cash crop and basic material for the exports of value added industrial products to earn foreign exchange. In 1992-93 around 1.5 million tonnes of cotton was produced on 2.8 million hectare of cultivated land.

The past trend of cotton production and other relevant factors for the 5th - 7th FYP periods and the projection of cotton production for the 8th - 10th FYP period is shown in Appendix Table 2.2.4.5 combined with projected consumption and trade in volume. Below Table 2.2.4.10 "Trend and Projection of Growth Rate (Cotton Production)" summarizes the average annual increase/decrease rates of production for respective FYP periods.

Table 2.2.4.10   Trend and Projection of Growth Rate
(Cotton Production)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Production | 14.8 | 31.3 | 1.5 | 6.5 | 6.5 | 6.5 |
| Area | 4.6 | 3.7 | 2.1 | | | |
| Water | - | 2.0 | 2.1 | | | |
| Fertilizer | - | 1.0 | 0.7 | | | |
| Yield | - | 26.6 | 12.3 | | | |

The annual growth rate of area utilized for cotton production has been decreasing over the past three FYP periods but maintained stable growth of above 2.0% still. Due to the geographical character of Pakistan, its land area suitable for cultivation of cotton which requires a substantial volume of water is quite limited. Vertical development of cotton has progressed rapidly during the 6th and 7th FYP period by an introduction of high yield seeds and intensive production management of cotton production. In 1992-93, cotton production recorded sharp decreases due to a spread of diseases. An application of chemicals for plant protection, however, showed considerable results and further increase of production could be assured. Industrial growth based on the textile industry of which cotton is a basic material is projected higher than overall growth of GDP. Due to an improvement of investment laws and regulations, rapid modernization and promotion of export related industry can be foreseen. Taking into account the projection of industrial growth, the annual growth of cotton production for the 8th, 9th and 10th FYP period are projected as appeared in the above table. The growth rate is projected to increase period by period because of the effects of investment on modernization of industries and promotion of marketing domestically, as well as internationally.

f. Sugar Cane

Most sugar cane is used as material to produce refined sugar. Around 5 to 11% of sugar consumption is met by imported refined sugar. The government has emphasized increased production of refined sugar to eliminate importation of refined sugar and to save scarce foreign exchange as much as possible. However, increased production of refined sugar cannot be expected to wipe out importation of refined sugar unless high yield sugar cane variety is developed through intensive research and introduction of same. Consumption of sugar has been increasing steadily at an average annual rate of 16.7% and 15.3% in the 5th and 6th FYP periods respectively in parallel with increased living standards. The average annual increase rate of the same during 7th FYP period, however, recorded 3.1 % which corresponds to an increased rate of population.

The past trend of sugar cane production and other relevant factors for the 5th - 7th FYP periods and the projection of sugar cane production for the 8th - 10th FYP period is shown in Appendix Table 2.2.4.6 combined with projected consumption and trade in volume.

The past trend of sugar cane production and other relevant factors for the 5th - 7th FYP periods and projection of sugar cane production for the 8th - 10th FYP period is shown by the average annual increase/decrease rates for respective FYP periods in table 2.2.4.11 "Trend and Projection of Growth Rate (Sugar Cane Production).

Table 2.2.4.11 Trend and Projection of Growth Rate (Sugar Cane Production)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Production | 4.5 | -0.9 | -0.7 | 3.5 | 6.0 | 5.5 |
| Area | 4.9 | -1.6 | 0.7 | | | |
| Water | - | 2.0 | 2.1 | | | |
| Fertilizer | - | 1.0 | 0.7 | | | |
| Yield | - | 2.4 | 2.5 | | | |

The annual growth rate of area utilized for sugar cane production has decreased sharply through the 6th and 7th FYP periods and its production growth corresponded exactly to that of area utilization. Due to the geographical character of Pakistan, land area suitable for cultivation of sugar cane, which requires constant water management is quite limited. Vertical development of sugar cane has progressed in the 5th FYP period , however, its production growth rate sharply decreased in the 6th FYP period. As mentioned above, consumption of refined sugar increased at a rate which exceeded its production growth rate substantially. This implies a necessity of imports may continue in the future. In order to curve such trends the government emphasizes development of high yield varieties and to increase production yield of refined sugar by application of modern technology. It is projected that the average annual growth rate of production will not be able to cover a population increase due to limitation of land, but it will be much higher than the 7th FYP period.

g. All Pulses except Gram (Major products: Others):

In Pakistan, various pulses are cultivated as traditional food items and they can substitute major staple foods such as wheat and rice. Annual out put in 1992-93 was around 0.7 million tonnes and its acreage was about 1.6 million hectares which occupies a fairly large area next to wheat and rice. The past trend of pulse excluding gram production and other relevant factors for the 5th - 7th FYP periods and the projection of gram production for 8th - 10th FYP period is shown in Appendix Table 2.2.4.7 combined with projected consumption and trade in volume. Table 2.2.4.12 "Trend and Projection of Growth Rate (All Pulses Production except Gram)" summarizes the average annual increase/decrease rates of production for respective FYP periods.

Table 2.2.4.12 Trend and Projection of Growth Rate
(All Pulses Production except Gram)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Production | -1.5 | -5.9 | 2.1 | 1.8 | 3.0 | 3.0 |
| Area | -5.5 | -1.6 | 4.7 | | | |
| Water | - | 2.0 | 2.1 | | | |
| Fertilizer | - | 9.4 | 2.7 | | | |

The annual growth rate of area utilized for pulse production has decreased constantly through 5th to 6th FYP periods, but such decrease stooped in the 7th FYP period and turned to upward. The average annual growth rate of production per each FYP period decreased correspondingly with decreasing rate of land area of previous year. This implies that pulse production corresponds to land utilization and it is predicted that the production will increase in the 8th FYP onward. Pulse has been regarded as a traditional food of Pakistan, however, due to increased use of wheat as a main staple food the importance of pulse has been decreasing according to a drastic change in the populations' eating habit. However, demand for pulse, as a substitute staple food for wheat, will not diminish and its increasing trend will continue until 10th FYP period.

h. Major Products

The trend and projection of growth rate of aggregate major agricultural products is shown in Appendix Table 2.2.4.8, and Table 2.2.4.13 "Trend and Projection of Growth Rate (Major Products)" summarizes the growth rate in volume for aggregate of major agricultural products listed above.

Table 2.2.4.13   Trend and Projection of Growth Rate (Major Products)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Production | - | 0.6 | 1.2 | 3.8 | 3.8 | 3.8 |

As shown in the above table, the increasing tendency of growth rate has started from the 6th FYP and the projection of growth rate were analyzed to be more than projected population growth rate as of 3.1 per cent.

i. Fruits :

Fruits are considered profitable agricultural products for the farmers, especially those who supply those products to the urban population.

The past trend of fruits production and other relevant factors for the 5th - 7th FYP periods and the projection of fruits and vegetables production for the 8th - 10th FYP period is shown in Appendix Table 2.2.4.9 combined with projected consumption and trade in volume. Below Table 2.2.4.14 "Trend and Projection of Growth Rate (Fruits Production)" summarizes the average annual increase/decrease rates of production for respective FYP periods.

Table 2.2.4.14   Trend and Projection of Growth Rate
(Fruits Production)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Production | - | 2.3 | 2.0 | 4.5 | 4.5 | 4.5 |
| Area | - | 3.4 | 1.4 | | | |
| Water | - | 2.0 | 2.1 | | | |
| Fertilizer | - | 1.0 | 0.7 | | | |

The annual growth rate of area utilized for fruits production has decreased through the 6th and 7th FYP periods and its production growth corresponded almost exactly to that of decreasing ratio of area utilization. As fruits is of relatively higher income products to the farmers their production has increased correspondingly to the rising income of the population, especially urban areas. However, increased fruits supplies has reached trade off level with demand. However, an increase of exportation of fruits to neighbour countries is foreseen. Judging from such past trend and projection of supply and production of fruits, growth rate of fruits will exceed the growth rate recorded in the 7th FYP period.

j. Vegetables:

Vegetables are considered profitable agricultural products for the farmers, especially those who supply those products to the urban population.

The past trend of vegetables production and other relevant factors for the 5th - 7th FYP periods and the projection of vegetables production for the 8th - 10th FYP period is shown in Appendix Table 2.2.4.10 combined with projected consumption and trade in volume. Below Table 2.2.4.15 "Trend and Projection of Growth Rate (Vegetable Projection)" summarizes the average annual increase/decrease rates of production for respective FYP periods.

Table 2.2.4.15 Trend and Projection of Growth Rate
(Vegetable Production)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Production | - | 7.1 | 3.5 | 3.3 | 3.0 | 3.0 |
| Area | 6.8 | 3.4 | 1.4 | | | |
| Water | - | 2.0 | 2.1 | | | |
| Fertilizer | - | 1.0 | 0.7 | | | |

The annual growth rate of area utilized for vegetables production has decreased sharply through 5th and 7th FYP periods and its production growth corresponded almost exactly to that of decreasing ratio of area utilization. As vegetables are of relatively higher income products to the farmers their production tend to increase correspondingly with the rising income of the population, especially urban areas. However, increased vegetables supplies have reached trade off level with demand. Judging from such past trend of supply and production of vegetables, growth rate of vegetable will not exceed the growth rate recorded in the 7th FYP period.

k. Fruits and Vegetables Combined:

Fruits and vegetables are considered profitable agricultural products for the farmers, especially those who supply those products to the urban population.

The past trend of fruits and vegetables production and other relevant factors for the 5th - 7th FYP periods and the projection of fruits and vegetables production combined for the 8th - 10th FYP period is shown in Appendix Table 2.2.4.11 combined with projected consumption and trade in volume. Below Table 2.2.4.16 "Trend and Projection of Growth Rate (Fruits and Vegetable Projection)" summarizes the average annual increase/decrease rates of production in combination of fruits and vegetable for respective FYP periods.

Table 2.2.4.16 Trend and Projection of Growth Rate
(Fruits and Vegetable Production)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Production | - | 3.5 | 3.8 | 4.0 | 3.9 | 3.9 |

l. Other Minor Products:

Potatoes and sugar beet are main items consisting other minor commodities. In Pakistan, potatoes are cultivated as a traditional food items to be assorted with main dishes. Annual out put in 1992-93 was around 0.77 million tonnes and its acreage was about 75,000 hectares which occupies not large area compared with other items but volume of product per hectare is considered to be high.

The past trend of other minor items production and other relevant factors for the 5th - 7th FYP periods and the projection of gram production for the 8th - 10th FYP period is shown in Appendix Table 2.2.4.12 combined with projected consumption and trade in volume. Below Table 2.2.4.17 "Trend and Projection of Growth Rate (Other Minor Products Production)" summarizes the average annual increase/decrease rates of production for respective FYP periods.

Table 2.2.4.17 Trend and Projection of Growth Rate
(Other Minor Products Production)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Production | 7.2 | 2.5 | 5.2 | 4.0 | 4.0 | 3.3 |
| Area | 8.2 | 4.8 | 4.4 | | | |
| Water | - | 2.0 | 2.1 | | | |
| Fertilizer | - | 9.4 | 2.7 | | | |

The annual growth rate of area utilized for potato and other minor products production has decreased with some fluctuation through 5th to 6th FYP periods. The average annual growth rate of production per each FYP period decreased correspondingly with decreasing rate of land area. This implies that potato production corresponds to land utilization and it is predicted that the production will constantly above the rate of population increase. The projection of average annual growth rate of production for the 8th, 9th and 10th FYP periods respectively are taken into account with the above mentioned factors.

m. Minor Products Combined

The trend and projection of growth rate of aggregate minor agricultural products is shown in Appendix Table 2.2.4.13 and the below Table 2.2.4.18 "Trend and Projection of Growth Rate (Minor Products) summarizes the growth rate in volume for aggregate of major agricultural products listed above.

Table 2.2.4.18 Trend and Projection of Growth Rate
(Minor Products)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Production | - | 4.0 | 2.9 | 4.0 | 3.9 | 3.9 |

As shown in the above table, although the result of the 7th FYP of minor products in aggregate volume shows decline the growth rate for the 8th - 10th FYP periods are projected to be increased moderately because of intensive investment for production of minor products can be envisaged.

n. Beef:

Beef is an important livestock product to increase and maintain supply of protein to the population. Production of beef depends not only on numbers of head of animals but also on a provision of modern facilities for meat processing and storing facilities. Provision of such facilities require a massive investment, however, once such facilities are provided, production of beef increases sharply corresponding to capacity of processing factories and is maintained until supply exceed demand. The past trend of beef production and other relevant factors for the 5th - 7th FYP periods and the projection of beef for the 8th - 10th FYP period is shown in Appendix Table 2.2.4.14 combined with projected consumption and trade in volume. Below Table 2.2.4.19 "Trend and Projection of Growth Rate (Beef Production) summarizes the average annual increase/decrease rates of production for respective FYP periods.

Table 2.2.4.19 Trend and Projection of Growth Rate
(Beef Production)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Production | - | 7.9 | 5.0 | 5.6 | 6.6 | 4.5 |

The annual growth rate of production increased sharply in the 7th FYP period. This indicates a provision of beef processing factories having considerable processing capacity. In coming the 8th - 10th FYP periods, such processing factories can be expected to be completed to meet with demand which might increase at a rate more than that of population until milk supply surpasses its demand. However, a rate of growth is projected to decrease constantly.

o. Mutton:

Mutton is also an important livestock product like beef to increase and maintain supply of protein to the population. Production of mutton depends not only on numbers of heads of animals but also on a provision of modern facilities for meat processing and storing facilities. Provision of such facilities require a massive investment, however, once such facilities are provided, production of beef increases sharply corresponding to a capacity of processing factories and is maintained until supply exceeds demand. The past trend of mutton production and other relevant factors for the 5th - 7th FYP periods and the projection of mutton for the 8th - 10th FYP period is shown in Appendix Table 2.2.4.15 combined with projected consumption and trade in volume. Below Table 2.2.4.20 "Trend and Projection of Growth Rate (Mutton Production)" summarizes the average annual increase/decrease rates of production for respective FYP periods.

Table 2.2.4.20 Trend and Projection of Growth Rate
(Mutton Production)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Production | - | 1.0 | 7.1 | 6.0 | 4.0 | 2.5 |

The annual growth rate of production increased sharply in the 7th FYP period. This indicates a provision of beef processing factory having considerable processing capacity. In coming the 8th - 10th FYP periods, such processing factory can be expected to be completed to meet with demand which might increase at a rate more than that of population until milk supply surpasses demand. However, a rate of growth is projected to decrease constantly.

p. Poultry:

Poultry is the most popular livestock product among population. Production of poultry depends on a provision of modern facilities for production such as broiler units and meat processing as well as storing facilities. Provision of such facilities require a massive investment, however, once such facilities are provided, production of poultry increases sharply corresponding to a capacity of processing factories and is maintained until supply exceed demand. Poultry production is, however, quite sensitive with market situation as well as price increases in feeding materials. The past trend of poultry production and other relevant factors for the 5th - 7th FYP periods and the projection of poultry for the 8th - 10th FYP period is shown in Appendix Table 2.2.4.16 combined with projected consumption and trade in volume. Below Table 2.2.4.21 "Trend and Projection of Growth Rate (Poultry Production)" summarizes the average annual increase/decrease rates of production for respective FYP periods.

Table 2.2.4.21 Trend and Projection of Growth Rate
(Poultry Production)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Production | - | 15.7 | -2.4 | 8.0 | 6.0 | 4.0 |

The annual growth rate of poultry production increased sharply in the 6th FYP period. This indicates that beef processing factories having considerable processing capacity were commissioned during this period. In the 7th FYP period, production recorded minus growth. It implies that a sudden increase of supply exceeded demand and it was forced to reduce production to maintain profitability of industrial poultry business. In coming the 8th - 10th FYP periods, steady and constant growth of production are projected which equals to a growth rate of population.

q. Meat:

The past trend of meat production consisting with beef, mutton and poultry for the 5th - 7th FYP periods and the projection for the 8th - 10th FYP period is shown in Appendix Table 2.2.4.17 combined with projected consumption and trade in volume. Below Table 2.2.4.22 "Trend and Projection of Growth Rate (Poultry Production)" summarizes the average annual increase/decrease rates of production for respective FYP periods.

Table 2.2.4.22 Trend and Projection of Growth Rate
(Meat Production)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Production | - | 5.9 | 5.1 | 6.0 | 5.5 | 3.7 |

The annual growth rate of meat production in total in volume has shown slight decline in the 7th FYP period. In coming the 8th - 10th FYP periods, steady and constant growth of production are projected.

r. Egg:

Egg is an important livestock product to increase and maintain supply of protein to the population. Production of egg is dependent on provision of facilities for egg production and sorting which include transportation equipment for egg collection as well as distribution. Provision of such facilities required a considerable investment, however, once such facilities were provided, production of egg increased sharply corresponding to capacity of broiler and other rearing units and is maintained until supply exceed demand. The past trend of egg production for the 5th - the 7th FYP periods and the projection of egg production for the 8th - 10th FYP period is shown in Appendix Table 2.2.4.18 combined with projected consumption and trade in volume. Below Table 2.2.4.23 summarizes the average annual increase/decrease rates of production for respective FYP periods.

Table 2.2.4.23 Trend and Projection of Growth Rate
(Egg Production)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Production | - | 3.6 | 5.9 | 6.0 | 6.0 | 4.0 |

The annual growth rate of egg production increased sharply in the 7th FYP period. This indicates a provision of egg production units having considerable sorting capacity. In the

coming the 8th - 10th FYP periods, such production units as well as rearing units can be expected to be completed to meet with demand which might increase at a rate more than that of population until egg supply surpasses demand.

s. Milk:

Milk is also an important livestock product to increase and maintain supply of protein to the population. Production of milk is dependent on provision of modern facilities for milk processing and storing which include transportation equipment for milk collection as well as distribution. Provision of such facilities required a massive investment, however, once such facilities were provided, production of milk increased sharply corresponding to capacity of processing factories and is maintained until supply exceed demand. The past trend of other minor items production and other relevant factors for the 5th - 7th FYP periods and the projection of milk production for the 8th - 10th FYP period is shown in Appendix Table 2.2.4.20 combined with projected consumption and trade in volume. Below Table 2.2.4.24 summarizes the average annual increase/decrease rates of production for respective FYP periods.

Table 2.2.4.24 Trend and Projection of Growth Rate
(Milk Production)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Production | - | 1.4 | 5.0 | 6.0 | 4.5 | 4.5 |

The annual growth rate of milk production increased sharply in the 7th FYP period. This indicates a provision of milk processing factory having considerable processing capacity become operational. In the coming the 8th - 10th FYP periods, such processing factories can be expected to continue the production to meet with demand which might increase at a rate more than that of population until milk supply surpasses demand.

t. Livestock:

The past trend of aggregate livestock production consisting of beef, mutton, poultry, egg and milk for the 5th - 7th FYP periods and the projection for the 8th - 10th FYP period is shown in Appendix Table 2.2.4.21 combined with projected consumption and trade in volume. Below Table 2.2.4.25 "Trend and Projection of Growth Rate (Livestock Production)" summarizes the average annual increase/decrease rates of production for respective FYP periods.

Table 2.2.4.25 Trend and Projection of Growth Rate
(Livestock Production)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Production | - | 2.0 | 5.0 | 6.0 | 4.6 | 4.4 |

The annual growth rate of livestock production in total in volume has increased sharply in the 7th FYP period. In coming the 8th FYP period this increasing tendency will continue but for 9th - 10th FYP periods, steady and constant growth of production are projected.

u. Inland Fishery:

Fishery consists of marine fish production and inland fish production. Inland fishery has developed gradually since 5th FYP period. The past trend of fishery and other relevant factors for the 5th - 7th FYP periods and the projection of fishery for the 8th - 10th FYP period is shown in Appendix Table 2.2.4.22 combined with projected consumption and trade in volume. Below Table 2.2.4.26 summarizes the average annual increase/decrease rates of production for respective FYP periods.

Table 2.2.4.26 Trend and Projection of Growth Rate
(Inland Fishery)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Production | - | 10.8 | 5.5 | 2.8 | 4.0 | 5.0 |

The annual growth rate of inland fishery increased sharply in the the 6th FYP period because inland fishery has been still introductive stage and provision of necessary equipment, and so on were made in the 6th FYP. Growth trend will appear steadily from 9th FYP because of propagation of technology and means of fishery over the country.

v. Marine Fishery:

Marine fishery production is a rather traditional means of living along coastal region. The past trend and the projection of fishery for the 8th - 10th FYP period is shown in Appendix Table 2.2.4.23 combined with projected consumption and trade in volume. Below Table 2.2.4.27 "Trend and Projection of Growth Rate (Marine Fishery Production) summarizes the average annual increase/decrease rates of production for respective FYP periods.

Table 2.2.4.27 Trend and Projection of Growth Rate
(Marine Fishery Production)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Production | - | 4.4 | 2.2 | 2.9 | 3.2 | 3.2 |

Marine fishery has not grown so rapidly because the marine fishery is rather traditional means of living among the coastal population. Amount of investment necessary for marine fishery development and growth is much higher than that of inland fishery, therefore, production growth of marine fishery has been lower than inland fishery. Judging from such trend of production growth for both types of fishery, the production growth was projected at a rate of population growth as indicated in the above table.

w. Fishery:

Fishery consists of marine fish production and inland fish production. The past trend of fishery for the 5th - 7th FYP periods and the projection of fishery for the 8th - 10th FYP period is shown in Appendix Table 2.2.4.24 combined with projected consumption and trade in volume. Below Table 2.2.4.28 "Trend and Projection of Growth Rate (Fishery Production) summarizes the average annual increase/decrease rates of production for respective FYP periods.

Table 2.2.4.28 Trend and Projection of Growth Rate
(Fishery Production)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Fishery Total | - | 5.6 | 3.3 | 2.9 | 3.4 | 3.7 |
| Inland Fishery | - | 10.8 | 5.5 | 2.8 | 4.0 | 5.0 |
| Marine Fishery | - | 4.4 | 2.2 | 2.9 | 3.2 | 3.2 |

Fishery production in combination of marine and inland fishery is projected to grow steadily in parallel with the growth of population although declining trend may continue during the 8th FYP.

x. Fuelwood:

Forestry consists of two major products. One is the timber for wood works and the other is fuelwood for cooking and household use. The past trend of forestry and other relevant factors for the 5th - 7th FYP periods and the projection of forestry for the 8th - 10th FYP period is shown in Appendix Table 2.2.4.25 combined with projected consumption and trade in volume. Below Table 2.2.4.29A "Trend and Projection of Growth Rate (Fuelwood Production) summarizes the average annual increase/decrease rates of production for respective FYP periods.

Table 2.2.4.29A    Trend and Projection of Growth Rate
(Fuelwood Production)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Fuelwood | - | 6.6 | 18.1 | 2.9 | 2.0 | 1.5 |

The annual growth rate of production increased sharply in the 7th FYP period. Fuelwood is very important and a cheap energy source for household use especially in low income class. In the 8th FYP period and in the future the law enforcement of environmental protection will be strongly conducted. The government of Pakistan emphasizes a rapid development of power supply and its distribution to alleviate sever power shortage. This may result in a reduction of consumption of fuelwood in the future. Judging from such trend and foreseeable situations concerned to the forestry, the production growth rate of forestry is projected to be constantly lower than the growth rate recorded in the 6th FYP period as indicated in the above table.

y. Timber:

Forestry consists of two major products. One is the timber for wood works and the other is firewood for cooking and household use.

The past trend of timber production 5th - 7th FYP periods and the projection of forestry for the 8th - 10th FYP period is shown in Appendix Table 2.2.4.26 combined with projected consumption and trade in volume. Below Table 2.2.4.29B "Trend and Projection of Growth Rate (Timber Production)" summarizes the average annual increase/decrease rates of production for respective FYP periods.

Table 2.2.4.29B  Trend and Projection of Growth Rate
(Timber Production)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Timber | - | 8.9 | -8.2 | 2.5 | 3.5 | 3.5 |

The annual growth rate of timber production decreased sharply in the 7th FYP. As recorded production growth rates of timber production during the period of the 6th and 7th FYP periods, industrial forestry production decreased sharply which might be attributed to introduction of environmental protection measure. In the 8th FYP period and in the future the law enforcement of environmental protection will be strongly conducted. However, construction sector would grow constantly. Judging from such trend and foreseeable situations concerned to timber production, the production growth rate of forestry is projected to be constantly lower than the growth rate recorded in the 6th FYP period but will continue to grow steadily as indicated in the above table.

z. Forestry:

Forestry consists of two major products. One is the timber for wood works and the other is firewood for cooking and household use. The past trend of forestry for the 5th - 7th FYP periods and the projection of forestry for the 8th - 10th FYP period is shown in Appendix Table 2.2.4.27 combined with projected consumption and trade in volume. Below Table 2.2.4.30 "Trend and Projection of Growth Rate (Forestry Production in Total)" summarizes the average annual increase/decrease rates of production for respective FYP periods.

Table 2.2.4.30 Trend and Projection of Growth Rate
(Forestry Production in Total)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Production | - | 7.6 | 9.0 | 2.8 | 2.3 | 2.0 |

Growth of forestry production would decrease plan period by plan period continuously because of balancing between production and conservation of environment will be continuously conducted to avoid environmental hazard due to excessive deforestation as appeared in the above table.

• Agricultural Sector:

The past trend of aggregate production of agriculture sector for the 5th - 7th FYP periods and the projection of the same for the 8th - 10th FYP period is shown in Appendix Table 2.2.4.28 combined with projected consumption and trade in volume. Below Table 2.2.4.31 "Trend and Projection of Growth Rate (Agriculture Sector) summarizes the average annual increase/decrease rates of production for respective FYP periods.

Table 2.2.4.31 Trend and Projection of Growth Rate
(Agriculture Sector)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Production | - | 1.2 | 2.1 | 4.2 | 4.0 | 3.9 |

Aggregate production of agriculture sector is projected to grow steadily in parallel with the growth of population although declining slightly toward the 10th FYP as the production may trade off with consumption of various agricultural commodities.

2) Manufacturing

Past production record of different product groups and identical industrial commodities for the period of 1983-84 - 1992-93 through the 6th and 7th FYP periods are tabulated in Table 2.2.4.32 "Production of Selected Manufacturing Industries in Volume". Average growth rate per annum during these two FYP periods are calculated for each commodities. However, due to the limited data available items studied were the same of previous master plan study. Growth trend and projection of selected items of industrial products in volume by production, trade and consumption is summarized as shown in Table 2.2.4.33. Growth projection of manufacturing sector was carried out by compilation of growth projection of major manufacturing commodities respectively. Table 2.2.4.34 "Projection of Industrial Production by Commodities (Manufacturing Sector)" shows the projection of the productions of items categorized to be included in the manufacturing sector by commodities in volume. The volume of production obtained was converted into monetary value as shown in Table 2.2.4.35 "GDP at Factor Cost by Economic Activity (Manufacturing Sector)". The conversion from volume to value was done using an analysis conducted in the previous study in 1985 as a base figure as shown in Table 2.2.3.1 "Price Conversion Table".

## Table 2.2.4.32 Production of Selected Manufacturing Industries (in Volume)

| Fiscal Year | UNIT | 1983/84 | 1984/85 | 1985/86 | 1986/87 | 1987/88 | 6th FYP Rate of Growth pa | 1988/89 | 1989/90 | 1990/91 | 1991/92 | 1992/93 | 7th FYP Rate of Growth pa |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Industrial Commodities** | | | | | | | | | | | | | |
| **1 Processed Foods** | | | | | | | | | | | | | |
| Vegitable Ghee | 000 Tonnes | 595 | 640 | 612 | 609 | 697 | 4.0 | 684 | 683 | 656 | 363 | 410 | -12.0 |
| Sugar | 000 Tonnes | 1,147 | 1,306 | 1,116 | 1,286 | 1,771 | 11.5 | 1,858 | 1,857 | 1,934 | 2,322 | 2,394 | 6.5 |
| Beverages | Mln. Dz. Bottle | 80 | 76 | 86 | 77 | 89 | 2.7 | 88 | 86 | 67 | 85 | 100 | 3.2 |
| Cigarettes | Billion Nos. | 38 | 40 | 39 | 40 | 41 | 1.9 | 32 | 32 | 30 | 30 | 33 | 0.8 |
| **2 Textile Products** | | | | | | | | | | | | | |
| Yarn | Tonnes | 431 | 431 | 482 | 586 | 685 | 12.3 | 757 | 911 | 1,041 | 1,170 | 1,214 | 12.5 |
| Cloth | Mil. Sq. meter | 297 | 272 | 253 | 238 | 282 | -1.3 | 269 | 294 | 292 | 307 | 322 | 4.6 |
| Jute | 000 Tonnes | 84 | 78 | 100 | 114 | 111 | 7.2 | 104 | 96 | 97 | 101 | 99 | -1.2 |
| **3 Paper and paper product** | | | | | | | | | | | | | |
| Paper board | 000 Tonnes | 30 | 33 | 33 | 35 | 34 | 3.2 | 32 | 33 | 32 | 24 | 27 | -4.2 |
| Chip board | 000 Tonnes | 32 | 36 | 30 | 34 | 36 | 3.0 | 33 | 37 | 37 | 40 | 40 | 4.9 |
| Printing paper | 000 Tonnes | 4 | 4 | 4 | 4 | 2 | -15.9 | 1 | 1 | 1 | 1 | 2 | 18.9 |
| Writing paper | 000 Tonnes | 26 | 30 | 21 | 7 | 10 | -21.2 | 15 | 7 | 4 | 2 | 2 | -39.6 |
| **4 Industrial Chemical** | | | | | | | | | | | | | |
| Urea | 000 Tonnes | 1,798 | 1,815 | 1,820 | 1,993 | 1,985 | 2.5 | 2,008 | 2,108 | 2,050 | 1,898 | 2,306 | 3.5 |
| Super Phosphate | 000 Tonnes | 106 | 106 | 106 | 108 | 108 | 0.5 | 140 | 164 | 175 | 194 | 205 | 10.0 |
| Ammonium Nitrate | 000 Tonnes | 383 | 406 | 394 | 413 | 333 | -3.4 | 251 | 338 | 312 | 300 | 302 | 4.7 |
| Ammonium Sulphate | 000 Tonnes | 73 | 79 | 92 | 92 | 98 | 7.6 | 98 | 95 | 92 | 93 | 93 | -1.3 |
| Cement | 000 Tonnes | 4,503 | 4,732 | 5,773 | 6,508 | 7,072 | 11.9 | 7,125 | 7,448 | 7,762 | 8,321 | 8,551 | 4.7 |
| **5 Other Chemical Product** | | | | | | | | | | | | | |
| Soda Ash | 000 Tonnes | 107 | 122 | 128 | 130 | 134 | 5.8 | 144 | 149 | 147 | 186 | 196 | 8.0 |
| Suphuric Acid | 000 Tonnes | 82 | 78 | 80 | 78 | 78 | -1.2 | 79 | 90 | 94 | 98 | 100 | 6.1 |
| Caustic Soda | 000 Tonnes | 40 | 46 | 55 | 55 | 61 | 11.1 | 67 | 74 | 79 | 82 | 82 | 5.2 |
| Paints and vanishes | 000 Tonnes | 9 | 11 | 12 | 13 | 12 | 7.5 | 12 | 11 | 14 | 19 | 14 | 3.9 |
| **7 Petroleum** | | | | | | | | | | | | | |
| Crude oil production | 000 Barrel | 4,883 | 9,522 | 14,348 | 14,999 | 16,310 | 35.2 | 17,069 | 19,520 | 23,485 | 22,394 | 21,880 | 6.4 |
| | 000 Tonnes | 781 | 1,524 | 2,296 | 2,400 | 2,610 | 35.2 | 2,731 | 3,123 | 3,758 | 3,583 | 3,501 | 6.4 |
| Petroleum products | 000 Tonnes | 4,352 | 4,668 | 4,838 | 4,956 | 5,671 | 6.8 | 4,970 | 5,163 | 6,434 | 6,355 | 6,160 | 5.5 |
| Natural gas | 000 mmcf | 347 | 362 | 380 | 403 | 437 | 5.9 | 455 | 497 | 522 | 550 | 584 | 6.4 |
| Coal | 000 Tonnes | 1,869 | 2,238 | 2,202 | 2,261 | 2,749 | 10.1 | 2,536 | 2,745 | 3,054 | 3,627 | 3,134 | 5.4 |
| **8 Rubber Products** | | | | | | | | | | | | | |
| For motor tyre | 000 Nos. | 238 | 307 | 412 | 382 | 679 | 30.0 | 907 | 915 | 952 | 784 | 767 | -4.1 |
| For motor tube | 000 Nos. | 122 | 87 | 171 | 117 | 384 | 33.2 | 521 | 648 | 646 | 618 | 490 | -1.5 |
| **9 Machinery** | | | | | | | | | | | | | |
| Bycycles | 000 Nos. | 448 | 463 | 448 | 593 | 655 | 10.0 | 560 | 530 | 429 | 478 | 573 | 0.6 |
| Sewing machine | 000 Nos. | 65 | 67 | 79 | 85 | 86 | 7.2 | 84 | 107 | 81 | 85 | 72 | -3.8 |

Source: Economic Survey 1993-94, Economic Advisor's Wing, Finance Divsion

# Table 2.2.4.33 Annnual Growth Trend and Produciton of Industrial Products (in Volume)

| Item | Plan Period Year | Past Trend | | | Projection | | |
|---|---|---|---|---|---|---|---|
| | | 5th FYP 1978-83 | 6th FYP 1983-88 | 7th FYP 1988-93 | 8th FYP 1993-98 | 9th FYP 1998-2003 | 10th FYP 2003-08 |
| Crude Oil | Production | 6.3 | 35.2 | 6.4 | 15.5 | 10.0 | 8.0 |
| | Import | 4.1 | -3.0 | 2.3 | -13.1 | 35.2 | -4.1 |
| | Consumption | 4.4 | 4.9 | 3.9 | 3.4 | 20.0 | 2.5 |
| Petroleum | Production | 1.2 | 1.2 | 3.4 | 3.4 | 20.0 | 2.5 |
| Products | Import | 7.4 | 14.9 | 11.4 | 12.9 | -7.8 | 10.7 |
| | Consumption | 5.2 | 9.7 | 7.1 | 8.8 | 6.7 | 5.5 |
| Natural Gas | Production | 11.2 | 6.5 | 6.7 | 9.4 | 7.4 | 6.2 |
| | Import | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Consumption | 11.2 | 6.5 | 6.4 | 9.4 | 7.4 | 6.2 |
| Coal | Production | 5.7 | 10.1 | 6.5 | 15.5 | 10.0 | 7.5 |
| | Import | 74.4 | 14.8 | 1.0 | 1.7 | 0.7 | -7.3 |
| | Consumption | 13.4 | 11.1 | 5.1 | 13.5 | 9.2 | 6.8 |
| Fertilizer | Production | 31.1 | 1.6 | 2.3 | 5.0 | 4.0 | 4.0 |
| | Import | 14.7 | 20.8 | 10.2 | -2.0 | -2.0 | -3.0 |
| | Consumption | 24.4 | 4.7 | 4.1 | 5.7 | 2.5 | 2.0 |
| Cement | Production | 6.8 | 11.9 | 4.7 | 8.6 | 6.6 | 4.0 |
| | Import | 0.7 | -65.7 | 16.4 | 0.0 | 1.0 | 2.0 |
| | Consumption | 5.8 | 7.2 | 4.7 | 4.5 | 6.0 | 3.5 |
| Limestone | Production | 6.4 | 12.8 | 5.6 | 8.5 | 6.5 | 4.0 |
| | Import | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Consumption | 6.4 | 12.8 | 5.6 | 8.5 | 6.5 | 4.0 |

Source:
(1) Economic Survey 1993-94, Economic Advisor's Wing, Finance Divsion
(2) JICA Study Team

Table 2.2.4.34 Projection of Industrial Production by Commodities Manufacturing Sector ( 000 Tonnes)

| Year | Cement | Fertilizer | Textiles | Food | Tobacco | Chemical | Non-metal | Paper | Machinery | Others | Manufacturing Total | Growth Rate pa |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1991/92 | 8,321 | 2,798 | 14,893 | 4,725 | 3,000 | 2,600 | 1,402 | 67 | 1,200 | 2,000 | 41,006 | |
| 1992/93 | 8,551 | 3,203 | 16,829 | 5,204 | 3,300 | 3,298 | 1,257 | 70 | 1,344 | 2,200 | 45,256 | 10.4 |
| 8th FYP | 8.6 | 5.0 | 13.0 | 6.0 | 3.0 | 8.0 | 9.0 | 4.0 | 12.0 | 10.0 | 9.7 | |
| 1993/94 | 9,286 | 3,363 | 19,017 | 5,516 | 3,399 | 3,562 | 1,370 | 72 | 1,505 | 2,420 | 49,511 | 9.4 |
| 1994/95 | 10,085 | 3,531 | 21,489 | 5,847 | 3,501 | 3,847 | 1,493 | 75 | 1,686 | 2,662 | 54,217 | 9.5 |
| 1995/96 | 10,952 | 3,708 | 24,283 | 6,198 | 3,606 | 4,155 | 1,628 | 78 | 1,888 | 2,928 | 59,424 | 9.6 |
| 1996/97 | 11,894 | 3,893 | 27,439 | 6,570 | 3,714 | 4,487 | 1,774 | 82 | 2,115 | 3,221 | 65,190 | 9.7 |
| 1997/98 | 12,917 | 4,088 | 31,007 | 6,964 | 3,826 | 4,846 | 1,934 | 85 | 2,369 | 3,543 | 71,578 | 9.8 |
| 9th FYP | 6.6 | 4.0 | 8.0 | 5.5 | 2.5 | 7.0 | 6.0 | 3.0 | 10.0 | 8.0 | 6.8 | |
| 1998/99 | 13,770 | 4,251 | 33,487 | 7,347 | 3,921 | 5,185 | 2,050 | 87 | 2,605 | 3,827 | 76,531 | 6.9 |
| 1999/00 | 14,678 | 4,422 | 36,166 | 7,751 | 4,019 | 5,548 | 2,173 | 90 | 2,866 | 4,133 | 81,846 | 6.9 |
| 2000/01 | 15,647 | 4,598 | 39,059 | 8,178 | 4,120 | 5,936 | 2,303 | 93 | 3,153 | 4,463 | 87,551 | 7.0 |
| 2001/02 | 16,680 | 4,782 | 42,184 | 8,627 | 4,223 | 6,352 | 2,442 | 95 | 3,468 | 4,820 | 93,674 | 7.0 |
| 2002/03 | 17,347 | 4,974 | 45,559 | 9,102 | 4,328 | 6,797 | 2,588 | 98 | 3,745 | 5,206 | 99,744 | 6.5 |
| 10th FYP | 4.0 | 4.0 | 8.0 | 5.5 | 2.5 | 7.0 | 6.0 | 3.0 | 8.0 | 8.0 | 6.6 | |
| 2003/04 | 18,041 | 5,173 | 49,203 | 9,602 | 4,437 | 7,272 | 2,743 | 101 | 4,045 | 5,622 | 106,240 | 6.5 |
| 2004/05 | 18,763 | 5,379 | 53,140 | 10,131 | 4,547 | 7,781 | 2,908 | 104 | 4,368 | 6,072 | 113,194 | 6.5 |
| 2005/06 | 19,513 | 5,595 | 57,391 | 10,688 | 4,661 | 8,326 | 3,083 | 107 | 4,718 | 6,558 | 120,640 | 6.6 |
| 2006/07 | 20,294 | 5,818 | 61,982 | 11,276 | 4,778 | 8,909 | 3,268 | 111 | 5,095 | 7,083 | 128,613 | 6.6 |
| 2007/08 | 21,105 | 6,051 | 66,941 | 11,896 | 4,897 | 9,533 | 3,464 | 114 | 5,503 | 7,649 | 137,153 | 6.6 |

Source:
(1) Economic Survey 1993/94, Economic Advisor's Wing
(2) 8th Five Year Plan
(3) JICA Study Team

## Table 2.2.4.35 GDP at Factor Cost by Economic Activity, at 1980-81 Price (Manufacturing Sector)

| Year | Foods | Tobbacco | Textiles | Apparels | Wood & Paper | Chemical | Non-metal | Metal & pro | Machinery | Others | Manufacturing Total | Growth Rate pa |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1991/92 | 18,749 | 499 | 14,893 | 6,229 | 2,033 | 10,300 | 2,845 | 11,746 | 10,194 | 7,836 | 85,324 | |
| 1992/93 | 18,749 | 499 | 14,892 | 6,229 | 2,034 | 10,300 | 2,845 | 11,746 | 10,194 | 12,428 | 89,916 | 5.4 |
| 8th FYP | 6.0 | 3.0 | 14.0 | 13.0 | 4.0 | 8.0 | 9.0 | 8.0 | 12.0 | 10.0 | 9.8 | |
| 1993/94 | 19,874 | 514 | 16,977 | 7,039 | 2,115 | 11,124 | 3,101 | 12,686 | 11,417 | 13,671 | 98,518 | 9.6 |
| 1994/95 | 21,066 | 529 | 19,354 | 7,954 | 2,200 | 12,014 | 3,380 | 13,701 | 12,787 | 15,038 | 108,023 | 9.6 |
| 1995/96 | 22,330 | 545 | 22,063 | 8,988 | 2,288 | 12,975 | 3,684 | 14,797 | 14,322 | 16,542 | 118,534 | 9.7 |
| 1996/97 | 23,670 | 562 | 25,152 | 10,156 | 2,379 | 14,013 | 4,016 | 15,980 | 16,040 | 18,196 | 130,165 | 9.8 |
| 1997/98 | 25,090 | 578 | 28,673 | 11,477 | 2,475 | 15,134 | 4,377 | 17,259 | 17,965 | 20,015 | 143,044 | 9.9 |
| 9th FYP | 5.5 | 2.5 | 8.0 | 9.0 | 3.0 | 7.0 | 6.0 | 5.0 | 10.0 | 8.0 | 7.2 | |
| 1998/99 | 26,470 | 593 | 30,967 | 12,395 | 2,549 | 16,193 | 4,640 | 18,122 | 19,762 | 21,617 | 153,308 | 7.2 |
| 1999/00 | 27,926 | 608 | 33,445 | 13,386 | 2,625 | 17,327 | 4,918 | 19,028 | 21,738 | 23,346 | 164,347 | 7.2 |
| 2000/01 | 29,462 | 623 | 36,120 | 14,457 | 2,704 | 18,540 | 5,214 | 19,979 | 23,912 | 25,214 | 176,225 | 7.2 |
| 2001/02 | 31,083 | 639 | 39,010 | 15,614 | 2,785 | 19,838 | 5,526 | 20,978 | 26,303 | 27,231 | 189,006 | 7.3 |
| 2002/03 | 32,792 | 654 | 42,130 | 16,863 | 2,869 | 21,226 | 5,858 | 22,027 | 28,993 | 29,409 | 202,762 | 7.3 |
| 10th FYP | 5.5 | 2.5 | 8.0 | 8.0 | 3.0 | 7.0 | 6.0 | 6.0 | 8.0 | 8.0 | 7.2 | |
| 2003/04 | 34,596 | 671 | 45,501 | 18,212 | 2,955 | 22,712 | 6,209 | 23,349 | 31,248 | 31,762 | 217,214 | 7.1 |
| 2004/05 | 36,498 | 688 | 49,141 | 19,669 | 3,044 | 24,302 | 6,582 | 24,750 | 33,748 | 34,303 | 232,724 | 7.1 |
| 2005/06 | 38,506 | 705 | 53,072 | 21,242 | 3,135 | 26,003 | 6,977 | 26,235 | 36,448 | 37,047 | 249,369 | 7.2 |
| 2006/07 | 40,624 | 722 | 57,318 | 22,942 | 3,229 | 27,823 | 7,396 | 27,809 | 39,363 | 40,011 | 267,237 | 7.2 |
| 2007/08 | 42,858 | 741 | 61,903 | 24,777 | 3,326 | 29,771 | 7,839 | 29,477 | 42,513 | 43,212 | 286,416 | 7.2 |

Source:
(1) Economic Survey 1993/94, Economic Advisor's Wing, Financial Division
(2) 8th Five Year Plan, Planning Commission
(3) JICA Study Team

As appeared in Table 2.2.4.35 an overall manufacturing sub-sector growth rate for the periods from the 8th to 10th FYP are projected to be as 9.8 %, 7.2 % and 7.2 % and expected to be a leading sector of transformation and further development of national economy as a whole.

A compilation of result of projection for various commodities broadly classified as processed foods (edible oil and sugar), tobacco, textile, apparel, wood and paper, chemicals, non-metal products, metal products, machinery and others are shown in respective table as attached Appendix Tables 2.2.3.29 - 33 which form an overall projection of production in manufacturing sector.

The annual growth of representing manufacturing commodities are tabulated in the attached statistical tables which show the past trend of production and geographical distribution of productions. The projected average annual growth rates of the 8th - 10th FYP periods each and projected volume of projection for each year up to 2007/08 are tabulated in appendices as mentioned above. The annual growth rate per each FYP period and production in volume for each commodity is projected according to following criteria and respective reasons mentioned below respectively.

a. Edible Oil:

The production of edible oil was assumed to increase/decrease in accordance with the number of vegetable ghee factories and their production capacity as well as production of raw materials. The past trend of edible oil production for the 5th - 7th FYP periods and the projection of edible oil production for the 8th - 10th FYP period is shown in Appendix Table 2.2.4.29 combined with projected consumption and trade in volume. Below Table 2.2.4.36 summarize the average annual increase/decrease rates of production for respective FYP periods.

Table 2.2.4.36 Trend and Projection of Growth Rate
(Edible Oil Production)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Production | 5.0 | 4.0 | -0.4 | 5.0 | 5.0 | 5.5 |
| Nos of Plants | - | 5.9 | 3.6 | 1.5 | 2.2 | 2.0 |

The consumption of edible oil has been increasing steadily, however, the imports of edible oil shares more than 60 % of total consumption. The Government of Pakistan has emphasized increase of the production of edible oil so as to curve the imports of the same as much as possible. Taking into account such matters, the growth rate of production were projected as above. However, due to shortage of suitable indigenous raw materials and international price competition a significant increase of edible oil production cannot be foreseen.

b. Sugar:

Sugar is an indispensable food item in Pakistan and its consumption has increased quite rapidly in the past. As the production growth rate of sugar cane has not been able to meet with increased consumption imports of refined sugar became necessary. The number of sugar mills has increased almost at annual growth rate of 3 % through 5th to 7th FYP periods, however, production does not correspond to its installed production capacity because of yield or sugar cane varies depend on crop and variety and international competition in the market.

The past trend of refined sugar production and other relevant factors for the 5th - 7th FYP periods and the projection of refined sugar production for the 8th - 10th FYP period is shown in Appendix Table 2.2.4.30 combined with projected consumption and trade in volume. Below Table 2.2.4.37 "Trend and Projection of Growth Rate (Refined Sugar)" summarizes the average annual increase/decrease rates of production for respective FYP periods.

Table 2.2.4.37 Trend and Projection of Growth Rate
(Refined Sugar)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Production | 16.7 | 11.6 | 2.8 | 6.0 | 5.5 | 5.5 |
| Nos of Plants | 4.7 | 3.1 | 3.2 | 3.0 | 3.0 | 3.0 |

In the past 5th and 6th FYP periods, the consumption of refined sugar sharply increased at a rate of 16.7 % and 15.3 % respectively. However, during the 7th FYP, an increased rate of consumption was only 3.1 % which is equal to population increase. This means that the consumption per capita is closed to saturation point and rate of increased consumption will became stable at around 3.0 %, however, due to international competition at the market the production growth may not exceed 10.0 % as recorded in the past.

c. Beverages:

Volume of production of beverages has been steadily growing during the 6th and the 7th FYP at a rate of 2.7 % and 3.2 % respectively. This trend may continue through the 8th to 10th FYP period at very close ratio of population increase which is between 3.0 % to 2.6 %.

d. Tobacco:

Volume of tobacco production has been decreasing during the 6th and 7th FYP at a rate of 1.9 % to 0.8 %. This trend may reflect rapid introduction of non-smoking movement which is internationally recognized.

e. Textiles:

Textile products has been a leading industrial and export value added commodities of Pakistan. As mentioned above paragraph production growth rate of cotton has been remarkably increased in the past 5th - 7th FYP as 14.8 %, 31.3 % and 1.5 %. Production of yarn has increased corresponding to the growth rate of cotton production during the same period as 12.3 % and 12.5 % in the 6th and 7th FYP periods. Apparel industry, however, has been following but behind the increased production of yarn due to the time lag of investment effects related to the investment in production facilities. Although the growth rate of apparels were - 1.3 % and 4.6 % in the 6th and 7th FYP periods, its growth rate will soon reach to the level between 6.0 % and 5.0 %. This growth rate projection may be conservative when massive investments are anticipated in this field from overseas investors to utilize available law materials and comparatively low labor cost in Pakistan.

f. Wood and paper products:

Paper board and chip board are major paper products manufactured in Pakistan. Average annual growth rate of these paper products recorded between 3.0 % and 4.9 % in the 6th and the 7th FYP periods. The production of these products relate closely with the industrial growth in general based on total production growth rate expected, however, judging from existing paper product manufacturing capacity the rate of production growth would not increase rapidly exceeding 4.9 % which is the highest recorded growth rate in the past.

g. Industrial Chemicals:

Most of the industrial chemical produced in Pakistan are chemical fertilizer made of phosphate and natural gas available locally. Appendix Table 2.2.4.31 shows a trend and future projection of fertilizer production as well as consumption. The production growth rate corresponds, therefore, to the growth of agricultural production. In terms of volume of production, urea is the biggest item produced. The annual growth rate of this item alone were 2.5 % and 3.5 % for the period of the 6th and 7th FYP respectively. As fertilizer usage per hector is expected to increase year by year to enhance vertical development of agriculture where horizontal expansion has certain limiting factors, demand of urea and other chemical fertilizer will increase continuously.

Below Table 2.2.4.38 "Trend and Projection of Growth Rate (Fertilizer)" summarizes the average annual increase/decrease rates of production for respective FYP periods.

Table 2.2.4.38 Trend and Projection of Growth Rate
(Fertilizer Productivity)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Production | 31.1 | 1.6 | 2.3 | 5.0 | 4.0 | 4.0 |

Other important industrial chemical commodities are soda ash and sulphuric acid. Both of them relate to textile industry closely, therefore, as textile industry grows, demand on such products grow correspondingly. It is expected that the industrial growth of Pakistan is basically dependent on the growth of its textile industry including related industry such as the apparel industry which is expected to generate employment opportunities effectively. Value added products based on textile as traditional export items are focused to stimulate and lead national economic growth for coming years.

h. Cement:

Cement is included in this commodity group and its annual production growth rate were 11.9 % and 4.7 % for the period of the 6th and 7th FYP respectively. Cement production is in general correspond to the change in the construction industry. As housing industry is projected to grow at the annual growth rate of 5.5 % to 6.5 % for the periods of the 8th - 10th FYP, the growth of cement production is projected to be more than those projected growth rate of housing to meet with demand.

The past trend of cement production for the 5th - 7th FYP periods and the projection of cement production for the 8th - 10th FYP period is shown in Appendix Table 2.2.4.32 combined with projected consumption and trade in volume. Below Table 2.2.4.39 "Trend and Projection of Growth Rate (Cement Production)" summarizes the average annual increase/decrease rates of production for respective FYP periods.

Table 2.2.4.39 Trend and Projection of Growth Rate
(Cement Production)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Production | 6.8 | 11.9 | 4.7 | 8.6 | 6.6 | 4.0 |

Pakistan has unlimited deposit of raw materials for cement production as well as relatively low indigenous fuels such as natural gas and coal in the country. In the past three FYP periods the production of cement met almost with demand. However, the production of cement is required to increase so as to meet with the growth of construction sub-sector which is expected to increase annually at 5.5 %, 6.0 %, 6.5 % for the 8th - 10th FYP periods. The expected increase of cement production takes into account time lag between investment on expansion of production facilities and commencement of production. Therefore, growth rate in the 8th FYP is lower than increased demand but it will increase sharply in succeeding FYP periods over an expected growth of demand side.

i. Iron and Steel:

Major iron and steel producer in Pakistan is the Pakistan Steel Mill located at Qasim, Punjub. It design capacity is 3.0 million tonnes per annum. Major part of iron ore as a raw material is imported from abroad and coal as a heating source is also designed to import from abroad. Production of steel has increased drastically during the 6th FYP due to a commissioning of the above mentioned steel mill, however, its production has not reached yet to the maximum designed capacity. If the pace of facility utilization continue in the the 8th FYP period, in 1998/99 its production will reach maximum level. The trend and projection of steel

production is shown in Appendix Table 2.2.4.33. The required iron ore and coal were estimated based on past record as appeared in Appendix Table 2.2.4.34. Below Table 2.2.4.40 "Trend and Projection of Growth Rate (Iron and Steel Production)" summarizes the average annual increase/decrease rates of production for respective FYP periods.

Table 2.2.4.40 Trend and Projection of Growth Rate
(Iron and Steel Production)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Production | 8.0 | 33.4 | 3.3 | 4.5 | 4.7 | 7.0 |

The growth rate of iron and steel production suddenly increase in the the 6th FYP period because of commissioning of Pakistan Steel Mill. The projection of future growth is constant through the the 8th to 10th FYP periods and in connection with the projected growth of construction sector.

j. Machinery:

Data available on the industrial sector especially the machinery manufacturing sub-sector is quite limited. However, this sector is thought to be a key sector to lead and stimulate the national economy as well as to generate employment opportunities for coming years to transform an economy structure of Pakistan. The Government of Pakistan has been striving into reformation of traditional economic system to a more industrial oriented economy so as to assure sustainable economic development and steady generation of employment. From this major economic policy point of view, the modernization and the reinforcement of the manufacturing sector is emphasized to catch up on an international market trend. The growth projection of machinery sub-sector in the manufacturing sector as over expected overall economic growth as 8.0 %, 10.0 % and 12.0 % for the periods of the 8th, 9th and 10th FYP respectively.

3) Mining and Quarrying

a. General:

The past trend of mining and quarrying sector for the 6th - 7th FYP periods is and the projection of crude oil, natural gas, coal, limestone, and others which constitute total production of the mining and quarrying sector for the 8th - 10th FYP period is shown in Table 2.2.3.40 "Mining Production by Commodity in Volume" combined with projected consumption and trade in volume. Crude oil, natural gas, coal and limestone shares a major part of the mining and quarrying sector. The volume of production obtained was converted into monetary value as shown in Table 2.2.3.41 "GDP at Factor Cost by Economic Activities (Mining and Quarrying Sector) at Constant 1980/81 price". The conversion from volume to value was done using an analysis conducted in the previous study in 1985 as a base figure as shown in Table 2.2.3.1 "Price Conversion Table". Below Table 2.2.4.43 "Trend and Projection of Growth Rate (Mining and Quarrying Production)" summarize the average annual increase/decrease rates of production for respective FYP periods.

# Table 2.2.4.41 Mining Production by Commodity in Volume

| Year | Crude Oil | Natural Gas mil. cu. m | Coal | Lime Stone | Others | Mining Total | Growth Rate pa |
|---|---|---|---|---|---|---|---|
| 1991/92 | 3,004 | 15,572 | 3,627 | 8,528 | 2,613 | 33,344 | |
| 1992/93 | 2,936 | 16,330 | 3,266 | 9,015 | 2,865 | 34,412 | 3.2 |
| 8th FYP | 15.5 | 9.4 | 15.5 | 8.5 | 10.0 | 10.5 | |
| 1993/94 | 3,391 | 17,865 | 3,772 | 9,781 | 3,152 | 37,961 | 10.3 |
| 1994/95 | 3,917 | 19,544 | 4,357 | 10,613 | 3,467 | 41,897 | 10.4 |
| 1995/96 | 4,524 | 21,381 | 5,032 | 11,515 | 3,813 | 46,266 | 10.4 |
| 1996/97 | 5,225 | 23,391 | 5,812 | 12,494 | 4,195 | 51,117 | 10.5 |
| 1997/98 | 6,035 | 25,590 | 6,713 | 13,555 | 4,614 | 56,508 | 10.5 |
| 9th FYP | 10.0 | 7.4 | 10.0 | 6.5 | 5.7 | 7.7 | |
| 1998/99 | 6,638 | 27,484 | 7,384 | 14,437 | 4,877 | 60,820 | 7.6 |
| 1999/00 | 7,302 | 29,518 | 8,123 | 15,375 | 5,155 | 65,473 | 7.6 |
| 2000/01 | 8,032 | 31,702 | 8,935 | 16,374 | 5,449 | 70,493 | 7.7 |
| 2001/02 | 8,836 | 34,048 | 9,829 | 17,439 | 5,760 | 75,910 | 7.7 |
| 2002/03 | 9,719 | 36,567 | 10,812 | 18,572 | 6,088 | 81,758 | 7.7 |
| 10th FYP | 8.0 | 6.2 | 7.5 | 4.0 | 5.5 | 6.1 | |
| 2003/04 | 10,497 | 38,835 | 11,622 | 19,315 | 6,423 | 86,691 | 6.0 |
| 2004/05 | 11,336 | 41,242 | 12,494 | 20,088 | 6,776 | 91,936 | 6.1 |
| 2005/06 | 12,243 | 43,799 | 13,431 | 20,891 | 7,149 | 97,514 | 6.1 |
| 2006/07 | 13,223 | 46,515 | 14,439 | 21,727 | 7,542 | 103,445 | 6.1 |
| 2007/08 | 14,281 | 49,399 | 15,521 | 22,596 | 7,957 | 109,753 | |

Source: JICA Study Team

# Table 2.2.4.42  GDP at Factor Cost by Economic Activity , at 1980-81 Price (Mining and Quarrying Sector)

| Year | Crude Oil | Natural Gas | Coal | Lime Stone | Others | Total | Growth Rate pa |
|---|---|---|---|---|---|---|---|
| 1991/92 | 986 | 838 | 280 | 211 | 222 | 2,537 | |
| 1992/93 | 964 | 879 | 253 | 223 | 323 | 2,642 | 4.1 |
| 8th FYP | 15.5 | 9.4 | 15.5 | 8.5 | 10.0 | 11.4 | |
| 1993/94 | 1,113 | 962 | 292 | 242 | 355 | 2,965 | 12.2 |
| 1994/95 | 1,286 | 1,052 | 338 | 263 | 391 | 3,329 | 12.3 |
| 1995/96 | 1,485 | 1,151 | 390 | 285 | 430 | 3,741 | 12.4 |
| 1996/97 | 1,716 | 1,259 | 450 | 309 | 473 | 4,207 | 12.5 |
| 1997/98 | 1,887 | 1,352 | 495 | 329 | 500 | 4,564 | 8.5 |
| 9th FYP | 10.0 | 7.4 | 10.0 | 6.5 | 5.7 | 8.1 | |
| 1998/99 | 2,076 | 1,452 | 545 | 351 | 528 | 4,952 | 8.5 |
| 1999/00 | 2,283 | 1,560 | 599 | 373 | 558 | 5,374 | 8.5 |
| 2000/01 | 2,512 | 1,675 | 659 | 398 | 590 | 5,834 | 8.6 |
| 2001/02 | 2,763 | 1,799 | 725 | 423 | 624 | 6,335 | 8.6 |
| 2002/03 | 2,984 | 1,911 | 780 | 440 | 658 | 6,773 | 6.9 |
| 10th FYP | 8.0 | 6.2 | 7.5 | 4.0 | 5.5 | 7.0 | |
| 2003/04 | 3,223 | 2,029 | 838 | 458 | 694 | 7,242 | 6.9 |
| 2004/05 | 3,480 | 2,155 | 901 | 476 | 733 | 7,745 | 6.9 |
| 2005/06 | 3,759 | 2,289 | 968 | 495 | 773 | 8,284 | 7.0 |
| 2006/07 | 4,060 | 2,431 | 1,041 | 515 | 815 | 8,862 | 7.0 |
| 2007/08 | 4,384 | 2,581 | 1,119 | 536 | 860 | 9,481 | 7.0 |

Source: JICA Study Team

Table 2.2.4.43 Trend and Projection of Growth Rate
(Mining and Quarrying Production)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Crude Oil | 6.3 | 35.2 | 6.4 | 15.5 | 10.0 | 8.0 |
| Natural Gas | 11.2 | 6.5 | 6.7 | 9.4 | 7.4 | 6.2 |
| Coal | 5.7 | 10.1 | 6.3 | 15.5 | 10.0 | 7.5 |
| Limestone | 6.4 | 12.8 | 5.6 | 8.5 | 6.5 | 4.0 |
| Others | 4.6 | 4.0 | 6.9 | 10.0 | 5.7 | 5.5 |
| Total | - | - | - | 10.5 | 7.7 | 6.1 |

Past trend and projection for the production, consumption and trade of these items are analyzed as follows:

b. Projection of Productions by Commodities

I) Crude oil:

Import dependency of crude oil has been decreasing gradually from 86.2 % in 1983/84 to 58.1 % in 1992/93 or 71.0 % in the 6th FYP period and 58.1 % in the 7th FYP. In terms of volume of production, it has been increased from 655,000 tonnes per year in 1983/84 to 3,151,000 tonnes in 1990/91 as a peak, then, it started to decrease slightly to 2,900,000 tonnes in 1992/93.

The consumption of crude oil in the past was analyzed as shown in Appendix Table 2.2.4.35 and 2.2.3.36. As shown therein the annual growth rates of consumption has decreased continuously from 9.1 %, 8.7 % and 7.3 % during 5th - 7th FYP period. This trend will turn to upward for the 8th - 10th FYP periods, however, it may depend on increase of refining capacity to produce petroleum products and increase of demand by power sector as a direct use of crude oil for the thermal power generation which is expected to increase their power generation capacities in the future.

It is envisaged to increase production of crude oil at the average annual growth rates of 15.5 %, 10.0 % and 8.0 % for the respective periods of the 8th - 10th FYP periods. And the increase of refining capacity to produce petroleum products is projected to be 3.4 %, 10.0 % and 2.5 % for the same period. A revision of foreign investment policy and opening the resource development opportunities to the international enterprises will enhance the exploitation and the production of crude oil by the internationally recognized major oil companies especially in the the 8th FYP period.

Below Table 2.2.4.44 "Trend and Projection of Growth Rate (Crude Oil and Petroleum Products Production)" summarizes the projections of natural gas production for the 8th - 10th FYP periods based on analyses and projection of natural gas consumption.

Table 2.2.4.44 Trend and Projection of Growth Rate
(Crude Oil and Petroleum Products Production)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Crude Oil | 6.3 | 35.2 | 6.4 | 15.5 | 10.0 | 8.0 |
| Petroleum Products | 1.1 | 1.2 | 3.4 | 3.4 | 10.0 | 2.5 |

II) Natural gas:

Natural gas which is naturally associated with the crude oil production has increased from 9,718 million cu. m in 1983/84 to 16,509 million cu. m in 1992/93 at an average annual increasing ratio of around 6.5 %.

In parallel with execution of preliminary geological survey to find new oil and gas fields, an investment law was amended to enhance further participation of internationally well known foreign oil companies in both exploration and production. An effect of such enhanced foreign investment may appear positive soon. Taking these into account, the projection of crude oil and natural gas production was carried out as shown in Table 2.2.4.43.

As natural gas is considered a major energy resource for the economy of Pakistan its development has taken place rapidly. The gas distribution network has been expanding year by year since 1970's. An average annual growth rate of consumption of natural gas has been decreasing 11.2 %, 6.5 % and 6.7 % during 5th - 7th FYP periods in the past. However, a consumption of natural gas is expected to increase at an average annual growth rate of 9.4 %, 7.4 % and 6.2 % for the 8th - 10th FYP periods in the future. Natural gas is expected to be used as an energy source of power generation and a raw material of fertilizer production. The growth rate of natural gas consumption is, therefore, largely depend on demand in relation with growing of power generation by the gas/fuel co-generation system and agriculture development which requires larger volume of fertilizer year by year to maintain or to increase volume of production in the future.

Below Table 2.2.4.45 "Trend and Projection of Growth Rate (Natural Gas Production)" summarizes the projections of natural gas production for the 8th - 10th FYP periods based on analyses and projection of natural gas consumption.

Table 2.2.4.45  Trend and Projection of Growth Rate
(Natural Gas Production)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Natural Gas | 11.2 | 6.5 | 6.7 | 9.4 | 7.4 | 6.2 |

III) Coal:

Coal has been traditionally used as a heating material to produce the bricks for construction use and other minor steel works, etc. Coal production has increased rapidly since coal fired power generation was introduced in the power sector. Coal production in 1983/84 was 1.9 million tonnes per year and increased to 3.1 million tonnes in 1992/93 at an average annual growth of 10.1 % in the 6th FYP and 6.5 % in 7th FYP. The Government of Pakistan gave priority on the power development to meet with a rapidly increasing power demand and to form a sound basis of industrial development for the future. Construction of the coal fired thermal power stations draw keen attention of the government as well as private sector to utilize indigenous energy resources for economic development and to eliminate an importation of fuel for the power generation to save scarce foreign exchange reserve.

As shown in Appendix Table 2.2.4.38 the consumption of coal has been decreased gradually at an average annual growth rates of 13.4 % and 11.1 % during 5th - 6th FYP periods and to 5.1 % in the 7th FYP period in the past. This sharp decline recorded in the 7th FYP period translates that the coal consumption is going to reach stabilized demand level. Although the demand of coal for the power generation using coal as a source of energy is envisaged to increase sharply at a rate of 13.5 % during the 8th FYP period after the completion of coal fired power plant, a consumption of coal in total will increase at the average annual growth rate of 13.5 %, 9.2 % and 6.8 % in the 8th - 10th FYP periods respectively.

Importation of coal is directly related to the production of steel and oak as an associated product of steel production and will continue at a level of slightly over 1.0 million tonnes per year as the steel production facility is designed to import cheap and high caloric coal from abroad. Although the coal production will increase as mentioned in above, however, this is attributed by the establishment of coal fired power station at the location where coal is produced to eliminate transportation cost of coal from the production point to the power plant.

Below Table 2.2.4.46 "Trend and Projection of Growth Rate (Coal Production)" summarizes the projections of coal production for the 8th - 10th FYP periods based on analyses and projection of coal consumption.

Table 2.2.4.46  Trend and Projection of Growth Rate
(Coal Production)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Natural Gas | 5.7 | 10.1 | 6.3 | 15.5 | 10 | 7.5 |

IV) Limestone:

Limestone deposits constitute a large part of the sedimentary rocks of Pakistan. Lime is the main ingredient of cement and is also used by glass factories and chemical industries. Limestone production, therefore, corresponds mainly a growth rate of production of cement and indirectly to the housing and the construction industries. As average annual growth rate of housing sector is projected as 5.3 %, 6.0 % and 6.0 % for the periods of the 8th, 9th and 10th FYP, a growth rate of limestone are projected to correspond with it as 8.5 %, 6.5 % and 4.0 % throughout same FYP periods as shown in Appendix Table 2.2.4.39.

Below Table 2.2.4.47 "Trend and Projection of Growth Rate (Limestone Production)" summarizes the projections of coal production for the 8th - 10th FYP periods based on analyses and projection of limestone consumption.

Table 2.2.4.47  Trend and Projection of Growth Rate
(Limestone Production)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Natural Gas | 6.4 | 12.8 | 5.6 | 8.5 | 6.5 | 4.0 |

V) Iron Ore:

Consumption of iron ore corresponds to the average annual growth rates of production of steel by the Pakistan Steel Mill as 5.0 %, 3.0 % and 3.0 % for the 8th - 10th FYP periods. An iron ore used by the Pakistan Steel Mill is imported from abroad as its plant is designed to use imported iron ore. Appendix Table 2.2.4.34 shows a past trend and a projection of growth of required iron ore and coal for the production of steel products by the Pakistan Steel Mill which is the major steel producer in Pakistan.

Below Table 2.2.4.48 "Trend and Projection of Growth Rate (Iron Ore Production)" summarizes the projections of coal production for the 8th - 10th FYP periods based on analyses and projection of iron ore consumption.

Table 2.2.4.48 Trend and Projection of Growth Rate
(Iron Ore Production)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Natural Gas | - | 9.7 | -23.1 | 5.0 | 3.0 | 3.0 |

## VI) Other Minerals:

Other minerals produced in Pakistan are marbles, gypsum, dolomite, rock salt, etc. Most of these items are closely related to the construction industry. As such the average annual growth rate of production of other minerals correspond almost equal to the growth rate of construction industry. As shown in Appendix Table 2.2.4.41 the production of other minerals have been growing at an average annual growth rates of 4.6 %, 4.0 % and 6.9 % during 5th - 7th FYP periods in the past. Below Table 2.2.4.49 summarizes the past trend and future projection of other minerals.

Table 2.2.4.49 Trend and Projection of Growth Rate
(Other Minerals Production)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Natural Gas | 4.6 | 4.0 | 6.9 | 10.0 | 5.7 | 5.5 |

## 4) Construction

Annual growth rate of construction sector is an important indicator to show trend and prediction of investment in national economy from both public and private investment of views as around 50 % of production is delineated from the public investment in various form of socio-economical infrastructure developments. During the 6th and 7th FYP periods, average annual growth rate of this sector show 6.5 % and 5.3 %. In 1986/87 alone recorded 12.5 % increase compared with previous year which is the highest annual growth rate recorded during both FYP periods combined. As shown in below Table 2.2.4.50 "Trend and Projection of Growth Rate (Construction Sector)" moderate growth rate are projected for the 8th - 10th FYP period.

Table 2.2.4.50 Trend and Projection of Growth Rate
(Construction Sector)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Natural Gas | - | 6.5 | 5.3 | 5.3 | 6.0 | 6.0 |

## 5) Electricity and gas distribution

The past trend and projection of electricity and gas distribution sector for the 6th and 7th FYP periods and the 8th - 10th FYP period is shown in Appendix Table 2.2.4.41 categorized by type of power generation and their installed capacity and power generation respectively. Below Table 2.2.4.51 "Trend and Projection of Growth Rate (Power Generation)" summarizes the average annual increase/decrease rates of power generation and GDP of electricity and gas distribution sector for respective FYP periods.

Table 2.2.4.51 Trend and Projection of Growth Rate
(Power Generation)

(unit: percent)

| Plan Period | 5th FYP | 6th FYP | 7th FYP | 8th FYP | 9th FYP | 10th FYP |
|---|---|---|---|---|---|---|
| Installed Capacity | - | 9.2 | 10.5 | 9.1 | 7.0 | 7.0 |
| Power Generation | - | 13.8 | 8.4 | 8.2 | 7.0 | 6.5 |
| GDP of Power and Gas | - | 10.1 | 10.4 | 8.2 | 7.0 | 6.5 |

A power shortage has been deemed as the biggest bottle neck to the industrial development of Pakistan. The Government of Pakistan emphasizes rapid and substantial development of power generation and distribution. Table 2.2.4.52 shows possible development of power generation by type and timing for the 8th - 10th FYP periods. As shown therein updated technology of power generation such as gas - fuel combined generation systems is planned to be introduced rapidly into Pakistan by utilization of huge deposit of unexplored natural gas in the country. The government of Pakistan plans to implement huge hydro power development such as Ghazi Brotha Hydro Power Project and Neelum Jhelum Kohala Hydro Power Project to create generation capacity to meet with base demand of power for the future.

It is expected that the power generation will be undertaken by the private sector possibly in association with the foreign investors as the foreign investment law was amended to accelerate investments and developments of concerned field of industries without exception of power generation as well as gas production and generation sector. Such rapid development of power sector would form a strong basis for the industrial development in the future.

## Table 2.2.4.52 Trend and Projection of Electricity

(Installed Capacity in MW and Production in GWh)

| Source | Hydel Installed Capacity MW | Hydel Generation Total GWh | Thermal Installed Capacity MW | Thermal Generation Total GWh | Nuclear Installed Capacity MW | Nuclear Generation Total GWh | Total Installed Capacity MW | Total Generation GWh |
|---|---|---|---|---|---|---|---|---|
| Unit | | | | | | | | |
| Year | | | | | | | | |
| 1983/84 | 2,547 | 11,365 | 2,114 | 8,104 | 137 | 228 | 4,798 | 19,697 |
| 1984/85 | 2,898 | 12,241 | 2,580 | 10,416 | 137 | 346 | 5,615 | 23,003 |
| 1985/86 | 2,898 | 13,804 | 3,263 | 11,355 | 137 | 430 | 6,298 | 25,589 |
| 1986/87 | 2,901 | 15,250 | 3,615 | 12,951 | 137 | 502 | 6,653 | 28,703 |
| 1987/88 | 2,898 | 16,690 | 3,776 | 16,147 | 137 | 254 | 6,811 | 33,091 |
| 6th FYP | 3.3 | 10.1 | 15.6 | 18.8 | 0.0 | 2.7 | 9.2 | 13.8 |
| Share | 42.5% | 50.4% | 55.4% | 48.8% | 2.0% | 0.8% | 100.0% | |
| Average | 2,828 | 13,870 | 3,070 | 11,795 | 137 | 352 | 6,035 | 26,017 |
| Generating Ratio | | 4.9 | | 3.8 | | 2.6 | | 4.3 |
| 1988/89 | 2,898 | 16,970 | 4,069 | 17,562 | 137 | 30 | 7,104 | 34,562 |
| 1989/90 | 2,898 | 16,650 | 4,739 | 20,238 | 137 | 292 | 7,774 | 37,180 |
| 1990/91 | 2,898 | 18,245 | 5,901 | 22,455 | 137 | 385 | 8,936 | 41,085 |
| 1991/92 | 2,901 | 18,632 | 5,866 | 26,387 | 137 | 418 | 8,904 | 45,437 |
| 1992/93 | 4,629 | 21,225 | 5,832 | 25,749 | 137 | 692 | 10,598 | 47,666 |
| 7th FYP | 12.4 | 5.8 | 9.4 | 10.0 | 0.0 | 119.2 | 10.5 | 8.4 |
| Latest Share | 43.7% | 44.5% | 55.0% | 54.0% | 1.3% | 1.5% | 100.0% | |
| Average | 3,245 | 18,344 | 5,281 | 22,478 | 137 | 363 | 8,663 | 41,186 |
| Generating Ratio | | 5.7 | | 4.3 | | 2.7 | | 4.8 |
| Applied Ratio | | 5.7 | | 4.3 | | 2.7 | | 4.8 |
| **Projection** | | | | | | | | |
| 1993/94 | 4,629 | 26,385 | 6,963 | 29,941 | 137 | 370 | 11,729 | 56,696 |
| 1994/95 | 4,629 | 26,385 | 8,309 | 35,729 | 137 | 370 | 13,075 | 62,484 |
| 1995/96 | 4,629 | 26,385 | 9,119 | 39,212 | 137 | 370 | 13,885 | 65,967 |
| 1996/97 | 4,629 | 26,385 | 10,819 | 46,522 | 137 | 370 | 15,585 | 73,277 |
| 1997/98 | 4,629 | 26,385 | 11,850 | 50,955 | 137 | 370 | 16,616 | 77,710 |
| 8th FYP | 0.0 | 0.0 | 14.2 | 14.2 | 0.0 | 0.0 | 9.1 | 8.2 |
| Share | 27.9% | 34.0% | 71.3% | 65.6% | 0.8% | 0.5% | 100.0% | |
| 1998/99 | 4,813 | 27,434 | 13,000 | 55,900 | 137 | 370 | 17,950 | 83,704 |
| 1999/00 | 5,098 | 29,059 | 13,000 | 55,900 | 437 | 1,180 | 18,535 | 86,139 |
| 2000/01 | 6,238 | 35,557 | 16,500 | 70,950 | 437 | 1,180 | 23,175 | 107,687 |
| 2001/02 | 6,238 | 35,557 | 16,500 | 70,950 | 437 | 1,180 | 23,175 | 107,687 |
| 2002/03 | 6,598 | 37,609 | 16,500 | 70,950 | 437 | 1,180 | 23,535 | 109,739 |
| 9th FYP | 8.2 | 8.2 | 6.1 | 6.1 | 33.6 | 33.6 | 7.0 | 7.0 |
| Share | 28.0% | 34.3% | 70.1% | 64.7% | 1.9% | 1.1% | 100.0% | |
| 2003/04 | 6,598 | 37,609 | 16,500 | 70,950 | 437 | 1,180 | 23,535 | 109,739 |
| 2004/05 | 6,718 | 38,293 | 16,500 | 70,950 | 437 | 1,180 | 23,655 | 110,423 |
| 2005/06 | 6,718 | 38,293 | 23,700 | 101,910 | 437 | 1,180 | 30,855 | 141,383 |
| 2005/07 | 6,718 | 38,293 | 23,700 | 101,910 | 437 | 1,180 | 30,855 | 141,383 |
| 2007/08 | 6,718 | 38,293 | 23,700 | 101,910 | 437 | 1,180 | 30,855 | 141,383 |
| 10th FYP | 0.5 | 0.5 | 9.5 | 9.5 | 0.0 | 0.0 | 7.0 | 6.5 |
| Share | 21.8% | 27.1% | 76.8% | 72.1% | 1.4% | 0.8% | 100.0% | |

Note:

(1) Generating Rate = Total GWh/Total Installed Capacity

(2) Applied Rate is an average generating rate per installed capacity in past 10 years
and used to estimate projection of annual power output in GWh.

(3) Growth Rate per year to be used for macro economic projection of electricity sub-sector is measured
on growth rate of annual power output shown in GWh.

Source:

(1) Economic Survey 1993/94, Economic Advisor's Wing, Financial Divsion

(2) 8th Five Year Plan, Planning Commission

(3) JICA Study Team