The Scenario of Food Grains Availability in India

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India has witnessed several economic policy reforms in the form of economic or trade liberalization intiated in early nineties, which encompasses many sectors of the economy, namely, Agriculture Industry and Service. The impact of new economic policy may be visualized on short term as well as long-term basis. Now that the Indian economy has been passing through the new economic policy reforms for almost a decade, it is time to analyze the effect of these new economic policy reforms on various sectors of the economy in general and standard of living in particular.

INTRODUCTION :

One of the indicators of the impact of new economic reforms could be the sectoral contribution to the GDP of the nation. It may be recalled that in any underdeveloped or developing nation, contribution of agriculture sector to the nation's real GDP is very high as compared to other sectors. The decline in the share of agriculture sector and rise in the share of industrial and service sectors is generally viewed as a sign of nation's development. Hence, this paper analyses the composition of GDP over the years and other human development indicators like per capita availability of food grains.

Methodology

The data used for the present study were collected from the "Fertiliser Statistics 2002-2001", a publication of the Fertiliser Association of India, New Delhi. For estimating the growth in net availability of food grains and per capita availability of food grains, an exponential form of growth function, as specified below, was used.

$$Y_t = ab^{t_i} U_t \quad \ldots\ldots\ldots (1)$$

Where Y_t = Net availability or per capita availability of food grains

t_i = time period in years (i = 1 to n)

U_t = Error term

On taking logarithms so as to facilitate the use of Ordinary Least Square (OLS) technique for estimating the linear regression, equation (1) becomes

$$\log Y_t = \log a + \log bt_i + \log U_t$$

which can be written as

$$Q_t = A + B_t + V_t \quad \ldots\ldots\ldots\ldots (2)$$

Where,

$Q_t = \log Y_t$, $A = \log a$, $B = \log b$ and $V_t = \log U_t$

The values of 'A' and 'B' were estimated by using Ordinary Least Squares (OLS) technique. Later original a and b parameters in equation (1) were obtained by taking the anti logarithms of 'A' and 'B' values as

a = Antilog (A)

b = Antilog (B)

Average annual compound growth rate

(g) was obtained as follows.

$$b = (1 + g)$$

$$g = (b - 1) \quad \ldots\ldots\ldots\ldots (3)$$

For comparison, the growth rates worked out with the equation (3) were multiplied by 100 to obtain the percentage compound annual growth rates.

RESULTS AND DISCUSSION

Sector-wise composition of real GDP

The sectoral composition of real GDP is given in Table-1. It is apparent from the Table that, contribution of agriculture sector which was 38 per cent during 1980-81 (pre-reforms period) declined to 29.10 per cent during 1999-2000 (post-reforms period), indicating growth and development of the economy of the country. While the contribution of service sector to the real GDP increased from 41 per cent in 1980-81 to 51 per cent in 1999-2000. This is an indication of the positive impact of new economic policy adopted during early nineties. However, the contribution of industrial sector did not show a specific trend, i.e., it marginally increased from 20.90 per cent during 1980-81 to 23.30 per cent during 1990-91 and declined to 20 per cent during 1999-2000. The share of agricultural sector in the real GDP was taken over by the service sector indicating the positive growth in the economy. But the impact of new economic reforms on industrial sector was not very remarkable.

Net availability of food grains

It is apparent from the Table-2 that the net availability of the cereals increased over the years form 114.3 million tonnes in 1990-91 to 170.5 million tonnes during 1999-2000. On the contrary, the net availability of pulses, though increased from 9.4 million tonnes during 1980-81 to 12.90 million tonnes during 1990-91, declined to 11.40 million tonnes during 1999-2000. This has resulted in the decline in per capita availability of food grains. The per capita availability of cereals increased form 417.3 g per day in 1980-81 to 468.5 g per day in 1990-91. However, it declined during 1999-2000 to 434.8 g per day.

The compound annual growth rates were calculated using semi-log model and the results are presented in Table-2. All the variables showed positive and significant growth. However, the magnitude of growth in net availability of cereals was the highest (2.59%), followed by net availability of food grains (2.46%) and net availability of pulses (1.11%). With respect to per capita availability also, the growth was highest in the case of cereals (0.47%), while it was 0.34 percent for food grains. There was a decline in the growth of per capita availability of pulses (-0.97%). In spite of high growth in the net availability of food grains (2.47%), the growth in its per capita availability was lower (0.34%). This was due to the growth in population (2.1% p.a.).

The share of agricultural sector in the nation's real GDP has declined over years and that of service sector has increased. The net availability of food grains has increased remarkably, particularly after 1991. These two situations amply justify the positive impact of the economic liberalization policies on the economic development of the country.

Table-1 : Sector-wise Composition of Real GDP (at current prices)

Sl.No.	Item	1980-81	1990-91	1995-96	1996-97	1997-98	1998-99	1999-00*
1.	Agriculture and allied Activities	38.1	31.0	28.4	29.3	28.0	29.1	29.1
1.1	Agriculture	34.7	28.3	28	27	25.5	26.6	
2.	Industry	20.9	23.3	22.7	22.0	21.4	20.0	20.0
2.1	Mining & quarrying	1.5	2.5	2.4	2.2	2.4	2.1	
2.2	Manufacturing	17.7	18.7	17.8	17.4	16.6	15.6	
2.3	Electricity, gas & water supply	1.7	2.2	2.6	2.4	2.1	2.4	
3.	Services	41.0	45.7	48.8	48.7	50.6	50.9	50.9
3.1	Trade, hotels, transport & communication	16.7	20.1	20.6	20.8	20.2		
3.2	Financing, insurance, real estate & business services	8.8	8.1	11.7	11.2	11.4	11.3	
3 .3	Community, social &personal services	10.5	11.5	11.8	11.9	12.7	13.7	
3.4	Construction	5.0	6.0	5.2	5.1	5.7	5.7	

Note: *Provisional

Source : Fertilizer Statistics -2000-01

Table-2: Net and per capita availability of Cereals and Pulses during 1981 to 2000

S. N.	Year	Population	Net availability of cereals (million tonnes)			Per capita availability Per day (Grams)		
			Cereals	Pulses	Total Food Grains	Cereals	Pulses	Total Food Grains
1	1981	688.5	104.8	9.4	114.3	417.3	37.5	454.8
2	1986	766.5	121.5	12.3	133.8	434.2	43.9	478.1
3	1991	851.7	145.7	12.9	158.5	468.5	41.6	510.1
4	1996	939.5	152.1	11.3	163.3	443.6	32.6	476.2
5	2000(p)	1002.1	159.1	11.4	170.5	434.8	31.2	466.0
	CAGR	2.108***	2.585***	1.112***	2.456***	0.470***	-0.968**	0.343**

Note : P = Provisional, CAGR = Compound Annual Growth Rate (for the period 1971-2000.)