

Research Paper

Rural and Urban Poverty Trends in India and Gujarat

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Received: 08-06-2021

Revised: 26-01-2022

Accepted: 05-02-2022

ABSTRACT

The present study investigates rural and urban poverty trends of Gujarat and India using a graphical and trend line method. The association of agriculture and allied sector growth rate, population growth rate, and GDP at factor cost with poverty trend were examined by correlation matrix in India during five-year plans. Poverty at National level has declined from 1951-52 to 2011-12. In 1966-67, the poverty rate reached the maximum level, and after the introduction of the green revolution in 1967-68, it has declined. Furthermore, in 2005-06, the MNREGA program's implementation also influenced the reduction in poverty rate. Both rural and urban poverty at National level declined, however, rural poverty incidence was higher than urban poverty, which indicated rural poverty played a critical role in the overall incidence of Indian poverty. Rural and urban poverty in Gujarat has declined since 1958-59. A negative association between agriculture and allied sector growth rate and GDP at factor cost with poverty trend showed reduction in India's incidence of poverty. Population growth rate positively affected poverty, which shows that as the population increases, poverty incidence also increases.

HIGHLIGHTS

- Rural poverty incidence was higher at National level. However, both urban and rural poverty has declined over the years.
- There was a positive association found between population growth and poverty incidence. At the same time, agriculture and allied sector and GDP at factor cost were negatively associated with poverty.

Keywords: Rural, urban, poverty, population and economic growth

According to the report of the Planning Commission of India, 2014, India is home to more than 363 million poor, out of which 260.5 million are rural and 102.5 million in urban areas. The population below the poverty line in percentage in India is 29.5 per cent. More than 168.8 lakh people in Gujarat cannot meet monthly per capita consumption expenditure of ₹ 1102.83 in rural and ₹ 1507.06 in urban areas (Planning Commission of India, 2014). It shows that 27.4 percent of people are under the poverty line or cannot spend the minimum expenditure in 2011-12.

Oxford University's study concluded that improved nutrition, better sanitation, and increased asset ownership had shared India's poverty rate between 2005-06 and 2015-16. In the ten years, 270 million

Indians pulled out of poverty, one of the most significant wins of the Indian economic story. In this period, per capita GDP grew from ₹ 38,750 to ₹ 88,746, and India became a lower-middle-income economy (Srinivas, 2018). During 2004-05 to 2011-12, the economy grew faster, and the fruits of growth percolated to all sections of society. Both aggregate GDP and per capita GDP, both at constant 2004-05 prices, increased at 8.5 and 6.9 per cent, respectively, during this period. A compound annual growth rate of real private per capita consumption grew at 2.9 and 3.4 per cent, respectively, in rural and

How to cite this article: Macwan, J. and Zala, Y.C. (2022). Rural and Urban Poverty Trends in India and Gujarat. *Economic Affairs*, 67(01 Spl.): 07-14.

Source of Support: None; **Conflict of Interest:** None



urban India. It may also note that population growth has experienced deceleration, below 2 per cent level, during this period. There is a presence of correlation between population growth and a reduction in the poverty line. The launch of the Employment Guarantee Scheme and the Right to Work Act contributed towards the rise in the minimum wage rate. A better price for agricultural products has contributed to an increase in income, thereby reducing the poverty line (Thomas, 2015).

India has launched different five-year plans after independence for the development of the country. The strategy underlying the first three five-year plans was not significant due to unchecked population growth. Keeping in view above facts, the present study was undertaken with following objectives,

1. To study the trend analysis of poverty at India and Gujarat.
2. To know the poverty association of agriculture and allied sector growth rate, population growth rate and GDP at factor cost with poverty trend in India.

MATERIALS AND METHODS

Poverty trend in India and Gujarat state using graphical method

The trend analysis for Indian poverty was focused on available secondary data of poverty rate (headcount index) since 1951-52 to 2011-12 as data after 2011-12 were not available on the authentic source. For Gujarat state, data were available for 1958-59 to 2011-12 for rural and urban poverty. The secondary data on the poverty rate (headcount index) for the study compiled from the report of Datt (1998) and the Planning Commission of India (2014). Therefore, to achieve the first objective, the study investigates trends in rural India, urban India, national-level poverty, and Gujarat state-level rural-urban poverty using a graphical method with a trend line.

Association of agriculture and allied sector growth rate, population growth rate, and GDP at factor cost with poverty trend in India

Poverty is associated with variables like economic growth, population growth, and agricultural

growth. Hence, following correlation formula was employed to examine India's association between poverty and GDP, population, and agricultural growth during each five-year plan. For this analysis, secondary data collected for mentioned variables from the Databook of RBI (2017) and Melkamu and Singh (2016).

$$r_{xy} = \frac{\Sigma(x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\Sigma(x_i - \bar{x})^2 \Sigma(y_i - \bar{y})^2}}$$

RESULTS AND DISCUSSION

The results derived from the analysis of the data related to the present study's various aspects discussed under the following segments.

1. Trend analysis of poverty
2. Association of agriculture and allied sector growth rate, population growth rate, and GDP at factor cost with poverty trend in India during five-year plans

1. Trend analysis of poverty (1951-52 to 2011-12)

A trend in rural India, urban India, and national level poverty and then Gujarat state-level rural-urban poverty since 1951-52 to 2011-12 are discussed in the following sub-section.

1.1 Poverty trend at National level (1951-52 to 2011-12)

The national poverty trend was analyzed by using available poverty data from different secondary sources and presented in Table 1 and Fig. 1.

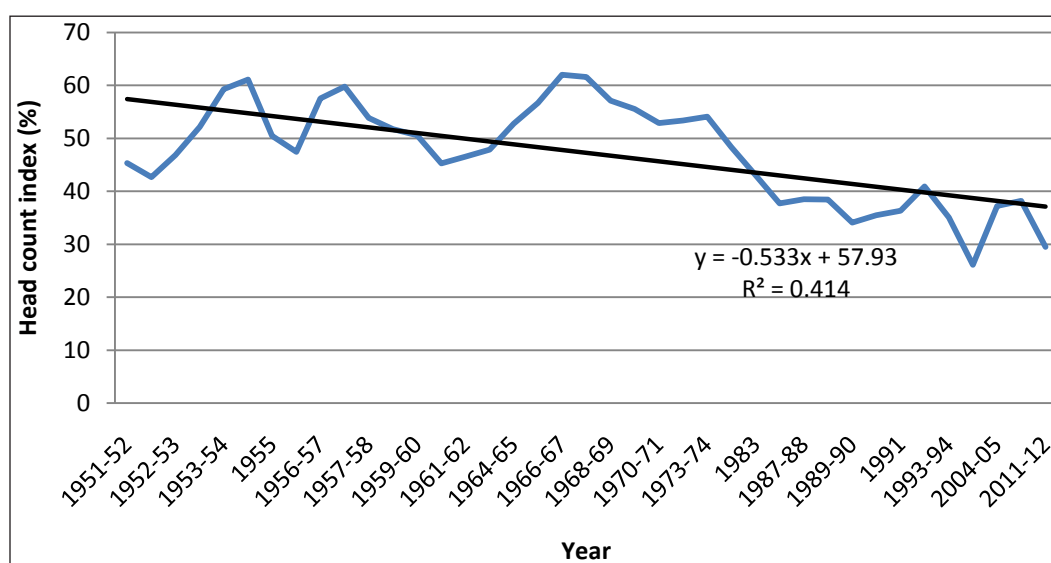
The headcount index shows that India's overall incidence of poverty has been declining from 45.3 percent in the year 1951-52 to 29.5 percent in the year 2011-12. The Indian poverty rate has reached the maximum, i.e., 62 per cent and 61.6 per cent in the year 1966-67 and 1967-68, respectively. The trend in Indian poverty has shown lowest in 1999-2000, i.e., 26.1 per cent.

After attaining the maximum level in the poverty rate in 1966-67, poverty has declined continuously over the years. The probable reason might be introducing a green revolution in the year 1967-68, which enhanced agriculture production and brought up the people's living standard.

Table 1: Poverty trends at National level(1951-52 to 2011-12)

Survey period	Headcount index National	Survey period	Headcount index National
1951-52	45.31	1968-69	57.11
1952	42.63	1969-70	55.56
1952-53	46.80	1970-71	52.88
1953	52.15	1972-73	53.36
1953-54	59.30	1973-74	54.10
1954-55	61.07	1977-78	48.36
1955	50.44	1983	43.00
1955-56	47.43	1986-87	37.69
1956-57	57.55	1987-88	38.47
1957	59.77	1988-89	38.44
1957-58	53.84	1989-90	34.07
1958-59	51.75	1990-91	35.49
1959-60	50.58	1991	36.34
1960-61	45.27	1992	40.93
1961-62	46.54	1993-94	35.04
1963-64	47.85	1999-2000	26.10
1964-65	52.75	2004-05	37.20
1965-66	56.71	2009-10	38.20
1966-67	62.00	2011-12	29.50
1967-68	61.60		

Source: Data were compiled from Datt (1998) and Planning Commission of India (2014).

**Fig. 1:** Poverty incidences in India

The Fig. 1 reveals that between 1952-53 and 1973-74, the poverty rate moved up and down cyclically. It might be due to good or bad monsoons that affect agriculture and economic growth, ultimately most rural Indian people. Fox (2002) found a slow economic growth between 1950 and the mid-1970s (averaging only 1.4 percent per capita). It blames

for the poor performance of poverty alleviation programmes.

It also shows that after the liberalization, post-1991, the poverty rate has declined over the years. According to Datt *et al.* (2016), urban growth has emerged as the primary driver of poverty reduction during post-1991. Urban poverty becomes

significantly more responsive to urban growth. However, urban growth had become significantly more rural poverty-reducing since 1991, which led in sharp contrast to the pattern before 1991, when urban growth had no impact on rural poverty.

From 2004-05 to 2011-12, a significantly sharper decline in poverty rate at the national level. It might be due to the implementation of MNREGA during this period and the country's higher economic growth. Panagariya and More (2013) found a significantly sharper decline in poverty across all groups at the national level during the latter period

(2004-05 to 2011-12). This acceleration was the result of two key factors. First, with per-capita income in 2004-05 being significantly higher than in 1993-94, it was likely that the Tendulkar line was within reach of a more significant proportion of the population. Second, growth during the second period was much faster than in the first period.

1.2 Poverty trend in rural and urban areas at National level (1951-52 to 2011-12)

The headcount index in Table 2 and Fig. 2 shows the poverty rates in rural and urban India for 1951-52 to

Table 2: Poverty trends in rural and urban India (1951-52 to 2011-12)

Survey Period	Headcount index		Survey Period	Headcount index	
	Rural	Urban		Rural	Urban
1951-52	47.37	35.46	1968-69	59.00	49.29
1952	43.87	36.71	1969-70	57.61	47.16
1952-53	48.21	40.14	1970-71	54.84	44.98
1953	54.13	42.77	1972-73	55.36	45.67
1953-54	61.29	49.92	1973-74	55.72	47.96
1954-55	64.24	46.19	1977-78	50.60	40.50
1955	51.83	43.92	1983	45.31	35.65
1955-56	48.34	43.15	1986-87	38.81	34.29
1956-57	58.86	51.45	1987-88	39.23	36.20
1957	62.11	48.88	1988-89	39.06	36.60
1957-58	55.16	47.75	1989-90	34.30	33.40
1958-59	53.26	44.76	1990-91	36.43	32.76
1959-60	50.89	49.17	1991	37.42	33.23
1960-61	45.40	44.65	1992	43.47	33.73
1961-62	47.20	43.55	1993-94	36.66	30.51
1963-64	48.53	44.83	1999-2000	27.90	23.62
1964-65	53.66	48.78	2004-05	41.80	25.70
1965-66	57.60	52.90	2009-10	39.60	35.10
1966-67	64.30	52.24	2011-12	30.90	26.40
1967-68	63.67	52.91			

Source: Data were compiled from Datt (1998) and Planning Commission of India (2014).

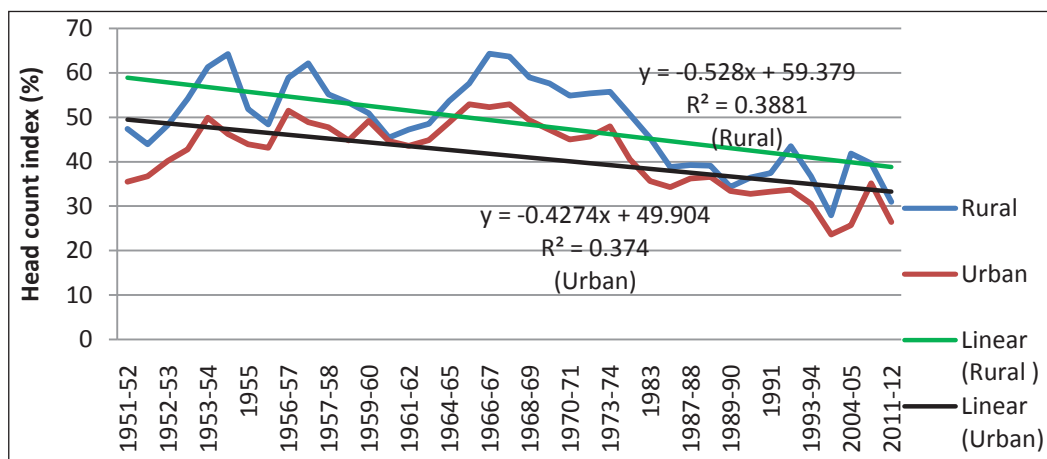


Fig. 2: Poverty incidences in rural and urban India

2011-12. It can be seen that rural and urban poverty has declined over the years since 1951-52. The incidence of poverty in rural India was 47.37 per cent in the year 1951-52, and it declined to 30.9 per cent in the year 2011-12. On the other side, the incidence of urban poverty was 35.46 per cent in the year 1951-52, and it declined to 26.4 per cent in the year 2011-12. Rural and urban poverty has declined, but rural poverty incidence was higher than urban poverty. It indicates that rural poverty plays a critical role in the overall incidence of poverty. According to the report of the Planning Commission of India (2014), out of the total poor population, 72 percent live in rural India, which shows poor people are heavily concentrated in the rural area. Fan *et al.* (2005) also observed that poverty rates were higher in rural than in urban areas. In 1966-67, the rural poverty rate was maximum, i.e., 64.30 per cent, and this year also became a reference year for the continuous decline in the poverty rate. In the urban area, the poverty rate has reached a maximum in 1967-68, i.e., 52.91 per cent. The importance and priority given to agriculture were diluted in the Second and Third Five-Year Plans.

Consequently, the sub-sector witnessed a deceleration during the sixties (1.7 per cent), which led to the severe shortage of food grains, and increased poverty (Kumar *et al.* 2011). During 2004-05 to 2011-12, the poverty rate declined sharply (37.20 %) in rural and urban areas, but the average annual rate of poverty reduction from 2004-05 to 2009-10 was higher in rural areas. Due to high growth during 2004-05 to 2009-10 enabled accelerated poverty reduction (Anand *et al.* 2014).

1.3 Poverty trend in rural and urban area of Gujarat (1958-59 to 2011-12)

The study has analyzed the poverty rate trends in Gujarat's rural and urban areas from 1958-59 to 2011-12, and the results are depicted in Table 3 and Fig. 3.

Table 3 reveals that poverty in rural Gujarat was 65.48 per cent in the year 1958-59, and it declined to 31.4 per cent in the year 2011-12. On the other side, the incidence of urban poverty was 54.24 per cent in the year 1958-59, and it declined to 22.2 per cent in the year 2011-12. This clearly shows that rural and urban poverty in Gujarat has declined since 1958-59. During the year 1966-67, rural poverty

reached the highest level, i.e., 69.26 per cent, and after attaining this maximum level, the poverty rate declined gradually over the years.

Table 3: Poverty trend in rural and urban area of Gujarat (1958-59 to 2011-12)

Survey Period	Head count index		Survey Period	Head count index	
	Rural	Urban		Rural	Urban
1958-59	65.48	54.24	1973-74	58.07	59.99
1959-60	56.02	60.83	1977-78	55.27	45.31
1960-61	49.94	50.22	1983	39.23	41.65
1961-62	57.12	42.42	1986-87	42.63	46.10
1963-64	59.93	44.92	1987-88	42.93	38.51
1964-65	68.82	60.08	1989-90	36.98	37.55
1965-66	67.62	58.05	1990-91	43.13	44.19
1966-67	69.26	61.06	1992	46.78	37.14
1967-68	64.93	57.49	1993-94	35.39	30.66
1968-69	58.24	62.22	1999-2000	13.17	15.59
1969-70	65.82	58.11	2004-05	39.10	20.10
1970-71	61.38	53.03	2009-10	37.00	35.60
1972-73	61.60	57.69	2011-12	31.40	22.20

Source: Data were compiled from Datt (1998) and Planning Commission of India (2014).

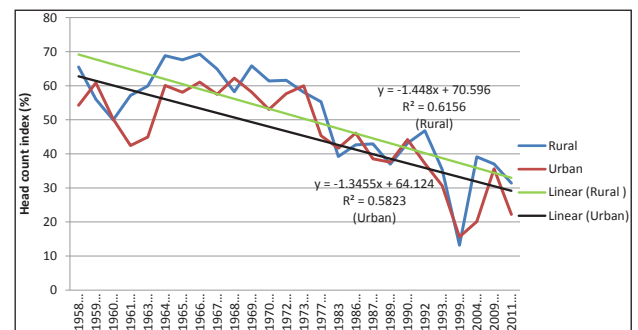


Fig. 3: Poverty incidence in rural and urban area of Gujarat

It also shows that the incidence of the poverty rate in rural Gujarat shows a pattern of fluctuation. The incidence of poverty falling in periods of good agricultural performance and rising in periods of poor performance. This interpreted that agricultural growth offsets the adverse impact to other factors so that only agriculture can grow last enough. It is likely to reduce the incidence of rural poverty (Ahluwalia, 1977). The incidence of poverty in rural Gujarat has declined sharply after the year 1977-78. This may be the introduction of programmes like the National Rural Employment Programme (1981) and Integrated Rural Development Programme (1980),

which eradicated rural poverty and generated more income, especially for the rural society's poor sections. It also observes that till 1968-69, the incidence of urban poverty in Gujarat showed an increasing trend due to unemployment. And after that, poverty has declined, with some exceptions.

1.4 Association of agriculture and allied sector growth rate, population growth rate and GDP at factor cost with poverty trend at National level during five year plans

Table 4 shows the association of agriculture and allied sector growth rate, population growth rate and GDP at factor cost with poverty trend during each five-year plans. The correlation coefficient was calculated to know the association of variables with poverty and presented in Table 5 and it was also depicted in Figs. 4, 5 and 6 accordingly.

Table 5 shows the correlation coefficient of agriculture and allied sector growth rate, population growth rate, and GDP at factor cost with India's poverty

trend. The result shows the expected association between selected variables. A negative association is observed between agriculture and allied sector growth rate and GDP at factor cost with poverty trend. It shows that growth of agriculture and allied sector and GDP at factor cost will reduce poverty in India. On the other hand, the population growth rate positively affects poverty. As the population increases, the incidence of poverty also increases. The association of all variables with poverty is statistically significant. Ahluwalia (1977) also found that with the incidence of poverty falling in periods of good agricultural performance and rising in periods of poor performance, which interpreted that agricultural growth offsets the adverse impact to other factors so that it only agriculture can grow last enough, it is likely to reduce the incidence of rural poverty. Datt and Ravallion (2002), Fox (2002), Nayyar (2005), Agarwal (2008), Panagariya and More (2013), and Anand *et al.* (2014) concluded that economic growth is the effective strategy for poverty reduction in India.

Table 4: Association of agriculture and allied sector growth rate, population growth rate and GDP at factor cost with poverty trend in India during different five year plan (in %)

Plan	Agri. and Allied growth rate	Population growth rate	GDP at factor cost	Poverty trend in the plan period
First plan (1951-56)	2.88	1.83	3.61	2.70
Second plan (1956-61)	3.35	2.00	4.27	-2.50
Third plan (1961-66)	-0.28	2.25	2.84	3.10
Fourth plan (1969-74)	2.77	2.29	3.35	-1.40
Fifth plan (1974-79)	3.59	2.24	4.88	- 2.80
Sixth plan (1980-85)	5.78	2.16	5.51	- 1.10
Seventh plan (1985-90)	3.03	2.15	5.66	-0.70
Eight plan (1992-97)	4.78	2.02	6.54	-0.40
Ninth plan (1997-2002)	2.49	1.91	5.70	-1.00
Tenth plan (2002-07)	2.38	1.53	7.59	-1.50
Eleventh plan (2007-12)	4.06	1.39	8.05	-1.70

Table 5: Correlation matrix of agriculture and allied sector growth rate, population growth rate and GDP at factor cost with poverty trend in India

Variables	GDP at factor cost	Agri. and Allied sector growth rate	Population growth rate	Poverty trend in the plan period
GDP at factor cost	1.000	—	—	—
Agri. & Allied sector growth rate	0.471	1.000	—	—
Population growth rate	-0.734	-0.112	1.000	—
Poverty trend in the plan period	-0.479*	-0.535*	0.112*	1.000

* indicates significant at 1 per cent level.

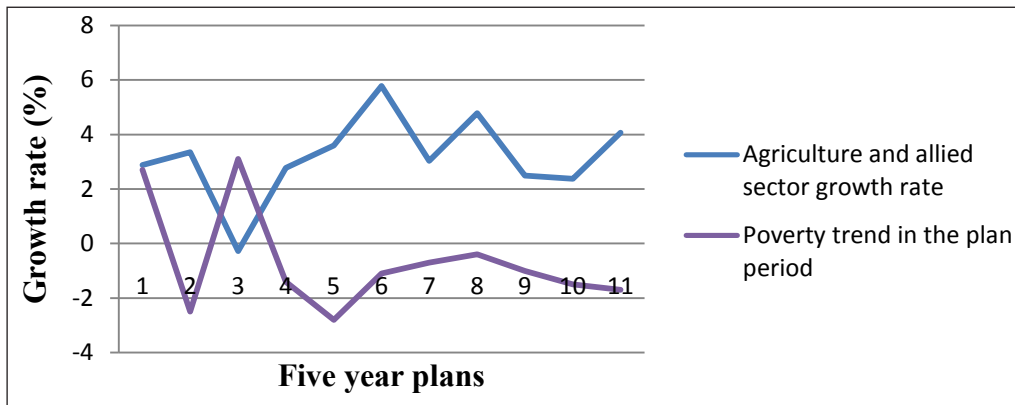


Fig. 4: Association between agriculture and allied sector growth rate with poverty trend

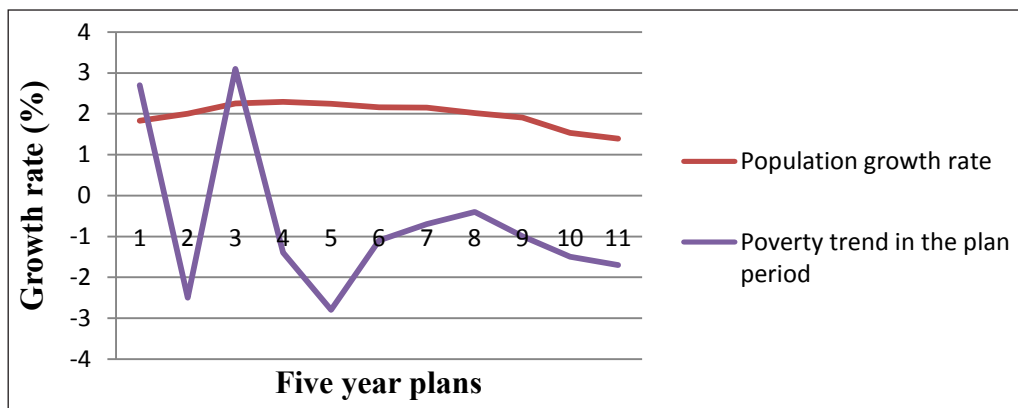


Fig. 5: Association between population growth rate and poverty trend

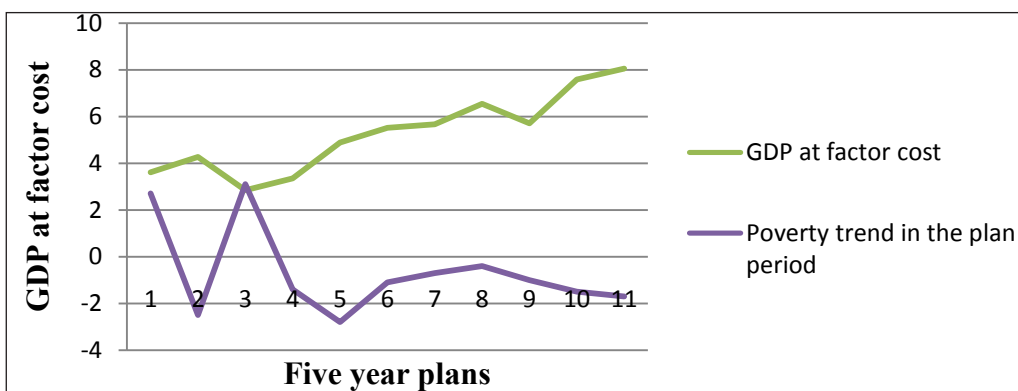


Fig. 6: Association between GDP at factor cost and poverty trend

CONCLUSION

The headcount index shows that India's overall incidence of poverty has been declining from 45.3 percent in the year 1951-52 to 29.8 percent in the year 2011-12. The Indian poverty rate has reached a maximum, i.e., 62 per cent and 61.6 per cent in 1966-67 and 1967-68 respectively. The trend in Indian poverty has shown lowest in 1999-2000, i.e., 26.1 per cent.

India's poverty trend in rural and urban areas shows that India's rural and urban poverty has declined over the years since 1951-52. The incidence of poverty in rural India was 47.37 per cent in the year 1951-52, and it declined to 30.9 per cent in the year 2011-12. On the other side, the incidence of urban poverty was 35.46 per cent in the year 1951-52, and it declined to 26.4 per cent in the year 2011-12.

The incidence of poverty in rural Gujarat was 65.48 per cent in the year 1958-59, and it declined to 31.4 per cent in the year 2011-12. On the other side, the incidence of urban poverty was 54.24 per cent in the year 1958-59, and it declined to 22.2 per cent in the year 2011-12. This clearly shows that rural and urban poverty in Gujarat has declined since 1958-59.

The correlation coefficient of agriculture and allied sector growth rate, population growth rate, and GDP at factor cost with poverty trend showed an expected association between selected variables. A negative association was observed between agriculture and allied sector growth rate and GDP at factor cost with poverty trend. It shows that the growth of agriculture and allied sector and GDP at factor cost will reduce poverty in India. However, this result was not significant. On the other hand, the population growth rate positively affected poverty. As the population increases, the incidence of poverty also increases.

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