Rural Infrastructure

A NEW VISION FOR POVERTY REDUCTION

Poverty reduction requires economic growth which, when accompanied by good governance and sound macroeconomic management, results in socially inclusive and sustainable development. Public investment in physical infrastructure is essential to raise productivity and achieve long-term growth. Such investment is especially critical in rural areas as they are home to a majority of the poor in developing countries. This can lead to higher farm and non-farm productivity, employment, income opportunities and increased availability of wage goods, thereby reducing poverty by raising mean income and consumption and contributing to overall economic growth. Econometric results highlight the importance of country specificities in terms of causes of poverty and effectiveness of alternative infrastructure investments.

DEEPESH KUMAR THAKUR

INTRODUCTION

Poverty reduction requires economic growth which, when accompanied by good governance and sound macroeconomic management, results in socially inclusive and sustainable development. Greater access of the poor to credit, education, employment, health services, markets for produce, sanitation and water is essential. Moreover, the vulnerability of the poor to economic shocks and natural disasters must be reduced to enhance their well-being and encourage investment in human capital and higher-return/risk activities. Rural infrastructure investments

can lead to higher farm and non-farm productivity, employment and income opportunities and increased availability of wage goods, thereby reducing poverty by raising mean income and consumption. If higher agricultural and non-agricultural productivity and increased employment directly benefit the poor more than the well-off, they can reduce poverty even faster by improving income distribution.

If higher agricultural and non-agricultural productivity and increased employment directly benefit the poor more than the well-off, they can reduce poverty by improving income distribution. According to the UN India is on track to cut its poverty rate in half from 51 per cent in 1990 to about 22 per cent in 2015.

India's economic growth and development is largely predicated upon the progress of its 700-million strong rural population, living in about 600,000 villages and primarily engaged directly or indirectly in agriculture. Poverty is widespread and it is estimated that India has a third of the world's poor. According to a 2005 World Bank estimate ("New Global Poverty Estimates: What it means for India" available at, http://www.worldbank.org), 41.6 per cent of the total Indian population fell below the international poverty line of US$ 1.25/day—in nominal terms ₹21.6/day in urban and ₹14.3/day in rural areas. According to the United Nations (UN), India is on track to cut its poverty rate in half from 51 per cent in 1990 to about 22 per cent in 2015 (*The Times of India*, 8 July 2011, available at, http://www.timesofindia.com). The following table shows the proportion of poor in different Indian states.

MPI Rank and State	Population (millions) 2007	MPI	Proportion of poor (per cent)	Average intensity (per cent)	Contribution to overall poverty (per cent)	Number of MPI poor (millions)
India	1164.7	0.296	55.4	53.5	-	645.0
1. Kerala	35.0	0.065	15.9	40.9	0.6	5.6
2. Goa	1.6	0.094	21.7	43.4	0.0	0.4
3. Punjab	27.1	0.120	26.2	46.0	1.0	7.1
4. Himachal Pradesh	6.7	0.131	31.0	42.3	0.3	2.1

5. Tamil Nadu	68.0	0.141	32.4	43.6	2.6	22.0
6. Uttarakhand	9.6	0.189	40.3	46.9	0.5	3.9
7. Maharashtra	108.7	0.193	40.1	48.1	6.0	43.6
8. Haryana	24.1	0.199	41.6	47.9	1.3	10.0
9. Gujarat	57.3	0.205	41.5	49.2	3.4	23.8
10.Jammu & Kashmir	12.2	0.209	43.8	47.7	0.7	5.4
11.Andhra Pradesh	83.9	0.211	44.7	47.1	5.1	37.5
12.Karnataka	58.6	0.223	46.1	48.3	4.2	27.0
13.East Indian States	44.2	0.303	57.6	52.5	4.0	25.5
14.West Bengal	89.5	0.317	58.3	54.3	8.5	52.2
15.Orissa	40.7	0.345	64.0	54.0	4.3	26.0
16.Rajasthan	65.4	0.351	64.2	54.7	7.0	41.9
17.Uttar Pradesh	192.6	0.386	69.9	55.2	21.3	134.7
18.Chhattisgarh	23.9	0.387	71.9	53.9	2.9	17.2
19.Madhya Pradesh	70.0	0.389	69.5	56.0	8.5	48.6
20.Jharkhand	30.5	0.463	77.0	60.2	4.2	23.5
21.Bihar	95.0	0.499	81.4	61.3	13.5	77.3

POVERTY REDUCTION

The UN World Food Programme's *Global Hunger Index* report ("Poverty in India", available at http://en.wikipedia.org and *2011 Global Hunger Index*, International Food Policy Research Institute, available at, http://www.ifpri.org) questions the Government of India's definition of poverty.

> "The fact that calorie deprivation is increasing during a period when the proportion of rural population below the poverty line is said to be declining rapidly, highlights the increasing disconnect between official poverty estimates and calorie deprivation. While total overall

poverty in India has declined, the extent of poverty reduction is often debated. While there is a consensus that there has been no increase in poverty between 1993–94 and 2004–05, the picture is not so clear if one considers other non-pecuniary dimensions (such as health, education, crime and access to infrastructure). With the rapid economic growth that India is experiencing, it is likely that a significant fraction of the rural population will continue to migrate toward cities, making the issue of urban poverty more significant in the long run".

The Indian government started the Integrated Childhood Development Service (ICDS) in 1975 to combat the problem of malnutrition in the country and states like Bihar, Madhya Pradesh, Orissa, Rajasthan and Uttar Pradesh all rank in the bottom ten in terms of ICDS coverage. Despite the poor distribution of help, the ICDS is still considered an efficient way for improving the health of children in the country. However, malnutrition is still a problem and micronutrient deficiencies alone may cost the country US$2.5 billion annually. Malnutrition may lead to children not being able to attend school or perform to their fullest potential, which in turn may decrease labour productivity, affecting India's economic growth as a whole.

Malnutrition is a problem and micronutrient deficiencies alone may cost the country US$2.5 billion annually. Malnutrition may lead to children not being able to attend school or perform to their fullest potential, which in turn may decrease labour productivity, affecting India's economic growth as a whole.

Growth:

- Economic growth is necessary for poverty reduction but the link between the two is not automatic
- Growth rates in the 1980s and in the post-reform period were broadly similar at 5.6 per cent per annum
- There was a deceleration in the growth rate after 1997
- Many states that have grown rapidly in the post-reform period do not show rapid reduction in poverty

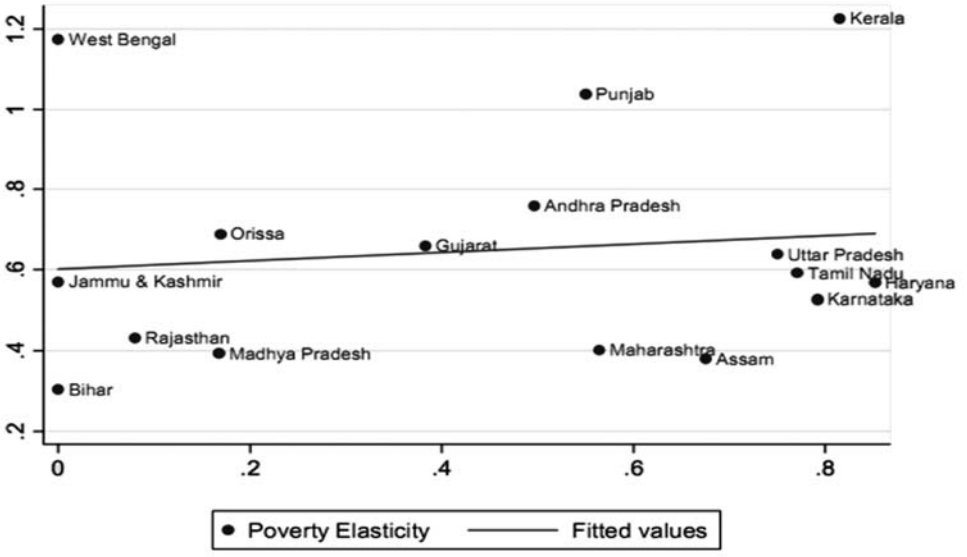


Figure : Landholding Index

- Some states that have not grown rapidly show higher reduction in poverty, indicating the impact of other factors on the incidence of poverty
- Even in high growth states that have done well in reducing poverty, certain communities and regions have been left out in the growth process

Physical Infrastructure:

- Increased focus on the creation of rural road networks to link villages
- Provision of housing and shelter to the rural poor
- Rural drinking water supply and sanitation
- Rural electrification

Social Infrastructure:

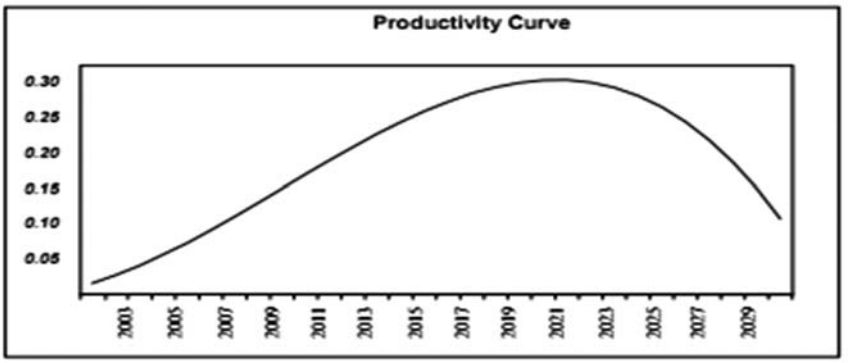
- Investment in education and health and improvement in their quality of service
- Shift in approach to service delivery through community contribution and participation
- Food for work programme to meet the nutritional needs of the transient poor
- Self-employment through the development of micro-enterprises financed by a mix of credit and subsidy

- Availability of food at affordable prices and strengthening of the targeted public distribution system
- Good governance has been highlighted as a crucial factor for achieving poverty reduction and improvement in social indicators in the Tenth Five Year Plan.
- To improve accountability and transparency in the delivery system, *panchayats* must be strengthened by providing them clearly defined functions, financial resources and administrative support.

Rural Infrastructure: The rural infrastructure challenge for India is unique in many respects. The technologies involved are not complex but users are dispersed, the demand–supply gap is substantial and there are several critical implementation issues. The creation of infrastructure must be backed by reliable systems of service provision and maintenance. While the need to create rural infrastructure is urgent and apparent to everyone, the normal bias of the technologically equipped elite is to design systems that are top driven.

When local governments are assigned clear tasks, devolved funds and made accountable for their performance of newly assigned responsibilities, they have a larger incentive to demand the capacity required for effective performance. Thus, activity mapping could spur the appropriate placement of functionaries for better service delivery.

Designing, Planning and Implementing Systems: The first imperative in designing, planning and implementing systems involving multiple levels of government is to ensure role clarity. Assigning clearly defined activities to each level of government is essential both for the efficient delivery of



services as well as for the people to hold these levels accountable for their performance. When local governments are assigned clear tasks, devolved funds and made accountable for their performance of newly assigned responsibilities, they have a larger incentive to demand the capacity required for effective performance. Thus, activity mapping could spur the appropriate placement of functionaries for better service delivery.

Improving Infrastructure: The Government of India has encouraged private participation in public–private partnerships in infrastructure, especially in the ports, power and roads sectors.

- **Education (Elementary):** primary education is essential for all Indians for their participation in India's growth.
- **Education (Secondary):** With improved enrolment and retention in elementary schools, the need for universalising secondary education as a means to break the cycle of poverty has gained importance.
- **Energy:** The Indian government has been increasingly tapping its vast hydropower resources. It has set the target for an optimum power mix at 40 per cent from hydropower and 60 per cent from other sources.
- **Health:** The health sector in India presents a mixed picture. Despite continuous improvements in health indicators, progress has been slow and has not matched the impressive gains in economic growth during the past decade.
- **Skills:** The building of skills is important among India's rapidly rising work force, whose ranks are joined by about eight million new entrants each year. Vocational education and training systems for skills development are also vital.
- **Transport:** The World Bank has aided Andhra Pradesh and Gujarat in upgrading state highways; is helping upgrade rail and road connectivity in Mumbai; is improving state highways in Himachal Pradesh, Kerala, Mizoram, Orissa, Punjab, Tamil Nadu and Uttar Pradesh; is constructing a section of the Golden Quadrilateral in Bihar and Uttar Pradesh and is upgrading rural roads in select districts of Himachal Pradesh, Jharkhand, Rajasthan and Uttar Pradesh.

ECONOMIC GROWTH

India's economy is the ninth largest in the world by nominal gross domestic product (GDP) and the fourth largest by purchasing power parity (PPP). The country's per capita GDP (PPP) was $3,586 (IMF, 129th) in 2010. Following major

economic reforms of the post-independence socialist economy, the country's economic growth progressed at a rapid pace, as free market principles were initiated in 1991 for foreign investments and international competition. Despite rapid economic growth, India continues to face massive economic and social inequality, high unemployment and widespread malnutrition. India ranked second worldwide in farm output while agriculture and allied sectors like fishing, forestry and logging accounted for 15.7 per cent of the GDP in 2009–10, employing 52.1 per cent of the total workforce and despite a steady decline of its share in the GDP, is still the largest economic sector and a significant part of overall socioeconomic development.

India ranked second worldwide in farm output while agriculture and allied sectors like fishing, forestry and logging accounted for 15.7 per cent of the GDP in 2009–10, employing 52.1 per cent of the total workforce and despite a steady decline of its share in the GDP, is still the largest economic sector and a significant part of overall socioeconomic development.

In recent years, there has been considerable emphasis on understanding the regional dimensions of economic growth within the convergence implications of the neoclassical growth paradigm. The most important issue that has emerged from this literature is of controlling differences in the steady state. Despite these, the present study charts the future course of the Indian economy under different alternatives. The following three scenarii are built up.

A. Baseline or "business as usual" scenario
B. Technical progress and inflow of foreign direct investment added on to the "globalisation" scenario
C. A slice of investment diverted from physical capital formation to environmental protection. This modification is superimposed on scenario B and leads to the "environmental protection" scenario. Sustainability is partly imposed on the growth process, as explained subsequently.

More explicitly and perhaps more importantly the following movements of five variables to check sustainability are monitored.

1. The public sector resource gap as a percentage of GDP
2. The current account balance as a percentage of GDP

Growth Rates of Sectoral and Total GDP
(4-year averages: percent)

Period	Agriculture			Industry		
	Scenario A	Scenario B	Scenario C	Scenario A	Scenario B	Scenario C
2000-2004	3.25	3.37	2.46	6.45	7.79	6.67
2004-2008	4.55	4.83	3.66	6.01	7.71	6.50
2008-2012	4.73	5.18	3.76	8.21	9.61	8.53
2012-2016	5.73	5.95	4.35	8.29	9.20	7.97
2016-2020	5.35	6.09	4.17	8.10	8.54	7.05
	Services			Total GDP		
2000-2004	6.72	7.51	6.47	5.87	6.74	5.92
2004-2008	6.61	7.71	6.77	5.97	7.17	6.08
2008-2012	7.03	8.38	7.39	7.06	8.33	7.23
2012-2016	7.18	8.57	7.37	7.32	8.43	7.16
2016-2020	8.23	9.51	7.90	7.73	8.62	7.04

Level and Composition of Sectoral Output: Quinquinnial Averages

Year/Scenario	Agriculture	Industry	Services	GDP
Scenario A				
2001-05	834.92	1638.68	1639.58	4113.17
	(20.35)	*(39.80)*	*(39.85)*	*(100.00)*
2006-10	1037.46	2332.89	2316.69	5687.04
	(18.30)	*(41.00)*	*(40.70)*	*(100.00)*
2011-15	1314.38	3288.36	3341.04	7943.78
	(16.58)	*(41.40)*	*(42.02)*	*(100.00)*
2016-20	1708.14	4625.17	4908.11	11241.42
	(15.24)	*(41.16)*	*(43.60)*	*(100.00)*
Scenario B				
2001-05	840.75	1733.55	1695.71	4270.02
	(19.78)	*(40.52)*	*(39.70)*	*(100.00)*
2006-10	1063.14	2680.56	2531.18	6274.88
	(17.03)	*(42.67)*	*(40.31)*	*(100.00)*
2011-15	1387.84	4122.24	3891.23	9401.31
	(14.81)	*(43.83)*	*(41.36)*	*(100.00)*
2016-20	1874.51	6135.39	6027.19	14037.09
	(13.40)	*(43.73)*	*(42.87)*	*(100.00)*
Scenario C				
2001-05	806.81	1658.58	1629.36	4094.75
	(19.78)	*(40.44)*	*(39.78)*	*(100.00)*
2006-10	964.96	2462.48	2333.88	5761.32
	(16.83)	*(42.69)*	*(40.48)*	*(100.00)*
2011-15	1174.75	3644.13	3443.02	8261.91
	(14.27)	*(44.09)*	*(41.64)*	*(100.00)*
2016-20	1464.49	5185.82	5062.80	11713.11
	(12.55)	*(44.28)*	*(43.17)*	*(100.00)*

3. The growth of per capita real consumption expenditure indicating welfare
4. The growth of per capita availability of food grains as an indicator of the measure of food security
5. The economy-wide balance between savings and investments

RURAL PRODUCTIVITY

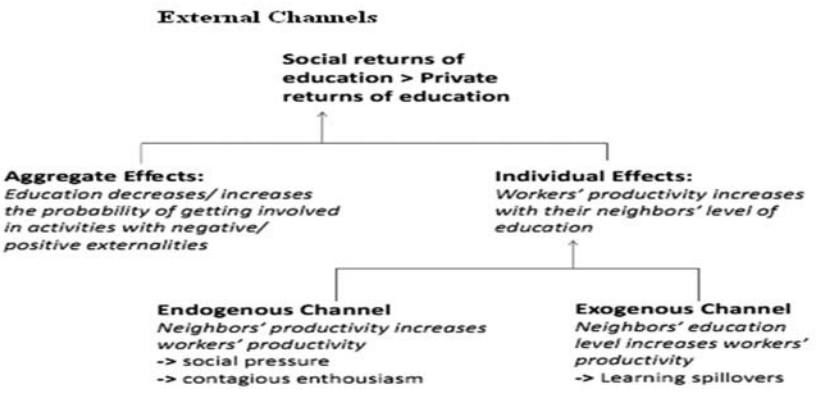
This research report examined the effects of research and development on productivity in India and found that the country is still benefiting from these investments. The main sources of agricultural productivity growth during 1956–87 were public agricultural research and extension while the expansion of irrigated areas and rural infrastructure and the improvement in human capital were also important contributors. The growth rate of agriculture in Tamil Nadu is a cause for concern as farmers have started shifting away from food grain production to higher value commercial crops, thereby raising substantial food security concerns.

About 70 per cent of rural households and eight per cent of urban households are still primarily dependent on agriculture for employment. As almost three-quarters of the population lives in rural areas, a majority of households depend principally on this sector.

Agriculture is the backbone of the Indian economy and the villages are the lifelines of the growth of India. About 70 per cent of rural households and eight per cent of urban households are still primarily dependent on agriculture for employment. As almost three-quarters of the population lives in rural areas, a majority of households depend principally on this sector.

The Role of the Banking Sector in increasing Agricultural Productivity in India:

1. The *kisan* (farmer) credit card scheme
2. Insurance
3. Training and consultancy
4. Warehousing and cold storage
5. Agro-tech and agro-clinics
6. SBI and Cargil India



The above chart shows that production in rural areas could be improved if the above channels were followed. Government investment has played an important role in influencing agricultural productivity or the gross value of agricultural output in constant prices per hectare of gross cropped area. Poverty alleviation has been one of the guiding principles of the planning process and the role of economic growth in providing more employment avenues to the population has been recognised. The growth-oriented approach has been reinforced by focusing on specific sectors, which provide greater opportunities for the people to participate in the growth process. The various dimensions of poverty relating to education, health and other basic services have been progressively internalised in the planning process. Central and state governments have considerably enhanced allocations for the provision of education, health, sanitation and other facilities, which promote capacity building and the well-being of the poor.

Poverty alleviation has been one of the guiding principles of the planning process and the role of economic growth in providing more employment avenues to the population has been recognised. Central and state governments have considerably enhanced allocations for the provision of education, health, sanitation and other facilities, which promote capacity building and the well-being of the poor.

CONCLUSION

Indian agricultural productivity suffers mainly from expensive credit, distorted markets, intermediary controlled prices and poor infrastructure. It also suffers from insufficient irrigation facilities, the use of certain inadequate traditional practices and technology, low economic status of most farmers, fragmented landholdings and a lack of post-harvest infrastructure and farm extensions. Even if some of the measures mentioned above are followed, India could become part of not just the green revolution but the rainbow revolution as a whole. Banks should consider these facts and invest more in infrastructure like irrigation facilities, processing, storage and marketing activities. Thus, agricultural infrastructure could be improved, as a there are ample prospects for banks to invest in the above activities. Moreover, banks could become more participative through policy implementation and the creation of a conducive environment so that the agricultural sector could be cared for like other sectors.