

**LESSONS OF GOVERNMENT FAILURE:
Public Goods Provision and Quality of Public Investment**

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* Any views expressed in the paper are those of the author and do not represent those of the organisation for which he works.

CONTENTS

	Page No.
1 INTRODUCTION	1
2 LESSONS OF INTERVENTION	2
3 SUB-PHASES OF INDIAN SOCIALISM	5
4 ECONOMETRIC RESULTS	10
5 BACK TO BASICS	12
5.1 Focus Govt Attention & Resources	14
5.2 Public Goods & Services	14
5.3 Quasi-Public Goods & Services	16
5.4 Notorious Bureaucracy	17
6 PRIVATE GOODS AND SERVICES	18
6.1 Infrastructure development	18
7 CONCLUSIONS	19
8 REFERENCES	21

TABLES

TABLE 1: COMPARATIVE ECONOMIC PERFORMANCE DURING TWO DEVELOPMENT PHASES	5
TABLE 2: COMPARATIVE PERFORMANCE IN SUB-PHASES OF INDIAN SOCIALISM	6
TABLE 3: COMPARATIVE PERFORMANCE DURING SUB-PHASES OF MARKET REFORM	10
TABLE 4: REFOCUSING GOVERNMENT EXPENDITURES AND ADMINISTRATION	15

1 INTRODUCTION

Virmani (2004c) statistically defines two major phases of economic growth in India's post-independence history. These are associated with different policy regimes, which can be termed the 'Indian version of Socialism (IVS)' or simply 'Indian Socialism' and 'Experiments in Market Reform (EMR).' The turning point occurred around 1980-81. Each of these two regimes was associated with a set of economic policies. Virmani (2005) shows that in the 55 year economic history of India several conventionally assumed drivers of growth such as agriculture and public investment have not had a significant effect on growth. In this paper we focus on government investment and expenditure policies.

Going beyond the growth experience, Virmani(2005c) also tries to relate the policy experience to the issues of aggregate poverty, income distribution and hunger at an aggregate level. The broad theme that emerges from the analysis and which is the focus of the current paper is that the failures on this front, apart from the indirect effects of growth, are linked directly to the failure of governance. This failure has many dimensions; the misallocation of government resources, the failure to follow norms of social benefit-cost analysis that were the reason-de-tar for the introduction of national planning, the neglect of public and quasi-public goods that are the most fundamental justification for the existence of government and a gradual (over decades) but progressive deterioration in the quality of governance.

Section 2 and 3 summarise the lessons that emerge from the history of government intervention in India. Section 2 derives the lessons by comparing the socialist period with the market reform period. Section 3 delves a little deeper into the sub-phases of Indian socialism. Section 4 presents a more rigorous analysis showing the effect of government investment on growth. Section 5 and 6 draws out the implications for policy of the fifty years of experience of government intervention. Section 5 focuses on government expenditure policy while section 6 touches on the role of private sector in infrastructure development. Section 7 concludes the paper.

2 LESSONS OF INTERVENTION

There are significant lessons from comparing the policy regime and its outcome during phase I (1950-1 TO 1979-80) with that during phase II (1980-1 to present). The most important lesson for Indian academics and policy advisors is that,

Lesson 1.1: The government is neither omniscient (all knowing) nor omnipotent (all powerful) nor omni-competent. Even with the best of intentions and motivations it can and does fail spectacularly. More commonly it has traits that are the opposite of those commonly assumed by those who expect government to solve any and all problems.

The post-independence political and administrative leadership was highly motivated, educated and honest. This situation prevailed for at least 15 years or half the phase of Indian socialism (after which it perhaps started atrophying gradually). Despite its sincere efforts to develop India and rid it of the scourge of poverty, the proportion of citizens below the poverty increased. Despite drawing on the best development economists in the world and pioneering the concept of mixed economy and non-communist (sometimes referred to as 'Fabian') socialism, development performance as measured by the rate of per capita income was extremely poor compared to other countries.¹ The problem lay in the policy regime, the Indian version of socialism, as the dramatic improvement of performance during phase II demonstrates.

One of the philosophical foundations of Indian socialism was that private consumption of the rich ('well off' or 'better off') must be reduced and their resources diverted into the public sector (directly through taxes or indirectly through the financial system). The result, contrary to assumptions was an increase in poverty. The puzzle is that poverty increased despite a growth of per capita income! Government was clearly appropriating too much resource, leaving little for the general public. Growth of government consumption was much higher (average 5.8% per year) than the growth of GDP (3.5% per annum). Private consumption grew even slower (3.2% per annum) than economic growth. Logically this would mean that, the consumption distribution worsened, at least around (and just above) the middle of the income distribution. Alternatively either (a) the NAS data on income and consumption is

¹ Its performance when measured by other human development indicators such as literacy was even worse.

wrong or (b) poverty is not appropriately measured because of incorrect or inappropriate deflators used in adjusting the poverty line over time or (c) the NSS data is not capturing the time trends correctly. It is highly unlikely that per capita GDP or average private consumption declined over the 30 years till 1979-80, *so the problem must lie in the poverty estimates* as Bhalla (2003a) has argued. The same problem in fact continues into subsequent years.

The second lesson is that,

Lesson 1.2: The role of Private consumption in economic growth and poverty reduction can be more important than that of Government/Public Consumption.

One of the important pillars of the economic strategy under Indian socialism was to control private consumption (through controls on, production of and investment in, consumer goods and taxation of such goods) and divert resources into the government through steep/exorbitant income taxes. For instance the effective marginal tax on income from capital (including wealth tax) rose to 100% in the mid-seventies. As a consequence government consumption grew at 5.8% per annum, much faster than the rate of GDP growth. Though government consumption has continued to grow at over 6% per annum, the anti-consumer policy was gradually diluted during phase II and finally abandoned in the nineties. Faster growth of private consumption has therefore driven the poverty reduction in phase II and probably contributed to the acceleration in growth through increased aggregate demand and consequent higher capacity utilisation and increase in expected profitability of private investment in new consumer goods.

The third lesson is,

Lesson 1.3: Government Investment is neither necessary nor sufficient for Growth.

Corollary 1.3.1: The importance of government investment as a driver of growth has been overrated and the importance of private investment underrated. Government investment in 'private goods and service' is a substitute for private investment and will have zero direct effect on growth (assuming equal efficiency). The net effect is negative if we take account of tax distortions to raise funds for government investment.

Corollary 1.3.2: The efficiency of investment is critical to growth. Government investment that is not driven by social benefit-cost considerations can be highly inefficient. A monopolistic government sector is likely to be highly inefficient and can retard growth.

Between phase I (1950-1 to 1979-80) and phase II (1980-1 to present) the average rate of growth of Public investment declined to 2.8% per annum a third of its earlier average of 7.5%, while the rate of growth of private investment almost doubled from 4.3% to 8.4% per annum (table 1). Thus the decline in the rate of growth of government/public investment did not have a negative effect on growth and may have had a positive effect by creating space for an acceleration of private investment. Private investment clearly played a positive role in the growth acceleration. The reason for this result is that unlike private investment the allocation of public investment and its efficiency is neither responsive to profits nor disciplined by losses. Gresham's law applies with a vengeance. Pet theories and vested interest can drive public investment not only into the most unprofitable activities but also into the most socially unproductive channels, with everything being justified in the name of the poor and the public.²

The fourth lesson,

Lesson 1.4: Though investment is necessary for growth the key driver of total productivity growth and overall growth is investment in machinery.

Between phases I and II the rate of growth of investment increased marginally from 6.1% to 6.3% while the rate of growth of fixed investment and machinery investment accelerated by 31% and 34% respectively. The acceleration in investment and GDP growth was driven by the acceleration in machinery investment from an average of 6.6% per annum to an average of 8.8% per annum. Mis-allocation of public investment and its efficiency are the primary reasons for this outcome:

² As the acting/temporary incharge of the Program evaluation organisation (PEO) in the Planning Commission during 2001-2002 I was shocked to find that the social cost benefit analysis of programs even of the kind discussed in the literature (eg Little-Mirlees) in the fifties was virtually non-existent for social programs.

Table 1: Comparative Economic Performance During Two Development Phases
(Average Growth Rate of variable during the period)

	Phase=>	I: Indian Socialism	II: Market Reform
	Period=>	<u>1951-2 to 1979-80</u>	<u>1980-1 to 2003-4</u>
<u>No</u>	<u>Variable</u>		
1	GDP at factor cost	3.5%	5.8%
2	World rank in GDP growth	60/74*	9/88
3	Per capita GDP	1.3%	3.7%
4	World rank in per capita growth	66/76*	9/88
5	Poverty rate (HCR)	0.2%	-0.8%
8	Total Factor Productivity Growth	0.9%	2.7%
9	Consumption: Private	3.2%	4.6%
10	Consumption: Government	5.8%	6.0%
11	Investment: Total	6.1%	6.3%
12	Investment: Public	7.5%	2.4%
13	Investment: Private	3.6%	8.7%
14	Investment: Fixed	4.8%	6.2%
15	Machinery	6.6%	8.8%
16	Structures	4.4%	4.5%
17	Private (fixed)	3.6%	8.7%
18	Electricity, Gas & Water	15.2%	4.4%
19	Railways	2.4%	3.7%
20	Communications	9.7%	11.5%

3 SUB-PHASES OF INDIAN SOCIALISM

The phase of Indian Socialism can be further sub-divided into two sub-phases.

In sub-phase IA (1950-1 to 1965-6) government investment in Public and Quasi-public goods vied with investment in production of private goods classified as commanding heights. The distinction between ‘private goods’ and “public goods” seems to have been missing from the Indian discourse in Phase I. The former are goods & services (G&S) for which private markets routinely exist and production of which by the government merely displaces private production. The latter are G&S for which there are no markets and therefore government supply can add to total output. “Quasi-public” goods and services, which fall in the grey area between the two, can be defined as those “private goods having substantial externalities e.g. Drinking water, irrigation dams, primary education (see also chart 4 in appendix). In 1960-61, 30% of public investment went into Administration and Defence, 19% into Railways

18% into registered manufacturing, 12% into agriculture and 9% into the electricity gas & water sector.³

Table 2: Comparative Performance in Sub-phases of Indian Socialism

(Average annual growth rate during sub-phase, unless otherwise specified)

Phase=>	I A: Commanding Heights	I B: Leg-Bureaucratic Socialism
Period=>	<u>1951-2 to 1964-65</u>	<u>1965-66 to 1979-80</u>
<u>Variable</u>		
GDP at factor cost	4.1%	2.9%
World rank in GDP growth	39/74*	63/74
Per capita GDP	2.0%	0.6%
World rank in per capita growth	41/74*	67/74
Poverty rate (Avg. HCR-level)	50.5%	55.4%
Total Factor Productivity Growth	1.6%	0.2%
Consumption: Private	3.7%	2.8%
Consumption: Government	6.6%	5.1%
Investment: Total	7.9%	4.5%
Investment: Public	11.6%	3.7%
Investment: Private	3.5%	3.8%
Investment: Fixed	6.5%	3.2%
Machinery	9.7%	3.7%
Structures	5.8%	3.2%
Private (fixed)	3.5%	3.8%
Electricity, Gas & Water	25.3%	6.5%
Railways	11.1%	-5.1%

As railway and communication were government policy created monopolies, government investment equalled total investment in these sectors. The electricity sector was a near monopoly and public investment constituted about 92% of total investment in 1960-61. By creating these monopolies though reservation (exclusion of the private sector), government ensured that efficient growth enhancing private investment could not take place in these sectors.

³ 1960-61 is the earliest year for which the sectoral composition of government investment (GCF) is available in 1993-4 prices. Administration is a public good, which can easily become a public bad. Railways and parts of the electricity & agriculture (dams & canals) sectors could be classified as a quasi-public good during this sub-phase. Most manufacturing was private goods.

The growth of Government consumption at 6.6% also far exceeded economic growth. In contrast the growth rate of private consumption was a very modest 3.7% per annum a rate slower than that of GDP growth. Thus the ratio of government to private consumption also rose sharply during this sub-phase.

Many analysts of the slowdown in economic growth during the sixties have attributed it either to the decline in government investment or to a slowdown in agriculture. Rate of growth of public investment certainly declined sharply during sub-phase IA. But the rate of growth was even lower during the second phase when growth picked up significantly (table 1). Further, the rate of growth of public investment continued to decline during both sub-phases of the second phase while growth accelerated. The railway and telecommunication sectors were completely monopolised by the government, while in the electricity government instituted a public monopoly on Greenfield investment. In 1960 investment by existing private companies was less than 8% of the total. Deceleration of investment in these infrastructure sectors was therefore largely due to a deceleration in public investment. Growth in fixed investment in railways fell from 11.1% per annum in sub-phase IA to -5.1% per annum in sub-phase IB, in telecom from 13.1% to 6.8% and in electricity from 25.3% per annum to 6.5% per annum. Telecom growth recovered in phase II and remained strong, while in railway and electricity it recovered in sub-phase IIA and decelerated again in sub-phase IIB. Given the government created monopoly (i.e. little or no opportunity for private investment) a deceleration of public investment in these sectors could have had a negative effect on growth.

It must be remembered, however, that the massive expansion of public investment, though it did build needed infrastructure, was seldom based on allocating resources where the highest social return was to be found. Further, public monopolies, once built by the government, had little incentive to behave better than any private monopoly. This led to a build-up of X-inefficiency in public monopolies and gradual deterioration in the supply of public and quasi-public goods. Though initially government investment may have complemented private investment, over time an increasing proportion began substituting for and crowding out private investment and consumption. The dead weight loss of taxation in transferring consumption from private to public account contributed to the crowding out of private by public activity. The solution to slowing investment in these infrastructure sectors

did not necessarily lie in greater public investment but in allowing private entry into these infrastructure sectors, stimulating competition in whichever segment possible and regulating natural monopoly segments like electricity distribution and railway lines.

Despite the deceleration in the growth of public investment in each of the four sub-periods, growth increased dramatically in phase II (i.e. sub-phase IIA).

Lesson 2.4: The sharp slowdown in public investment in phase IB had no perceptible affect on the growth rate of the economy. Government investment is neither a sufficient nor a necessary condition for growth.

There are two critical dimensions to public investment in the production of goods and services (G&S). (a) Whether it is for a Private, Public or Quasi-public (private with significant externalities) good. (b) The degree of competition permitted by the government e.g. a monopoly (oligopoly) created by banning private production (entry or investment). (c) The degree of substitution with other services (e.g. transport-road, rail, air) or the potential for competition from under ground sources of supply (illegal private generator sets). Creation of government monopoly in Quasi-public and private goods (electricity, railway, telephone network before the advent of 'mobile') made economic growth dependent on government investment in these sectors. The efficiency of public governance deteriorated over time and X-inefficiency rose unchecked in the absence of independent regulation.

Lesson 2.5: The effect of government investment depends on the category of goods & services in which it is made, the policy framework (e.g. entry barriers) and the presence of (legal & illegal) substitutes. Changes in government investment in the production of private goods and services in a competitive industry have no direct effect on growth (assuming ownership does not affect efficiency)

Corollary 2.5.1 The net effect of a reduction of government investment in private goods on growth could therefore be positive if it is financed by (distorting) tax revenues.

Lesson 2.6: A slowdown of fixed investment in govt-monopolised Quasi-public services has a negative impact on GDP growth, but the impact is reduced over time (ipso facto).⁴ As the monopoly ages, X-inefficiency increases, governance deteriorates and substitutes (legal & illegal) develop.

⁴ Time being measured from the point at which the government monopoly was created.

The solution is a policy framework that, (a) facilitates efficient production & regulation. (b) An independent professional regulatory system that promotes competition & minimises regulatory costs. (c) Institutional innovation that breaks/reverses the deteriorating trend in efficiency & governance and (d) government investment focussed on public & quasi-public goods with the highest social return. The first two have been seen in Telecom (of and on /in fits and starts) and the last two in Highways (NHAI).

Externalities in ‘natural monopoly’ sectors can be represented by a bell curve (inverted U) with population density on the horizontal (X) axis and the gap between social and private return on the vertical (Y) axis. The relatively high-density rural areas in the middle have the largest externality (gap between social and private returns) and thus are the most worthy of government intervention.

The constitution enjoined the State to provide education. The courts interpreted these to create a government monopoly over Primary and Secondary education (State list) and degree granting colleges/universities (Central list). The government(s) took 40 years to set up a network of schools, where on average 25% of teachers are absent from school, another 25% are absent from the class, and 5% or more are just sitting in class. (Choudury et al (2005)). Overall the quality of teaching is abysmal, despite teachers getting much higher salary than in the reluctantly permitted, bureaucratically oppressed, non-profit schools. A government monopoly coupled with low accountability and poor governance is the worst possible solution to any economic or social problem. Our constitutionally mandated and court interpreted education system is an approximation of this hypothetical one. The solution is greater accountability (via user groups) to those who are directly affected by this failure, namely the parents and grandparents of school age children. Sustained accountability also requires the involvement of Panchayati Raj institutions (local level for primary, block for secondary) and non-govt organisations.

Table 3: Comparative Performance During Sub-Phases of Market Reform

Phase=>	II A: Basic Reform	II B: Wider Reform
Period=>	1980-1 to1991-2	1992-3 to 2003-4
<u>Variable</u>		
GDP at factor cost	5.5%	6.1%
World rank in GDP growth	12/88	9/107
Per capita GDP	3.2%	4.1%
World rank in per capita growth	14/88	9/107
Poverty rate (HCR-level)	38.0%	35.3%
Total Factor Productivity Growth	2.6%	2.8%
Consumption: Private	4.5%	4.8%
Consumption: Government	6.0%	6.1%
Investment: Total	5.0%	7.6%
Investment: Public	2.9%	2.0%
Investment: Private	7.3%	10.3%
Investment: Fixed	5.6%	6.9%
Machinery	8.5%	9.2%
Structures	3.7%	5.4%
Private (fixed)		
Electricity, Gas & Water	7.8%	0.3%
Railways	5.0%	2.2%
Communications	12.3%	10.6%

4 ECONOMETRIC RESULTS

Another factor that has often been asserted as a driver of growth in India is public investment. Empirically we find that the effect of public investment is either statistically insignificant (OLS) or negative (simple TSLS).

Equation:
$$\text{GrGdp} = 0.035 + 0.024 \text{ D81} + 0.196 \text{ drainm} - 0.11 \text{ drainm}(-1) - 0.0 \text{ GrIpub}$$

$$(10)^{***} \quad (5.4)^{***} \quad (6.5)^{***} \quad (-3.4)^{***} \quad (0)$$

$$-0.35 \text{ AR}(1)$$

$$(-2.5)^{**}$$

$$R^2 = 0.63, R^2 (\text{adj}) = 0.59, \text{DW} = 2.1.$$

GrIpub is the rate of growth of Public investment (at constant prices). Neither this variable nor the rate of growth of fixed investment by the public is significant when introduced into equation 3. Thus growth equations do not provide any support

to the contention that government investment per se is an important determinant of GDP growth in India.

These results could be either because the allocation of public investment is bad or because public investment is inefficient in India or both. It therefore leaves open the possibility that investment in public goods (e.g. connecting roads, modern courts & police systems), utilities (e.g. electricity) or infrastructure (e.g. ports, airports, and railway lines) has a positive effect on other sectors. The systems of allocation of funds as well as the incentives of publicly run organisations have not, however, been able to capitalise on these externalities. A policy framework that promotes private entry and competition in these sectors and reduces policy risk through professional regulation of monopoly elements is likely to produce much better results than larger public investment in public monopolies riddled with X-inefficiency.

The monopolisation of infrastructure sectors by the government also had the unfortunate effect of converting a technical issue into an ideological one. The technical issue was one of degree of complementarity between production of and investment in *infrastructure* (or utility) services and the *other sectors* of the economy. This was converted into an ideological issue of the complementarity between *public* investment and *private* investment. A priori one would expect that electricity and to a lesser extent modern communications and transport are complements to modern industrial production and market systems. The technical possibility of complementarity or substitutability does not, depend on whether one or other or both are private or government owned.⁵ The fact that these sectors were under government monopoly misled many economists into thinking and arguing as if the issue was one of complementarity between private and government investment in all sectors (i.e. including manufacturing, mining, agriculture and other services).

One existing initiative that will contribute to structural transformation of the economy is the building of National & State highways and their inter linkage to towns and villages.

⁵ The best way to estimate substitutability can however depend critically on the ownership pattern and consequently the incentives and behaviour of the managers.

5 BACK TO BASICS

The conventional wisdom is that the role of government was curbed by the new economic policy introduced in 1991-92. In fact, the public sector's share of GDP rose to its peak of 26.7% in 1998-99.⁶ The public sector's share of Gross Fixed Capital Formation peaked several years before the 1990's reforms (at 52.8% in 1987-88) because the government had no savings left to invest. Since then the public share in GDP has indeed gone down to about a fourth and its share of fixed investment (GFCF) has gone down to less than a third.

The government's thirst for intervention in all spheres of economic and social activity has far exceeded its ability to achieve positive outcomes in any of them. The high moral fervour that characterised the political leaders and the positive motivations that drove the administration at the time of independence has long since faded. There is a large gap between the theory of Government intervention and the Practice of governance in a low income democratic country. In theory market failure has been used to justify the production of all kinds of goods and services by the government. In practice the problem of government failure is now much more serious. In theory ownership of the means of production by the government should result in efficiency equal to private ownership and greater equity. In practice government production and supply is characterised by lower efficiency and either no gains in equity or **a few gains coupled with** the creation of new inequity. The high moral purpose assumed to be present in public functionaries does not exist **in general** and incentives systems for motivating desired behaviour (e.g. profit maximisation or cost minimisation) cannot be sustained in the public sector because of political over lord ship. **This should not be taken to mean that there are no honest and/or dedicated individuals in government! Those that honestly and genuinely continue to serve the public often do so with little hope of recognition or reward.**

The theoretical accountability of politicians to voters is **often** thwarted in practice by sharing misappropriated public resources with special interest groups whose vote is critical to re-election.⁷ All interventions are justified by the ministers

⁶ The variables are in 1993-94 prices, with appropriate deflators applied to public and total values. The ratios may differ if current prices are used.

⁷ Means (laws, rules) and Ends (objectives/goals) are inverted resulting in the infamous Bureaucratic Red Tape; Means (rules, procedures) become Ends in themselves and the original Ends are sometimes used to justify the means (the new goals) even if these ends are being met by others.

and administrations as in the public interest or in the name of the poor or both. This professed concern of government for the public, contrasts sharply with the neglect of public goods & services that are the traditional & accepted responsibilities of every government. One such responsibility is the security of life and property (policing). The theft of electricity, represented by the data on T&D losses of 40% to 50% and the visibly poor quality of Urban roads, drains, sewerage and water supply systems are just a few of the many indicators of State Government failure.

An over whelming proportion of public functionaries (including peoples representatives), *do not care about the public interest*. About 80% of them (from the peon up to the top political level) are corrupt.⁸ “Corrupt” is used here in the wider sense that they have [little or](#) no interest in the job per se or the institution’s objectives and public purpose. The government job ([for too many of them](#)) is merely an instrument to further their personal interests, whether a promotion, a posting, a seat in a university/ job for their children, a bribe, election fund or votes (see Virmani (2002)). The principle-agent problem is compounded in such low quality government systems, because nobody has the clear incentive to promote the organisation’s objectives. For instance when the minister’s objective is (at best) to maximise votes for himself, there is no sustainable incentive scheme for PSU managers to maximise PSU profits rather than their own welfare. The deterioration of the quality of governance is the most important cause of growing interstate disparities in Poverty rates.⁹ The absence of any genuine/sincere desire to accelerate growth and poverty reduction has the greatest negative impact on the least developed States, including on their supply of social services and safety nets. In several States (particularly the poorest) the provision of public goods like courts/judiciary, policing and unbiased administration has deteriorated so badly that expropriation risk is too high for most new investment and danger of kidnapping for ransom too high for anyone with skills that can be marketed elsewhere to remain there.¹⁰ [It is worth noting that many of the remaining 10% or so who are not ‘corrupt’ in the sense defined above, may work above and beyond the call of duty.](#)

⁸ This estimate is based on conversations with a sample of retired senior IAS officers, IB officials and SSI proprietors and industrialists. The other 10% are neutral towards the job, perhaps because there are no incentives and many disincentives.

⁹ Though the deterioration started many decades ago, it reached a tipping point with the entry of criminals into the legislatures of the heartland States.

¹⁰ Resulting in large scale out-migration.

5.1 Focus Govt Attention & Resources

The solution to this problem of governance is to free the people, non-profit organisation, entrepreneurs and companies to do what they can do best and to focus the government's limited resources, attention span and time on functions that only the government can do. This is to supply *public goods* & services and to ensure the supply of *quasi-public goods* (particularly those having production externalities) up to a level at which the social benefits equals cost of provision.¹¹ The supply of public goods like local & connecting roads, aquifer recharge & management, agricultural R&D and its dissemination ('extension services') control of disease vectors, quasi-public goods like irrigation & drainage, railway network are inadequate to the demands of modern agriculture & commerce. Similarly public services like communicable diseases, public health education, sewage systems, and quasi-public goods like drinking water, public sanitation services, primary education, is inadequate to the demands of modern, healthy, disciplined labour force. Governments, particularly in the poorest States, must *focus on these basics of government* and use public-private partnerships wherever possible to improve efficiency in supply of quasi-public goods and lift all controls (bureaucratic red tape) on the non-govt sector (see table 1). A reduced span of activity also reduces the information requirements for transparency and accountability to voters. The media can therefore play a more effective role in monitoring performance and exposing corruption.

5.2 Public Goods & Services

It is useful to classify all government expenditure including that on physical infrastructure into three categories.¹² These are Public goods [e.g. Roads, Urban (Town & Village) planning and infrastructure, Agricultural R&D, Public health & communicable diseases], Quasi-public goods (Major Irrigation, Waterways, Rural electricity/telecom) and Private goods & services (Telecom, Ports, Airports, Urban electricity, Railways). The issues connected with public goods are quite different from those for Private goods with Quasi-public goods being in between.

¹¹ Strictly, "are not lower than the social costs of provision."

¹² Sections 5.2, 5.3 and 6 are based on Virmani(2004d).

Table 4: Refocusing Government Expenditures And Administration

		Government and Public Sector						Non-profit	Profit Making			
		Administration			Regulators		Companies	Public-Pvt	Societies	Co-operative	Commercial	
		Policy	Planning	Finance	Supply	Produce	(professional)	PSUs	Partnership	(NGO)		
		or Subsidise										
I	Public Goods & Services:	Primary & Major Responsibility of Govt										
1	Defence#					A+						
2	Courts					A+	JudicialCom					
3	Police					Autonomy	Police Com	@				
4	Roads											
4.1	Central Highways		Center	Partial				NHA	A		Const/maint	
4.2	State Roads		State		A	B		SHA	B		Const/maint	
4.3	Local,Connecting		State			A+					Const/maint	
5	Public Education											
5.1	Preventive Health (nutrition, cleanliness)	A+	A	A+		A			Yes	Yes		
5.2	Scientific approach (supertition)	A+	A	A+		A			Yes	Yes		
5.3	Agri/crop(Extension)		Yes			A			Yes		e chaupal	
6	Disease Control											
6.1	Communicable/Vector		A+			A+						
6.2	Epedemic/Environment		A+			A+						
7	Population Control	A			A+							
8	Town & Village											
8.1	Water Drains	A	A+		Run	Set up			Rural	Rural	Rural Mgt	
8.2	Sewers,treatment	A	A+		Run	Set up			Rural	Rural	Rural Mgt	
8.3	Solid Waste disp	A	A+		Run	Set up			Rural	Rural	Rural Mgt	
9	Irrigation											
9.1	Aquifer Mgmt	A	A				yes					
9.2	Drainage systems	A	A		State	Local			Yes	Yes	Yes	
II	Quasi-Public G&S:	Government Responsible for Correcting Externality										
	(prod externalities)											
1	Defence Equipment					Major Sys			HiTech Eqp		Genrl Equip	
2	Irrigation											
2.1	Dams	Yes	Yes			A					Construction	
2.2	Canal arteries	Yes	Yes	Yes	A			Maintain			Construction	
2.3	Distribution canals		Yes	Yes	A			Maintain		Farmers	Construction	
3	Rural											
3.1	Elect Transmission		Yes	Yes	Yes		A+	Yes	Yes		Yes	
3.2	Elect Distribution		Yes	Yes	Yes		A+	Yes	Yes	Yes	Yes	
3.3	Telephony,Internet			No Tax;USO				OpenAccess			Competition	
3.4	Postal network			Yes				India Post	SupplyChain		Front end	
4	Water-drinkable		Yes	Yes	Yes	Rural		Urban	Yes		Urban Mgt	
5	Education											
5.1	Schooling*	A	A	A	UrbPoor	Rural	A+:InfoAsym		Yes	Yes	Yes	
6	UrbanMassTransit*	Yes	Yes	Yes				Subway	Busses		Busses	
III	Private Goods & Services:	Regulate Non-Government Agents, Promote competition										
1	Health											
1.1	Insurance*			Grants	Poor		Info Asym	Compete	Yes	Poor	Rural	
1.2	Services*			Grants	Urb poor	Rural	Info Asym		Poor	Poor	Rural	
1.3	Hospitals			Poor			Info Asym	Yes	Yes	Yes	Yes	
2	Education											
2.1	Technical		B					Certification	Institutes		Yes	
2.2	Higher*			Grants		Centr/stat	Rating		Yes	Yes	Yes	
2.3	Professional*			Grants		Centr/stat	Rating		Yes	Yes	Yes	
3	Electricity											
3.1	Production			Un convn			B	B	Un convn	Un convn	Un convn	
3.2	Transmission					Eliminate	A+	Yes	Yes		Benchmark	
3.3	Distribution					-Theft	A+	All	Yes		-competition	
4	Ports	Yes	B				Yes	Yes	Yes		"	
5	Airports	Yes	B				Yes	Yes	Yes		"	
6	Railway											
7.1	Rail line & Signals		B	Strategic			Yes	Open Access	Yes		Local lines	
7.2	Trains/service							Yes			Competition	
8	Telecom: Urban						Yes				Competition	
9	Pipeline:Gas/Oil		B					Open Access			Open Access	
Notes: The importance of the governments role in the subject is represented by the grade (A, B)												
# = Defence Equipment is a public good monopsony; * = Social/Merit arguments for subsidy(in addition)												
@ = The T&D mafia in SEBs and the Coal mafia in Bihar are examples of failure to protect public property (family jewels?).												

The relative social return (benefit-cost ratio) on investment in different public goods and the efficiency of institutions providing public goods and services are the two key issues for this category. By and large investment in public goods should be funded from government revenues. In a world characterised by corruption the social return also depends on the quality and efficiency of the public provider. Given the deterioration in the quality of government organisations that invest in and manage such public goods the issue of institutional reform is paramount.

The national highway program has been reasonably successful in improving the quality of major national highways because of the innovation of creating and empowering a National Highway authority and removing it from the clutches of the Central Public Works Department (CPWD) and State public works departments [Virmani(2004a)]. Even the NHAI is not perfect and lacuna should be identified and corrected. Autonomous organisations should be set up for comprehensive upgrade of Major Urban centres. Simultaneously efforts would have to be made to convert Nagarpalikas from being appendages of the State to become accountable to their residents. The recommendations of the Bangalore Task Force would be helpful in this regard.

When the FRBM requires a reduction of the fiscal deficit and there are several new demands for expenditure enjoined on the new government by the CMP (EGS, Education, Health), where are the revenues to be found to fund additional investment in roads and urban infrastructure? The classical techniques of social benefit-cost analysis must be revived and applied to every old and new/proposed program. The available revenues must then be allocated to those programs with the highest social return, eliminating programs with low social returns. Piling on a slew of new inefficient programs on the existing slate of inefficient programs will in our judgement neither increase economic growth nor accelerate poverty reduction. If after 20 years of 'poverty alleviation programs' (pioneered by Mrs. Indira Gandhi) critics are still talking about terrible hunger and malnutrition, 'more of the same' actions will result in 'more of the same' results (i.e. criticism).

5.3 Quasi-Public Goods & Services

We define Quasi-public goods as private goods with substantial externality. The externalities we are most concerned about relate to supply of critical physical

infrastructure like major irrigation, clean drinking water and electricity in rural areas. The externalities arise because of high fixed costs/minimum efficient scale of the infrastructure (e.g. electricity transmission network) and low population density and/or low average income in rural areas. The solution is a combination of policy, regulation and government subsidy. Traditional approaches such as internal cross tax-subsidy (eg. USO) and institutional innovation such as public-private partnerships can also play a role. The general policy and regulatory system for the whole sector has therefore to be modified for rural supply. For instance the TRAI is in the process of formulating the modifications that need to be made in general Telecom policy to promote efficient extension of supply in the rural areas. Special regulations may also be needed in [some sectors](#), for instance to promote public-private partnerships in canal irrigation and drinking water supply.

Given the limited resources, public subsidies should not be spread thin across all rural areas. We would hypothesise that the degree of externality (gap between social rate of return and the private rate of return) varies in an inverted U-shape pattern with population density (& average income). The externality is low in high-density (i.e. semi-urban) areas and there is no need for a government subsidy. The peak is reached in middle density areas and available subsidy should be focussed in these areas. When density and average income is too low it may not be socially beneficial. The peak will also differ with technology (e.g. regular versus decentralised gohar gas or solar electricity; Fixed line vs. wireless telephony). So that a wider band of rural areas can be beneficially covered with different technologies and delivery mechanisms.

5.4 Notorious Bureaucracy

To motivate administration, administrators should be judged by the increase in value added within their area and sphere of responsibility (Economic Sub-objectives: production, investment, productive employment). This would provide an incentive to shift from *'red tape'* to *'green tape.'* Professional regulation of State highways, canal networks, electricity transmission & distribution and primary & secondary education by independent regulators would multiply the social gains from private entry into these sectors. Together such focussed improvements in governance have the potential to eliminate inter-State differences in poverty and growth and thus raise the growth rate of the entire economy.

6 PRIVATE GOODS AND SERVICES

6.1 *Infrastructure development*

The key issues in private infrastructure development are policy and regulation. The policy framework must provide incentives for private investment while enhancing consumer welfare through competition. Thus the policy framework must be such as to mimic competition to the extent possible. A good policy must be supported by a regulatory system that promotes competition (including benchmark competition) and regulates natural monopoly elements efficiently and effectively. This requires an independent professional approach to regulation. These two together reduce policy and regulatory risk and thus reduce overall risk below the threshold necessary for normal private investment (i.e. one that does not require ad hoc sops and guarantees). In my judgement there will be no dearth of private (domestic and international) finance once this is done. As the long-term debt market is essential for sustained growth of infrastructure, but is currently almost non-existent we recommend that incentives for infrastructure investment be focussed on the long-term debt market. A rise in the FDI cap in insurance to 49% is also needed urgently to accelerate the growth of the insurance industry and thus add to the supply of long term funds into the debt market.

The Telecom policy and regulatory system, despite many past false steps and hiccups, has crossed this threshold in the last few years [Virmani(2004a)]. It has been able to attract sufficient investment funds while promoting consumer welfare through intense competition (though the FDI limit is a problem awaiting correction). In contrast, the Electricity sector has just taken the first major step in the correct direction with the passing of The Electricity Regulatory Act (2003). An appropriate regulatory system must be set-up at the Centre and the States. For instance the Central Electricity Regulatory Commission (CERC) does not have an economist member, as active professional economists (with knowledge of modern regulatory economics) are not willing to retire and become full time members. The CERC act should be amended to allow the appointment of part time professional members. The regulatory systems at the State level are even more inadequate. For instance, though Delhi has privatised distribution it is not at all clear that the Delhi Electricity Commission has the professional knowledge and drive to efficiently regulate the private sector. The electricity sector also has the special problem of T&D losses,

sometimes described as Theft & Dacoity losses [Virmani (2004b)]. Unless private electricity distributors and the government tackle the T&D Mafia jointly and effectively to eliminate this rip-off of the honest user, privatisation of electricity distribution will be dogged by the possibility of a revolt against high prices that exceed Marginal long range costs (MLRC).

7 CONCLUSIONS

Government policies that suppressed or limited competition or created government monopolies retarded TFPG and GDP growth. One of the vital lessons of Indian experience is that government monopoly is, in a low income democracy, more inimical to efficiency and growth than a private monopoly because regulatory capture is much easier in the former. This is because either policy, regulation and ownership functions are vested in the same government department (monolith) or regulation and ownership functions are overseen/ controlled by the same department. In contrast, in the case of private monopoly, regulatory capture can be impeded by two layers of accountability; First an independent professional regulator and then the government department (to appoint & over see the regulator).

To enhance the benefit from increased public investment in infrastructure and thus make the costs of financing them worthwhile, we need, (a) A pro-competition infrastructure policy and a professional independent regulatory framework for electricity, railways, ports, airports and dams & canals. (b) Institutional reform of public infrastructure monopolies, like State electricity boards, irrigation departments public works departments (for State highways and village roads).

Where we have failed as a nation is in improving our basic social indicators like literacy and mortality rates. Much of the failure is a legacy of the socialist period. The rate of improvement of most indicators has accelerated during the market period. The gap between our level and that of global benchmarks is still wide and our global ranking on most of these social parameters remains very poor. This is the result of government failure. Government overstretch, misplaced priorities and deteriorating quality (corruption) has resulted in a failure to full fill the traditional, accepted functions of government like public safety & security, universal literacy and primary education, public health education (superstition & quackery), provision of drinkable water, sanitation drains & sewage facilities, public health (infectious & epidemic

diseases), building roads and creating & disseminating agricultural technology. Consequently the improvement in social indicators has not kept pace with economic growth and poverty decline and has led to increasing interstate disparities in growth and poverty.

The paper showed that government total expenditure or investment expenditure **has not had** a positive effect on growth. This is because government expenditure/investment does not maximise social benefit-cost ratios. The dead weight cost of taxation and crowding out of private investment from the production of private goods increases the negative effects. It can only be beneficial if it is directed towards accelerating growth through investment in public and quasi-public goods. It was also shown that greater allocation of expenditures to agriculture (*per se*) will not increase overall growth rate and is likely to reduce it. Acceleration of rural growth and poverty reduction requires greater attention to productivity enhancing activities such as aquifer (ground water) management & recharge, better drainage systems, water shed management, training of farmers in water harvesting and other scientific practices, revival of extension systems/information flows, and better agriculture related R&D.

The only practical solution is to focus and restrict the government to those activities that others cannot do (production of public goods, addressing externalities) and open up all other activities to the non-governmental sector (commercial, non-profit, social). The government must shed the role of producer of “private” goods and services, regulating those that need it and watching over both producers and regulators as the ultimate authority. Further it is not necessary to address externalities by producing the goods and services in the public sector. Financial instruments (taxes and subsidies) should be used wherever they are effective. In the case of basic health and education and rural public utilities, where government has an obligation to supply target groups, private production and public-private partnerships can and should be used to minimise costs and thus maximise the social benefit-cost ratio.

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