12

Development of Infrastructure

INTRODUCTION

12.1. The fast growth of the economy in recent years has placed increasing stress on physical infrastructure such as electricity, railways, roads, ports, airports, irrigation, and urban and rural water supply and sanitation, all of which already suffer from a substantial deficit from the past in terms of capacities as well as efficiencies in the delivery of critical infrastructure services. The pattern of inclusive growth of the economy projected for the Eleventh Plan, with GDP growth averaging 9% per year can be achieved only if this infrastructure deficit can be overcome and adequate investment takes place to support higher growth and an improved quality of life for both urban and rural communities.

12.2. This chapter provides a broad picture of investment requirements in each subsector, as well as the split between the Centre and the States and the role of the private sector in meeting the investment targets in these sectors. For the purpose of this chapter, infrastructure has been defined to include electricity (including non-conventional energy), telecommunications, roads and bridges, railways (including MRTS), ports, airports, irrigation (including watershed development), water supply and sanitation, storage and gas distribution sectors.

INVESTMENT IN INFRASTRUCTURE

12.3. The total investment in infrastructure, defined as above, in 2006–07 was estimated to be around 5% of GDP. From a macroeconomic perspective and taking account of investment in infrastructure in other relatively fast growing countries, it can be argued that the gross capital formation (GCF) in infrastructure should rise as a share of GDP from 5% in 2006–07 to 9% by the end of the Plan period (see Table 12.1). The experience of many other emerging developing countries would suggest that GCF in infrastructure may need to be accelerated to an even higher level—around 11%—by the terminal year of the Eleventh Plan. However, an increase of this order cannot be achieved starting from a level of less than 5% of GDP observed in 2005–06. Moreover, it may not be a necessary condition for achieving a 9% growth in the Eleventh Plan period since many East Asian countries have invested more than is essential. The target of 9% by the end of the Eleventh Plan seems reasonable.

12.4. On the above basis, the aggregate capital formation in infrastructure required to achieve India's targeted annual average growth in GDP of 9% over the Eleventh Plan period, would have to rise from Rs 259839 crore in 2007–08 to Rs 574096 crore in 2011–12 at constant 2006–07 price. Over the Eleventh Plan period, as a whole, this estimate aggregates to Rs 2011521 crore or US$ 502.88 billion (at an exchange rate of Rs 40/$).

12.5. The aggregate investment target derived above is broadly consistent with estimates of investment requirements based on sector specific requirements emerging from reports of the Working Groups constituted by the Planning Commission and by Inter-Ministerial Committees under the aegis of the Committee on Infrastructure. The relevant quantitative targets for these sectors in the Eleventh Plan are presented in Box 12.1 and the resulting investment totals and sector-wise details are presented in Tables 12.3 and 12.4. Total investment in infrastructure on this basis during the Eleventh Plan

TABLE 12.1
GCF in Infrastructure Based on Growth Targets (Top-down Estimates)

(at 2006–07 price)

	Year	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12
				Eleventh Plan Period			
1.	GDP at market prices (Rs crore)	4145810	4518933	4925637	5368944	5852149	6378843
2.	Rate of growth of GDP (%)	9.00	9.00	9.00	9.00	9.00	9.00
3.	GCF in infrastructure as % of GDP	5.00	5.75	6.50	7.25	8.00	9.00
4.	GCF in infrastructure (Rs crore)	207291	259839	320166	389248	468172	574096
5	GCF in infrastructure (US$ billion)	51.82	64.96	80.04	97.31	117.04	143.52
6	Total GCF in Eleventh Plan	Rs 2011521 crore or US$ 502.88 billion					

Source: CSO for estimates for 2006–07, and computations of the Planning Commission.

Box 12.1
Infrastructure—Deficit and Eleventh Plan Physical Targets

Sector	Deficit	Eleventh Plan Targets
Roads/Highways	65590 km of NH comprise only 2% of network; carry 40% of traffic; 12% 4-laned; 50% 2-laned; and 38% single-laned	6-lane 6500 km in GQ; 4-lane 6736 km NS-EW; 4-lane 20000 km; 2-lane 20000 km; 1000 km Expressway
Ports	Inadequate berths and rail/road connectivity	New capacity: 485 m MT in major ports; 345 m MT in minor ports
Airports	Inadequate runways, aircraft handling capacity, parking space and terminal buildings	Modernize 4 metro and 35 non-metro airports; 3 greenfield in NER; 7 other greenfield airports
Railways	Old technology; saturated routes; slow speeds (freight: 22 kmph; passengers: 50 kmph); low payload to tare ratio (2.5)	8132 km new rail; 7148 km gauge conversion; modernize 22 stations; dedicated freight corridors
Power	13.8% peaking deficit; 9.6% energy shortage; 40% transmission and distribution losses; absence of competition	Add 78577 MW; access to all rural households
Irrigation	1123 BCM utilizable water resources; yet near crisis in per capita availability and storage; only 43% of net sown area irrigated	Develop 16 mha major and minor works; 10.25 mha CAD; 2.18 mha flood control
Telecom/IT	Only 18% of market accessed; obsolete hardware; acute human resources' shortages	Reach 600 m subscribers—200 m in rural areas; 20 m broadband; 40 m Internet

is projected at Rs 2056150 crore (or US$ 514.04 billion at Rs 40/$).

12.6. The strategy for infrastructure development in the Eleventh Plan reflects the dominant role of the public sector in building infrastructure. However, it also recognizes that the total resources required to meet the deficit in infrastructure exceed the capacity of the public sector. It is, therefore, necessary to attract private investment through appropriate forms of public private partnerships to meet the overall investment requirements.

12.7. The relative role of the public and private sectors will vary. In some sectors such as irrigation and water resources management, construction of rural roads, capital dredging at major ports, as well as in certain economically or situationally disadvantaged regions, the bulk of the investment in infrastructure would have to come from the public sector. Available public sector resources must therefore be directed to these sectors as a matter of priority. Precisely for this reason, PPPs must be seriously explored in other areas.

12.8. In building infrastructure for the future, it is also necessary to develop capacity that comes up to world-class performance standards. Both the Centre and the States must keep their policies under close review to ensure that new infrastructure, whether built by the public sector or the private sector, comes up to these standards.

12.9. A beginning has been made in the public sector, by setting targets for various infrastructure sectors to address the gaps in quantity and quality. Going in to the Eleventh Plan, the strategy would entail strengthening and consolidating these infrastructure-related initiatives, such as Bharat Nirman for building rural infrastructure, and sectoral initiatives, such as the RGGVY, APDRP, Accelerated Irrigation Benefit Programme (AIBP), NHDP, National Maritime Development Programme (NMDP) and the JNNURM.

12.10. The strategy for the Eleventh Plan also encourages private sector participation directly as well as through various forms of PPPs where desirable and feasible. As shown in Table 12.4, the share of the private sector in infrastructure investment will have to rise substantially from about 20% anticipated in the Tenth Plan to around 30% in the Eleventh Plan. It is expected that as in the case of the telecommunications sector, competition and private investment will not only expand capacity but also improve the quality of service in Indian infrastructure.

12.11. Achieving high volumes of private investment in infrastructure is not easy. It is necessary to develop an environment which is both attractive to investors and also seen to be fair to consumers, especially since many (but not all) infrastructure projects have an element of monopoly. This calls for an environment in which either the market itself is competitive giving consumers a choice among different suppliers, as in the case with telecommunications or freight container carriers; or concessions are given to the most competitive bidders in an environment where regulatory system limits user charges to reasonable levels and regulations set appropriate standards of service as in the case of airports, ports and roads.

12.12. The approach to PPPs must remain firmly grounded in principles which ensure that PPPs are formulated and executed in public interest with a view to achieving additional capacity and delivery of public services at reasonable cost. These partnerships must ensure the supplementing of scarce public resources for investment in infrastructure sectors, while improving efficiencies and reducing costs. As noted in the Approach to the Eleventh Plan, PPPs must aim at bringing private resources into public projects, not public resources into private projects.

12.13. The government's current initiatives in the area of PPPs are designed to achieve these objectives. Private investment in infrastructure is being encouraged in an environment which ensures competition and transparent regulation. Protection of public interest is being ensured by institutionalizing the necessary frameworks and processes for due diligence, checks and balances. Unless governance issues, such as those related to competition in service provision, collection of user charges, institutional capacity, regulation and dispute resolution are adequately addressed, financing or mobilization of sufficient resources for the requisite infrastructure investment may not be possible.

PROJECTIONS OF INVESTMENT IN INFRASTRUCTURE

12.14. The investment required by the Central and State Governments and the private sector in each of the ten major physical infrastructure sectors for sustaining a growth rate of 9% in GDP over the Eleventh Plan (2007–08 to 2011–12) and corresponding to the quantitative targets for the Eleventh Plan as presented in Box 12.1 is given in Table 12.4. The total investment amounts to Rs 2056150 crore. This level of investment amounts to an average of 7.6% of GDP (Table 12.2) during the Eleventh Plan as a whole.

12.15. A comparative picture of the sector-specific allocations in these two Plan periods is given in Table 12.3. Compared with investment levels achieved in the Tenth Plan period, the expected infrastructure investment in the Eleventh Plan is 2.36 times the amount of Rs 871445 crore or US$ 217.86 billion at constant 2006–07 price.

12.16. The telecom, transportation (comprising ports and airports), and storage improve their share in the total investment in the Eleventh Plan as compared to their share in the Tenth Plan. Irrigation, electricity and the transportation sectors comprising roads and railways are expected to invest more than double the actual absolute

TABLE 12.2
Projected Investment as Percentage of GDP (Bottom-up Estimates)

(Rs crore at 2006–07 price)

Years	Base year (2006–07 of Tenth Plan) (BE/RE)	2007–08	2008–09	2009–10	2010–11	2011–12	Total Eleventh Plan
GDP	4145810	4518933	4925637	5368944	5852149	6378843	27044506
Public Investment	175388	192107	227327	273543	332355	411226	1436559
Private Investment	49858	78166	94252	115724	146762	184687	619591
Total investment	225246	270273	321579	389266	479117	595913	2056150
				Investment as Percentage of GDP			
Public	4.23	4.25	4.62	5.09	5.68	6.45	5.31
Private	1.20	1.73	1.91	2.16	2.51	2.89	2.29
Total	5.43	5.98	6.53	7.25	8.19	9.34	7.60

Source: CSO for 2006–07, and computations of the Planning Commission.

TABLE 12.3
Sector-wise Investment Anticipated in the Tenth Plan and Projected for the Eleventh Plan

(Rs crore at 2006–07 price)

Sectors	Tenth Plan (Anticipated investment)			Eleventh Plan (Projected investment)		
	Rs crore	US$ billion @ Rs 40/$	Shares (%)	Rs crore	US$ billion @ Rs 40/$	Shares (%)
Electricity (incl. NCE)	291850	72.96	33.49	666525	166.63	32.42
Roads and Bridges	144892	36.22	16.63	314152	78.54	15.28
Telecommunication	103365	25.84	11.86	258439	64.61	12.57
Railways (incl. MRTS)	119658	29.91	13.73	261808	65.45	12.73
Irrigation (incl. Watershed)	111503	27.88	12.80	253301	63.32	12.32
Water Supply and Sanitation	64803	16.20	7.44	143730	35.93	6.99
Ports	14071	3.52	1.61	87995	22.00	4.28
Airports	6771	1.69	0.78	30968	7.74	1.51
Storage	4819	1.20	0.55	22378	5.59	1.09
Gas	9713	2.43	1.11	16855	4.21	0.82
Total (Rs crore)	871445	217.86	100.00	2056150	514.04	100.00

Source: Annual Plans and other Planning Commission documents and CSO.

investment in the Eleventh Plan, but would register some decline as a proportion in the overall pie. The need for investment in the electricity sector is greater than what has been projected in this chapter. However, a realistic assessment suggests that even the projections made in this chapter would pose serious policy and implementation challenges. If these challenges can be overcome in time, actual investments could exceed these projections.

Public Private Balance

12.17. Table 12.4 presents a breakup of investment in the public sector component showing the Centre and States separately and the private sector component for each sector for the Tenth Plan and for the Eleventh Plan. The anticipated public sector share of investment in the Tenth Plan across the ten major sectors was 80% and the balance 20% was contributed by the private sector. In the Eleventh Plan, the private sector's contribution would have to grow to around 30% or Rs 619591 crore (US$ 154.90 billion). Roads and bridges, telecommunications, ports, airports, storage and gas distribution are projected at higher than average private sector contribution ranging upwards of 30%, with over 60% in ports, airports and telecommunications. In the Eleventh Plan, private sector participation in asset

TABLE 12.4
Projected Investment in Infrastructure during Eleventh Five Year Plan

(Rs crore at 2006–07 price)

Sector	Tenth Plan (Anticipated Expendr.)	2007–08	2008–09	2009–10	2010–11	2011–12	Total Eleventh Plan	Share (%)
Electricity (incl. NCE)	291850	81954	101553	126380	158027	198611	666525	
Centre	102463	37808	43469	49989	57631	66420	255316	38.31
States	97553	20978	29729	41357	56670	76963	225697	33.86
Private	91834	23168	28355	35034	43726	55228	185512	27.83
Roads and Bridges	144892	51822	54789	59200	68370	79971	314152	
Centre	71534	18318	19446	20673	22618	26304	107359	34.17
States	66354	17534	18150	18889	20613	24815	100000	31.83
Private	7004	15970	17193	19638	25140	28852	106792	33.99
Telecommunications	103365	31375	38134	48593	61646	78690	258439	
Centre	49013	13525	14037	16061	17728	19401	80753	31.25
Private	54352	17850	24098	32532	43918	59289	177686	68.75
Railways (incl. MRTS)	119658	34225	40964	49525	60393	76701	261808	
Centre	108950	25925	31176	37974	46685	59693	201453	76.95
States (MRTS)	10402	1575	1788	1979	2170	2489	10000	3.82
Private	307	6725	8000	9572	11537	14519	50354	19.23
Irrigation (incl. Watershed)	111503	27497	35916	47189	62266	80433	253301	
Centre	13617	3367	4006	4782	5726	6879	24759	9.77
States	97886	24130	31911	42407	56540	73554	228543	90.23
Water Supply & Sanitation	64803	19298	22781	27323	33266	41063	143730	
Centre	42316	5152	6411	7991	9976	12474	42003	29.22
States	21465	13500	15558	18308	21995	26945	96306	67.00
Private	1022	646	812	1024	1295	1645	5421	3.77
Ports	14071	12409	14822	17374	19980	23410	87995	
Centre	2185	4898	5698	6243	6350	6700	29889	33.97
States	1530	598	658	724	796	850	3627	4.12
Private	10356	6913	8466	10407	12833	15860	54479	61.91
Airports	6771	5208	5520	5904	6646	7690	30968	
Centre	3823	1146	1369	1894	2205	2674	9288	29.99
States	12	50	–	–	–	–	50	0.16
Private	2936	4012	4151	4010	4441	5016	21630	69.85
Storage	4819	3777	4098	4446	4824	5234	22378	
Centre	577	755	820	889	965	1047	4476	20.00
States	866	1133	1229	1334	1447	1570	6713	30.00
Private	3377	1888	2049	2223	2412	2617	11189	50.00
Gas	9713	2708	3003	3332	3700	4111	16855	
Centre	8713	1714	1874	2049	2240	2450	10327	61.27
Private	1000	995	1129	1283	1460	1661	6528	38.73
Total (Rs crore)	871445	270273	321579	389266	479117	595913	2056150	
Centre	403189	112608	128305	148545	172123	204041	765622	37.24
States	296068	79499	99022	124998	160232	207186	670937	32.63
Private	172188	78166	94252	115724	146762	184687	619591	30.13

(Table 12.4 contd.)

(Table 12.4 contd.)

(Rs crore at 2006–07 price)

Sector	Tenth Plan (Anticipated Expendr.)	2007–08	2008–09	2009–10	2010–11	2011–12	Total Eleventh Plan	Share (%)
Total (US$ bn) @Rs 40/$	**217.86**	**67.57**	**80.39**	**97.32**	**119.78**	**148.98**	**514.04**	
Centre	100.80	28.15	32.08	37.14	43.03	51.01	191.41	37.24
States	74.02	19.87	24.76	31.25	40.06	51.80	167.73	32.63
Private	43.05	19.54	23.56	28.93	36.69	46.17	154.90	30.13
Total (Rs crore)	**871445**	**270273**	**321579**	**389266**	**479117**	**595913**	**2056150**	
Public	699257	192107	227327	273543	332355	411226	1436559	69.87
Private	172188	78166	94252	115724	146762	184687	619591	30.13
Total (US$ bn)@Rs 40/$	**217.86**	**67.57**	**80.39**	**97.32**	**119.78**	**148.98**	**514.04**	
Public	174.81	48.03	56.83	68.39	83.09	102.81	359.14	69.87
Private	43.05	19.54	23.56	28.93	36.69	46.17	154.90	30.13

Source: Annual Plans and other documents of the Planning Commission and CSO for the Tenth Plan period and computations of the Planning Commission for the Eleventh Plan period.

creation in roads and bridges, storage and gas distribution ranges between 34 and 50%, with electricity somewhat lower at 28% even as compared to the overall private sector average of 30%.

12.18. Central share in the overall infrastructure investment would decline from 46% in the Tenth Plan to 37.24% in the Eleventh Plan and the States' share will slightly decline to 32.63% compared to 34% anticipated in the Tenth Plan. Sector-wise, public and private shares as well as the shares of the Centre and States anticipated to be realized for the Tenth Plan are presented in Annexure 12.1. Comparable details for the projections of infrastructure investment for each year of the Eleventh Plan are shown in Table 12.4.

Rural Infrastructure

12.19. Improvement in rural infrastructure is crucial for broad-based inclusive growth of the economy and for bridging the ruralurban divide. The government has launched in 2005, a special programme, Bharat Nirman, for upgradation of rural infrastructure which aims to provide electricity to the remaining 125000 villages and to 23 million households; to connect the remaining 66802 habitations with all weather roads and construct 146185 km of new rural roads network; to provide drinking water to 55067 uncovered habitations; to provide irrigation to an additional 10 million hectares; and connect the remaining 66822 villages with telephones. It is estimated that out of the total projected investment of Rs 1436559 crore to be incurred by the Centre and the states in the Eleventh Plan, Rs 435349 crore (or 30.3%) would be spent exclusively towards improvement of rural infrastructure. The distribution across sectors is indicated in Table 12.5.

TABLE 12.5
Projected Investment in Rural Infrastructure

(Rs crore at 2006–07 price)

Sector	Projected Investment
Electricity	34000
Rural Roads	41347
Telecommunications	16000
Irrigation (incl. Watershed)	253301
Water Supply and Sanitation	90701
Total	435349

Source: Computations of the Planning Commission.

Role of the Public Sector

12.20. The public sector, including the public corporate sector, would continue to play a dominant role in investment for infrastructure. The total public sector investment envisaged in the Eleventh Plan is Rs 765622 crore by the Centre and Rs 670937 crore by the States. Investment by the private sector, which includes PPP projects, makes up the balance of Rs 619591 crore, which is 30% of the required investment during the Eleventh Plan a much higher share than the anticipated 20% during the Tenth Plan.

12.21. Of the projected investment of Rs 765622 crore by the Central Government, Rs 565622 crore is likely to be funded out of IEBR. In the case of States, Rs 444671 crore is expected from budgetary resources while about Rs 226266 crore is expected from their IEBR, as per details in Table 12.6. This would require a much higher scale of effort by the public sector undertakings, especially for raising debt on commercial terms.

THE NEED FOR DEBT FINANCING

12.22. The total requirement of debt by the public and private sectors is likely to be Rs 988035 crore (US$ 247.01 billion). However, the availability of debt financing for infrastructure during the Eleventh Plan is estimated at Rs 825539 crore or US$ 206.38 billion. There is a funding gap of Rs 162496 crore or US$ 40.62 billion for the debt component, the details of which are given in Table 12.7. Measures would have to be taken for addressing this gap.

12.23. The required investment in infrastructure would be possible only if there is a substantial expansion in internal generation and extra-budgetary resources of the public sector, in addition to a significant rise in private investment. The share of the private sector in total

TABLE 12.6
Source-wise Projected Investment

(Rs crore at 2006–07 price)

	2007–08	2008–09	2009–10	2010–11	2011–12	Total Eleventh Plan
1. Centre	112608	128305	148545	172123	204041	765622
Central Budget	29416	33517	38804	44963	53301	200000
Internal Generation (IEBR)	24958	28437	32922	38148	45222	169687
Borrowings (IEBR)	58234	66352	76819	89012	105518	395936
2. States	79499	99022	124998	160232	207186	670937
States Budgets	52689	65628	82844	106195	137315	444671
Internal Generation (IEBR)	8043	10018	12646	16211	20961	67880
Borrowings (IEBR)	18767	23376	29508	37826	48910	158386
3. Private	78166	94252	115724	146762	184687	619591
Internal Accruals/Equity	23450	28726	34717	44029	55406	185877
Borrowings	54716	65976	81006	102733	129281	433713
4. Total Projected Investment	270273	321579	389266	479117	595913	2056150
Non-Debt	138555	165875	201933	249546	312205	1068114
Debt	131718	155704	188333	229571	283709	988035

Source: Computations of the Planning Commission.

TABLE 12.7
Likely Sources of Debt

(Rs crore at 2006–07 price)

	2007–08	2008–09	2009–10	2010–11	2011–12	Total Eleventh Plan
1 Domestic Bank Credit	49848	63207	80147	101626	128862	423691
2 Non-Bank Finance Companies	23852	31485	41560	54859	72415	224171
3 Pension/Insurance Companies	9077	9984	10983	12081	13289	55414
4 External Commercial Borrowing (ECB)	19593	21768	24184	26868	29851	122263
5 Likely Total Debt Resources	102370	126444	156874	195435	244416	825539
6 Estimated Requirement of Debt (from Table 12.6)	131718	155704	187333	229571	283709	988035
US$ Billion	32.93	38.93	46.83	57.39	70.93	247.01
7 Gap between Estimated Requirement and Likely Debt Resources (6–5)	29348	29260	30460	34136	39292	162496
US$ Billion	7.34	7.31	7.61	8.53	9.82	40.62

Source: Computations of the Planning Commission.

infrastructure investment of around 30% overall, is far higher in some sectors, for instance in telecommunications, ports and airports where over 60% of the investments would have to come from the private sector. As a pre-requisite, this would require large infrastructure projects to be structured on sound commercial principles in an enabling policy and regulatory environment. If these initiatives succeed, India would deliver a large programme of PPPs, even by international standards, details of which are given in the next section.

Committee on Infrastructure

12.24. In order to provide direction to the effort to prioritize infrastructure development including, especially, the PPP effort, Government constituted a Committee on Infrastructure (CoI) in August 2004 under the chairmanship of the Prime Minister, with the objectives of initiating policies that would ensure time-bound creation of world class infrastructure, delivering services matching international standards, developing structures that maximize the role of PPPs and monitoring progress of key infrastructure projects to ensure that established targets are realized. The CoI is serviced by the Planning Commission through the Secretariat for the Committee.

12.25. CoI has identified several areas of reforms. The following Model Concession Agreements, Reports and Guidelines finalized under the aegis of CoI have been published by the Planning Commission:

- Guidelines for Financial Support to PPPs in Infrastructure.
- Guidelines on Formulation, Appraisal and Approval of PPP Projects.
- Scheme for Financing Infrastructure Projects through the India Infrastructure Finance Company Ltd. (IIFCL).
- MCA for PPPs in Highways.
- Report of the Task Force on the Delhi-Mumbai and Delhi-Howrah Freight Corridors.
- Report of the COS on Road Rail Connectivity of Major Ports.
- Report of the Core Group on Financing of the NHDP.
- Report of the Task Force on Financing Plan for Airports.
- Report of the Inter-Ministerial Groups on Customs Procedures and Functioning of Container Freight Station and Ports.
- Report of the Inter-Ministerial Group on Restructuring of National Highways Authority of India (NHAI).
- Report of the Task Force on Tariff Setting and Bidding Parameters for PPPs in Major Ports.
- Report of the Expert Committee on Road Safety and Traffic Management.
- MCA for Container Train Operation.
- Report of the Task Force on Financing Plan for Ports.
- Manual of Specifications and Standards for Two-Laning of Highways through PPPs
- MCA for PPPs in Ports.
- MCA for PPPs in the Operation and Maintenance of Highways.
- MCA for PPPs in State Highways.
- Guidelines for Pre-Qualification, including Model Request for Qualification (RFQ) of Bidders, for PPP projects.
- Guidelines for Invitation of Financial Bids, including Model Request for Proposal Document (RFP) for PPP projects.

Public–Private Partnership Appraisal Committee (PPPAC)

12.26. PPP projects typically involve transfer or lease of public assets, delegation of government authority for recovery of user charges, operation and/or control of public utilities/services in a monopolistic environment and sharing of risk and contingent liabilities by the government. With a view to conducting a thorough scrutiny and due diligence in the formulation, appraisal and approval of PPP projects, the Ministry of Finance in consultation with the Planning Commission has constituted a PPPAC consisting of the Secretary, Department of Economic Affairs, as chairman and Secretaries of the Planning Commission, Department of Expenditure, Department of Legal Affairs and the Administrative Department concerned, as members of the Committee.

12.27. PPP project proposals costing Rs 100 crore and above received from ministries/departments of the GoI are considered for approval by PPPAC. The PPP project proposals costing less than Rs 100 crore are considered for approval by the existing EFC mechanism.

12.28. A PPP Appraisal Unit (PPPAU) has also been set up within the Secretariat for CoI in the Planning Commission to appraise PPP projects received from Central and State/UT governments for VGF under the Scheme for Financial Support to PPPs in infrastructure.

India Infrastructure Finance Company Limited (IIFCL)

12.29. IIFCL was incorporated by the Ministry of Finance in consultation with the Planning Commission for providing long-term loans for financing infrastructure projects that typically involve long gestation periods. IIFCL provides financial assistance up to 20% of the project cost both through direct lending to project companies and by refinancing banks and financial institutions. IIFCL raises funds from both domestic and overseas markets on the strength of government guarantees, which are extended, if considered necessary.

Model Concession Documents

12.30. Because of the nature of the risks and the involvement of many participants in PPPs including project sponsors, lenders, government agencies and regulatory authorities, the terms of the project agreements as well as the tendering arrangements are usually complex. Given the complexity of PPP contracts and the exposure of government in such contracts, standardized documents and arrangements that provide predictability and mitigate risk to private capital are regarded as the best option for implementing a PPP programme of the magnitude envisioned under the Eleventh Plan. The use of standard documents also simplifies and expedites decision-making by the authorities. The CoI has, therefore, mandated the adoption of model documents. Projects that are based on duly approved MCAs do not require in-principle clearance from PPPAC prior to inviting expressions of interest.

12.31. The MCA for PPP projects in national highways was approved by the CoI and published in 2006. The Planning Commission has also published MCAs for ports, state highways, and operation and maintenance of highways that will serve as best practice guidance for the ministries and State Governments undertaking PPPs. Similarly, MCA for Operation of Container Trains has also been approved and adopted. MCAs for PPPs in other sectors, such as urban rail systems, airports, re-development of railway stations and public accommodation are under preparation. Standardized guidelines that incorporate key principles relating to the bid process for PPP projects have also been developed. Guidelines for the pre-qualification of bidders along with a Model Request for Qualification Document have been approved by CoI for application to all PPP projects. Guidelines for inviting financial bids on the basis of a Model RFP have also been approved and notified.

Financing

12.32. Recognizing that externalities engendered by infrastructure projects cannot always be captured by project sponsors, the VGF Scheme was notified in 2006 to enhance the commercial viability of competitively bid infrastructure projects which are justified by economic returns, but do not pass standard thresholds of financial returns. Under the scheme, grant assistance of up to 20% of project capital costs can be provided by the Central government to PPP projects, thus leveraging budgetary resources to access a larger pool of private capital. An additional grant of up to 20% of project costs can be provided by the sponsoring ministry or State Government.

Co-operation of State Governments

12.33. In a federal country like India, cooperation and support of State Governments is essential for development of world class infrastructure. The State Governments' support in maintenance of law and order, land acquisition, rehabilitation and settlement of displaced persons, shifting of utilities and obtaining environmental clearances is necessary. Many State Governments have also initiated several PPP projects to improve infrastructure.

ANNEXURE 12.1
Anticipated Plan Investment in Infrastructure in the Tenth Plan

(Rs crore at 2006–07 price)

	2002–03 (Actual)	2003–04 (Actual)	2004–05 (Actual)	2005–06 (Actual/RE)	2006–07 (BE/RE)	Tenth Plan Anticipated	Share (%)
Electricity (incl. NCE)	47612	53485	56956	62268	71529	291850	
Centre	14219	17336	19708	22867	28332	102463	35.11
States	20467	20566	18819	18329	19372	97553	33.43
Private	12926	15583	18428	21071	23825	91834	31.47
Roads	26605	20564	21379	34278	42065	144892	
Centre	15869	8761	8442	17509	20953	71534	49.37
States	9724	9693	11321	16083	19534	66354	45.80
Private	1013	2111	1616	686	1578	7004	4.83
Telecommunication	21644	12924	18108	24599	26090	103365	
Centre	15690	8649	9508	7957	7208	49013	47.42
Private	5954	4274	8600	16642	18882	54352	52.58
Railways (incl. MRTS)	18260	20366	22327	26117	32589	119658	
Centre	16644	18671	20362	23626	29647	108950	91.05
States	1616	1695	1964	2327	2800	10402	8.69
Private	–	–	–	165	142	307	0.26
Irrigation (incl. Watershed)	17467	18651	24770	25548	25068	111503	
Centre	2303	2318	2911	2884	3200	13617	12.21
States	15163	16333	21859	22663	21868	97886	87.79
Water Supply and Sanitation	9616	11040	12681	13749	17716	64803	
Centre	6936	7292	8470	8370	11248	42316	65.30
States	2520	3391	3925	5217	6411	21465	33.12
Private	159	357	286	162	57	1022	1.58
Ports	823	1379	4013	4516	3339	14071	
Centre	573	350	377	434	451	2185	15.53
States	250	280	300	340	360	1530	10.87
Private	-	749	3336	3742	2529	10356	73.60
Airports	535	659	691	1858	3029	6771	
Centre	533	653	670	927	1040	3823	56.46
States	–	–	–	–	12	12	0.18
Private	2	6	21	931	1977	2936	43.36
Storage	1851	1906	64	149	850	4819	
Centre	511	240	(-) 143	(-) 128	96	577	11.97
States	767	360	(-) 214	(-) 192	144	866	17.96
Private	574	1305	421	469	609	3377	70.07
Gas	1051	3399	464	1826	2972	9713	
Centre	921	3239	254	1586	2712	8713	89.70
Private	130	160	210	240	260	1000	10.30
Total (Rs crore)	145465	144372	161453	194909	225246	871445	
Centre	74201	67508	70560	86033	104887	403189	46.27
States	50507	52318	57974	64767	70501	296068	33.97
Private	20757	24546	32918	44108	49858	172188	19.76

(Annex 12.1 contd.)

(Annex 12.1 contd.)

(Rs crore at 2006–07 price)

	2002–03 (Actual)	2003–04 (Actual)	2004–05 (Actual)	2005–06 (Actual/RE)	2006–07 (BE/RE)	Tenth Plan Anticipated	Share (%)
Total (US$ bn)	**36.37**	**36.09**	**40.36**	**48.73**	**56.31**	**217.86**	
Centre	18.55	16.88	17.64	21.51	26.22	100.80	46.27
States	12.63	13.08	14.49	16.19	17.63	74.02	33.97
Private	5.19	6.14	8.23	11.03	12.46	43.05	19.76
Total (Rs crore)	**145465**	**144372**	**161453**	**194909**	**225246**	**871445**	
Public	124708	119827	128535	150800	175388	699257	80.24
Private	20757	24546	32918	44108	49858	172188	19.76
Total (US$ bn)	**36.37**	**36.09**	**40.36**	**48.73**	**56.31**	**217.86**	
Public	31.18	29.96	32.13	37.70	43.85	174.81	80.24
Private	5.19	6.14	8.23	11.03	12.46	43.05	19.76

Source: Annual Plans and other documents of the Planning Commission and CSO.