## Outlook

9.91 Policy makers have worked on problems of infrastructure policy for over a decade. There has been substantial progress in some areas. The broad outlines now appear to be falling into place. The key principles seem to involve new institutional arrangements, well enforced user charges, exploiting new technologies, private sector production, and a regulatory framework that fosters competition.

9.92 The most striking success is visible in telecom. Teledensity has risen dramatically, an entire industry with private players has come about, privatisation has begun with VSNL, and new technologies have come about. Looking forward, the telecom sector will feature lively competition between multiple private firms, with a strong role for TRAI to establish pro-competitive policies.

9.93 In the area of roads, India has embarked upon a historic project in terms of the Golden Quadrilateral, North-South and East-West corridors. These highways, which will give sustained speeds of 80 kmph, will transform the movement of goods and people in the country. The successful completion of NHDP, with projects completed on time and on budget, and the successful maintenance of the new roads, are key areas for focus. Looking forward, the next set of questions in the area of roads will be allocative questions about how new projects come about. Some new links will need to be built between cities. and some 4-lane highways will need to be converted into 6-lane expressways. It is important to establish market-oriented mechanisms for addressing these allocative problems, so that scarce public resources generate the maximal production of the most needed roads.

9.94 In the area of ports, a key insight has been the extent to which existing port facilities can yield better output given better institutional mechanisms, without requiring substantial new investments. There are important experiments currently taking place across the country, in terms of new contractual structures. They have already yielded results in terms of giving a sharp improvement as compared to the state of ports in India as of 1995. However, the performance of ports in India still lags far behind the standards seen in ports such as Singapore or Hong Kong. Looking forward, the key question that requires focus is establishing a framework through which there is competition between multiple operators in a given port, and competition between ports.

9.95 The railways remain an extremely important area, given the fact that transportation by rail has the highest energy efficiency as compared with the options. This suggests that if the institutional mechanisms come about, then the cost of transportation by railways would be much cheaper than that of transport by road. However, this is likely to require substantial reforms in the functioning of railways. The experience with the transformation of telecom, roads and ports serve as role models for the institutional change that may be required.

9.96 In the area of power, there is clarity on the separate issues in generation, transmission and distribution. Generation does not pose problems of public goods, it can be a normal private industry, provided the downstream buyers are operating in a sound institutional framework. Once reforms in transmission and distribution are in place, it will not be difficult to elicit private investments in generation. The key bottleneck faced today lies in the enforcement of user charges in distribution.

9.97 The losses in power distribution in the country are enormous. They are important from a different perspective: that of obtaining a fiscal correction. Improvements in distribution alone could account for over 1.5 percent of GDP of the fiscal correction.