POLICY FOR INFRASTRUCTURE REFORM

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October 1999

CHINTAN Policy paper No. 13

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by

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October 1999*

Any views expressed in this paper are those of the author and should not be attributed to the organization for which he works.

* revised version of January 2000

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1 OVERVIEW

1.1 Introduction

1. Economic reforms started in a slow, fragmented and limited way in the eighties and gathered momentum and clear direction in the nineties. These reforms have by and large focussed on removing the economic distortions created by earlier policies such as physical controls on economic activity and excessively complicated taxes. As a result of these reforms India will likely have a trend growth rate of over 6.1% per annum over the last two decades of the 20th century. This will rank India as the eighth fastest growing economy (excluding small countries) in the world over these two decades.[1] Despite this India remains one of the poorest countries in the World. As per the last comprehensive survey in 1993-94, about 36% of the people are still below the poverty line. As per the international poverty line, about half the people are still poor. The fiscal problem, arising from an excess of unproductive expenditure, increases the vulnerability of the poor (and the economy as a whole) to adverse shocks. The performance of other Asian countries that were in a similar situation three to four decades ago shows that we can solve these problems of poverty in a decade, if we can summon up the will and determination to do so.

1.2 Goals and Objectives

2. As we enter a new millennium, low (per capita) income poses both a challenge and an opportunity. We must accelerate economic growth in the first two decades of the 21st century so as to eliminate poverty and under-employment. We must ensure human development and empowerment of the poor, by ensuring 100% literacy and universal primary education. The experience of other countries in Asia shows that it is possible to raise growth to 7%, to maintain it for two decades and thus generate full employment, and provide 100% literacy. Basic minimum services must be provided to all. To ensure environmental sustainability and quality of life population growth will have to be contained. And all this must be done in a manner that promotes peoples' participation and builds self-reliance and human dignity.
3. The state must refocus attention on some of its most basic responsibilities such as the provision of public goods (roads, police, courts, regulatory systems), primary education, 'public health' (water, sewage, & sanitation) & population control and stop degradation of common resources (water, forests). These responsibilities have been virtually lost sight of, squeezed between rising fiscal deficits and expanding role of the state in every area of

[1] Small countries are defined as those with a population less than 10 million and GDP less than US $ 40 billion Among the small countries for which data was available two grew faster than India.

economic activity and the inevitable rent seeking that followed. The only way the government can provide these basic services in the next decade is by ruthlessly shedding a host of activities that the private, co-operative and decentralised sectors are capable of undertaking given the right policy environment. It is of vital social and national interest to ensure 100% literacy and universal primary education within the next decade.

1.3 Means

4. Accomplishing all this requires both a completion of reforms started earlier and new reform initiatives, which encompass fundamental fiscal changes, reform of relatively untouched sectors and factor markets and institutional and legal areas. The fundamental driving force behind the social benefits that accrue from a market economy, is "competition". One of the important tasks of reform has been and remains, to identify and remove all the bottlenecks to competition arising from past government policies, colonial era laws, outdated rules, and bureaucratic regulations & procedures. This must encompass not only the product market but also factor markets which are the source of productivity, technical change and sustained growth. In most parts of the economy de-control, de-bureaucratisation and correction of policy distortions is sufficient to generate competition.
5. There are three sectors in which this has to be supplemented with an independent and modern regulatory system. One is physical infrastructure, where some segments are still characterised by 'natural monopoly' and which requires regulatory structures to foster and mimic competition. The other is the financial sector (banking, finance and capital markets) characterised by fiduciary responsibilities. This sector requires a different type of regulation focusing on transparency, reduction of systemic risk and detection and punishment of fiduciary irresponsibility. The third is that part of the social sector characterised by information asymmetry and fundamental irreversibility (education & health).[2] Modern regulation is necessary to ensure that information on quality of service is made available to the public and fraud & cheating is minimised.

[2] Wasted years & lifetime effects and permanent damage to health respectively.

2 POLICY FRAMEWORK

6. The poor quality and relatively high cost of basic infrastructure services is the greatest source of competitive disadvantage to Indian agriculture, industry and services. It is also a major source of aggravation to the hapless consumer, who regularly faces the arrogance and arbitrariness of the employees & management of public monopolies. The nominal price is not a major issue save in exceptionally distorted cases like power, where the price can go up to an exorbitant Rs. 14 (33 cents) a unit (Kwh), the highest in the world. The effective cost of infrastructure services is far greater than the nominal price charged because of poor quality. For instance interminable power cuts result in purchase of back-up supply and erratic & low voltage damages equipment & machinery. This is matched by annual/ monthly disruption and weekly/daily delays at airports, by world beating (high) ship turnaround times at ports, by potholed highways and inadequate signalling & safety equipment on railways. This disastrous situation is the result of five decades of absolute public monopoly and continuous interference in pricing by populist politicians.

2.1 Price Controls

7. Prices of public utilities must be de-controlled and subject to independent regulatory authorities whose objective would be to protect the long-term interests of consumers. The current consumers of power and other public utilities are now paying the cost imposed by price controls and public monopoly on new investment and the quality and quantity of production.

2.2 Regulator

8. All infrastructure sectors, which have 'natural monopoly' segments, require a regulator. The most common 'natural monopolies' are networks such as roads, canals, pipelines, railway tracks, and electricity and telephone lines. Natural harbours and dam sites can also be 'natural monopolies'. The regulatory law must provide for autonomy and independence of the regulatory authority, with full authority over pricing of 'natural monopoly' elements and over the conditions & quality of supply. This includes pricing of services in both the retail and wholesale segments. The regulator should however refrain from setting prices in segments where there is sufficient competition.
9. Prudential/ technical registration and licensing should be completely under the purview of such authorities. They should be made financially independent by allowing them to charge regulatory fees for running the regulatory system. Existing regulatory authorities should be brought to this level of autonomy by changing the law. Training should also be provided to

staff to bring them up to global standards. Technical assistance and co-operation should be facilitated.

10. Regulation of the telegraph network should be under the purview of the Telecom regulatory authority. As the fixed (rail) line network of the railway constitutes a natural monopoly, an independent regulatory regime would have to be set up expeditiously. Consideration should also be given to setting up a single National Power Regulatory authority, with half the members nominated by the Centre and half by the States. The Central government could also take the initiative in drawing up models for canal and urban utility regulatory authorities and urge the states to adopt these.
11. Government has the right to make policy and to undertake sovereign functions like leasing of natural resources. Nevertheless government should delegate these functions to the regulator to the maximum extent possible. Sovereign functions cannot, however, be defined to include price setting, as this is a fundamental negation of the concept of independent regulation.

2.3 Network Access

12. The regulator must ensure interconnection & access to the 'natural monopoly' network or other such segment. This access must be on the same terms and conditions as those available to the Owner Company. In particular it must be non-discriminatory vis-à-vis the historical monopolist.

2.4 Network Companies

13. Pricing of the 'natural monopoly' networks and ensuring fair access to this network by new competitors is the most difficult job for the regulator. This job is greatly facilitated if the natural monopoly network or segment is separated from other segments (e.g. generation) and the service provision functions. The two can be made into separate companies, with the former (network company) made a subsidiary of the latter (main company).

2.5 Investment De-licensing

14. Public utilities like Telecom, Railways, Post & Telegraph, Ports (Centre) and Power generation, canals, urban utilities (water & sewage) and road transport (States) are vital for production, employment, growth and social welfare. The poor quality of our infrastructure is directly due to the public sector reservation policy, which has created unresponsive monopolies. This along with price controls has led to large supply gaps.
15. Complete investment de-licensing is necessary to ensure that the public users get the full benefits of competition. Global experience is that the monopoly provider, who has the incentive & the means, works to undermine competition. The regulator with the support of the users must actively thwart the monopolist in the interests of the public. Essentially competitive

segments such as generation of electricity, provision of Telecom services and cargo handling, pilotage & towing at ports, can then have level playing field and actualise their competitive potential.

16. Monopolistic inefficiency has imposed a heavy cost on the international competitiveness of our manufacturing and service industry. As a result manufactured exports have suffered and service exports are likely to be stunted unless urgent steps are taken. All these infrastructure services must be de-licensed, and a level playing field provided to encourage new private companies to compete in providing all infrastructure services.

2.6 Wholesale Market

17. The final element in developing a competitive system is a whole sale market between the 'network companies' and the competitive segments. This is best illustrated for the case of electricity. With generation de-licensed and access to the Transmission & Distribution network assured there is need for a wholesale market in electricity. Competing independent generation companies would supply electricity in this market while independent generation companies would be the buyers. The demand for and supply of electricity would then determine the price of electricity. California pioneered such a market in the form of an electronic web site. Argentina has successfully adapted the concept to create a similar market.

2.7 User Charges

18. Many public monopoly services have been priced either on the principle of 'what the traffic will bear,' or on the assumption that the government will underwrite whatever losses are incurred. This approach is a recipe for disaster, as already exists in the power sector in terms of low & highly variable availability and equipment destroying quality. It is essential to move to cost based pricing of infrastructure services to generate sufficient resources for quality production. It is also critical for generating finances for the investment needed to reach and sustain an economic growth rate of 7% to 8%. Higher infrastructure growth is in the long term interests of the common man both as a consumer and as worker.

2.8 Electro-magnetic spectrum

19. The radio frequency spectrum, which is a part of the Electro-magnetic spectrum, is finite. It has many different uses and potential users. The number of users it can accommodate depends on technology. For instance, with the technology in use in India today the available (after taking out defence/police usage) can only accommodate a maximum of four users. In any given region, the scarcity value of this spectrum depends on demand. If more than four users want to use it to supply services, as they might in the major metropolitan cities than it has a scarcity value which must accrue as

‘resource rent’ to the nation. This should be termed the “spectrum rent” or fee, rather than the “license” fee, charge or share. The spectrum could then be auctioned in tradable packets with no restrictions on resale or transfer.

20. On the other hand in all non-urban areas and in most small towns the number of potential users may be one or two (at most). In these areas the radio spectrum has no scarcity value and there should be no charge for its use. It must be freely usable by any resident firm. Technological change can result in rapid increase in the number of possible users of the spectrum. It is anticipated that within the next few years the number of potential users could expand tenfold. This would result in an elimination of the scarcity value in almost all cities, and any spectrum usage charges must be reduced to zero if efficient & productive use is to be made of this natural resource.

2.9 Fees, Taxation & Subsidy

21. License fees are a disguised form of taxation and should be replaced by an explicit tax. These can then be set in the context of the overall tax system so as to minimise distortion and optimise revenue collection. Natural resource (e.g. spectrum) rents when they exist must be collected separately. The regulator may also charge nominal (regulatory) fees to generate funds for its maintenance and functioning. These should be viewed as charges paid for the provision of regulatory service.
22. Prices must reflect the full cost of production if investment, growth and quality are to be maintained. This must be supplemented by moderate taxes as in the case of other goods and services. The levy of license fees either in addition to this or in lieu of full cost pricing distorts the system.
23. For commercial services like Telecom, Power and Railways, a cross tax-subsidy mechanism can be used to fulfil minimal social objectives (like universal service obligation). Pricing international calls above cost and basic connectivity below cost and equalising the difference through a fund is one way of doing this. “Subsidy auctions” can be used as a mechanism for servicing remote and sparsely populated areas such as the North-East.

2.10 Operational

24. There is an urgent need to set up power regulatory authorities at the state level and to expedite private entry into power distribution. Power theft is a serious problem, which results in financial bankruptcy and excessively high charges on honest users. Distribution metering must be introduced at the sub-station and lower level to identify the degree of theft and to fix responsibility. This will also make it possible to sub-lease collection. Make Telecom licenses transferable. Dock labour reform is essential for reducing the world record beating ship turnaround times in our ports.

2.11 Foreign Direct Investment

25. Foreign direct investment is the best means of transferring business knowledge from the developed countries. This consists not only of technology defined in the conventional sense of production processes for existing and new products, but also organisational, managerial, marketing, distribution, procurement and logistics knowledge & systems. Skills and technology diffuse from such foreign companies into the rest of the economy through movement of skilled personnel, through demands on input suppliers, through supplies of superior output to users and by imitation.

2.11.1 Airlines

26. The brief spell of competition ushered in by allowing a few domestic airlines produced a dramatic change in the attitude of the staff of national airlines. This was short lived. Though natural barriers to entry and exit into this industry are quite low, the capital and organisational requirements are quite high. True competition therefore requires the entry of experienced players such as foreign airlines. Up to 49% foreign equity must be allowed to all foreign entities in domestic airlines. A start could be made by immediate lifting of restrictions on foreign airlines within the current 40% foreign equity cap.

2.11.2 Airports

27. The terrible delays at airports during the past winter combined with the air traffic controllers strikes have been a deathblow to the tourism industry. The quality of our airports compares very unfavourably with those in S. E. Asia. Private entry and foreign participation can change this situation dramatically in a couple of years. Up to 100% foreign entry can be allowed in the international and major airports.

2.11.3 Media

28. We should distinguish facility ownership from control of content. That is there would be two types of companies, namely facility companies and broadcasting companies. Foreign investment in facility companies can be very liberal, with 100% foreign equity allowed if there is clear and effective separation from broadcasting content control. Foreign equity in companies that effectively control broadcast content would be less liberal (up to 26% say). An independent regulatory authority, which ensures equal and fair access to use of facilities by other broadcasting companies, must complement the liberal approach to facility ownership.

29. India is well placed to be a major exporter of publishing and printing services. It could replicate the success of Hong Kong by allowing free entry of foreign printing and publishing services into the country. We should

allow automatic 100% foreign equity holding in presses & printing facilities, associated services like layout design, in EOU/EPZ/FTZs, in the Publishing of Books and Journals in Science & Technology, Social Sciences, Professional areas (medicine, management, business, accounting, law etc.) and Humanities (Art, literature, geography). This would also apply to "self-help" or "do-it-yourself" books in these areas. It should also cover educational material and topical magazines (e.g. Scientific American, Psychology Today) in the same subjects.[3]

2.11.4 Networks

30. Move towards allowing 100% foreign equity in all infrastructure services constituting a 'natural monopoly' segment subject only to the condition that this segment must constitute a separate company which provides universal access at fair and non-discriminatory prices under a regulatory authority. Government could keep a *golden share* in such 100% foreign owned 'natural monopoly' companies. Allow automatic 51% foreign equity in the production of all other goods and services.

3 DEPARTMENTAL ENTERPRISES

31. The production and service provision functions carried out by government departments such as Telecom, Ports, Airports, Railways, P&T, Broadcasting and Defence production (civil goods, dual use items) need to be removed from government. Governmental rules and procedures (including CAG audit) are not conducive to quick decision making and commercial risk taking. Departmental enterprises should therefore be converted into public companies with professional boards. Technological developments over the last two decades have made it possible to un-bundle the 'natural monopoly' segments of infrastructure from the rest. In general there are three parts to an infrastructure department enterprise, namely production of goods used in the sector, the 'natural monopoly' segment (e.g. rail track, telephone/telegraph line) and provision of services. Each of these segments should be dealt with separately.

3.1 Privatise non-core activities

32. The production units of infrastructure departments and the defence production units producing civil goods should be sold to the private sector. Telecom and Railways should focus on their core business by selling to the highest bidder, captive units producing equipment and parts. This will

[3] The 100% automatic approval would *not* apply to publication of educational material in history, directed at children up to the level of high school. It would also not apply to any literary work that glorifies or justifies violence in any way or makes it attractive by mixing it with sexual titillation. Finally it would not apply to any material containing geographical maps that misrepresent the boundaries of India to show Indian Territory as belonging to another country (we can take a relaxed attitude if it were shown as Indian Territory which is disputed).

ensure full exploitation of economies of scale, while imports provide potential competition in supply. Peripheral services, not related to the core infrastructure service, could also be privatised.

3.2 Convert into Companies

33. The 'natural monopoly' segments and service provision should be converted into separate companies, which can be termed the 'Network Company' and the 'Service Provider' respectively. The network companies must operate on the 'public carrier' principle, subject to independent regulatory supervision, which ensures that all 'service providers' especially new entrants have equal and fair access to the 'natural monopoly' network at non-discriminatory prices. Over time, up to 74% of the equity in 'network companies' and up to 100% of the equity in 'service providers' should be sold to the public. Investment must be fully de-licensed, with no artificial barriers such as division into basic, cellular, ISP, paging or Internet Telephony. It is only through free private entry and competition in providing all services that the gains from technological change, economies of scope and productivity improvement can accrue to the public. Natural resources such as natural harbour or radio frequency spectrum should be dealt with separately as a problem in resource pricing and contractual resource rent collection (if any).

3.3 Telecom

34. The key 'natural monopoly' segment in Telecom is the telephone wire linking customers to the local telephone exchange ('last mile'), and this should made into a separate 'network company.' This makes it easier to ensure non-discriminatory pricing & equal access to new telecom service providers. Benchmark competition can be promoted if the network is divided into a number of regional (or state/circle) network companies. Similarly all the service provision functions of DOT can be made into one or more companies. If the division is done on a regional/circle basis each regional/circle network company can be an independent subsidiary of the corresponding regional/circle service provider.
35. Policy and procedural barriers between different communication media such as telephone, telegraph, cable and (even) electric wires must be eliminated, if India is to become a Communication, Information Technology and Media leader in the 21^{st} century.

3.4 Railways

36. In the case of the railways it is the railway lines and related signalling equipment, which constitute the 'natural monopoly' network. These could be converted either into a single Railway track corporation or into four regionals and one trunk line (inter-metro) corporation. The service functions could correspondingly be constituted into either two transport companies (for goods and passengers), or into four regional and one inter-metro transport company. If five companies are formed each track corporation could be a subsidiary of the corresponding service-company.

37. An autonomous and independent railway regulatory body must be formed so as to ensure the public interest including passenger safety, and to ensure that new entrants have access to the railway tracks on the same terms and conditions as the government railway transport companies. Entry of private companies into the provision of railway transport services would be freed. The laying of new tracks would also be freed from investment licensing. All companies would have to register with the regulator so that it can ensure that they follow the safety, interconnection and other rules.

38. The railways also run a long distance communication network. With the opening of long distance communication to competition in 2000, this could either be sold to the private sector or be spun-off into an independent company with 26% government holding. This company would then be unshackled to exploit economies of scale, and supply communications services to other organisations besides the railways. In many countries across the world railway-stations are an attractive and profitable commercial hub with retail outlets, restaurants, entertainment and department stores. Our metropolitan stations are more likely to be dirty and stinking with nooks and crannies used as urinals or garbage dumps. The only way to achieve international standards under the current circumstances in India seems to be by giving out stations in metros and large cities to the private sector on long lease or other methods such as BOLT and BOOT.

3.5 Ports and Airports

39. The core of an airport is the runway and traffic control facilities. The core of a port consists of the harbour and docking berths & related fixed structures. These core components of ports and airports could be converted into companies. In the case of major ports and airports there could be one company for each port or airport. In the case of minor ports & airports commercial viability may require amalgamation into regional companies. Non-core activities should be privatised and opened to competition to the maximum extent feasible, with a view to improving the quality of service to the international level. For instance the best airports of the world are very profitable up-market commercial centres, which provide shopping, food and entertainment. There is no reason except the public monopoly why our international airports are not as attractive and profitable as airports from Dubai to Hong Kong. Minor ports and airports can also be privatised after their reorganisation into companies.

40. Port trusts should allow private investors to set up and operate specialised facilities for bulk cargo handling such as SBMs (single buoy moorings), with freedom to provide these services to all users. To promote containerisation through conversion of existing facilities, port infrastructure and cargo handling services should be privatised. This could be done through long term (25+ years) and medium term (10+ years) concessions for port infrastructure and cargo handling services respectively. Multiple concessions should be awarded for each port, with private entrants free to take both types of concessions at each port. Pre-qualification conditions should not be so stringent as to kill competitive bidding. Private entry services such as pilotage and towing should be free.

41. To reduce the excess labour at ports, a generous severance payment could be devised and be coupled with increased flexibility in employment conditions. Inter-port competition should be fostered, by improving the linkage of ports with road and rail networks. Automatic approval could be given to private road and rail investment for this purpose.

3.6 AIR & Doordarshan

42. The principle of unbundling can also be applied to Broadcasting enterprises such as AIR and Doordarshan, by separating the physical facilities for radio & television broadcasting from media or broadcasting content. The physical facilities are in essence similar to the facilities used for cellular or mobile telephony, and similarly serve as communication channels. They can therefore be hived off into separate companies which would be regulated by a Communication Regulatory Authority of India (CRAI) which would subsume the TRAI and also have authority over Cable and other communication channels. Artificial barriers based on old technology would be eliminated so that companies are free to operate in any field of communication. The physical facilities of AIR and Doordarshan would therefore be made into separate companies, which would have to operate on the public carrier principle, by drawing up fair and transparent rules for usage by all broadcasting companies. The government could gradually divest up to 74% of their equity to the public. Setting up of new facilities would be de-licensed.

43. Prasar Bharati would then be converted into a purely media or broadcasting company which controls the content of AIR and Doordarshan, and leases frequency and time slots from the facilities companies on a long term commercial basis. Broadcasting content would be regulated by an Independent Broadcasting Regulation Authority, which would require all broadcasting companies to be licensed.

3.7 Defence Production

44. Defence production currently consists of the three separable areas, namely civil goods, dual use items and weapons. a) Civil goods & services like food, uniforms, shoes, shelter, construction material, and general electrical, mechanical & transport equipment. These should be completely privatised. b) Dual use items, which are needed both by the defence forces and the civilian economy. This would also include parts and components of weapons. Units producing such items should be converted into corporations and a majority of shares (up to 74.9%) sold to the public. Management control could be gradually handed over to independent private management. c) Lethal defence platforms such as fighter aircraft, tanks and warships. Defence units assembling such defence items would also converted into corporations but government would retain a majority (50.1%) of shares along with management control.

45. The introduction of competition in the production and supply of goods and services used by the defence services would have to go hand in hand with the development of a modern systems of procurement, inventory control and logistics by these services. This in turn would require comprehensive computerisation of these activities.

4 Expenditure Priorities

46. Since 1949 the government has diversified into so many areas of production and service provision that the original functions of government have been lost sight of. The limited resources available to the government have been spread so thin that there is no money available to undertake these functions satisfactorily. The basic or fundamental functions of government can be divided in three categories: a) providing public goods like defence, police, roads and epidemic control b) correcting externalities such as those involved in primary education, pollution and in generation & dissemination of knowledge, and c) promoting social welfare.

4.1 Roads

47. The market cannot supply local and municipal roads because the cost of collecting tolls on such roads is prohibitively expensive. In the case of most state roads there are high developmental benefits that accrue to the surrounding areas and which cannot be captured by the market. That is why building and maintenance of roads is one of the most important developmental functions of government. Roads are essential for bringing remote areas into the market, for facilitating trade and developing a national market in which all can participate. Both the central and state governments must focus their limited resources on building higher quality roads. This will also require a modernisation and up-gradation of rules, regulations,

procedures and specifications for road building, to promote use of new material like concrete & fly ash and newer more efficient methods.

48. Both these problems (of non-excludability & externality) are diluted to some extent in the case of national and state highways, so that the likelyhood of market supply improves. It is, however, by no means assured. Technological and financial innovations such as 'shadow tolling' however now make it possible for the government to restrict itself to planning, land acquisition and provision of subsidy, while leaving the job of construction and maintenance of highways to the private sector.

5 REAL ESTATE

49. In many countries across the world the real estate sector has been a leading sector in promoting overall growth. This has been true of emerging markets such as those in E & S E Asia. A substantial part of China's FDI has been in this sector. The most visible sign that S E Asian countries were moving ahead of us in the eighties were the transformation of the skyline & roads of their capital cities. We have to remove the plethora of controls on our real estate and housing sector if we are to initiate a similar boom.

5.1 Rent Control

50. The 'Rent control act,' which was introduced in World War II is even more pernicious than ordinary price controls. Unlike price control on ordinary goods and services it virtually amounts to expropriation of the rented asset. Rent control ensures that even those who have unutilised space prefer to keep it locked up rather than risk loosing it permanently to a tenant. It discourages and inhibits construction of residential apartments solely for the purpose of rental. The lower middle class and the poor are most dependent on rental housing (as seen across the world). It can therefore lay claim to being an anti-poor policy, which is substantially to blame for the creation of slums in Delhi, Bombay and other metros subject to rent control laws. The periodic collapse of Bombay's rented buildings is the direct result of rent control, as there is no incentive to maintain and keep rented property in habitable condition. Rent control on commercial property is a major reason for the culture of tax evasion and black money that characterises the real estate sector. We must abolish this colonial law, if a housing and real estate boom is to be initiated which benefits not just income tax payers but also those who live in the slums of metropolitan and big cities.

5.2 Townships & Industrial Estates

51. The Urban infrastructure in cities & towns across the nation has deteriorated because of lack of interest & concern among those responsible for running our municipalities. Till such time as the municipalities can be forced by their citizens to get their act together, the private sector can play an

important role in setting higher standards of planning, organisation and efficiency. They can also provide a demonstration effect. For this to happen, the uncertainty & risk must be reduced, through a comprehensive law on private townships and industrial estates. This law must specify both the rights and obligations of developers with respect to urban services and utilities. These include inter-connection with existing systems (e.g. sewers, water mains, telecom, electricity lines), the processing of liquid & solid waste, treatment & disposal of industrial pollutants and maintenance of public goods & areas.

52. The automatic route can be opened for foreign investment in such urban & semi-urban infrastructure, with 100% foreign equity allowed in development of residential (cum commercial) townships & industrial estates. Automatic 74% foreign equity can also be allowed in large residential-commercial complexes. Foreign equity in individual housing, commercial or industrial projects could, however, be restricted to 49% and given on a case by case basis.

5.3 Land Monopoly

53. Many cities (e.g. Delhi) have created development agencies (Delhi Development Authorities) and handed over control over all urban land within the municipal jurisdiction to them. The belief that they would act in the interests of the public is mistaken because all such agencies tend to act like the monopoly that they are. It is in the interests of the monopolist to restrict the development and sale of new land & keep prices high, so as to maximise its own returns. Also like all monopolies, X-inefficiency flourishes and monopoly rents decline over time often because they are siphoned off into personal accounts. Introduction of a competitive construction boom requires abolishing the monopoly over urban land by such agencies, by completely separating control of land from its development. A time bound programme for auctioning of all vacant government land should be drawn up and implemented. Municipal development agencies can bid along with others for the land they want to develop.

5.4 Rural-Urban conversion

54. The presence of so called villages in the middle of the capital city of Delhi is an anachronism & a monument to bad policy. It is difficult to find a worse policy for protecting farmers than preserving villages in the middle of a metropolitan city. Conversion of rural land at market prices should be completely de-controlled and left to the market. The assumption that farmers or owners of rural land on the outskirts of a city are ignorant & stupid enough to sell their land for a song is offensive. The problem has risen solely because the government gave the right to its development

agencies to expropriate this land at below market prices. Once this power is taken away from development agencies and sellers are fully aware of this change (government must provide the information) they can look after their own interests.

5.5 Municipal laws

55. Our urban & municipal rules and regulations date back half a century if not more. There is a need to thoroughly review and modernise them in the light of the latest developments in urban infrastructure, transport, pollution control and zoning. A committee of eminent persons form concerned fields should be set up to draw up a model municipal law. Such a law must make provision for private investment in and supply of all public utilities and services. It must ensure that the municipal authority focuses its attention on data gathering, analysis, planning, organisation and monitoring. The proof that these aspects are sadly neglected is seen everyday in the city as roads are dug up within weeks of fresh asphalt being laid. The new law should also incorporate provisions for residents' right to information about the activities of the municipality. The new law could be introduced immediately in Delhi to gain experience and iron out its kinks.

5.6 Other Laws

56. Other legislation which is distorting the functioning of the housing market and which need to be reformed are, the Land Acquisition Act (1894), Transfer of Property Act, 1882, The Indian Stamp Act 1899 and The Registration Act, 1908.

5.7 Construction Technology & Quality

57. The government is the largest user of construction services in the country. Its procurement & construction rules therefore have an overwhelming effect on the development of the construction industry. The government's procurement rules and standards have barely changed since independence. It is no wonder therefore that our construction industry is one of the most primitive among the emerging markets. This leads to shoddy construction and interminable delays, which impose large negative costs on the rest of the economy. We must urgently modernise CPWD, PWD, DGC&S and other construction & procurement rules to promote use of new efficient, effective, non-polluting technologies.

6 STATE AND LOCAL

58. Most of the issues connected with state governments have been touched on earlier. They are, however, brought together here in a summary form.

6.1 *State Regulatory Authorities*

59. The need for autonomous, independent and powerful regulatory authorities (SRAs) in the infrastructure sectors and the principles on which the regulatory system must be built were spelt out in section 2.2. At the State level SRAs are needed for the following sectors:

6.1.1 Electricity

60. The breaking up of the State electricity boards into independent production, transmission and distribution companies must be accompanied by the setting up of a regulatory authority.

61. One model for distribution is to give the state owned distribution-company the mandate to privatise electricity distribution. In the case of urban areas, the distribution unit could be part of a metro, a complete city/town or groups of towns. All such urban distribution units would be leased or given on concession. The potentially profitable ones could be auctioned off on the basis of a single parameter such as retail supply price. The state-company would ensure the introduction of benchmark competition, by continuously monitoring and comparing the performance of different private companies in different cities. Rural distribution would be auctioned off separately on the basis of minimum subsidy bidding. This could be accompanied by privatisation of generating plants so as to create competition among generators. Efficient state generating companies should be free to compete commercially in other states besides their own.

6.1.2 Canals

62. State Irrigation & canal regulatory authorities must be set up to regulate the canal networks including its distribution channels as well as underground water resources. Once the framework is in place co-operative water user associations can manage and maintain these canals and distribution channels at all levels.

6.1.3 Municipal services

63. A municipal services regulatory authority should be set up with authority over all municipal services on which user charges can be imposed. Examples are water supply, sewage, drainage, public toilets, waste collection & disposal and pollutants & hazardous wastes.

6.2 *User Charges*

64. Any subsidy on a good or service distorts the consumption and production of that good or service. Thus for instance a power subsidy results in wasteful consumption of power and distorts the entire structure of production and investment in power. This is why most subsidies are classed as non-merit subsidies. As the discussion paper on subsidies indicated, such non-

merit subsidies (including indirect or implicit subsidies) for Centre & States were estimated at about 11 % of GDP in 1994-95. It is therefore essential that these subsidies are reduced and part of the money saved is channelled into more productive expenditures that have a better and more lasting impact on the incomes of the poor.

65. The assets created in the past have deteriorated tremendously because public services do not even charge enough to cover maintenance & running expenses. Charges must be raised in a phased manner to cover the full cost of production, so that financing of new investment becomes feasible. Raise bus fares, electricity and water usage charges to economic levels. Raise tuition fees at college level, and for health service consultation & diagnostic tests. Levy parking charges for road parking in residential areas.

6.3 State Road Transport

66. Road transport is vital for the development of the state from the remote rural areas to the biggest urban areas. Inter state Road transport is a state monopoly in most states and most State Road Transport organisations are loss making. Most of those making nominal profits would still be in the red if the indirect costs were accounted for. The state monopoly of road transport increases the cost of transport, reduces its quality & variety and distracts the government from its true responsibility for making roads.

67. Road transport should be completely de-licensed, with a modest registration fee for regulatory purposes. Revenues should be collected through a service tax within the overall tax policy framework, and not through license fees. A regulatory authority can be set up to manage the transition to a free and competitive system.

6.4 Privatisation

68. State transport corporations and Public sector units, many of which are loss making, must be privatised to salvage State finances. State electricity boards and other departmental enterprises should be converted to companies. This can be followed by privatisation. Alternatively electricity generation plants should be privatised and the money used to pay SEB over dues of Central and State companies.

6.5 Municipal Reform

69. Laws, rules and procedures relating to land use, construction, housing, urban utilities and urban services have not changed for fifty years and perhaps even longer. They must be systematically modernised, if we are to see a real estate boom. Such a boom has been an important source of growth in many high growth countries.

6.6 Land Ceiling & Rent Control

70. The States must follow the example of the Centre and complete abolishing of the Urban Land Ceiling Act. State Rent Control acts should be repealed or phased out by first replacing them by the 'Model Rent Control Act'.

7 CONCLUDING SUMMARY

7.1 COMMUNICATION

- Draft a single law covering all physical channels of communication (telephone, telegraph, cable, satellite, broadcasting stations, electric wires). The basic objective of this act would be to promote communications through within channel and cross-channel competition, making full use of the emerging convergence.
- Set up single, strong, independent regulatory authority for the communication sector (CRAI) under a single CRAI act.
- Auction tradable units of the electro-magnetic spectrum in geographical areas in which demand for spectrum exceeds supply with free re-sale allowed. There should be no a priori restrictions on the type of use the spectrum can be put.
- Parts of the em spectrum in which supply exceeds demand (i.e. 0 resource rent), can be used freely, subject to a clause that allows government to re-posses and auction when the demand builds up to exceed supply.

7.1.1 Telecom

- De-licence entry into all areas of telecom and remove segmentation and all restrictions on service providers about the kind of services they can provide. This should soon include internet telephony, where a start can be made by early opening for rural areas.
- Replace government license fees and revenue shares by explicit taxes. These taxes must be reasonable and consistent with the overall tax structure.
- Auction those parts of the spectrum in specific geographical areas where there is excess demand (annual spectrum fee per unit of spectrum). There should be no restrictions on resale of whole or part of this spectrum by the winning bidder to anyone for any use. Other parts of the spectrum (in which supply exceeds demand) would be free.
- Give the TRAI full powers to set access charges and retail prices and to enforce the public carrier principle (non-discriminatory access) in natural monopoly segments of the Telecom network. Pricing must in general be cost based with USO financed by above cost pricing of international calls. Regional obligations (e.g. remote areas) should be fulfilled through minimum subsidy bidding.

- TRAI must promote competition and competitive pricing in all other segments. All network providers & service providers would be required to register with the regulator, pay regulatory fees and follow the technical & other rules laid down by it. They could be debarred from service permission if they do not follow these rules. Pre-qualification rules must minimised so as to encourage competition. Alternatively each service and each potential provider could be given a rank, with all providers free to provide services ranked at or below their own rank.
- DOT should privatise the manufacture of telecom equipment & provision of non-telecom services.
- Convert DOT into *at least* two companies: A "network company" owning the natural-monopoly, local-area, retail, fixed line network, and a "service provider" with the rest of the telecom service business. The former could in principle be a subsidiary of the latter (or vice-a-versa). One alternative is to create several regional network companies.
- Raise the foreign equity cap in Telecom to 51%. Up to 100% foreign equity could be allowed in "network companies" running on the public carrier principle, subject to government owning a "golden share" in the company.

7.1.2 Broadcasting

- Un-bundle/de-link investment in physical broadcasting infrastructure from the right to engage in "Public Broadcasting." De-license the former based on the "public carrier" principle and bring it under the Communication Regulatory Authority of India (CRAI).
- Integrate Cable act into the new communication act.
- Consider setting up an independent "Public Broadcasting Authority" which will license public broadcasters (govt & private). Any rules applicable to re-transmission or supply of public broadcasts through cable would also be under the purview of this authority.
- The government owned physical infrastructure of broadcasting such as radio and TV stations should be vested in separate companies which will operate on a public carrier principle i.e. they will lease/contract out time slots to public and private "broadcasting companies" on a non-discriminatory basis.

7.1.3 Publishing & Printing

- Make EOU/EPZ/FTZ policy fully applicable to Publishing and Printing.
- Allow automatic 100% foreign equity in the Publishing of Books, Journals & Magazines in Science & Technology, Social Sciences, Professional areas (medicine, management, business, accounting, law etc.) and Humanities (Art, literature, geography).
- Consider liberalisation of FDI to 74% and 51% in areas of culture, society and entertainment subject to very mild conditions on export and certain conditions on Indian content.

7.2 TRANSPORT

7.2.1 Railway

- Set up an Independent Railway Regulatory Authority (RRA). The RRA would have jurisdiction over railway safety, (track) access rules & pricing of track usage and pricing of rail services.
- Privatise railway production units and non-rail (e.g. telecom) & peripheral (e.g. catering) services. Give metro stations on long term lease to the private sector, so that they can be upgraded to international quality.
- Divide the Indian Railways into *at least* two separate companies. One would be a "railway track" company owning the tracks, signalling equipment and stations & providing the services of the track to anyone who wants to use it. The other would be a "railway services" company owning the rolling stock and providing rail services.
- The "railway track" company would be free to sell equity (including government) to the public to generate funds for upgrading & modernising tracks and signalling systems.
- Remove railways from the list of sectors reserved for government and de-license (free) private entry into provision of rail services. Setting up of private rail track corporations would also be allowed subject to rules specified by the RRA.
- Give automatic approval for constructing rail linkages from ports to the existing rail network.

7.2.2 Civil Aviation

7.2.2.1 Airports

- Automatic 100% foreign equity can be allowed in the leasing of airports.
- Automatic 51% foreign equity can also be allowed in the setting up of new airports, with up to 100% allowed on a case by case basis.

7.2.2.2 Airlines

- Lift restrictions on equity holding by foreign airlines & airports in domestic airlines, within the current 40% foreign equity cap.
- Raise the foreign equity cap in domestic airlines to 49%.

7.2.3 Surface Transport

7.2.3.1 Ports

- Strengthen the Ports regulatory authority to give full authority over pricing, & quality of services and non-discriminatory access to services.
- Allow private sector to set-up and operate specialised facilities (e.g. single Buoy moorings) for handling of bulk cargo (liquid & solid).

- Privatise port infrastructure and cargo handling services. These can be done through concession agreements of long term (25+ years) for infrastructure and medium term (10+ years) for equipment.
- There should be multiple concessionaires at each port, with some having both an infrastructure and a cargo handling concession.
- Free other services such as pilotage and towing to private entry and competition.
- Reform the port labour system, through generous severance payments coupled with increased flexibility in employment.
- Improve road and rail linkages from ports to the existing road/rail network.
- Eliminate subsidies for ports.

7.2.3.2 Roads

- National, State and local (pucca, all weather) roads deserve higher priority in government expenditure than most subsidies and other expenditures.
- Government should focus on planning, land acquisition and provision of subsidy, while increasingly leaving the job of construction and maintenance of highways to the private sector.
- Give automatic approval for constructing road linkages from ports to the existing road network.

7.3 POWER

- Urge States to set up strong, independent, autonomous state electricity regulatory commissions (SERC). Consider a central law, which can provide support for such independence of SERCs.
- Support States who want to un-bundle generation, distribution & transmission and challenge the T&D (Theft & Dacoity) Mafia. Seek the co-operation of the media in meeting this menace (through background, off the record briefings etc.).
- Devise a central law that enables & allows SEBs & State electricity companies to operate in any State of the union and thus compete among themselves.
- Create an electricity market by de-licensing and de-controlling electricity generation, selling State owned generating stations and privatising urban electricity distribution through concessions and leasing.

7.4 DEFENCE PRODUCTION

- Privatise production of civil goods & services (food, uniforms, shoes, shelter, construction material, electrical, mechanical & transport equipment.
- Units producing "dual use" items should be converted into corporations and a majority of shares (up to 74.9%) sold to the public. Management control could be gradually handed over to independent private management.

- Defence units assembling lethal defence platforms such as fighter aircraft, tanks and warships should be converted into corporations with government retaining a majority (50.1%) of shares along with management control.

7.5 REAL ESTATE

- States should follow the Centre's lead and repeal Urban Land Ceiling laws.
- The Rent Control Act(s) should be repealed as they are a major factor in creating slums in metro cities.
- Conversion of Rural land into urban use should be freed on the basis of voluntary market transaction between the agricultural-land owner and the urban developer. Government should ensure that information is publicly available to sellers of land so that they can get the true market price.
- The monopoly ownership of urban land by City development agencies should be abolished.
- There should be a comprehensive law on private townships and industrial estates, which specifies the rights and obligations of developers with respect to urban services and utilities. These include inter-connection with existing systems (e.g. sewers, water mains, telecom, electricity lines), the processing of liquid & solid waste, treatment & disposal of industrial pollutants and maintenance of public goods & areas.
- The automatic route can be opened for foreign investment in urban & semi-urban infrastructure, with 100% foreign equity allowed in development of residential (cum commercial) townships & industrial estates. Also allow automatic 74% foreign equity in large residential-commercial complexes.
- Reform the Land Acquisition Act (1894), Transfer of Property Act, 1882, The Indian Stamp Act 1899 and The Registration Act, 1908.
- Municipal rules and regulations should be modernised, to encourage private entry into supply of urban services & force municipal authorities to focus on data gathering, analysis, planning, organisation and monitoring.

7.6 MUNICIPAL SERVICES

- Municipal services regulatory authorities should be set up by states, with authority over all municipal services on which user charges can be imposed. Examples are water supply, sewage, drainage, public toilets, waste collection & disposal and pollutants & hazardous wastes.

7.7 CANALS

- State Irrigation & canal regulatory authorities can be set up to regulate the canal networks including its distribution channels as well as underground water resources. This should be accompanied by introduction of co-operative water user associations to manage and maintain canals and irrigation water distribution channels.

8 MAJOR RECOMMENDATIONS

8.1 *COMMUNICATION*

- Draft a single Act (CRAI) covering all physical channels of communication Promotion of competition must be a central tenet of this act.
- Set up single, strong, independent regulatory authority for the communication sector (CRAI) under this act.
- Auction tradable units of the electro-magnetic spectrum. Auction price will (& must) be zero where supply exceeds demand.
- Replace government license fees and revenue shares by explicit taxes. These taxes must be reasonable and consistent with the overall tax structure.

8.1.1 Telecom

- De-licence entry into all areas of telecom. Remove restrictions on the kind of services (including internet telephony) they can provide.
- Give the TRAI full powers to set retail & wholesale prices and to enforce the public carrier principle in natural monopoly network segments. Pricing must be cost based with USO financed by above cost pricing of international calls.
- DOT should privatise the manufacture of telecom equipment & provision of non-telecom services.
- Convert DOTS into *at least* two companies: A "network company" owning the local fixed line network and a "service provider."
- Allow 100% foreign equity in "network companies" running on the public carrier principle, subject to government owning a "golden share."

8.1.2 Media

- Set up a "Public Broadcasting Authority" which will license public broadcasters (govt, private, co-operative).
- The government owned physical, broadcasting infrastructure should be vested in companies, operating on the public carrier principle, who will lease out time slots to "broadcasting companies" on a non-discriminatory basis.

8.1.3 Publishing

- Make EOU/EPZ/FTZ policy fully applicable to Publishing and Printing.
- Allow automatic 100% foreign equity in the Publishing of Books, Journals & Magazines in S&T, Social Sciences, Professional areas and Humanities.
- Liberalise FDI in areas of culture, society & entertainment subject to conditions on export and on minimum Indian content.

8.2 *TRANSPORT*

8.2.1 Civil Aviation

- Automatic 51% or 100% foreign equity can be allowed in setting up new airports and leasing of airports.

- Lift restrictions on equity holding by foreign airlines & airports in domestic airlines, within the current 40% foreign equity cap.
- Raise the foreign equity cap in domestic airlines to 49%.

8.2.2 Surface Transport

- Strengthen the Ports regulatory authority to give full authority over pricing, & quality of services and non-discriminatory access to services.
- Allow private entry in specialised facilities for bulk cargo handling.
- Concession port infrastructure and cargo handling services to private sector.
- Free other services such as pilotage & towing to private entry & competition.
- Reform the port labour system, through generous severance payments coupled with increased flexibility in employment.
- Eliminate subsidies for ports.
- Give automatic approval for constructing road linkages from ports to the existing road network.
- Focus government on planning, land acquisition & provision of subsidy, while leaving highway construction & maintenance to the private sector.

8.2.3 Railway

- Set up an Independent Railway Regulatory Authority (RRA) with authority over railway safety, track access rules & pricing and rail service pricing.
- Privatise railway production units and non-rail & peripheral services.
- Give metro stations on long term lease to the private sector.
- Divide the Indian Railways into *at least* two separate companies: A "railway track" company and a "railway services" company.
- The former should be free to sell equity to the public to generate funds for upgrading & modernising tracks and signalling systems.
- Remove railways from the government reserved list and de-license (free) rail services. Allow private rail track corporations.

8.3 POWER

- Devise a central law that enables & allows SEBs & State electricity companies to operate in any State of the union.
- Create an electricity market by de-licensing/de-controlling electricity generation, selling State owned generating stations and privatising urban electricity distribution through concessions & leasing.

8.4 DEFENCE PRODUCTION

- Privatise production of civil goods & services.
- Convert "dual use" item producing units into corporations. Sell majority of shares (up to 74.9%) to public.
- Defence units assembling lethal defence platforms into corporations with government retaining a majority (50.1%) of shares & management control.

8.5 REAL ESTATE & URBAN

- The Rent Control Act(s) should be repealed.
- De-control conversion of Rural land into urban use.
- Rescind monopoly ownership of urban land by City development agencies.
- Frame a comprehensive law on private townships & industrial estates. This would specify the rights & obligations of developers with respect to urban services and utilities.
- Allow 100% foreign equity urban infrastructure, townships & industrial estates and 74% foreign equity in large residential-commercial complexes.
- Reform the Land Acquisition Act (1894), Transfer of Property Act, 1882, The Indian Stamp Act 1899 and The Registration Act, 1908.
- Modernise urban & municipal rules and regulations.
- Municipal services regulatory authorities should be set up by states, with authority over all municipal services on which user charges can be imposed.

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