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COMMERCIAL AND URBAN INFRASTRUCTURE

URBAN TRANSPORTATION

Commercial and urban infrastructure is dictated by the topography and demography of a place. It is a vast canvas to cover and there are many experiments which have been tried out in this area. Urban transportation is a very important area in this context. Rail based urban mass transport system has emerged from the shadows and the well-run, comfortable metro system of Delhi has become as important to the fast expanding city as its expansive road network. Metropolitan cities—Mumbai, Kolkata, Hyderabad, and Chennai—are actively pursuing metro rail projects to meet the growing demand for urban transportation.

Cities with growing populations are working hard to upgrade their mass transport systems to combat traffic problems. The Indore City Transport Model presented by Vivek Aggarwal is a city bus system which makes use of new technologies and a transparent contract arrangement with different services providers to provide an efficient service. The model is designed keeping in mind the motto of 'Minimum Investment with Maximum Returns' for all parties involved in the business. The financial model was scientifically designed to devise a flawless technique reaping maximum profitability for the company as well as the operators. Operations can be closely controlled by both the concessionaire as well as the concessioning authority through fully computerized monitoring.

Multi-modal transport system having inter-modal integration is planned for Hyderabad. Ranjan Jain describes the model followed by the government of Andhra Pradesh. The Hyderabad metro will be the first project which is expected to use the model concession agreement developed by the Government of India to bring consistency and transparency in the execution of urban transport projects.

The responsibility of providing urban infrastructure under 74th CAA rests with local authority in India but they have limited fiscal power to impose tax. Almost the same is true of the unitary form of government of Great Britain, where counties cannot impose tax. However, Dockland Light Railway, a subsidiary company of Transport of London has used an innovative financing model to provide an extension of the metro rail system. Anupam Rastogi and Shreemoyee Patra in their paper highlight the risk sharing and financial instruments used to ensure that private contractors bear the construction risks which are within their control and the rest is shouldered by the local authority. As traffic risk in an urban transport project is enormous, the local authority used financial instruments to defray that to ensure that the project developer does not have to pay high risk premia on the funds raised from the market.

Topography of hilly urban areas imposes a unique set of challenges for a mass transport system. Ashwini Parasher critically evaluates different ropeway systems in his paper and underlines important conditions in designing these systems. Note that though ropeways are modular, each one of them is unique as a system. He outlines how PPP has been profitably used in Uttarakhand and funds have been raised from various sources.

In an Indian setting with congested roads, innovative and, probably, expensive means have to be devised to enable seamless connectivity within the city. Sonia Sethi explains the Mumbai Trans-harbour Link proposed as a 22 kms expressway with a six-lane dual carriageway road bridge and rail bridge connecting Sewri in Mumbai side to Nhava on Navi Mumbai side. The project to be developed in 3 phases, Main Bridge, Dispersal System and Rail Link is proposed on the BOT model of the PPP route with an expected construction time of five years.

HOUSING

India has a large young and increasingly urbanized population. The population is expected to grow to 1.5 billion from its current level of 1.1 billion by 2030. More than half of the population is under twenty-five years of age. Asia is the fastest urbanizing part of the world. India is urbanizing at the rate of 2.5 per cent per year, one of the fastest rates in the world. According to our study, the number of cities with over one million population would double from 35 in 2001 to 70 in 2025.

Even though urban housing is a very important sector, we have not dealt with it in the past as it does not match the definition of infrastructure. Infrastructure, narrowly defined, is the supply of services through a networked delivery system designed to serve a multitude of users. This is especially true for piped water and wastewater, electric power, telecommunication, roads, ports, airports, pipelines and so on. Notwithstanding the definitional issue, in this chapter we have an interesting paper by Bhaskar Chakrabarti and Runa Sarkar on an affordable housing scheme for the emerging urban middle class, which, besides providing subsidized housing, is a comprehensive plan for the development of townships. The model presents a case for leveraging of ‘regulatory’ assets of the government in the form of land to develop commercial infrastructure elsewhere and provide ‘infrastructure’ facilities such as piped water and electricity to urban dwellers. As urban habitations continue to grow in the foreseeable future, the Sukhobrishti Model of West Bengal presented in this paper can be effectively replicated in other states.

In terms of per capita income, India remains a developing country but the proportion of our GDP contributed by the service sector is comparable with that of the developed countries. Moreover, India’s growth is consumption led. Hence, importance of commercial real estate—shopping malls, office buildings, hospitals, parking lots, conference halls—is crucial to keep the economy humming. But, commercial real estate takes time to develop. Piyush Tiwari dwells on the emerging models of financing commercial real estate in India. He provides insights into how this infrastructure can be developed and risks shared appropriately by financiers, developers, and users of the modern facilities.

SEZs

The economic and institutional environment has undergone significant changes since the first Export Promotion Zone (EPZ) established in 1965 in Kandla (Gujarat). The first EPZ was established during an overall inward looking trade policy regime which was a consequence of protectionist strategy.

In April 2000, the EXIM policy (1997–2002) introduced a scheme to set up Special Economic Zones (SEZs) in different parts of India. SEZs are permitted to be set up in public, private, joint sector or by state governments. The first set of SEZs consisted of converts from earlier EPZs. EPZs in Kandla, Santa Cruz, Cochin, and Surat were converted to the status of SEZs on 1 November 2000. Remaining EPZs were converted to SEZs in 2003. SEZ policy has been able to attract investors/developers from private and public sector to set up new SEZs and by July 2007, 341 SEZ proposals were approved. 171 proposals have been granted in-principle approval to and 130 SEZs have been notified.

However, these EPZs did not succeed in driving exports in the country to the extent they were intended to. The key reason cited by various review committees for the lack of growth of EPZs was the absence of clear policy. Institutions that govern urban land in India have long been regarded as restrictive for the growth and development of production space for globally competitive industries. Constitutionally, land is a state subject and this has complicated the regulations within which land markets operate as each state has its own set of regulations. Various land regulations such as Urban Land (Ceiling and regulation) Act, Zoning laws, FAR norms and restrictions on development/redevelopment have all created an environment which is anything but efficient.

Pressure to reform land related legislations has been immense since the process of economic liberalization intensified in 1991. However, the progress has been slow and long drawn. For example Urban Land (Ceiling and Regulation) Act was repealed by the Central Government in 1999. However, since land is a state subject, each state was expected to adopt the repeal Act. Even after seven years, some states such as Maharashtra, Karnataka, MP, Rajasthan, Andhra Pradesh, Assam, Bihar, Orissa, and West Bengal have not adopted the repeal Act.

The biggest institutional constraint related to land for SEZs is the acquisition of land. Land can be acquired under Land Acquisition Act 1894 for public purposes and for Companies. The Act defines public purpose and deals with the manner in which compensation is to be paid. However, being dated, the Act is considered insufficient for the modern development process. Different states have their own land acquisition laws and some states have enacted special land acquisition laws specifically for SEZs.

Piyush Tiwari’s paper on the Indian SEZ Model critically appraises the Indian SEZ model. Though he does not recommend that we emulate the Chinese SEZ model, he does suggest that we ensure that these SEZ’s provide a fillip to the manufacturing sector in India and provide jobs to skilled and unskilled manpower in India. He enumerates factors which will ensure the success of SEZs.

Ramakrishna Nallathiga's paper on compensatory models for land acquisition looks at the land acquisition issue in a holistic manner to separate individual's attachment of the land owner with his land from the society's need to have infrastructure in a democratic society where property rights are enshrined in the constitution of the country.

P.V. Indiresan presents a case for inclusive development of SEZ to enhance the acceptability of the arrangement among farmers, private enterprise, panchayat, political lobbies, and all other stakeholders. The Jaipur

model presented by Neeraj Gupta offers another innovative option to acquire land while providing a co-operative solution to land acquisition for commercial infrastructure.

Just as SEZs are important for the manufacturing sector, wholesale markets and *haats* are important for primary food producers to realize gains from their agriculture produce in a market economy. Jyoti Gujaral in her paper on wholesale agricultural markets and village haats explores the scope to improve market efficiencies in the agricultural sector through the introduction of PPP.

6.1

Public Transport Service Model of Indore City

Vivek Aggarwal

Indore, the largest metropolitan city of the state of Madhya Pradesh, has emerged in recent years as a centre of trade and commerce. This growth came with its baggage of high travel demand, increasing intensity of traffic, congestion, delays, and accidents. The intra-city public transport system was essentially road based with private minibuses, tempos, mini-vans, and auto rickshaws. The city was crying out for an efficient, safe, and affordable public mass transport system. Since there was no specialized and effective regulatory agency to monitor public transport, a special purpose vehicle in the form of a public limited company, Indore City Transport Services Ltd. (ICTSL) was set up to operate and manage the public transport system in Indore with private sector participation to overcome financial constraints and harness private sector efficiency as quickly as possible.

ICTSL was incorporated to provide a dependable transport solution for Indore and to establish a public transport lifeline to facilitate the rapid growth of the city. The PPP model was designed to benefit the company, operators, government, and the general public. The company is now investing the income generated from the service in the development of transport infrastructure of the city.

The main objectives of ICTSL were to establish a specialized and effective regulatory agency at the city level to monitor cost effective and good public transport services with private partnership, get private investment for provision of a fleet of coaches for the city public transport, and to develop necessary support system for improving transport infrastructure within the city.

STRUCTURING OF THE PROJECT

For the successful implementation of the project, the SPV called ICTSL was incorporated as a PPP company to operate and manage the public transport system and integrate best practices and technologies customized to the local conditions with such financial arrangements as to ensure mutual benefits for all the stakeholders. The responsibilities of the SPV and city administration are outlined in a schematic presentation in Figure 6.1.1.

The SPV was constituted as a public limited company incorporated under the Companies Act, 1956 with a registered office in Indore. The paid-up capital of the company is Rs 25 lakh divided into 2.50 lakh equity shares of Rs 10 each. The initial paid up capital of Rs 25 lakh is being held by the Indore Municipal Corporation and Indore Development Authority in equal proportions.

MANAGEMENT OF THE SPV

The management of the company is entrusted to the Board of Directors consisting of six ex-officio members. The Collector of Indore district is its Executive Director who has been authorized to exercise all powers for effective management of the new transport system under the PPP. Besides, Regional Transport Officer, Indore and Superintendent of Police, Indore (ex-officio) are special invitee members to all meetings of the Board. All the bus operators are also invited to the meetings of the board so that their valuable inputs are used for smooth and proper functioning of the company and the interest of operators

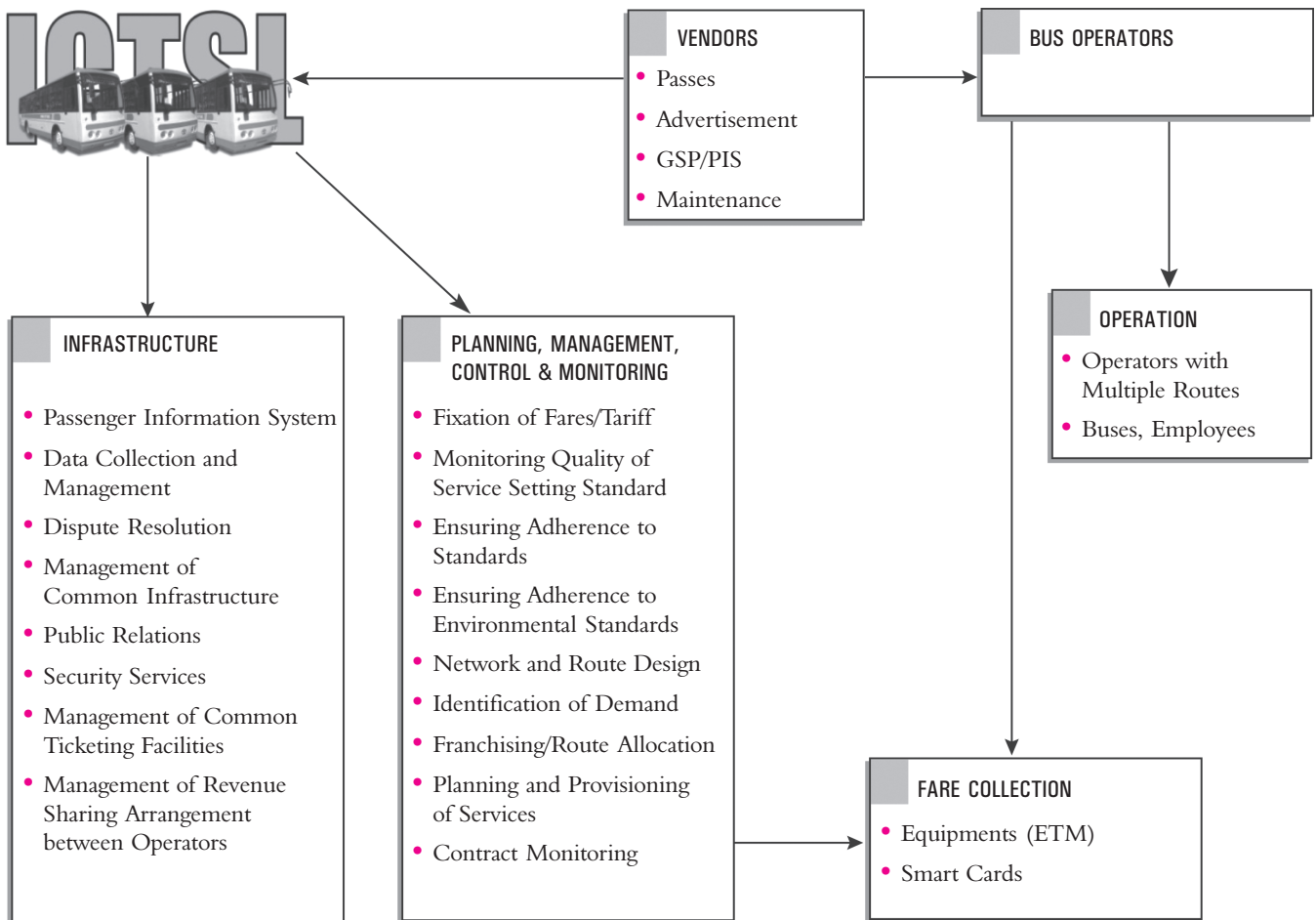


FIGURE 6.1.1: Schematic Presentation of Responsibilities of the SPV and City Administration

is considered before taking any major decision. The management and control of all operations are with ICTSL. To ensure uniform service and management the following measures have been taken:

- There is a centralized office for all operators and company officials.
- There is a uniform bus fare system and a single pass for all buses on all routes.
- Sharing of pass revenue is dependent on adherence to routes and timings.
- Salary structure across all operators is uniform.
- The staff wears a common uniform.
- Bus shelters are provided by the ICTSL and all buses are parked at the common premises.
- Global Positioning System (GPS) has been installed in all buses with central room to manage scheduling and reporting of operational details such as distance travelled and stoppages.
- All buses have mobile phones with close user group network.
- ICTSL has complete charge of the operators.
- ICTSL provides passenger information systems for the convenience of the commuters at all bus stops which shows on a LED monitor the exact time of arrival of the next bus.

ROUTE AND MANPOWER PLANNING

The city bus route network system has been scientifically planned and designed. Direction oriented hub and spoke pattern of routing has been adopted. Routes have been planned to ensure that office goers, students, and employees avail the services. It has been ensured that proposed routes cater to personal as well as work-place requirements. Colour coding of routes and buses and their numbering has been carried out in such a manner that a commuter may easily identify the bus stop and intersection for convenient commuting.

ONLINE GPS-BASED BUS MONITORING SOLUTION

A fully automated vehicle tracking system has been implemented to ensure that the buses reach the stop at a fixed

time. Any deviation from timing is corrected and controlled using GPS and real time tracking solutions from the state of the art control room. GPS-based On Line Bus Tracking System (OLBTS) is identified as a tool to ascertain service levels. The OLBTS provides estimated time of arrival that is flashed on display screens at bus stops as information to passengers. Moreover, it helps in operation of the city bus system by providing the log of exact kilometers travelled by a bus, control over unauthorized and unscheduled stoppages, and better kilometers per litre and earnings per kilometer.

TERMINALS AND BUS STOPS

Terminals provide the interface between the system and the users, as well as non-users. They are critical, such as to enable easy and efficient transfer within the system amongst different routes in the proposed route network system. They are also important physical elements in the urbanscape of the city. They are conveniently located, sensitively designed, and efficiently managed. ICTSL in association with Indore Development Authority is developing Inter State Bus Terminals at three strategic locations in the city keeping in view intercity and intra-city transport requirements.

Bus stops are important to facilitate easy, convenient, and safe access to the service. They must be within walking distance of the passenger. On an average, bus stops may be located at a spacing of 500–600 m. The bus shelters need to be sensitively designed so that they add to the aesthetic quality of the streetscape. On the aforesaid concept ICTSL in association with Indore Municipal Corporation has developed more than 300 bus shelters on different city bus routes.

TRAINING

Manpower is the most important aspect of a service company. Skilled and well-trained people drive the business and growth in a uniform and systematic fashion. Training need identification was carried out in the company and two different programmes were developed for the drivers and conductors.

The drivers and conductors are regularly trained in technical aspects by TATA Motors' engineers which gives them a feel of the buses and trains them on small maintenance issues. Another programme is conducted by the Traffic Department covering topics relating to traffic rules and driving styles. The idea behind this is to ensure safe driving and strict discipline on the roads.

The conductors are trained regularly by the Institute of Management Studies faculty on aspects of behaviour and culture required to provide exceptional customer

service and ensuring uniformity in service quality and standards. The programme includes activities and role-plays on customer handling and ensuring customer delight.

PROJECT IMPLEMENTATION

The implementation of the project was a challenge as it had to be accomplished in less than two months after incorporation of the company. A survey was carried out across the city to identify the major routes that would provide the maximum passenger traffic for finalization of routes. Eighteen such routes were identified and finalized taking suggestions from the traffic department.

Selection of Bus Model

Technical and Financial proposals were invited from various manufacturers and ultra-modern low-floor TATA Star bus was chosen to run on the streets of Indore. The buses are very well designed and their suitability to provide a universal mass transport system is unmatched.

Bids from Operators

A pre-bid meeting was hosted to explain the various aspects of business to the prospective bidders. The idea was presented and questions were answered. After clearing all the doubts of the operators, bids were invited. The operators actively participated in the bid process and the ICSTL allocated the routes to operators.

To ensure maximization of revenue from the buses, applications were invited from companies interested in taking the rights for advertising on the buses. Various advertisers participated and the highest bidder at Rs 25,000 per bus per month was given the contract.

The monthly pass system was the backbone of the financial model. There were various options like Route Pass, Daily Pass, Student Pass and so on but the company decided to keep it simple and start with a single pass for all priced at Rs 300. This would allow the passenger unlimited travel for a month on any bus on any route. The bids for issuing passes were invited and the company was ready to set up fifteen Instant Pass Centres across the city to issue these passes.

FINANCIAL PLANNING AND SOURCES OF REVENUE

Financial evaluation of the project was carried out in-house with the objective of determining its financial viability and assessing its potential for implementation within a commercial format. The financial model of the project suggested likely rate of returns for operators, bank, pass-vending agency, and the company. The main sources of revenue for the system are fare collection, advertising,

and bidding amount by private participants and share of revenue generated through monthly passes. Revenue sharing mechanism allows 80 per cent of the pass revenue and 60 per cent of advertising revenue to the operators besides their daily fare collection. Besides, there is also self-financing and income generating mechanism for bus stops.¹ The revenue generated through these stops is shared with the Municipal Corporation. The passenger information system display screens are another source of revenue to ICTSL. To further explore the additional sources of income to the company, ICTSL is executing a BRTS system in the city to meet demands of commuting passengers.

DAILY COLLECTION REVENUE

The main source of revenue for the operator is the daily fare box collection. On the current fare structure an average of Rs 5400 is collected daily per bus. 100 per cent of the daily collection revenue goes to the operator. This easily covers the cost of operations and EMI. Another advantage of giving 100 per cent fare box collection to the operator is that ICTSL doesn't have to keep staff for managing and checking collections.

BUS FARE

The fare has been devised to meet the twin objectives of equitable access to poor and incentives for upper middle class to opt for these buses over their own vehicles. A competitive fare is charged to provide healthy competition to mini buses and tempos. However, it is low enough to secure fullest utilization and high enough to ensure viability of the system.

ICTSL is now introducing the automatic fare collection system to provide more convenience to the commuters as well as ease of accounting for the daily fare collection. The introduction of smart cards shall bring the system at par with the best and the most efficient systems of fare collection in the world. The smart cards will allow congestion-free boarding on the buses while allowing the operators to concentrate on bus operations. The smart cards will be available both on-board and off-board.

The off-board system shall entail placement of main components like gates, validators and so on in the bus shelters. This will save the passengers boarding time. A Bus Control Unit (BCU) primarily used to issue paper tickets and scan smart cards will be placed on the bus. In the on-board system, the BCU will be placed in the bus. GPS and passenger information system linked to one central server will be placed on all buses to ensure effective monitoring and enforce punctuality. The new automatic fare collection system is now under implementation.

¹ Bus stops also need money to maintain them in spic and span condition, well lit with suitable arrangements for waiting passengers.

TICKET VENDING SYSTEM

Fully computerized electronic ticketing machines are used for issuing daily passenger tickets. The ticketing system has been finalized by the company to ensure common ticketing system for all operators. The software used in these machines is owned by ICTSL. This eliminates the risk of passengers being over-charged by the operators. The computerized ticketing system also helps in effective monitoring and control of conductors and management of ticketing data.

MANAGEMENT OF PASSES

One of the important sources of revenue to the company and the operators is the system of various kinds of passes. Revenue from a pass is shared in the ratio of 80:20 between operators and ICTSL. ICTSL in turn, shares its revenue with the pass vendor. ICTSL keeps 12.2 per cent on a new pass and 17 per cent on a renewed pass. The remaining amount goes to the vendor for processing, marketing, and delivery of passes. The system of issuing passes is being done through fifteen instant pass centers and a network of distributors and retailers. ICTSL has taken a minimum guarantee of issuing at least 15,000 passes every month from the vendor. This minimum guarantee of passes ensures an assured income of at least Rs 40 lakh per month to be shared between the ICTSL and operators.

ADVERTISEMENT REVENUE

Revenue from advertising on the coaches for this financial year 2006–7 has been tendered at the rate of Rs 25,000 per bus per month. 60 per cent of the advertisement revenue is given to the operators and 40 per cent is accounted to ICTSL. Further, revenue from advertising in Passenger Information System LED display screens at ICTSL bus stops and plasma screens within the buses are extra sources of revenue.

FINANCIAL RESULTS

The paid up capital of the company is Rs 25 lakh. This capital is subscribed by the Indore Municipal Corporation and Indore Development Authority in equal proportion. The profit available every year is proposed to be invested in infrastructural development for transport in Indore city. A broad breakup of cost and revenue is given in Figures 6.1.2 and 6.1.3 and projections are given in Table 6.1.1

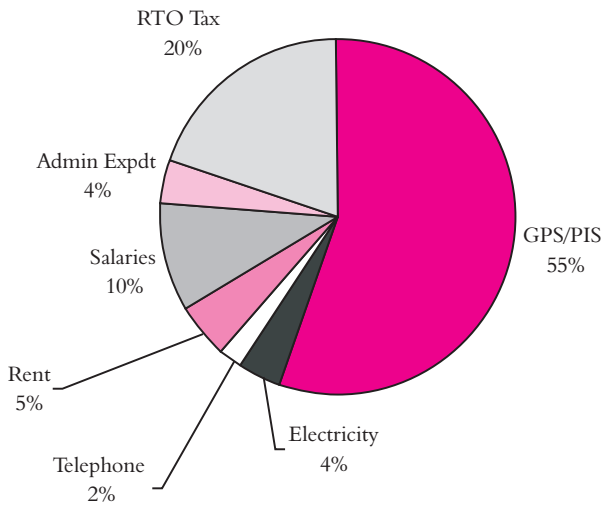


FIGURE 6.1.2: Break-up of Cost Elements

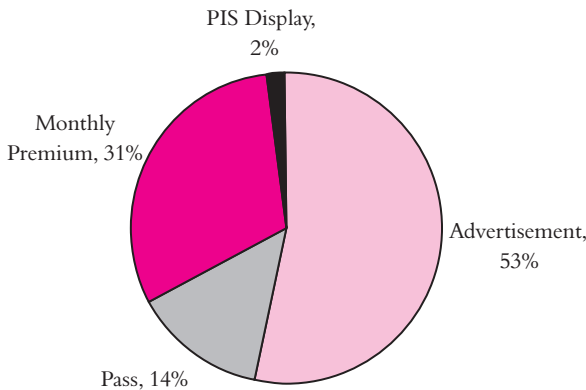


FIGURE 6.1.3: Break-up of Revenue Elements

TABLE 6.1.1
Financial Projection of FY06–08

Particulars	FY2006	FY2007	FY2008
Investments	0.00	0.00	0.00
Number of Buses	53	80	96
Revenue Collection (in Rs crore)	0.99	1.51	2.02
Profits (in Rs crore)	0.82	1.03	1.98

PROJECT BENEFITS

The city bus transport system by ICTSL has resulted in considerable change in the travel pattern within the city. The users of ICTSL derive direct benefits in terms of savings in travel time, safety, and convenience. Women, in particular, benefit from this service in terms of security and civil behaviour accorded by the staff. Non-ICTSL users also benefit indirectly in terms of savings in vehicle operating cost (VOC) due to reduced congestion on the road network as a result of new public transport facility and good health due to reduced pollution.

In a recent survey carried out by the Times of India, the Indore model got 92 per cent votes as the best model of public transport which can be followed in Delhi. The survey was done after a spate of accidents caused by the Blue line service of Delhi. In the last one and a half years cities like Bhopal and Jabalpur in MP, Kota, Udaipur, and Jodhpur in Rajasthan have adopted Indore model. Amritsar, Ludhiana, Jalandhar, and Patiala in Punjab are in the process of implementation of the same model. Raipur in Chattisgarh will be launching the service shortly. The Indore model has shown that it can be replicated in other Indian cities also. All the stakeholders in the system have made profits in the first year of operation. It is a win-win situation for the city government, citizens, the city government company as well as all private sector partners. The financial and physical sustainability of this system have been proved beyond doubt. It is a system now owned and approved by the citizens of Indore and with Bus Rapid Transport System (BRTS) coming up, the public transport system in Indore is set to grow and prosper further.

PLANNING FOR BRTS NOW

Encouraged by the success of the city transport services, the ICTSL is fast tracking the provision of quicker and more convenient services of international standard using the BRTS. This Rs 1200 crore project envisages construction of speedways dedicated for buses, offering the commuters a safe and rapid mode of conveyance along arterial routes. The peripheral routes will continue to be serviced by the existing ICTSL city buses, thus providing an integrated and economic solution to the transport needs of citizens. Further, the system is expected to provide much required incentive to the private vehicle owners to switch to the more convenient BRTS Buses.

A pilot project on a priority corridor from Niranjapur Square to Rajiv Gandhi Square (AB Road) is under execution. The project is proposed to be functional by December 2008.

The city is also developing River Side Bus Rapid Transit Corridor to decongest the city centre. While Indore has many North-South and East-West corridors, there is no Central Corridor which is vital to the transportation needs of the city since there are many trips made to this sector—in fact far exceeding the other corridors. Hence, to address this need, the River Side Corridor shall be developed by channelizing the river and streamlining its flow. This will provide open bank area to be raised and developed as bus lanes, pedestrian paths, and cycle lanes with a huge green buffer. This exclusive BRT and Non-Motorized Vehicle (NMV) route shall greatly decongest the traffic in the core central zone and encourage people to use the mass transportation system. Further, this will

reduce the level of pollution in the central zone of the city. A single bus lane on either side of river will carry almost 25,000–30,000 passengers per hour per direction.

The BRTS is an economic and fast mode of public transport system which is also environment friendly and

safe. The exceptional feature of the Indore model is that the best operational features of a mass transport system were adapted to a city bus system in an extremely short span of time and successfully implemented city-wide in a few months.

6.2

Hyderabad Metro Rail Model

Ranjan Kumar Jain

The government of Andhra Pradesh approved the development of the metro rail in Hyderabad as Phase II of the Multi-modal Transport System, in three high-density traffic corridors spanning 67 km, at an estimated cost of Rs 8482 crore, in PPP mode:

1. Miyapur—L.B.Nagar (29.87 km; 27 stations).
2. Jubilee Bus Station—Falaknuma (14.78 km; 16 stations).
3. OU (Hubsiguda)—Shilparamam (21.74 km; 20 stations).

It is an elevated metro rail, with two tracks (up and down lines) on a deck erected on pillars generally in the central median of the road, without obstructing the road traffic. Elevated stations with passenger access through staircases, escalators, and lifts will be located at an average interval of 1km. Adequate parking space and circulating areas will be provided as far as possible for multi-modal integration at the stations. With a frequency of 3 to 5 minutes during peak hours, the system is expected to carry about 16.75 lakh passengers per day by 2011 and 23.75 lakh by 2021.

With a maximum speed of 80 kmph, the average speed of the trains will be 34 kmph—an international standard for MRT systems. The travel time by metro rail from one end to another is 45 minutes for line I (30 km between Miyapur and L.B. Nagar) as against an hour and 50 minutes by bus; 22 minutes for line II (15 km from Jubilee Bus Station to Falaknuma) as against an hour and 10 minutes by bus; and 36 minutes for line III (22 km from Habisiguda to Shilparamam) as against an hour and 22 minutes by bus.

Good inter-modal integration will be provided at all the rail terminals, bus stations, and the MMTS (existing JV of GoAP and Railways) stations. The project will be implemented under the Metro Rail Act, to be enacted

by GoAP, on the lines of the model Metro Rail Act being prepared by GoI.

SELECTION OF PROJECT DEVELOPER

On the basis of a global Expression of Interest-cum-Request for Qualification (EOI-cum-RFQ), five international consortia were shortlisted by GoAP. The ‘Empowered Institution’ of the Government of India first considered the project for financial assistance under the viability gap funding (VGF) scheme and then allowed GoAP to proceed with ‘further short-listing of bidders’. Technical Proposal (TP) documents were then issued to all the pre-qualified bidders in May 2007. The last date for receipt of Technical Proposals from the bidders was 23 July 2007 and the bids were evaluated on ‘pass/fail’ basis, depending upon their conformity or otherwise to the performance criteria (mostly output-oriented), technical specifications, and safety standards indicated in the TP documents. Those who qualified in the TPs will be given the Request for Proposal (financial bid documents; model concession agreement; manual of specifications and standards; and state support agreement) by the end of August 2007 and they will have to submit their financial bids by the end of September 2007. The bidder who seeks the least financial assistance in the form of VGF will be selected as the BOT developer for the project.

FINANCIAL STRUCTURING

The project cost is expected to be around Rs 8482 crore. Government grant in the form of VGF is in the range of Rs 3277 crore constituting 39 per cent of the project cost. Equity of Rs 1638 crore comprises 19 per cent and the debt component Rs 3567 crore covers the last 42 per cent. Within the VGF scheme, 20 per cent of the project cost will be borne by GoI and the remaining (as may emerge

through the competitive bidding process) will have to be borne by GoAP. 11 per cent of the equity will be contributed by GoAP. Thus, the cash outflow for GoAP is estimated to be about Rs 1818 crore (Rs 180 crore towards 11 per cent equity and Rs 1638 crore for the part of the VGF) over a period of about five years. However, efforts will be made to get additional grant from GoI under JNNURM scheme to reduce GoAP's burden.

To make the project financially viable, the concessionaire will be allowed to develop real estate around the metro rail facilities at the three depots and above the parking/circulating areas at about 33 stations, where such development is feasible. The built-up area so developed (constructed by the concessionaire at his cost) can only be let out for rental during the BOT period. After the BOT period, the developed properties will have to be transferred to GoAP along with other assets of the project, as per the terms of the Agreement. With property development, the Internal Rate of Return (IRR) of the project is expected to be at 10.62 per cent and Return on Equity (ROE) is 14.06 per cent at 100 per cent of the projected ridership that is, 15.77 lakh passengers per day in the year 2011.

The project is highly sensitive to ridership numbers and the experience the world over is that the traffic materialization is short of projections. While no guarantees are being given for the traffic projections, well structured incentives for public transportation and dis-incentives for private vehicles will have to be gradually introduced to

make the metro rail project financially sustainable (as is the practice all over the world).

LEGAL ENABLING PROVISIONS

State support agreement has been signed to give the concessionaire free access to sites for building and operating the project; to provide the concessionaire with the applicable permits; to allow access to all necessary infrastructure facilities like water, electricity and so on at commercial rates.

The agreement also provides police assistance and traffic management assistance on payment of charges. The state government has also agreed not to levy any additional toll, fee, charge or tax on the MRTS facility.

FARE STRUCTURE

Rs 8 is proposed as the minimum fare and Rs 19 the maximum fare; hence, the weighted average fare per trip works out to Rs 12 in the year 2010. Fare escalation will be allowed once in two years, with up to 50 per cent of WPI linked increase.

The metro model will be the first project which is expected to use the model concession agreement developed by the Government of India to bring consistency and transparency in the execution of urban transport projects.²

6.3

The Dockland Light Rail Project Model— An Innovative Financing Model by a Sub-national Government

Anupam Rastogi and Shreemoyee Patra

Dockland Light Railways (DLR), a subsidiary company of Transport for London (TfL) was responsible for executing the Woolwich Extension Project, which involved the expansion of the highly automated and driverless railway system in the Dockland area of East London. This was part of TfL's five-year investment programme worth GBP (Great Britain Pound) 10 billion to improve the transport system for the Olympic Games to be hosted by UK in 2012.

A concession contract was entered into between DLR and Woolwich Arsenal Rail Enterprises (WARE), selected as the construction contractor through a process of highly competitive bidding amongst four other major groups. WARE is jointly owned by Amec and The Royal Bank of Scotland.

Under this model, the concession agreement as well as the project financing structure for the DLR project was

² See Chapter 1—The Infrastructure Sector in India 2007 of this report.

crafted in a way that transferred the entire risk of default on to TfL which, being a metropolitan authority, could ultimately resort to fare hikes. The PPP between TfL and DLR on the one hand and WARE on the other typified an innovative funding process that minimized costs of project financing.

SALIENT FEATURES OF THE CONCESSION

This is a thirty year fixed price contract wherein WARE was expected to design and construct the extension. DLR was not liable to make any payments to WARE till the construction was completed. Under the contract WARE was only responsible for the design and construction of the project. Operations & Maintenance (O&M) was not the responsibility of WARE which insulated it from the effects of future fluctuations in passenger fare.

While the fixed price contract essentially meant that what DLR owed to WARE would not change over thirty years with changes in costs of input and other services, a partial inflation indexation clause of availability fees was built into the contract to safeguard WARE's margins and cover for the risk borne by it during the construction period.

In an urban mass transport system, the nature of the projects' assets (like tunnel and railway system) is such that the risk of failure is high only during construction period. DLR transferred the construction risk entirely to WARE. DLR is liable to make the first payment to WARE only after the successful completion of construction. The contract laid down forty-five months as the construction period. To finance their operations during the construction period, WARE raised GBP 240 million by the following means:

- GBP 115 million through a 28.5 year syndicated bank facility from Royal Bank of Scotland and
- GBP 100 million 28 year bank facility from European Investment Bank.

These two signified long term repayment and low interest cost borrowings. The balance of GBP 25 million was raised from shareholders by way of loans or equity.

As per the terms of the concession DLR was liable to pay availability fees to WARE only after the commencement of operations. DLR is entitled to make deductions in payment in case the entire railways infrastructure was not made available to DLR or if the performance fell below the standards specified in the contract.

DLR entered into a separate O&M contract with a different party on a rolling seven to nine year basis. O&M costs have not been benchmarked in DLR's contract with WARE. WARE, being the original construction

contractors, would have been required to clearly lay down the standards, periodicity, and other details of maintenance costs. In the event that the actual O&M cost fluctuations do not remain within the specified range, recovery from the O&M contractor may not be viable beyond a certain level. This is a weakness in the contract from DLR's perspective and poses a risk for it.

In the event that the concession is terminated for WARE's default, DLR will pay termination compensation to WARE and its lenders based on the market value of the concession agreement, determined either by a market re-tendering process or a discounted cashflow basis. DLR's payment obligations on a termination of the concession are guaranteed by TfL. Thus, payment risk is borne entirely by the sub-national government.

PERFORMANCE EARNED PUT OPTIONS

The concession has another innovative financial product, namely, the Performance Earned Put Option (PEPO). It is essentially an agreement between TfL, DLR, WARE, and the leading lenders. In case of default in payment of syndicated bank loans by WARE, the leading lenders have the right to exercise the PEPO whereby 75 per cent of the outstanding debts are sold to TfL at reduced margins. This option is exercisable by the lenders only on the successful completion of construction and after two years of continuous operation. Since the asset risks are reduced substantially after the construction period, the lenders are required to reduce the margin on the exercise of this option.

From the lenders' perspective this is fair since they are operating in a reduced risk scenario. From TfL's point of view, the reduced margin matches the cost of its other current debts. TfL needs to pay-off the entire 75 per cent debt for which such financial options are exercised at the reduced rate of margin. Hence, this is a means of providing credit support by TfL at costs which match TfL's own cost of borrowing.

The margin on the pending 25 per cent outstanding loans, however, remains unchanged and needs to be serviced by WARE. The recovery from WARE in case of PEPO is made by way of suitable downward adjustment of availability fees by the client and once PEPO is exercised it becomes irreversible.

The 25 per cent outstanding loan which remains outside the purview of PEPO provides adequate disincentive and risk large enough for primary lenders to avoid exercising their rights under PEPO. In the very unlikely event of the market value of the project falling below the outstanding debts, DLR may be exposed to greater risk than in a normal PPP contract. Thus, PEPO is a good example of a financial product involving risk-reward trade-off.

DLR'S CALL OPTIONS

Operating multiple concession contracts simultaneously was a disadvantage for DLR as it sacrificed the benefits of economies of scale for O&M, leading to fragmentation of ownership of infrastructure under the entire DLR network. To overcome this, DLR reserved the right to terminate the contract with WARE at fixed prices on the eighth and the sixteenth year of the concession. These years coincided with the completion of other concession agreements within

the DLR calendar of events. The compensation payable to WARE was determined after detailed financial evaluation of all options across all scenarios, and also keeping in view the desired equity option price of the bidders.

The compensation, contractually specified, consisted of a component equal to the outstanding long term debts (including the cost of breakage) and an option price for equity. For DLR this provided a lower rate of return on equity, but acted as a cap on equity compensation payable by DLR where the concessionaire is outperforming.

6.4

UMTS for Hilly Areas: U-Dec Model of Ropeways

Ashvini Parashar

World wide, ropeways have been constructed by the government to meet tourism/infrastructure demand or by the private sector for tourism. In India, ropeways by the private sector as well as those set up by the government typically witness large delays to the tune of five to ten years due to forest land lease rights, social reasons or simply because of the loose agreements between the government agency and the investor. At the operational level, very few government-run ropeways are making cash profits and not many are generating book profits. However, private sector ropeways have been able to provide reasonable and, most of the times, rather attractive profits.

Passenger ropeways have enjoyed a unique positioning in the minds of tourism planners in the country as an alternative route to reach difficult hilly areas quickly, avoiding roadways; ropeways are novelties with their own tourism value and also with advantage in servicing skiing slopes.

The basic function of a ropeway is to carry passengers by pulling along a level or inclined path by means of a haul rope or other flexible element that is driven by a power unit. Ropeways can be classified by two main characteristics:

- Nature of their movement: Circulating systems or Reversible systems and
- Method of supporting carriers: Pulse gondola, Jig-back gondola, Detachable gondola, Bi-cable gondola, 3-S, Funitel, Dual-rope jig-back gondola, Aerial Tramway.

A typical ropeway system could also be configured based on ecological, social, and cultural factors which determine whether the system:

1. Minimizes the disturbance to the topography of the land and present usage patterns.
2. Fits into the ambience of the site and is aesthetic enough to enhance the tourism potential of the region.
3. Matches the cultural attitudes of the people who are to use it.

ROPEWAYS AS UMTS

Given the enormous expenditure involved in building ropeways as well as the rather volatile public sentiments attached to them, it is difficult to suggest ropeways as an urban mass transport system (UMTS). Unlike other UMTSs, a ropeway is usually located in a difficult terrain which makes it imperative for the system to meet exacting safety requirements in order to serve as a UMTS in the true sense. A number of factors must be taken into consideration while designing such a system:

1. Length of the system, required hourly capacity, terrain, maximum span required.
2. The security and comfort of all passengers including the physically challenged.
3. Minimum support facilities required for security, fire protection, and evacuation in case of emergency.
4. Climatic conditions such as: altitude and its physiographic complexity, direction of the ridges and location on windward and leeward sides, degree of slope and its aspect, intensity of forest cover, proximity to water bodies and glaciers, temperature, rainfall, hail storm and snow.

5. Power supply from the grid along with back-up with diesel auxiliary and backup drives for ropeway system and passenger amenities.
6. Alignment and grade: The cost may not change significantly with the difference in height of the starting station and terminal station. However, it would change significantly if loading and unloading is desired at more than two end stations or with turn angles.
7. Crossings: Crossing of electric lines, roads or habitations are often a cause of acute concern. It has been also found that in many hilly areas a geological fault line running between two terminal stations can cause serious problems.
8. Weather: Wind, rain, and fog are important considerations while selecting appropriate systems.
9. Other service conditions: Other service conditions such as night operation, evacuation, and HR norms and practices are also critical to the successful running of a service.

PPP IN ROPEWAYS

Keeping the above factors in mind U-Dec, an IDFC–Government of Uttarakhand JV, jointly with Uttarakhand Tourism Development Board (UTDB) developed a PPP model to build ropeways in the state. To begin with, a Ropeway Manual was prepared to factor in all the safety aspects related to ropeway projects under a PPP structure. The Ropeway Manual also provided guidelines to private developers in terms of understanding of the ropeway technology and issues critical to design, construction, operation, maintenance, inspection, and emergencies. Large Revenue Generating Projects Scheme (LRGP Scheme) of the Department of Tourism of Government of India was sought to be mobilized to fund the initial project development activities as well as for providing an assurance to the bidders that in case the project is reasonable, the project could achieve commercial returns for the

investors through a capital grant. Tariff fixation was pre-determined to ensure that the ropeways serving the religious places did not attract any adverse reaction from the tourist/visitors at a later date. The tariff structure was based on market surveys conducted as part of an initial feasibility study.

Further, it was made clear to the bidders that most of the projects came within forest reserve areas; hence, land title/lease from forest and clearance from the government agencies were to be obtained by UTDB, based on specific designs prepared by the private investor. The duration of concession was fixed at forty years, based on technical aspects of the initial set of projects.

SELECTION OF THE DEVELOPER AND BIDDING CRITERION

In the first stage of bidding, as there were not many developers who had enough experience in developing ropeways, prior experience of ropeway sector was not included as a mandatory clause. This enabled the client to target a wider set of investors. A combination of core sector infrastructure project experience and a reasonable set of financial qualification criteria was decided upon based on project requirements.

During the second stage of bidding, the least capital grant as quoted by the bidder was used as the bid selection criterion. Using this model, five projects have been bid out (Table 6.4.1).

PROGRESS SO FAR

The bidding process for the first two projects is nearly complete and the mandate could be awarded in the month of February 2008. UTDB has a target to develop and commission about twelve ropeways over the next three years. This compares well with development of about eight to ten ropeways in the state to date.

TABLE 6.4.1
Ropeways Projects in Uttarakhand that were Developed using PPP

Sr. No.	Location in Uttarakhand	Alignment Length (in Meters)	Vertical Lift (in Meters)	Technology	Approximate Project Cost in Rs crore
1.	Rambara to Kedarnath	3686	730	Mono-cable Detachable Grip /Bi-cable Detachable Grip System	40
2	Barrage to Neelkanth	5287	756	Mono-cable Detachable Grip /Bi-cable Detachable Grip System	40
3.	Snow View to Nainital Zoo	1576	140	Jig Back	25
4.	Binsar Road to Kasar Devi	143	56	Fixed Grip Pulse Gondola System	0.5
5.	Muni-Ki-Reti to Kunjapuri	3783 + 1090	852 + 370	Mono-cable Jig Back and Mono-cable detachable gondola	50

6.5

Mumbai Trans-Harbour Link and Western Freeway Sea Link Models

Sonia Sethi

Large water bodies define a country's borders and within a country, separate communities. Historically, mankind has sought to build bridges and links that transcend the natural barriers posed by water to 'get to the other side' as it were, in order to grow, trade, and prosper. Mumbai, a fine example of the gradual integration of seven islands into a nearly seamless urban agglomeration has been facing land constraints ever since the 1970s, with expanding size of both population as well as commercial activities. The need to connect Mumbai city with the mainland has been strongly felt in the last thirty years, more so now than ever, when the population of Mumbai is expected to grow at the rate of 3.1 per cent per year and is likely to reach 16 million by 2011.

The linear geography of the city restricts north-south expansion as this prolongs commuting time. Alternately, expansion to the mainland across the Mumbai harbour in Navi Mumbai offers immense potential provided permanent all-weather access is facilitated from Mumbai to the southern part of Navi Mumbai. The Mumbai Trans Harbour (MTHL) Link would decongest Mumbai and help in dispersal of population, catalyzing the development of Navi Mumbai by promoting horizontal growth and economic integration of Mumbai island and mainland. Projects like Mumbai Port Trust, Jawaharlal Nehru Port Trust, Navi Mumbai Special Economic Zone, Maha Mumbai SEZ, and industries on the mainland would benefit immensely as would organizations like City & Industrial Development Corporation, Navi Mumbai Municipal Corporation, and Mumbai Metropolitan Regional Development Authority. Another sea link, namely, Western Freeway Sea Link (WFSL) offers significant advantage given the fact that the commute time between north and south of the city has reached its limit and a permanent all-weather link can save travel time between the business district in south Mumbai and the business district in Bandra-Kurla and the Mumbai airport. However, the two sea-links have different purposes and their engineering structures may be similar their business models differ. The revenue expectations from toll are different in the two facilities because MTHL is expected to open up new opportunities for expansion while the WFSL is expected to improve connectivity between the north and south

Mumbai where a demand for such connectivity already exists.

For the MTHL project a 22 km long expressway link is proposed with a six-lane carriageway road bridge and rail bridge connecting Sewri in Mumbai side to Nhava on Navi Mumbai side. The project to be developed in three phases that is, main bridge, dispersal system, and rail link is proposed as a BOT model with an expected construction time of five years.

The WFSL project comprises of BWSL and WFSLII which envisages an eight-lane bridge from Worli to Haji Ali and six lanes up to Bhulabhai Desai Marg and further, four lanes up to Nariman Point. The rationale for the project is that the island city offers little or no scope for widening; additional links are required to decongest a highly saturated part of the city. The WFSLII would provide 'highspeed, uninterrupted, direct connectivity' between Worli and Nariman Point resulting in considerable time saving. The expected construction time is five years from the award of the BOT contract.

The DBFO Toll-based Model of MTHL and WFSL

For both the projects (with minor differences in the status of approvals) the concessioning authority has limited its participation in the PPP to the role of a facilitator and supervisor. The facilitation role could be requested in land acquisition, R&R, dialogue with other government agencies, access to infrastructure facilities, environment clearance, obtaining assurance of toll rate notification, and seeking financial support for the project from central/state government agencies. The specific model of PPP in these cases is the DBFO (Design, Build, Finance, and Operate) model, wherein the private sector entrepreneur is required to design, construct, finance, operate, maintain, and manage all the attendant risks in the concession period. The revenue model is based on income from toll collection.

Maharashtra State Road Development Corporation's share in the risk allocation is very limited. Thus, the brunt of almost all the risk categories that is, supply, operation, infrastructure, environmental, market, political, force majeure, forex, funding/interest, participant, engineering, completion, syndication, and legal falls on the concessionaire for all practical purposes. MSRDC expects to allow only

the conventional 70:30 debt-equity ratio for the MTHL, while tolling is the only source of income for the concessionaire (ancillary sources like advertising may not constitute a sizeable percentage of the cash flows given the volumes of the capex involved). At this stage, based on the projections of the traffic study and prevailing toll rates which can be raised only periodically (say, every four to five years), the project is not said to be financially viable. However, neither the financials of the project nor the minimal risk sharing role of the conceding authority seems to have deterred the bidders. It is pertinent to note that the projected toll figures are based on estimates of latent demand which may be galvanized when the facility is available. Having said that, at one stage in the bidding process, when only one consortium qualified at the RFP steps, it was touted as an indication of low market interest in the project. However, soon another consortium led by REL went to court challenging MSRDC's decision of disqualifying it on financial grounds. Eventually the SC settled the matter in favour of REL. The argument put forth here is not about going into the nitty gritty of the bid process but to highlight that despite the projection on financial viability not being pitched as too attractive, we now have two impressive consortia in the fray to grab the deal. Certainly the returns on investment from the point of view of the bidders exceed the cash flows estimated through toll revenues.

Unlike MTHL, in the case of the WFSL II, demand can be estimated with a degree of certainty because the project aims to decongest roads leading to south Mumbai

and demand for space on these roads is known. But, it has been found that toll required could be prohibitive if a concession period of less than forty years is considered. Hence, after due deliberations to make the WFSL II project financially viable the following proposal was recommended. First, provide the concession based on capital grant available from viability gap fund and second, integrate Bandra–Worli Sea Link (BWSL) with WFSLII facility, where the former is being executed by MSRDC through a construction contractor. By structuring the project so that BWSL and WFSLII are integrated, not only will traffic volumes to the sea link increase but the concessionaire of WFSLII will get the right to toll BWSL as well. This could greatly enhance the attractiveness of the project in the eyes of the bidders. Thus, while the winning bidder gets the toll rights to BWSL along with WFSLII from January 2012 till the end of the fixed concession period of forty years, he also takes up the responsibility of O&M of BWSL along with WFSLII for the said period.

In conclusion, given the absence of major state support (that is present in sea link projects elsewhere in the world), these two models of sea-links reveal that the pay-off matrices of sea links with high levels of capital expenditure are quite different. The two models reveal an interesting and innovative project structuring solution that addresses the decades-long debate on resource mobilization and execution challenges in such ambitious infrastructure initiatives.

6.6

Sukhobrishti Model of Affordable Housing and New Townships

Bhaskar Chakrabarti and Runa Sarkar

BACKGROUND

With more and more people thronging to Indian cities, urban real estate markets are experiencing tremendous demand pressures leading to disproportionate price escalations. The higher income groups in the country have much higher purchasing power today than in the 1970s or 80s. Major housing projects find this section of consumers most attractive and naturally target their aspirational housing needs. While only a few projects address the needs of the middle-income groups, almost no projects are developed for lower-income groups. The housing sector

is significantly skewed in the supply side making it a serious developmental concern.

The *Sukhobrishti* (Shower of Joy) project is a mass housing development project of the West Bengal Housing Infrastructure Development Company (WBHIDCO) (concessioning authority) and the Bengal Shapoorji Housing Development Pvt Ltd (concessionaire), which is constructing low-cost houses in New Town (Rajar Hat), Kolkata for 20,000 families. The Sukhobrishti model attempts to capture the organic growth of urban centres near existing cities and provides mass housing for the emerging middle class.

THE SUKHOBRIHTI MODEL

THE GENESIS OF THE SUKHOBRIHTI PROJECT

WBHIDCO advertised for an expression of interest (EOI) from companies in 2005 to develop an area of 150 acres in Rajar Hat for mass housing. The EOI published by the WBHIDCO mentioned that SPVs or JVCs could apply provided they had an average annual turnover of Rs 200 crore or more in the relevant field during the last four years.

In order to make the criteria of selection transparent, ten parameters, each carrying a maximum of ten points, were pre-determined by the WBHIDCO. The parameters were: (a) age of the company, (b) the profile of the company (public limited with maximum score and private limited with low score), (c) construction experience in years, (d) turnover in the field of construction, (e) work in hand, (f) manpower profile (more personnel getting more points), (g) equipment in hand (value of equipment to be scored, more value getting more points), (h) price quoted for the proposed flats (less value getting more points), (i) net worth of the company (more value getting more points), and (j) presentation before the review committee of WBHIDCO with details of the master plan, quality of materials to be used, and so on.

Out of the companies who applied, Bengal Shapoorji Housing Development Pvt. Ltd., the highest scoring bidder was selected. Bengal Shapoorji is a part of the Shapoorji Pallonji group, a leading construction company in the country.

MODEL SPECIFICATIONS

The price of an LIG unit is less than Rs 3 lakh, and that of an MIG unit below Rs 6 lakh. This is the largest social housing initiative in a single location in India, and reinforces the role of the state government in providing economically viable housing for all.

As there are 20,000 flats altogether, according to the Municipal laws, the Sukhobrishti complex is a 'B' category municipality complex eligible for proper social infrastructure including a health care centre and two ten-room primary schools. A shopping arcade of about 400 thousand sq. ft., along with speciality retail stores, banks, and a post office are also planned.

WBHIDCO and Bengal Shapoorji have allocated the responsibility of providing different amenities to different public agencies. For instance, the WB Government is expected to lay a well-defined road network to provide proper connectivity to the area—this would include

covered and open parking spaces for cars and two-wheelers. A centralized water storage system would be developed which would sustain the entire complex with its network of water supply, drainage, and sanitation, to be done by the Kolkata Municipal Corporation.

Given the absence of HIG units in the Sukhobrishti plan, there is deep scepticism about its viability. It is conjectured that if highly priced HIG dwelling units are not sold there will be no way of cross-subsidizing the MIG and LIG units and it is impossible for the construction to be carried out with the modest prices envisaged. However, the project is not as 'lost' a cause as many would imagine. Although same-complex cross-subsidization was not planned for Sukhobrishti, WBHIDCO decided that the preferred bidder for the project would be offered 50 acres of land in the New Town at a sub-market price. The contractor would be free to engage in any profit-making real-estate business in this land subject to the condition that he would not wait to generate profits from here before starting the construction of Sukhobrishti. Work on Sukhobrishti would have to run concurrently. Bengal Shapoorji plans an IT/ ITES industry in the 50 acre complex that was given as an 'incentive' to them. This is a combination of a cross-subsidization and a public leverage model wherein the construction company is incentivized to use the revenues generated from the 50 acres given for real estate development to cross-subsidize the LIG and MIG units.

While cross-subsidization is a known business model for state-funded housing companies, public leverage occurs where governments use their legal and financial resources to create conditions that they believe will be conducive to economic activity and business growth. By giving Bengal Shapoorji the 50-acre land at a rate lower than the market price, the government has used public funds as a mode of subsidy. The timescale of operations is medium term, and closed-ended. In this case IT/ ITES industry, a focus of the Government of West Bengal also benefits from this strategy.³ By doing this, the government has encouraged and induced private sector decision makers to align with public policy goals. Public leverage has a particular significance in regeneration strategies for disadvantaged communities, and the WBHIDCO has appropriately used Bengal Shapoorji as the means for realizing the goal of low-cost housing for the masses.

SPANDAN AND SPARSH

Spandan and Sparsh are the two residential complexes envisaged within Sukhobrishti. Spandan will consist of

³ Skelcher, Chris (2005). 'Public-Private Partnerships and Hybridity', in Ewan Ferlie et al. (eds), *The Oxford Handbook of Public Management*, Oxford University Press, New York.

12,000 one-bedroom apartments constructed on stilts (parking) plus four floors with walk up stairs. Carpet area of each apartment will be 320 sq.ft.; parking space would be available at additional cost. Two adjacent housing blocks would share a sky garden each to serve as a community space. Sparsh will consist of 8000 two-bedroom apartments, built on stilts plus 14 floors, with elevators. Carpet area of each apartment in this complex will be 480 sq.ft. each, and two sky gardens have been designed in each cluster to serve the purposes of recreational and community

activities as well as ventilation. WBHIDCO, for the purpose of this project, has defined carpet area differently from other real estate constructions, as one that includes useable floor area within the apartment to be measured without finishes plus internal wall area.

The Sukhobrishti model demonstrates a viable strategy by which state governments can build new townships without incurring huge costs and provide housing complexes with civic amenities at prices affordable to emerging middle class families.

6.7

Emerging Models of Financing Commercial Real Estate in India

Piyush Tiwari

INTRODUCTION

Internationally, commercial real estate finance has evolved as a sophisticated mechanism to finance an asset which was traditionally private in nature. Over a period of time, real estate has emerged as a separate asset class and offers a number of direct and indirect investment opportunities. In the broadest terms, real estate involves land and improvements to the land. Real estate offers a bundle of legal rights (to use, improve, modify, redevelop, sell and so on) to the owners and these bundles of rights could be partly or fully traded in the market. Real estate is not a productive asset in itself but is an important input in any production process.

This chapter provides an overview of emerging models of financing commercial real estate or income producing real estate, both in India and abroad. Income is generated as rents or implicit rents and/or capital gains upon sale of assets. We define commercial real estate assets by types of use—office, retail, industrial, hotel, and so on. The main driver for the commercial real estate is the economy. A strong outlook for the economy heralds a strong prospect for commercial real estate value and a weak outlook does precisely the reverse. India is the second fastest growing economy in the world. The service sector (which includes among others, IT, real estate, and construction) contributes around 55 per cent of country's GDP and is its fastest growing sector. Services sector is expected to grow at 11.2 per cent during FY 07 and industry would grow at 10 per cent. Manufacturing sector has

the potential to grow at a faster rate but requires certain reforms in labour laws and infrastructure.

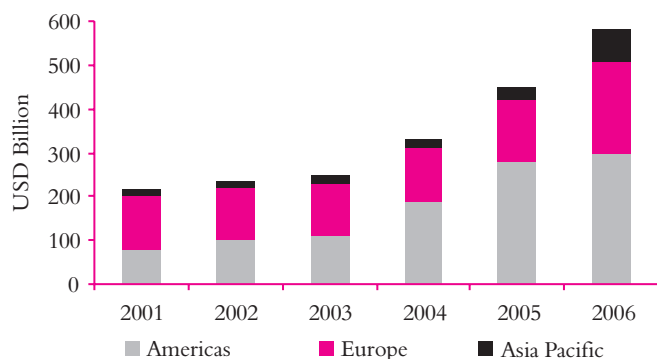
SIZE OF REAL ESTATE

According to an estimate by RREEF (a member of the Deutsche Bank Group), the value of globally invested commercial real estate market was around US\$ 10 trillion in 2006. Invested market is that part of the real estate market where the space is owned by professional real estate investors, such as money managers, funds, private investment vehicles, listed companies, and institutions. This market is only two-third of the investible market, which also includes investment grade space that is owner occupied. US accounts for more than a third of investible stock (around US\$ 5.6 trillion) and around 85 per cent is already invested. Other major markets that have a large proportion of invested real estate are Japan, UK, and Germany. 90 per cent of around US\$ 1 trillion investible stocks in the UK have already been invested.

The last decade has been the 'golden period' in the history of real estate. Over the past five years, real estate delivered strong absolute and relative performance at far lower volatilities than equities worldwide. During 2000–5, global real estate has generated around 10 per cent annual total returns, compared to 3 per cent for equities (RREEF, 2006). The sustained strong investment performance of real estate has led to increased interest in the asset class from a wide range of institutional, retail, and high net worth investors. This has led to a surge of

investment activities across most global real estate markets, with turnover more than doubling over the past three years to reach close to US\$ 600 billion during 2006 (RREEF, 2007).

Investment activity remains concentrated in a small number of countries, with the US accounting for 53 per cent of turnover, and the UK a further 16 per cent. Although the US continues to dominate investment activity, the greatest percentage increases have been in Asia and Europe, reflecting the increasing maturity and liquidity of these markets (Figure 6.7.1). Another important real estate trend during the past five years has been in terms of cross border investment. In 2006, the volume of cross border investment increased three times compared to 2001 (RREEF, 2007) to US\$ 116 billion. An interesting trend over the last five years has been an increase in cross-continental investment activity indicating a trend towards unifying global property markets (Table 6.7.1). American and Asia Pacific investors have been the most active, spending US\$ 28 billion and US\$ 16 billion in 2006 outside their respective regions. Asia Pacific region received a huge volume of capital investment (particularly in Japan which accounts for half of the investment activity in the region) and the volume of international investment has increased five times to US\$ 63 billion since 2001 (ibid.). Investment



Source: RREEF (2007).

FIGURE 6.7.1: Real Estate Investment Trends

TABLE 6.7.1

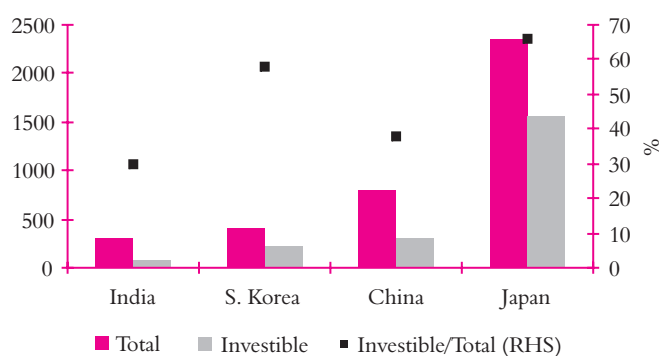
Cross Continental Investment Activity 2006 (Billion US\$)

Sources of capital	Destination of activity		
	America	Europe	Asia-Pacific
America		23.4	4.4
Europe	4.7		0.7
Asia-Pacific	7.1	8.7	
Total cross-regional	11.8	32.1	5.1
Total cross-border	20.0	84.4	11.9
Total transaction	311.0	212.5	63.1

Source: RREEF (2007).

in Japan is driven by Japanese Real Estate Investment Trusts (J-REITs) and unlisted markets which grew by 40 per cent and 60 per cent respectively during 2006.

Emerging markets like India, China, Brazil, and Mexico have only a tiny proportion of the market that is institutionally invested. Figure 6.7.2 presents the total and investible stock in select Asia Pacific countries. Despite phenomenal economic and property market growth in India the size of investible commercial real estate stock is worth only US\$ 83 billion because a large chunk of real estate stock (worth US\$ 300 billion according to an estimate) that exists is not investment grade (RREEF, 2006). Though in overall terms Indian commercial real estate is the fourth largest in Asia but in comparison to Japan or China, the size of the market is quite small. The size of invested market in India is tiny at US\$ 4 billion and most of this is privately held. However, India is adding real estate stock at the fastest rate in the world. During 2007 and 2008, around 300 per cent of total stock is projected to be added despite an expected slowing down of the real estate cycle. According to RREEF (ibid.), India would add 700 million sq ft of office space valued at US\$ 35 billion. With a strong economy, a billion people, and at an early stage of urbanization, there is a lot of room for growth. This is reflected in the relatively higher real estate yields



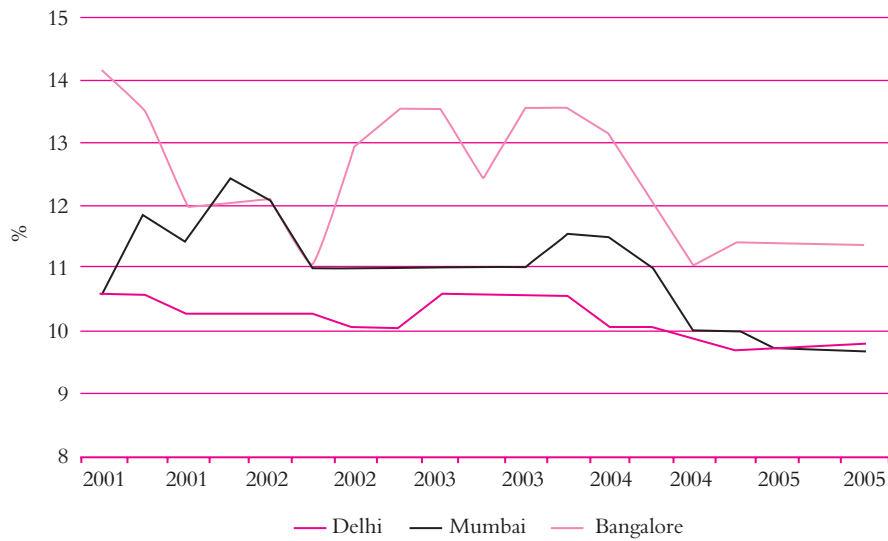
Source: Based on RREEF (2006).

FIGURE 6.7.2: Total and Investible Stock in Select Asia Pacific Countries

in India. Yields from Grade A office space in major cities is around 10 per cent (Figure 6.7.3) and returns from development activity range from 20 per cent to 40 per cent.

OWNERSHIP OF COMMERCIAL REAL ESTATE

Matured markets have a high share of institutionally owned real estate. In these markets the share of owner occupied real estate constitutes only 30–40 per cent of the total stock. In India, on the other hand, most of the stock is owner occupied. Publicly traded vehicles are in



Source: JLL.

FIGURE 6.7.3: Prime Grade A Office Market Yields

their early stages of development. They represent less than 0.5 per cent of the Indian real estate capital universe. The institutional property investment market in India is still at an evolutionary stage. 5 per cent of investible stock is invested. This implies that 98 per cent of all Indian commercial real estate is owner occupied. Compared to other Asian markets like China (80 per cent), South Korea (80 per cent), and Japan (60 per cent), owner occupied stock in India is very large.

EMERGING MODELS IN INDIA

At the global level institutional real estate industry has transformed substantially over the last five decades. Changing needs of capital users and providers, regulatory shifts, advances in financial engineering and risk management methodologies, as well as new opportunities created by cyclical and secular changes have led to a wide array of investment vehicles and strategies (Conner and Liang, 2003). Institutional investing in real estate started with mortgages and direct property, then gradually expanded into public securities (like Real Estate Investment Trusts or REITs and shares of listed companies), opportunistic and value-added investments (ibid). Developments in risk management tools and sustained performance of property markets have attracted institutional investors to private equity investments in real estate companies.

Figure 6.7.4 presents four buckets of capital sources for commercial real estate. Columns represent public or private market and rows represent equity and debt. Four combinations emerge based on market and nature of funding—private equity, private debt, public equity, and public debt. These combinations represent the four

buckets as mentioned earlier. Whole mortgages are private mortgage investments (debt) typically provided by banks and financial institutions to property developers or investors in real estate. Mortgages are non-recourse loans which stay on the balance sheet of lenders for the full term or until repayment. A number of structured debt instruments have been developed which provide depth to the simple mortgages and exploit the risk–return characteristics of property investments. Structured debt investments, such as commercial mortgage backed securities, synthetic mortgages and hybrid vehicles, are categorized under public and private markets. Innovation in risk measurement, which has allowed structuring of investments according to risk–return profile, has permitted the structured debt market to create fundamentally different instruments that appeal to different investors. Public securities include REITs, stocks of listed property companies, and in select international markets, publicly listed property unit trusts. Traditionally, private equity in real estate used to be the direct investment in properties. Private equity mentioned in Figure 6.7.4 has the traditional meaning. This definition, however, is different from private equity investment outside real estate industry where private equity means corporate-level investment. Later in this chapter, private equity refers to the latter definition and would mean corporate-level investments in real estate companies.

Figure 6.7.4 also presents the volume of capital flows in each of the four categories. The global trend indicates that though private debt is the major source of investment in real estate, the public capital markets also contribute nearly US\$ one trillion. The overall volume of capital flows into real estate in India is a very small proportion of global

<p style="text-align: center;">Public</p> <p>Equity</p> <div style="border: 1px solid black; padding: 5px; margin: 5px;"> Global: US\$ 450 billion (2005) India: US\$ 1.6 billion (2005) </div>	<p style="text-align: center;">Private</p> <div style="border: 1px solid black; padding: 5px; margin: 5px;"> Global: US\$ 700 billion—of which 70 per cent is REITs (2005) India: US\$ 7 million—listed companies (2005) </div>
<p>Debt</p> <div style="border: 1px solid black; padding: 5px; margin: 5px;"> Global: US\$ 4250 billion (2005) India: US\$ 2.5 billion (2005) </div>	<div style="border: 1px solid black; padding: 5px; margin: 5px;"> Global: US\$ 240 billion (2005) India: very small, mainly corporate bonds. </div>

Source: RREEF (2006).

FIGURE 6.7.4: Capital Sources for Real Estate

capital flows in real estate. Private debt is the most important source of financing real estate in India accounting for nearly 60 per cent of all institutional real estate investments (RREEF, 2006). During 2001–5, bank lending for commercial real estate increased by 500 per cent from US\$ 0.5 billion to 2.4 billion boosted by low interest rate and a vibrant real estate investment market. Private equity finances 40 per cent of all institutional real estate investment and is growing at a whopping 40 per cent per annum. The last few years have seen phenomenal activity in private equity market. There is at least US\$ 8 to 12 billion in listed and private equity funds waiting to invest in real estate. One-third of this has been raised globally by listed funds and the remaining has been raised by domestic and global private equity funds such as IL&FS Realty, India Advantage Fund, HDFC Real Estate, Kotak India Real Estate I, Kshitij Venture Capita, JP Morgan India Realty, Peninsula Realty, and Horizontal International. The scope of private equity that has been raised during the last two-three years goes beyond the traditional definition of private equity and includes various forms of capital markets arbitrage between different segments (public, private, equity, debt) of the real estate industry's capital base.

Public debt market, comprising corporate bonds and commercial mortgage backed securities (CMBS) is in early stages of development. CMBS is a very tiny component of mortgage backed securities (MBS) market and most MBS deals have been residential mortgage backed securities (RMBS) deals. Uncertainty over foreclosure laws, high stamp duty, and restrictions on mutual funds to invest in MBS (MBS till very recently were not included in the definition of securities thereby forbidding mutual funds to

invest in securities created on mortgages) had limited the development of MBS market. However, with the enactment of the Securitization and Reconstruction of Financial Assets and Enforcement of Securities Interest Act 2002 (which allows lenders to foreclose properties without going through lengthy court procedures), rationalization of stamp duty in many states in India (some states still have very high stamp duty and transfer of interest in mortgages attracts stamp duty), and inclusion of MBS in the definition of securities under Securities Act, the necessary conditions for development of CMBS have been created. Public equity market in terms of REITs or Real Estate Mutual Funds (REMFs) do not exist. The only public equity market for real estate that exists is for listed property companies. During 2006–7, a number of real estate companies like DLF, Sobha, Parsvnath, have successfully raised capital by diluting their equity on Indian capital market, clearly indicating capital market appetite for real estate assets.

Another source of equity finance for developers has been through off-shore equity raisings, primarily on alternate investment market (AIM) London. Nearly USD 2.9 billion was raised collectively through IPO on AIM during the second half of 2006. Investor-developers like Trinity Capital, Eredene Capital, India Hospitality Corp, Ishaan Real Estate Plc, Unitech Corporate Parks Plc, Hirco Plc have used this route to raise capital for FDI compliant real estate projects in India.

PUBLIC EQUITY—REAL ESTATE INVESTMENT TRUST MODEL

REITs have established themselves as the major investment vehicle for institutional and retail investors in

matured markets. Although there are no REITs in India at present these would soon be an important vehicle for investment in real estate as SEBI is finalizing guidelines for the introduction of REMFs under Mutual Funds Act and would consider framing guidelines for REITs in the near future. According to a research by CB Richard Ellis (CBRE, 2006) companies like UTI, Prudential ICICI, HDFC, Tata Asset Management, IL&FS, Milestone Capital and so on have expressed interest in launching such products. Some of these companies have already launched successful venture capital funds for investment in real estate which they will consider listing as REMFs once SEBI finalizes the guidelines. There are, however, certain operational and regulatory issues related to REMFs that need to be resolved. The press release by SEBI allowed REMFs to invest directly and indirectly (in the form of investment in securities of real estate companies or mortgage backed securities) into real estate but the operational requirement that NAVs of listed REMFs should be declared on a daily basis makes it a tough requirement to meet (SEBI, 2006). Declaring NAV on a daily basis is difficult in case of real estate mutual funds given the lack of transaction history and opaqueness of market. This requirement would be difficult to meet, particularly for under developed projects.

There are other regulatory issues like high property taxes and stamp duty which have led to non-registration of property transactions and transfer of properties through the 'Power of Attorney' route in some cities. High stamp duty has led to cash-based transactions routed through various shell companies. Involvement of multiple agencies in the planning process for development projects leads to enormous cost escalations and causes substantial delays. These factors hamper transparency in the real estate sector in India. According to the Moody Rating Agency and ICRA (2007) report, basic information like number and size of projects being executed by any given property group, end use of customer advances, nature of consolidated indebtedness, and fund flow within the group are not easily available.

The scale of development activity and the maturing real estate market mean that Indian real estate market is set to grow strongly over the next five years. The capital market has strong appetite for real estate as has been demonstrated by recent real estate IPOs. SEBI's guidelines regarding REMFs would pave a way for investment in real estate through listed real estate operating companies. However, establishing REITs would require changes in tax and legal framework besides increase in property industry's transparency and disclosure levels. There is also market pressure to establish REITs as there is a trend towards cross border listings in the Asian REIT market. Singapore's conducive REIT regulatory regime and

relatively competitive tax system have favourably positioned Singapore to draw an increasing number of cross border REIT listing and establish Singapore as regional REIT hub. Recently Ascendas have raised funds to invest in Indian real estate through an REIT vehicle listed in Singapore.

Many developers have used AIM as the easier route to raise capital abroad. AIM offers easier norms for listing securities and has proved attractive for developers.

EMERGING TRENDS

There are forces of transformation that are putting pressure for changes in the ownership structure of commercial real estate. The last decade saw phenomenal growth in competition for corporate real estate at the global level. Companies in matured markets have outsourced their non-core activities to emerging markets and India has been the largest beneficiary of IT/ITES and BPO related outsourcing. In emerging markets there is a trend towards consolidation towards areas of competitive strengths and expansion. Conditions like pressure to divest real estate out of non-core activities, favourable property market indicators, and liquidity created by private equity are putting pressure for sale and leasebacks. Sale and leasebacks are obvious candidates for investment by private equity (like in the UK) and REITs (like in Japan). Though sale and leasebacks are happening in India, their volumes are small in global terms.

Another major real estate development/investment opportunity that exists in India is in Special Economic Zones. SEZs are duty-free enclaves created under SEZ Act 2005, with streamlined procedures, tax breaks, and good infrastructure to attract investors in export oriented industries. In addition, the SEZ Act provides for establishing Free Trade and Warehousing Zones allowing for trade transaction in free (convertible) currency. SEZ Act allows 100 per cent foreign ownership in the development and establishment of zones and their infrastructure facilities. Indian government has approved 362 SEZ proposals and granted in-principle approval to 176 SEZ proposals. The total size of development for approved SEZs is on a land area of 49,000 ha spread over a number of cities in India. The scale of development is large and does offer investment opportunities for private equity funds and REITs.

There is another large source of finance waiting to be unleashed—Indian pension funds. Indian pension funds are highly regulated and risk averse. They are mandated to allocate at least 60 per cent of their investment to government securities or other approved securities. Though they are the second largest private equity funds, their exposure to real estate is very small. The same holds for

insurance companies as well. Once regulations governing these institutional investors relax, they would be looking for investing in REITs and CMBS. Successful IPOs of

listed property companies indicate strong retail investor appetite for investment in real estate and REITs could offer that opportunity.

6.8

Indian SEZ Model

Piyush Tiwari

BACKGROUND

India formulated the Special Economic Zones Policy in April 2000 with the objective of establishing SEZs, which remained within the precinct of Foreign Trade Policy from 1 November 2000 to 9 February 2006. In May 2005, the Special Economic Zones Act, 2005 was passed by the Parliament which received Presidential assent on 23 June 2005. The SEZ Act 2005, supported by SEZ Rules, came into effect on 10 February 2006.

The concept of SEZs is not new to India and the present SEZ policy is an extension of the earlier Export Processing Zone (EPZ) Policy. EPZ policy was aimed at setting up of export processing zones with incentives for promoting export-oriented industries. The first EPZ with tax benefits was established in 1965 at Kandla. As a policy measure to promote exports, the concept of EPZs has been adopted in many developing countries. In some countries EPZs have close variants like Free Trade Zones (FTZs) or Free Economic Zones (FEZs). There were 176 such zones in 47 countries in 1986 but by 2003 the number of zones increased to more than 3000 in more than 116 countries (Aggarwal, 2005). Table 6.8.1 presents the number of EPZs/FTZs/SEZs/FEZs (hereafter trade zones) in select countries (excluding India).

TABLE 6.8.1
Leading Trade Zones' Locations

Country	No. of zones	Annual Exports (US\$ billion)
USA	266	20.0
China	190	12.0
Indonesia	115	4.2
Philippines	100	27.0
Thailand	30	4.7
Sri Lanka	9	1.2
Bangladesh	6	1.2
Taiwan	5	6.1
Pakistan	4	0.1
South Korea	3	5.0

Source: Rao (2004).

In 2004, India had thirteen EPZs/SEZs which contributed US\$ 1.3 billion to the country's exports. Since then the number of these zones has increased substantially. Their contribution will be reviewed later in this chapter.

Trade zones have helped in promoting foreign direct investment and export-oriented industrialization strategy in many developing countries across Asia, Africa, and Latin America. However, the impact of these zones in meeting intended objectives has varied substantially across these countries. Table 6.8.2 presents the contribution of trade zones in a country's exports.

TABLE 6.8.2
Contribution of Trade Zones to National Exports

Country	Per cent of total exports
Dominican Republic	81
Mauritius	77
Philippines	67
Costa Rica	51
Turkey	45
Sri Lanka	37
Bangladesh	20
Taiwan	<5
India	<5
Brazil	104
Pakistan	<1

Source: Rao (2004).

There are important differences in the scope and scale of SEZs in comparison to EPZs in India (Table 6.8.3).

SEZ MODEL OF INDIA

Based on the experiences with trade zones in India and elsewhere (particularly China), the present policy aims at ameliorating problems which EPZs in India had faced. A major difference between the present SEZ policy and EPZ policy of earlier decades is in the prevailing general economic and institutional environment in the country.

TABLE 6.8.3
Comparison of Salient Features of EPZs and SEZs

Feature	EPZs	SEZs
Objective	Export manufacturing	Integrated development
Location and size	Small areas (usually less than 2 sq km), enclave operations	Large areas (usually more than 100 sq km in countries other than India), linked to internal market
Activities	Restricted to export oriented goods	Internal, domestic, and export oriented
Import tariffs	Restrictions on duty free imports	Full duty free imports
Export requirements	Restriction on sales in domestic market	No export requirement
Labour	Restricted labour regime	Liberal labour regime
Residents	No residents	More like township development
De-regulation of utilities	Limited	Completely deregulated
Administration	Limited powers to authorities	Empowered administrative structure (single window structure)

Source: Based on Rao (2004).

The economy has grown at a sustained rate of around 8 per cent over the last three years and the growth expectations are excellent. Institutionally, the industrial licensing system has been substantially liberalized, the import substitution industrial policy of yesteryears has been replaced by proactive export-oriented policies, and tariffs on trade have been rationalized. Reliance on the private sector for industrial infrastructure development and investment is far greater than during the 1970s. The external economic environment has also changed substantially. There is much larger volume of trade between countries and a large volume of foreign direct investment (FDI) flowing into countries beyond the traditional triad (Europe, Japan, and the USA). China is the major recipient of FDI among developing countries. China has successfully attracted exports related FDI and also succeeded in labour intensive exports. SEZs have played an important role in Chinese success with FDI and labour intensive exports (Planning Commission 2002). Many of the policy reforms that are politically challenging in India were equally difficult in China. China, however, successfully implemented these reforms in their SEZs and later expanded those reforms to make them wider and deeper (ibid.). These examples from other economies set benchmark for assessing the scope and potential of SEZs in India, which were not available when EPZs were set up. Another important difference is in the governance structure of SEZs compared to EPZs. These conditions play an important role in the success or failure of SEZs and need critical assessment.

In this chapter we assess the role of the prevailing economic and institutional environment in the success or failure of trade zones and lay down key factors for success of SEZs in India.

THE SEZ POLICY

Poor infrastructure has often been criticized as one of the major factors inhibiting the development of internationally

competitive industrial sector in India. Inadequate infrastructure also deters foreign companies looking at India as a manufacturing base (The Economist, 2007). Establishing world class infrastructure throughout India will be an extremely expensive and long drawn task; the second best solution is to build pockets of excellent infrastructure for industry (ibid.). SEZs are duty-free enclaves created under SEZ Act 2005, with streamlined procedures, tax breaks and good infrastructure to attract investors in export oriented industries (The Economist, 2006). In addition, the SEZ Act provides for establishing Free Trade and Warehousing Zones allowing for trade transaction in free (convertible) currency (Burman, 2006). SEZ Act allows 100 per cent foreign ownership in the development and establishment of zones and their infrastructure facilities (ibid.).

In addition to generation of economic activities and investment (both domestic and foreign), the guidelines for notifying special economic zones under the SEZ Act lists the following objectives of SEZ (Gazette of India, 2005):

- (a) creation of employment opportunities;
- (b) development of infrastructure facilities.

Ambitions with which the SEZ Act has been enacted are high. SEZs are expected to double India's share of global exports by 2009 and expand employment opportunities, especially in semi-urban and rural areas (Ministry of Commerce and Industry, 2004). As per the SEZ Act 2005 a Single Window SEZ approval mechanism has been provided through a nineteen member inter-ministerial SEZ Board of Approval (BoA). Applications duly recommended by the respective state governments or UT administration are considered by this BoA periodically. All decisions of the BOA are consensual (Ministry of Commerce and Industry, 2007).

The SEZ Rules provide for different minimum land requirements for different classes of SEZs (Ministry of

Commerce and Industry, 2006). Every SEZ is divided into a processing area where the SEZ units alone would come up, and the non-processing area where the supporting infrastructure is to be created (ibid.).

Since February 2006, BoA has approved 362 SEZ proposals and granted in-principle approval to 176. Out of the formal approvals, 130 SEZs have been notified. The incentives and facilities offered to the units in SEZs for attracting investments (especially foreign investment) include (Ministry of Commerce and Industry, 2007):

- Duty free import/domestic procurement of goods for development, operation, and maintenance of SEZ units.
- 100 per cent income tax exemption on export income for SEZ units for first 5 years, 50 per cent for next 5 years thereafter and 50 per cent of the ploughed back export profit for next 5 years.
- Exemption from minimum alternate tax.
- External commercial borrowing by SEZ units up to US\$ 500 million in a year without any maturity restriction through recognized banking channels.
- Exemption from central sales tax (CST).
- Exemption from service tax.
- Single window clearance for central and state level approvals.
- Exemption from state sales tax and other levies as extended by the respective state governments.

The major incentives and facilities available to SEZ developer(s) include:

- Exemption from customs/excise duties for development of SEZs.
- Income tax exemption on export income for a block of 10 years in 15 years.
- Exemption from minimum alternate tax.
- Exemption from dividend distribution tax.
- Exemption from CST.
- Exemption from service tax.

AN APPRAISAL OF THE SEZ MODEL IN INDIA

It would be important to appraise the impact of SEZs on investment, employment, exports, and infrastructural development since the inception of this policy. In doing so, a review of the performance of earlier EPZs has also been presented.

One of the rationales for setting up of SEZs and offering generous incentives is to stimulate economic activities in locations which have physical and human resources but lack production activities. The state-wise geographical distribution of approved SEZs until July 2007 is presented in Figure 6.8.1. Figure 6.8.1 also plots state domestic product (SDP) at current prices for the year 2004–5. States which have higher domestic product have a larger number of SEZs approved (correlation coefficient is 0.78). Figure 6.8.2 plots state-wise population and number of SEZs approved. The relation between population and SEZ is weak (correlation coefficient is 0.44). The potential of SEZs as a generator of economic activities and employment in regions which have large population and lack economic activities appears to be weak.

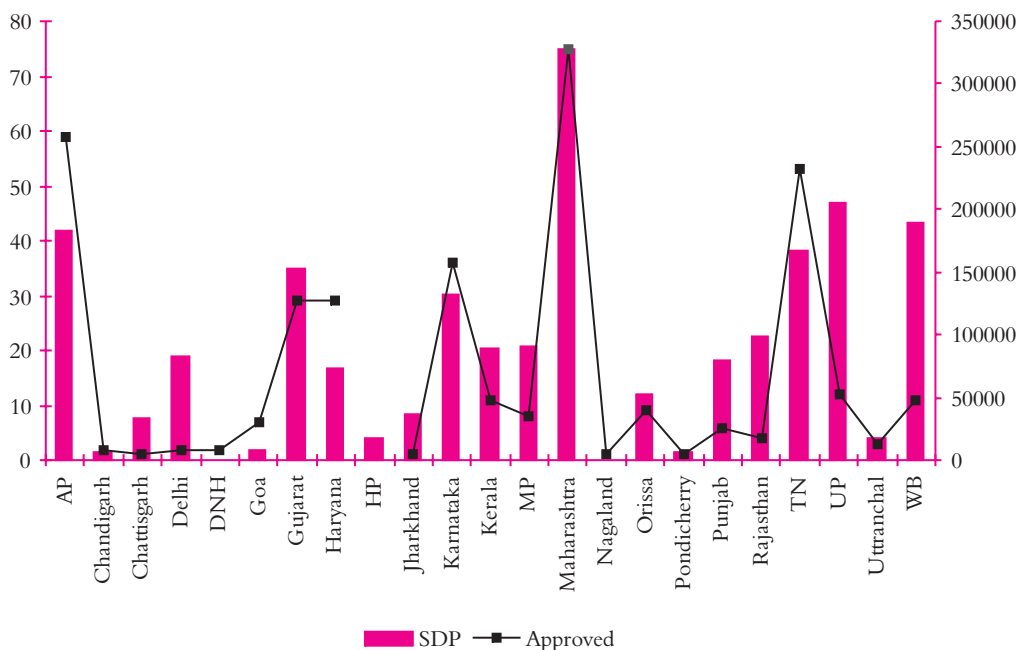


FIGURE 6.8.1: Location of approved SEZ

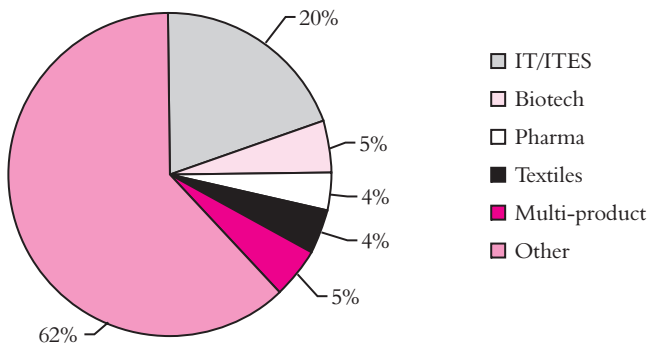


FIGURE 6.8.2: Sector-wise Distribution of Approved SEZs up to July 2007

The scope of SEZs is highly skewed towards IT/ITES sector. Of the total 362 approved SEZ proposals, 225 are for IT/ITES sector (Figure 6.8.4). IT/ITES industry in India has grown by 2.4 times since 2004. Export constitutes around 80 per cent of total software and services revenue (Table 6.8.4). This raises a question about the rationality for offering incentives to a sector that is highly export oriented and is poised to grow in the future on its own strengths. Employment generating potential of the services sector at all skill levels is limited.

SIZE AND LOCATION

An important justification for SEZs put forward by its proponents is to deliver agglomeration economies to firms.

TABLE 6.8.4
IT Industry-Sector-wise Break-up of Revenue

USD billion	FY 2004	FY 2005	FY 2006	FY 2007E
IT Services	10.4	13.5	17.8	23.7
–Exports	7.3	10.0	13.3	18.1
–Domestic	3.1	3.5	4.5	5.6
ITES-BPO	3.4	5.2	7.2	9.5
–Exports	3.1	4.6	6.3	8.3
–Domestic	0.3	0.6	0.9	1.2
Engineering Services and R&D, Software Products	2.9	3.9	5.3	6.5
–Exports	2.5	3.1	4.0	4.9
–Domestic	0.4	0.8	1.3	1.6
Total Software and Services Revenues	16.7	22.6	30.3	39.7
Of which, exports are	12.9	17.7	23.6	31.3
Hardware	5.0	5.9	7.0	8.2
Total IT Industry (including Hardware)	21.6	28.4	37.4	47.8

Note: Total may not match due to rounding off.

Source: NASSCOM (2007).

Agglomeration economies are exploited when production costs per unit are lowered due to other productive activities being undertaken in the near vicinity. Size is important here because to support a desired level of activity, minimum land area is necessary. Industrialization and urbanization are linked phenomena. The rationale for certain size of SEZs (Chinese SEZs are good examples) has been that these would eventually grow into townships or cities. A certain minimum size is necessary to provide necessary customer/supplier base. Small zones cannot provide requisite infrastructure and services for generating economic activities at a reasonable scale. Too large a size is also undesirable as it triggers diseconomies of urban sprawling and time cost of travel. International experience shows that the ideal size of SEZs generally varies from 2 to 800 sq km (Noida, 2004).⁴ SEZ policy in India has restricted the minimum size of SEZ to 10 sq km and maximum size 50 sq km. However, the size of very few (4 per cent) SEZs is more than 10 sq km. Even based on the international minimum size, only 13 per cent of the approved 362 SEZs are above 2 sq km. This puts a large question mark on the potential of bringing agglomeration economies to the firms located in these SEZs. Even the cost of providing infrastructure within these small sized SEZs would prove uneconomical to offer any real cost advantages to firms.

One argument possibly could be that even though the individual sizes of SEZs are small, on an aggregate basis for a city, the combined size would make economic sense. But on this count as well very few cities (Dahej, Dronagiri, Jamnagar, Tiruvallur, Vishakhapatnam, Kakinada) would have combined SEZ-size of more than 10 sq km. The combined size of twenty-five approved SEZs in Gurgaon and fifteen SEZs in Hyderabad would be more than 10 sq km in each of these cities but the sheer number of SEZs with multiplicity of authorities and owners/investors would not make sense. Moreover, combined infrastructure would be possible only if the locations of approved SEZs are contiguous. Some authors (Mitra, 2007) argue that even the upper ceiling of 50 sq km for an SEZ would not be sufficient to bring in economies of scale in many service oriented SEZs.

Another aspect in the implementation of SEZ policy that raises concerns is that majority of approved SEZs are appendages to big cities (Mitra, 2007). Table 6.8.5 presents the number of approved SEZs in million plus cities. The table indicates that out of 362 approved SEZs, 171 are located in these already large size cities. 138 of these are located in megapolises of Ahmedabad, Bangalore, Chennai, Delhi, Gurgaon, Hyderabad, Kolkata, Mumbai and its extended suburbs and Pune.

⁴ In China, the Shenzhen SEZ is 337 sq km and Hainan is 34,000 sq km (whole of province is declared as SEZ).

TABLE 6.8.5
Number of Approved SEZs in Big Cities

Cities	No of approved SEZs
Ahmedabad	7
Bangalore	22
Chandigarh & Mohali	5
Chennai	16
Coimbatore	6
Cochin	3
Delhi	2
Gurgaon	26
Hyderabad	15
Indore	4
Jaipur	3
Kolkata	5
Mumbai, Navi Mumbai, Thane	24
Nagpur	3
Pune	21
Trivandrum	2
Vishakhapatnam	7

The problem with such a strategy is that it puts further strain on an already overburdened city infrastructure with its road, rail, and air services. Job creation associated with these SEZs would cause further migration into these cities and put pressure on the stressed land markets. The ability of SEZs in these locations to absorb surplus agriculture labour is limited due to the mammoth costs that households would have to incur in order to migrate to large cities. Rising land prices in large cities makes it attractive for developers to propose SEZs near big cities as these are an easy route to converting agricultural land to commercial uses. Industrial uses in large cities are restricted and most of the approved SEZs are for commercial ends (mainly IT/ITES). This definitely defeats the whole purpose of the SEZ policy.

Strategic location and multi-modal connectivity with major trading destinations are important factors for the success of SEZs. SEZs across the globe have been located in a way that would give investors/units in the zone an easy gateway to international trade. Chinese SEZs are located along the east coast close to Hong Kong, Taiwan, and Macau. These regions have served as transshipment as well as consumption centres for goods manufactured in SEZs. Malaysia, Thailand and Indonesia located their FTZs near capital cities with minimum distance from seaports and airports. Middle Eastern and Caribbean FTZs are also favourably located close to airports and seaports. Very few Indian SEZs (save those located in Vishakhapatnam, Cochin, Chennai, and Mumbai) have proximity to sea ports. In any case, simple proximity cannot guarantee results unless airports and seaports are well-equipped to handle the traffic of goods efficiently.

GOVERNANCE STRUCTURE

Efficient and effective administration of zones is an important factor contributing to their success. In earlier phase EPZs suffered from poor governance structure. There was no single window facility within the zone to approve a proposal to set up a unit. Approvals were centralized with the BoA but the board did not have the powers to grant clearance and the required permission. It was largely a recommendatory body (Aggarwal, 2006). Companies needed to go through a complex web of approvals from various agencies as discussed earlier. Powers of the BoA were decentralized by introducing an automatic approval route in 1991 (ibid). Development Commissioners (DCs) had the power to approve proposals under the automatic route but these proposals were subject to stringent conditions (see Aggarwal, 2006 for further discussion). Proposals that did not fall under the automatic approval route were scrutinized by the BoA. These conditions were further relaxed in 2000 when DCs were accorded power to approve projects that did not require compulsory licensing.

The SEZs in India have a three-tier management structure (Ministry of Commerce and Industry, 2007). The BoA is the apex body headed by the Secretary, Department of Commerce. The Approval Committee at the zone level deals with approval of units in the SEZs and other related issues. Each zone is headed by a DC, who is ex-officio chairperson of the Approval Committee.

Once an SEZ has been approved by the BoA and the central government has notified the area of the SEZ, units are allowed to be set up in the SEZ. All the proposals for setting up of units in the SEZ are approved at the zone level by the Approval Committee consisting of DC, customs authorities, and representatives of the state government. All post-approval clearances including the grant of importer-exporter code number, change in the name of the company or implementing agency, broadbanding diversification, and so on are given at the zone level by the DC. The performance of the SEZ units is periodically monitored by the Approval Committee and units are liable for penal action under the provision of Foreign Trade (Development and Regulation) Act, in case of violation of the conditions of the approval. Recently powers of Labour Commissioners are also delegated to the DC (Aggarwal, 2006).

In countries where EPZs have been successful, the governance structure is such that it facilitates single window clearances for projects. In Sri Lanka, Board of Investment (BoI) is the apex EPZ authority. BoI is an autonomous central facilitation authority that reports directly to the President and is responsible for advising investors at every stage of investment process. BoI is also

responsible for promotion of FDI and large scale investment. Bangladesh also has a very similar governance structure for EPZ. Bangladesh Export Processing Zones Authority is an autonomous body reporting to Board of Governors chaired by the Prime Minister and is responsible for all pre-entry and post-entry services to investors (Aggarwal, 2005). In comparison to Sri Lanka or Bangladesh, the governance structure and administrative procedures of the Indian SEZ model are quite cumbersome. Involvement of multiple authorities generally causes delays and uncertainty.

LAND ACQUISITIONS FOR SEZs

The total land requirement for the approved SEZs till date is approximately 49,000 ha. There are about 87 approvals which are for State Industrial Development Corporations/ State Government Ventures accounting for over 21,169 ha. In these cases, the land already available with the state governments or SIDCs or with private companies has been utilized for setting up SEZ. The land for the 130 notified SEZs where operations have since commenced covers approximately 17,663 ha only.

Being a democratic country, the land acquisition in India even for public infrastructure projects is a tricky affair. Often those whose land is identified for acquisition feel that the compensation has been inadequate. The opposition is much stronger if the acquired land is for the use of private companies. Opponents of SEZ projects have started to view the SEZ model as one that assists in land grabbing for commercial real estate development at low costs. The opposition is not necessarily to SEZs or SEZ policy *per se* but rather the micro-implementation of such policies. The policy requires that the SEZ developer (private or government) should furnish a certificate from the state government or its authorized agency stating that the developer(s) have legal possession and irrevocable rights to develop the said area as SEZ and that the said area is free from encumbrances. Different states have their own land acquisition laws. Some states have enacted special land acquisition laws for SEZs (Aggarwal, 2006). The micro-implementation of land acquisition laws has seen states assisting developers in the process of acquisition of land. The opposition to land acquisition becomes tougher if the land acquisition is for SEZs near large cities which have seen rising property prices over the last five years. The potential gains from the conversion of land use from agriculture to commercial are so high that land owners perceive that the compensation paid to them as inadequate.

Another criticism against the SEZ model is that it leads to loss of agriculture land. Aggarwal (2006) argues that probably this perception is overstated as the general consensus in the BoA and state government is that mainly

barren and waste land and if necessary, single crop land alone should be acquired for SEZs. Even if double cropped agricultural land has to be acquired to meet the minimum area requirements, the same should not exceed 10 per cent of the total land required for the SEZ (*ibid.*).

The larger and probably most important criticism of land acquisitions for SEZs is that the land acquired for SEZ could be misused for real estate development. Under the regulation for SEZ, a minimum of 35 per cent of the land has to be used for processing area. Rest of the land can be used for housing or commercial development. This framework gives the impression that SEZs are in danger of becoming real estate projects, and to some extent, the sectoral focus of approvals towards IT/ITES perpetuates this notion. This concern is further aggravated by the view taken by Reserve Bank of India, which has directed banks to assign risk weight similar to real estate for SEZ development projects (Aggarwal, 2006).

FACTORS ENSURING THE SUCCESS OF SEZs

There are three important factors that need to be considered if SEZs have to succeed in India. These are (i) whether SEZs should be public or private led, (ii) whether the land acquisition process and regulatory framework are conducive, and (iii) whether infrastructure to link SEZs to gateways of international trade is in place.

PUBLIC OR PRIVATE SECTOR-LED

One of the major differences between international FTZ model and Indian SEZ model is that FTZs worldwide are largely state initiatives (Burman, 2006). Indian SEZ model envisages development and maintenance of SEZs by the private sector. Though it shifts the burden of capital investment to the private sector, there are dangers that the policy may result in development which does not achieve the intended objectives of export-led economic growth and employment generation. Initial SEZ approval trends do suggest that the policy is resulting in lopsided development. As discussed earlier, nearly half of the approved SEZs are appendages to big cities and only 4 per cent of SEZs have size larger than 10 sq kms. The sectoral focus is also heavily skewed towards IT/ITES as 62 per cent of approved SEZs are in this sector. This raises concerns that private sector-led SEZ development is potentially biased towards locations and sector that offer better developer margins. This does not necessarily go against the rationale for private sector led SEZs. What it says is that the regulatory framework and approval mechanism, which is the domain of public sector, must be robust. A well-thought out set of zone designations and development criteria are required. The three-tier management structure is too hierarchical.

China has a strong top-down regulatory structure. In the Indian context a top-down structure would be difficult because land is a state subject and often political structures at national and state levels are different. The role of the Ministry of Commerce should be to streamline legal and regulatory framework for approval of SEZs and determine sectoral priorities for states based on their competitive strengths (labour skills, resources, exiting or potential for manufacturing base) for approval of SEZs.

Size and location are important and there is a need for debate on the optimal size and location of SEZs. Small SEZs would not be able to offer agglomeration economies and SEZs located as appendages to large cities would face infrastructure constraints. If large SEZs prove prohibitive for a single private developer because acquiring large land at one location may be difficult, there is a strong case for public-private partnership where government (state) can play an anchoring role and partner with a number of developers/investors. If the basic condition that the acquired land should be mainly barren or waste land is adhered to and compensation packages are well-designed, acquisition of large land would not pose a constraint.

LAND ACQUISITION PROCESS AND THE REGULATORY FRAMEWORK

Land acquisition cannot be avoided in any development process. The central issue in the debate about land acquisition is the objectives of acquisition, social impacts, and compensation. While the economic compensation is a key aspect, social impacts cannot be ignored. However, they are beyond the scope of this discussion. In developed countries, land acquisition by the government has been primarily to achieve environmental and social goals or to help implement land use plans. The state of Florida (US) designates US\$ 66 million in its annual budget to conduct land acquisition for conservation, open space, and outdoor recreation (Ding, 2007). In western countries where property rights and markets are well developed, even in public interest acquisitions, the compensation for land acquisition has two components: one is direct compensation and the other is indirect. Direct compensation reflects the value of land taken whereas indirect compensation subsidizes farmers whose retained land is negatively affected. New Zealand's Public Works Act entitles private owners to be compensated for any permanent depreciation in the value of any retained land and damage to any land (Ding, 2007). Permanent depreciation in the value applies to situations where part of land is acquired and the value of the rest of the land is reduced.

The compensation issue, however, becomes much more difficult when the proposed development is expected to enhance the value of surrounding land. Farmers whose

farmlands get acquired forego potential benefits from urbanization. This loss of opportunity cost in terms of foregone benefits may far exceed whatever the compensation may be in the long run. Land acquisition produces substantial redistribution effects between farmers whose land has been compulsorily acquired and those who still possess their lands. The assumption here is that the farmers can enter land markets and sell their land for development at an appropriate time when urbanization reaches their land if their land is not compulsorily acquired. Such an indirect income redistribution effect causes tension between governments and farmers. When the justification for acquisition is not purely a public cause, tension could magnify.

SEZs have been an important economic development tool in China and a largely successful one. It is important to recognize here that the institutional structure in China is very different from India. In a communist political system, ownership of land is public in urban areas and under collective ownership with rural communes in rural areas (Ding, 2007). Wherever plans in China require land development, municipal governments increase the land supply through land acquisition, a conversion of land ownership from rural communes to the state. Farmers are compensated for their acquired land with a package which included job offers in which farmer would work for enterprises established on the acquired land, housing compensation, compensation for the loss of crops and the most important, urban residency. China has a system where rural residents cannot migrate to urban cities without a permit from the government. In the absence of permits, the migrants cannot access public services like education, medical, pension, subsidized goods and so on. Thus, compensations in terms of non-farm job (responsibility of the government agency acquiring land to provide) and city residency are very lucrative for farmers. These intangible benefits far exceed the direct compensation package.

Land acquisition is a contentious issue in any part of the world and a well designed package which compensates for direct and indirect losses may not be easy to design. Putting a value to foregone benefits due to land acquisition in the long run is tough but a combination of monetary (equivalent to the market value of land) and non-monetary (such as job, other social benefits) compensation could help in reducing resistance. SEZ developers are required to provide adequate compensation for the affected parties but there is a need for clear and comprehensive government policy. MIDC in Maharashtra has developed an R&R package which includes non-monetary compensation in terms of assured employment for members of displaced families and land at concessional rates for them in the developed area (Aggarwal, 2006). These individual

efforts by states would need to be complemented by a national policy on R & R with scope for adjustment at the local level so that ambiguities and inequities can be avoided.

The distinction between public (like infrastructure, social, and environment) and private (or rather commercial) projects needs to be understood clearly to define how far the government should go in the acquisitions process. The involvement of government in land acquisition for commercial projects (such as SEZs) should only extend to ensuring that farmers who lose land are adequately compensated.

The approval and regulatory framework for the use of land acquired for SEZs would need to carefully build checks and balances. To regulate usage of the acquired land, SEZ BoA would assess the size requirement of infrastructure facilities like housing, commercial spaces, social infrastructure based on employment generation potential of the SEZ. The residential development would be allowed in phases. The first phase would allow only 25 per cent of the approved housing under the SEZ Master Plan. The balance would be allowed to be constructed in three phases depending on the occupancy levels of the units in the processing area (Aggarwal, 2006).

Residential use is only one dimension of the real estate exploitation of acquired land. The other dimension is the processing space itself. Processing space for IT/ITES SEZs is nothing but office space development which is commercial real estate development and easy to club with

the rest of the development on SEZ lands. Regulating misuse of acquired land would require careful evaluation of the sectors which are being approved for SEZs.

INFRASTRUCTURE

One of the reasons for giving approvals for SEZs near large cities may be availability of good infrastructure. Though SEZs would create infrastructure to foster excellence in manufacturing and service provisions, the responsibility to create, expand or improve road, air, and rail networks still remains with the government. Development of transportation infrastructure throughout the country is important to stimulate dispersed development of SEZs (Mitra, 2007).

To conclude, as Aggarwal (2006) sets a note of caution on the extent of SEZs contribution to the economy's development process, it must be recognized here that 'in the long run the competitiveness of SEZs can be sustained only if the economy-wide investment climate is improved. This is because zones cannot be insulated from the broader institutional and economic context of the country. The key to successful industrialization in the long run thus lies in shaping the existing institutions such that they drive firms towards outward orientation and technological upgradation; the creation of zones which offer the easy option of competing on the basis of cost minimization should only be treated as a transitory arrangement'.

6.9

Compensatory Models for Land Acquisition

Ramakrishna Nallathiga

INTRODUCTION

Taking cue from the Chinese, India embarked on the path to Special Economic Zones (SEZs) for promoting export-led industrial growth in the country. Unlike the Chinese model that was confined to a few zones in select pockets under absolute state control, India has decided to encourage private proposals for SEZ development through state governments. This has opened flood gates to a large inflow of proposals from the private sector. SEZs have brought in their wake a slew of issues related to the Constitutional validity of acquiring land for industrial purposes,

appropriate levels of compensation, land acquisition laws and practices.

Indian states still follow the Land Acquisition Act, 1894, which provides for compulsory acquisition of land for public purposes and lays down procedures for such acquisition⁵ for public interest, and not private interest. Land acquisition, therefore, provides direct state control over land development and land assembly through compulsory land acquisition to solve problems associated with fragmented land ownership and land owners' reluctance to offer their land for development (Omar and Ismail, 2005 cited in Alias and Daud, 2006).

⁵ For National Highways land is only acquired under the National Highways Act, 1956.

The land acquisition statutes also provide that a dispossessed land owner shall receive compensation for the loss of the resumed land. Here, several view points from justice, fairness, adequacy, and equity can arise. According to Rowan-Robinson and Brand (1995) (cited in Alias and Daud, 2006), the purpose of compensation is to compel the owner to sell the right to his land on monetary terms that are no less than the loss imposed on him in the public interest, but, on the other hand, no greater. The underlying theme in compensation provisions of land acquisition statutes is to ensure that a dispossessed land owner is no worse off and no better off as a result of his eviction. This is also called the principle of equivalence.

The term compensation has different meanings in different contexts. When used in the context of deprivation of land, it means 'recompense' or 'amends'. It means the sum of money which the owner would have got had he sold the land in the open market plus other losses which result from the acquisition. As the term compensation is not well defined in statutes, it takes meaning from the provisions which define the monetary sum that must be paid to the dispossessed owner for the loss of his land (Brown, 1991).

Practitioners, traditionally, resort to estimating the market value of land, which is provided for in the laws of compulsory acquisition. Although market value and compensation go hand in hand, they do not exactly mean the same—market value may be perceived as insufficient compensation by land owner and compensation sought by land owner may appear unrealistic when compared to market value. Although compensation based on market value is considered to be satisfactory, the perception is that an additional payment, certain percentage of the value (solarium value), should be paid to property owners.

In the United States, the market value of the property is held as just compensation for dispossessed owner (Eaton, 1995). In UK, compensation is based on the principle of value to the owner that is made up of market value together with other losses suffered by the claimant (Denyer-Green, 1994) and this principle is broadly followed by most Commonwealth countries. However, in China, the compensation laws are far from adequate as just terms of compensation principle are not constitutionally provided for. Malaysia does provide for fair, equitable, and just compensation to the affected land owners comprising both market value and other damages but the practice shows iniquitous cases (Alias and Daud, 2006).

India has adopted the Land Acquisition Act (LAA) 1894 to provide legal framework for compulsory land acquisition for public purposes and laid down the procedures for the same. LAA, 1894 was silent on determining the compensation, thereby leaving it to the discretion of public officials, and that too was limited to public projects. To address the issues arising from the displacement of

people under large public sector projects, a National policy on Resettlement and Rehabilitation for Project affected families (NRRP) 2003 was drafted by the Ministry of Rural Development and published in 2004, which emphasized administrator-led design of rehabilitation and resettlement programmes with guidelines for displacement of population and loss of land and assets. This policy was later revised in 2006 under the National Advisory Council. It is still being modified and is to be introduced as an umbrella legislation for all development projects.

MEASUREMENT OF ADEQUATE COMPENSATION

Michaelman (1980) developed two models of compensation designed to achieve different objectives—one is derived from classical utilitarianism and the other is the fairness model derived from justice or fairness approach of John Rawls.

Bell's (1980) research indicates that in view of the time, trouble, and expense invested in lengthy negotiations with land owners, great net benefit would be likely to be achieved by a measure of compensation which provides claimants with a small balance of advantages, thereby encouraging less objections and speedier settlements. He suggests that this small balance of advantage might be assessed with reference to the optimal point on a claimant's satisfaction curve. He estimated with the data available that this point could be reached by an addition of some 30 per cent to the market value of the holding.

Rawls (1971) suggested that the principles of justice for the basic structure of the society should be those principles that 'free and rational persons concerned to further their own interest would accept in an initial position of equity as defining the fundamental terms of their association'. Bell (1980) interpreted Rawl's rationale that land owners who had no idea whether they would be faced with the prospect of the expropriation of their land would select a measure of fairness, which would ensure that the worst affected group would end up marginally better off. He considered that the compensation decisions of the lay juries prior to 1919 exhibited some of the characteristics of a Rawlsian approach to compensation and on this basis concluded that such measure might add at least 10 per cent of the market value.

Compensation for compulsory purchase based on equivalence principle might typically reflect the price which the claimant would have expected to have obtained for the property on a sale in the open market together with other consequential losses (Rowan-Robinson, 1995 cited in Alias and Daud, 2006). McGregor (1988) states that compensation which is granted as a substitute or solace for what has been lost would seem to comprehend rather more intangible loss, something that cannot be replaced,

and something other than patrimonial loss. Such an element in the award of compensation of compulsory purchase might provide recompense for the individual value which people commonly ascribe to heritable property in excess of its market value (McAuslan 1980; Knetsch 1983). This is sometimes referred to as 'householder's surplus', which reflects the value of tie with the area, friendships made, social relations, and so on—items which are difficult to value (Rowan-Robinson, 1995). Here both the utilitarian and fairness models of compensation would be likely to make some allowance, although for different reasons, for the subjective expectations of the claimants (*ibid.*).

In spite of the accounting for compensable values, several potentially large sources of under-compensation might arise/exist in the compensation measurement, due to (Cernea 1999): (a) Undercompensation because of the time lag between determining compensation and resettlement, (b) Failure to account for non-market values such as environmental services, cultural assets, social cohesion, psychological costs, market access and (c) Lost consumer surplus from existing assets.

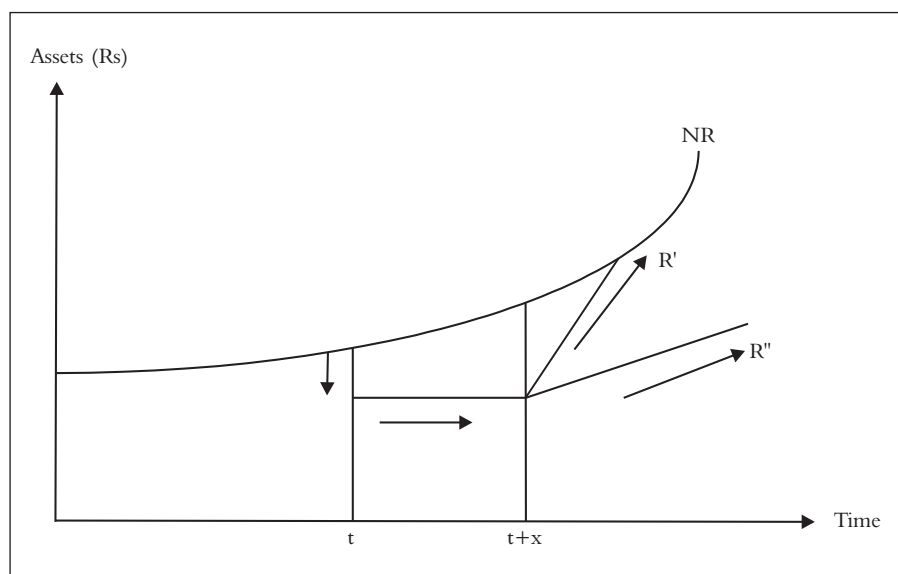
Undercompensation due to delays can occur, especially if the living standards of displaced community are rising, the cost of land in a new locality has risen above the compensation paid, and there is failure to account for inflation. As shown in Figure 6.9.1, the community growth through asset accumulation under no resettlement (NR) can get perturbed to a new low level by dislocation and, after time $t+x$, the required new growth rate (R') of the community is much larger than the promised level (R'') (with compensation) in order to get to the original path. Much

depends on the slope of the NR curve (the flatter it is the lower the impact) and the length of time period (x) (the shorter it is, the lower the impact). Likewise, the shocks of land price rise in the new location after compensation and price inflation are borne by the displaced community.

COMPENSATION PAYMENT

Compensation usually takes the form of a one-off payment, either in cash or in kind, and is principally about awards to negatively affected persons. The costs incurred by people in the process of creation of public infrastructure, e.g. loss of structures/assets on land and migration, are usually not accounted for (as much as the benefits in cost-benefit analysis) and rarely compensated; so is the loss of livelihoods due to a land development programme. Much of the cost-benefit analysis and compensation is from the view point of project proponent/land acquirer rather than community/land owner.

Compensation is most often awarded to persons possessing undisputed title. However, it is sometimes extended to those holding/occupying land without possessing legal title but who can produce documentary support to their claim on the land. Most often compensation is not provided to tenants, sharecroppers, wage labourers, artisans, businesses, and encroachers, whereas they are the most vulnerable and in need of support. Community assets and common property resources such as grazing land and open forest, which are critical for the livelihood of the poorest and constitute a valuable shared productive base of the community, are not compensated for, under the acquisition process.



Source: Cernea (1999).

FIGURE 6.9.1: Dynamics of Undercompensation

This highlights the need for compensation to be relocated in a framework of restitution of rights, both community and individual, beyond even replacement value. For this, appropriate models/methods that generate livelihoods from the proposed development activities (over a sustained time frame) or equivalent compensation payments need to emerge. Recent R&R policies and practices of funding agencies like the World Bank and the Asian Development Bank have made provisions for the same. The World Bank's Resettlement Policies, in particular, provide directions to internalize several of the risks arising to the host community undergoing involuntary resettlement, such as landlessness, joblessness, homelessness, marginalization, food insecurity, increased morbidity and mortality, loss of access to community property, and social disarticulation. These are embedded in the form of the following (Cernea, 1999):

- Projects should avoid or minimize involuntary resettlement (OD 4.30, paragraph 3a).
- Project designers should regard both customary and formal rights as criteria for eligibility for compensation (OD 4.30, paragraph 3e and 17).
- Resettled people should be better off, or at least no worse off, after resettlement (OD 4.30, paragraph 4), and project designers should focus on resettlement as a development opportunity.
- Full and proper assessment of compensation must be carried out through the valuation of public assets and income (OD 4.30, paragraph 3b).

Tables A6.9.1, A6.9.2, A6.9.3, and A6.9.4 list down compensation matrices that clearly outline the methodology/draw the criteria of compensation determination in the case of residential and commercial land as well as structures, and also the loss of livelihoods and other community assets. These are laid down by the Project Management Unit of ADB funded projects as a part of the Relief and Rehabilitation (R&R) policies and practice guidelines for implementing development projects in developing countries. Somewhat similar matrices need to be drawn in the case of compensation of land that gets lost in the development of Special Economic Zones (SEZs). SEZs do not come under the public purposes defined under Land Acquisition Act 1894. Therefore, they need to compensate on similar lines with the R&R policies of multilateral agencies in the development projects.

VALUATION OF AGRICULTURAL LAND

For an agricultural land holder, land value arises from several aspects:

1. Land provides agricultural yield of some economic importance (produce value).
2. Land provides some kind of buffer against seasonal and temporal fluctuations of price of food grain (security value).
3. Land provides employment to household and crop implements (labour value).
4. Land has some inherent features that provide it with advantages (intrinsic value).
5. Land as a capital asset with potential for appreciation over time (capital value).
6. Land provides external benefits to society at large and nature (external value).

Although it is difficult to unbundle and measure precisely the various values listed above, an attempt can be made to estimate the values that are possible.

The produce value (PV) of land is directly observable in market that needs to be corrected for factor inputs like seed labour, crop implements, fertilizer, credit, and pesticides.

$$PV = Q \times P - [Q_s \times P_s + r \times CI + P_f \times Q_f + w \times L + i \times C + P_p \times Q_p]$$

where Q stands for crop produce; P stands for market price of produce; Q_s represents quantity of seeds; P_s stands for price of seeds; r is the rent of crop implements; CI stands for crop implements; P_f represents price of fertilizer; Q_f denotes quantity of fertilizer; w stands for wage of labour (self); L is the amount of labour; i stands for interest rate of credit; C represents credit; P_p stands for price of pesticides; Q_p denotes quantity of pesticides.

The labour value can only be estimated in terms of opportunity costs of the self-provided employment on field expressed as:

$$LV = N_h \times w \times T$$

where N_h is the size of household; w, the wage rate of labour; and T, the duration of employment (in number of days).

Security value (SV) of land can only be estimated in terms of the hedging made by buffer stock food against seasonal and/or annual price variability as under:

$$SV = x \times D_s (+ y \times D_a)$$

where x is the seasonal price variability; D_s , the seasonal demand; y, the annual price variability; and D_a , annual demand.

Capital value assessment would require treating land like a security instrument subject to market valuations that grow at an average market rate.

$$CV = g \times MV_L$$

where g is growth rate of land value; MV_L , the market value of land.

Intrinsic value (IV) of land is difficult to assess but there are valuation methods based on hedonic pricing methods that can give a fair estimate of the value of the particular feature of land in comparison with similar land parcels.

External value (EV) of land is difficult to estimate as the benefits are diffused and not easily measurable. Moreover, they do not contribute to the benefits to the land owner. Now the total value of land can be expressed as:

$$TV = PV + LV + SV + CV + EV + IV$$

of which, the total value of land to the land owner is:

$$TV = PV + LV + SV + CV$$

Given the multiplicity of values associated with land, even the market value (which is higher than the value at which compulsory purchases are made) cannot capture to the fullest extent, especially the external, security, and labour values. The value arrived at from the summation is annual value which needs to be capitalized through a choice of appropriate tenure (say about 50 years) to arrive at the total value. Capital value arrived at through such estimates should be considered together with market price of land in arriving at the appropriate price of land for the purpose of estimation of the compensation. It is expected that the market price and capital value present divergent valuations.

However, together they present two different valuations that can be used to negotiate in a structured manner in arriving towards a consensus value.

Compensation for leasehold property rights is even more complicated as it involves estimation of extra rent and its net present value which the lessee is to pay over the lease period. However, a model for the Maori Reserve Land is used in Australia to tackle this issue which provides a fair solution to the lessee and lessor (Box 6.9.1)

In short, compensation for land depends on how it is being used at present and what should be a fair compensation to its owner. Apart from the land, any structure built on it also needs to be compensated for in a just manner. The NRRP 2003 went ahead to some extent by identifying compensable categories—agriculture and waste land, residential land and structure, livestock, transport cost, agriculture, and other labour. However, the cash value arrived at appear to be ad hoc, particularly in the wake of rising inflation thereafter. Besides fair compensation for land and asset replacement costs, if possible, attempts need to be made to provide compensation for other non-market costs (social, psychological, environmental, and intrinsic) within project finances at the stage of project design. This will pave the way for internalizing all possible costs and ensuring better distribution of benefits, and, thereby, to the development of a sustainable model for the project. It is hoped the final National Rehabilitation Policy will address all the issues and make provision for costs adequately.

Box 6.9.1

Compensation Model for Leasehold Property Rights

The compensation model of Maori Reserved Land Acquisition Act (MRLAA) 1997 in Australia serves as an illustration worth examining. It was structured to determine the expected existing rental amount and the expected changed rental amount over the next 50 years. The difference between these two represents the additional rent that the lessee will pay over time. The net present value amount equivalent to the future additional rental amounts equals the compensation to the lessee for the rental changes. The compensation amount payable to the lessor is the difference between existing rent and market rent payable for a period until the market based rents begin. Here, the discount rate has a dual function of determining the equivalent present value and an annuity rate for future payments. This compensation model was used to make offers of compensation to lessors and lessees, following the promulgation of the Act, and it was found to be successful in that 92 per cent of the lessees and all lessors accepted the compensation amounts generated by the model.

Source: Boyd (2001).

ANNEXE

TABLE A6.9.1
Entitlement Matrix for Compensating the Loss of Residential/agricultural Land

Land use	Entitled person	Compensation policy	Caveats
Homestead land, agriculture land or vacant land	Owner(s) with legal title	<ul style="list-style-type: none"> Replacement/market value of land (or) land-for-land where feasible (including compensation for non-viable residual portions) Subsistence allowance of three months' wage Free transport or shifting assistance Provision of all fees, taxes, and charges incurred for replacement of land Additional compensation for vulnerable households 	<ul style="list-style-type: none"> Charges limited to those for land purchased within a year of compensation payment and for land of equivalent size. Vulnerable households identified through socio-economic survey.
Homestead land, agriculture land or vacant land	Tenants, lease holders, and share croppers	<ul style="list-style-type: none"> Subsistence allowance based on three months' land rental Additional compensation for vulnerable households 	<ul style="list-style-type: none"> Land owners will reimburse tenants' and lease holders' land rental deposit or unexpired lease Vulnerable households identified through socio-economic survey.
Homestead land, agriculture land or vacant land	Occupiers without any title (encroachers/squatters)	<ul style="list-style-type: none"> Advance notice to shift with notice period (60-90 days) Additional compensation for vulnerable households 	<ul style="list-style-type: none"> Vulnerable households identified through socio-economic survey.

Source: PMU, REIP 2006.

TABLE 6.9.2
Entitlement Matrix for Compensating the Loss of Residential Structure

Land use	Entitled person	Compensation policy	Caveats
Residential structure and other fixed structures	Owner(s) with legal title	<ul style="list-style-type: none"> Replacement/market value of residential structure and other fixed structures (or part of structure and other fixed assets if the remainder is viable) Free transport or shifting assistance All fees, taxes and charges incurred for replacement of land Rights to salvage material from structure and other assets Subsistence allowance based on three months' minimum wage rate Additional compensation for vulnerable households 	<ul style="list-style-type: none"> Vulnerable households identified through socio-economic survey.
Residential structure and other fixed structures	Tenants and lease holders	<ul style="list-style-type: none"> Subsistence allowance based on three months' land rental Additional compensation for vulnerable households 	<ul style="list-style-type: none"> Structure owners will reimburse tenants' and lease holders' rental deposit or unexpired lease Vulnerable households identified through socio-economic survey.
Residential structure and other fixed structures	Occupiers without any title (encroachers/squatters)	<ul style="list-style-type: none"> Advance notice to shift with notice period (60-90 days) Additional compensation for vulnerable households 	<ul style="list-style-type: none"> Vulnerable households identified through socio-economic survey.

Source: PMU, REIP 2006.

TABLE A6.9.3
Entitlement Matrix for Compensating the Loss of Commercial Structure and Other Assets

Land use	Entitled person	Compensation policy	Caveats
Commercial structure and other assets	Owner(s) with legal title	<ul style="list-style-type: none"> • Replacement/market value of commercial structure and other fixed structures (or part of structure and other fixed assets if the remainder is viable) • Free transport or shifting assistance • All fees, taxes, and charges incurred for replacement of land • Rights to salvage material from structure and other assets • Subsistence allowance based on three months' minimum wage rate • Additional compensation for vulnerable households 	<ul style="list-style-type: none"> • Vulnerable households identified through socio-economic survey.
Commercial structure and other assets	Tenants and lease holders	<ul style="list-style-type: none"> • Subsistence allowance based on three months' wages • Additional compensation for vulnerable households 	<ul style="list-style-type: none"> • Structure owners will reimburse tenants and lease holders' rental deposit or unexpired lease • Vulnerable households identified through socio-economic survey.
Commercial structure and other assets	Occupiers without any title (encroachers/squatters)	<ul style="list-style-type: none"> • Advance notice to shift with notice period (60–90 days) • Additional compensation for vulnerable households 	<ul style="list-style-type: none"> • Vulnerable households identified through socio-economic survey.

Source: PMU, REIP 2006.

TABLE A6.9.4
Entitlement Matrix for Compensating the Loss of Livelihood and Community Assets

Item	Entitled person	Compensation policy	Caveats
Loss of livelihood	Business Owner(s), tenant, lease holder, employee, agriculture worker	<ul style="list-style-type: none"> • Assistance for lost income based on three months' minimum wage rate 	<ul style="list-style-type: none"> • Vulnerable households identified through socio-economic survey. • Larger businesses, if affected may be compensated on the basis of demonstrated loss of profit subject to submission of formal evidence such as historical income tax returns
Loss of standing trees and crops	Owner farmer with legal title, tenants, leaseholders, share croppers, encroachers/squatters	<ul style="list-style-type: none"> • Notice to harvest standing seasonal crops • Where notice cannot be given, compensation for standing crop (or share of crop for share croppers) at market value • Compensation for perennial crops and fruit bearing trees at annual net product market value (for the remaining productive years) • Compensation for non-fruit trees at market value of timber • Subsistence allowance for one cropping cycle in the case of seasonal crops 	<ul style="list-style-type: none"> • Harvesting prior to the acquisition will be accommodated to the extent possible • Work schedules will avoid harvest season • Market value of trees/crops has to be determined
Loss of or disruption to common property resource	Community or local body	<ul style="list-style-type: none"> • Replacement or restoration of community common property 	

Source: PMU, REIP 2006.

6.10

An Innovative Model for Inclusive Development of SEZs

P.V. Indiresan

Special Economic Zones (SEZs) are not popular with the media or the masses today mainly because they are not seen to be a part of the 'inclusive development process'. A wide range of literature exists both for and against the cause of SEZs. Some promote them as hubs of commercial or industrial activity that herald growth and development for the entire area within their influence. Others have demonstrated that in practice an SEZ remains an isolated, industry-led urban organism located in a rural set up with hardly any backward or forward linkages with the hinterland. It represents, for the local people, a prominent evidence of their displacement, deprivation, and vulnerability. There are SEZs that have failed and others that have succeeded but overall they are a misunderstood phenomenon that has been adversely affected by the absence of farsighted policy-making, narrow agenda of self-serving groups, and the lack of participative processes in project design and implementation.

SEZs have been welcomed by the business community but resisted by villagers whose land is acquired by the government to serve the cause of a vehicle of growth that appears to have nothing to share with the local inhabitants. The difficulties faced by the Small Car Project of Tata Motors in setting up shop in Singur illustrate the problems and obstacles that confront even well-meaning SEZs.

An important feature of SEZs that perpetuates the impression that they are completely divorced from the needs and aspirations of the resident community in the surrounding areas is that, at present, SEZs are organized as gated communities. They are like fortresses within which international quality services, unthinkable for the common villager, are available for the asking while outside, the age-old squalor persists. Had this disparity remained in a distant city or had it grown gradually, over decades, the shock of it would perhaps not have been so forceful. The suddenness of change, the extent of change, and the proximity of change together combine to cause unmanageable psychological stress for the farmer whose land is being acquired, as well as for his community which feels vulnerable, threatened, or short-changed depending on the size of the compensation package. Such reaction is not unnatural and ought to have been fully anticipated by the

proponents of SEZs. The present system of land acquisition is flawed because it magnifies the rich-poor disparity within the village.

AN ALL-INCLUSIVE MODEL OF COMPENSATION PACKAGE

If the price paid in Singur or Nandigram had been no more than usual, perhaps nobody would have bothered to react. After all, sale and purchase of land is common; no violence erupts in opposition to such transactions. Violence was fuelled because compensation was exceptional. On the other hand, acquiring land at traditional rates is not fair either: industrialists would then get an undue and undeserved advantage. Thus, we need a rational way of determining the amount of compensation, which will be considered fair to both seller and buyer, and even to the neighbour and the bystander.

SCHEME OF IMPLEMENTATION

In the case of SEZs, it is common practice to identify suitable land first and then negotiate with the farmers who will be dispossessed of their land. In the model we present here we propose to reverse the process. Panchayat leaders are sought to be invited to tender whatever land they can spare and consider suitable for the purpose in return for a commitment to provide their villages with civic amenities of urban standards—particularly bus connectivity, English medium schools, and secondary care hospitals for maternity/childcare and general medicine. The only stipulation is that every parcel of land they submit should be at least twenty acres in area. They are also free to demand whatever price they desire. Based on their demands, the most attractive package is selected for development. Villagers may also be given the opportunity to re-tender once or twice to enable them to make the best offer they can.

This process is competitive and because it is competitive, prices demanded will be reasonable. It also spreads development across several villages instead of concentrating on a large contiguous patch; the process helps many more people indirectly. Distributed development is not as

much of a disadvantage as it is feared to be. It enables development to be located in tracts of least agricultural value, and prevents spoilage of irreplaceable fertile land. Thereby, it reduces both costs and mutes the complaints from environmentalists.

The offer of urban amenities, particularly (a) connectivity, (b) education and training, and (c) health care is found to be a crucial factor in obtaining the acquiescence of Panchayat leaders. In fact, in one case where this model has been adopted to acquire land, when a Panchayat Chairman declined to participate, his fellow villagers compelled him to fall in line—they did not want to lose these public goods merely because the Chairman wanted cash compensation which helped him but not the village.

INCLUSIVE DEVELOPMENT

Under this model amenities and infrastructure such as health, education, and transportation can be deployed under three categories—cost-plus, cost-equal, and cost-minus services. Cost-plus services could include luxurious add-on facilities in the form of air-conditioning, special catering, or personalized services while the revenue generated from this range could be used to cross-subsidize the cost-minus services where the quality of the basic service of medical care or transportation or education provisioning is not compromised but the service is bereft of the frill and fluff as it were.

A similar model is applied in several hospitals in India. The Vellore Medical Hospital, Narayana Hridayalaya in Bangalore, and LV Prasad Eye Institute in Hyderabad have evolved successfully a scheme of inclusion with multiple classes of services.

COST ESTIMATES

A back-of-the-envelope calculation indicates that to be viable, and to retain quality staff, an SEZ which offers a school, transport, and hospital facilities will require an investment of around Rs 9–10 lakh per acre, about the same as the Tatas have paid in Singur. However, there is a fundamental difference. In the Singur model, almost the entire money went to the landlords, many of them absentees. In the present model, most of the money will be invested in social services, with a much smaller component being spent directly on the land. Due to competitive selection, mainly degraded land will be offered at competitive prices and not the monopoly prices SEZs are compelled to pay. The much needed investment in social services will earn invaluable goodwill at no extra cost.

This scheme is designed to be implemented with the close cooperation of Panchayat and other local leaders. State governments, too, can help by promulgating a land

use plan to minimize encroachment and land grabbing that can make future expansion problematic. As the investors are supporting social services and particularly because the scheme includes the poor, the state government may also spare any vacant land it may have. The government can help by proffering viability gap funding as well as schemes of rural development in the connected villages. Such patronage from government agencies will inspire confidence and provide assurance to investors.

The Technology, Information, Forecasting and Assessment Council (TIFAC) of the Department of Science and Technology, Government of India in Kanchipuram, Tamil Nadu and an IIT Delhi team in Raipur, Chattisgarh have both been successful in persuading village leaders to subscribe land for development. In both cases, upwards of fifty Panchayat leaders gave in writing their consent to donate up to several thousand acres for business development purposes.

A similar arrangement of land barter was tried in Navi Mumbai but without guarantee of rent. As Navi Mumbai did not grow as rapidly as expected, many farmers were forced into distress sale of their land cutting down expected profits of real estate developers and retarding progress even further. That will not happen when farmers are guaranteed rent. When that rent is indexed to the price of grain, it affords enormous psychological comfort to farmers yielding a double benefit: first, they accept the compensation package more readily and second, they do not under-sell their entitlements, they do not undercut real estate developers. In addition, this scheme minimizes initial capital outlay.

This scheme presents many innovations which may be mentioned: competitive selection of land; distribution of development among several villages; comprehensive compensation package that includes all villagers and not merely landholders and an emphasis on transport and connectivity. It offers ten types of amenities to the surrounding rural area. Of these, only bus connectivity, education, and health care may be identified for differential pricing specifically for including the poor. The remaining facilities, energy, internet, and commercial services, may be left to market forces. Housing including water supply and sanitation are best treated as part of SEZ expansion, and existing government schemes may be utilized to accommodate the poor.

In this inclusive model to develop SEZ, the way the poor are included, (through cross subsidies from high wage employee, who in turn are encouraged by job perquisites) corporate social responsibility becomes part of business, not charity. When the poor get cross-subsidy from employee perquisites of large organizations, they are likely to enjoy far larger benefits than when they are recipients of corporate charity.

6.11

Jaipur Model of Acquisition of Land for SEZ

Neeraj Gupta

Protests by farmers against land acquisition for development of infrastructure often bring into focus issues of land compensation and resettlement. From an economist's perspective there should be adequate monetary exchange in lieu of land acquisition. It is often argued that the payment should take into account both current and future value of land that should be mutually decided between the two parties. However, land compensation remains a complex issue and involves both economic aspects as well as highly charged emotional issues. Farmers in India are often attached to their land in a way that is not always related to its economic value. They would often like to remain rooted to the land that belonged to their forefathers as long as they can. It is difficult to estimate in financial terms farmers' anxieties associated with giving away their sole means of livelihood. More often than not the farmers resort to legal intervention delaying the acquisition, and hence, the developmental process. Land acquisition in Rajasthan has been comparatively smoother largely due to progressive and liberal policies of compensation.

A multi-product SEZ being developed in Jaipur over 3000 acres of land has probably been one of the most efficient land acquisition processes in the country. This has been possible due to a pragmatic land compensation package that involved award of 25 per cent developed land in lieu of land 'surrendered' by the farmers. The genesis of this barter system dates back to 1992 when the state government initiated the process of land acquisition through negotiated settlement with the farmers.

The Urban Development and Housing Department, Government of Rajasthan in its circular dated 22 April 1992 acknowledged the fact that land acquisition process was unduly delayed as many land owners resorted to litigation against the compensation packages after the land acquisition award was announced. Thus, it was considered necessary to acquire land with mutual consent. The government, to encourage farmers to 'surrender' land for development issued the circular that allowed farmers to get compensation in form of plots of developed land. As per the circular, landowner was entitled to a maximum of 12 per cent of developed land in lieu of land surrendered. The circular stated that a notification under Section 4 of the Land Acquisition Act, 1894 must be issued in such cases. It further stated that the urban local bodies should make an effort to reach an agreement for compensation

lower than 12 per cent of land. The landowner could use the allotted plot only for residential purposes. The final authority to decide the award was delegated to the concerned Land Acquisition Officer. The circular constituted a standing negotiation committee for the purpose under the chairmanship of the head of the concerned urban local body.

Since the compensation package of 12 per cent did not yield any results the state government issued another circular dated 21 September 1999 wherein the maximum limit of 12 per cent developed land was increased to 15 per cent.

On 27 October 2005 the state government issued a circular to further speed up the land acquisition process for developmental purposes. This circular issued under the signatures of the Principal Secretary, Urban Development and Housing Department accepted that 15 per cent land compensation announced by the earlier circulars was not acceptable to farmers and considering the increasing prices of land the compensation package should be increased to 25 per cent of developed land. A significant change from the earlier circular was that out of this 25 per cent of developed land, 20 per cent would be in the form of residential plots and 5 per cent in the form of commercial plots. This circular listed a few guidelines to ensure fair play. In order to streamline the discretionary powers of the urban local body to allot the compensatory 12 per cent land in fully developed premium schemes this circular clearly stated that the compensatory land will be allotted in the same scheme for which the land is being acquired. Wherever it is not possible to do so, cash compensation would be paid to the landowner. The circular stated that in case the market value of the developed land was higher the compensation package could be reduced from 25 per cent appropriately. To further encourage the farmers/landowners to cooperate, the circular stated at the end that after the allotment of residential land, the farmer/landowner could get the land use changed from residential to commercial use.

The multi-product SEZ being developed in Jaipur as a JV of the Rajasthan State Industrial Development and Investment Corporation (RIICO) and Mahindra-Gesco Developers Ltd., is spread over 3000 acres of land. For this the Jaipur Development Authority (JDA) provided 1000 acres of government land to RIICO and the rest was

acquired from the farmers. Instead of issuing notice for acquisition for 2000 acres of land, JDA forwarded proposals to the state government for acquisition of about 3500 acres of land. The intent was to provide 2000 acres of land required for SEZ and develop a housing scheme in the balance 1500 acres of land. In this scheme 875 acres of developed land could be offered to the farmers as compensation in lieu of 3500 acres of acquired land. This land is located in nine revenue villages namely Kalwar, Bagru Khurd, Khatwara, Newta, Jhain, Tilawas, Bhambhoria, Palri Parsa, and Nrasinghpura Dadia. On 12 December 2005 the state government issued notice under section 4(1) of the Land Acquisition Act. Before the final award all the farmers were given the option to surrender their land in lieu of 25 per cent of the developed land. In the overall scheme nearly 60 per cent of total land goes towards the

developed plots and the rest 40 per cent towards roads, facilities, services, and open areas. On 29 April 2006 notification under section 6 of the Land Acquisition Act was issued. Cash award as per routine procedure of land acquisition was announced for those farmers who did not choose to 'surrender' land and seek 25 per cent developed land as compensation.

It is reported (Dainik Bhaskar, 9 September 2007) that the farmers are now demanding enhancement of the land compensation package to 40 per cent in case of the second phase of the Ring Road Project for Jaipur city for which acquisition is underway. The government has rejected this demand. On the other hand farmers are adamant and state that unless the government announces 40 per cent land as compensation they would not give even an inch of it.

6.12

IDFC's Models for Wholesale Agricultural Markets and Village Haats

Jyoti Gujral

There is an urgent need to supplement agricultural market infrastructure in the country by bringing in private investments. The Shankerlal Guru Committee Report in 2001 estimated the investment requirement in wholesale markets at Rs 6026 crore which is not forthcoming from the private sector due to regulatory constraints. The State Agriculture Produce Marketing Act, enacted in a majority of Indian states, sets the framework for regulated marketing in India, as a consequence of which agricultural markets are the monopoly of the state authorities in these Indian states. This paper explores the scope to improve market efficiencies in the agricultural sector through the introduction of PPP.

EMERGING SCENARIO FOR PRIVATE SECTOR PARTICIPATION

The government tabled a 'Model Legislation' in January 2004 providing for amendments to the respective State Agriculture Produce Marketing Acts (hereinafter referred to as the APMA), to permit private market and other forms of PPP in agricultural markets and related infrastructure.

The central government has offered sops to states to incentivize development of marketing infrastructure,

especially through private sector involvement. The National Horticulture Mission launched in April 2005 bears testimony to this stance of the government. The main objectives of providing assistance under this component are: to induce investments from private and cooperative sectors in the development of marketing infrastructure for horticulture commodities and to strengthen existing horticulture markets including wholesale and rural haats. The government has incentivized states to include enabling provisions in their respective Acts allowing the private sector to establish their own market yards since these reforms have to be effected by state governments. A large number of states have initiated the process of making amendments to their respective APMA to facilitate alternate marketing systems i.e. private markets, contract farming and so on as well as private participation in the development, ownership, and management of the market infrastructure.

The scope for PPP mainly lies in the following areas with regard to markets:

1. Rehabilitation of existing wholesale markets at city/district level.
2. Service and facility augmentation, O&M of existing wholesale markets.

3. New market investments and operation at city/district level.
4. Creation/development of network of collection centres and/or rural haats.
5. Creation of farmer markets.
5. Other related infrastructure for retailing goods to the farmers.
6. Transparent price discovery systems such as electronic auctions, commodity exchanges.

The scope for PPP in agricultural markets lies in service contracts for outsourcing certain services, management contracts to manage and maintain assets, leasing of markets where modernization and professional management are likely to enhance the efficiencies in the existing markets. Construction of greenfield markets is based on BOO or BOT options which are most suited for export-oriented agricultural products where capital intensive modern markets are required with multi-modal freight services. Several states have already taken the initiative to set up terminal markets⁶ under the PPP mode with support from the central government under the National Horticulture Mission.

To make sure that the marketing board/APMC gets the best facility, a highly competitive bidding system is required to protect farmer's interests and to price operation and performance indices objectively. Both monitoring and pricing of these indices may require extensive consultations with potential partners. The PPP can take the form of an ordinary EPC (Engineering, Procurement, & Construction) contract, an annuity-based project or an independent SPV.

IDFC MODEL FOR WHOLESALE AGRICULTURAL MARKET

IDFC has advised several states on the development of the wholesale agricultural markets and related infrastructure. Salient features of the model are as follows:

For a greenfield endeavour by the private sector, the project components comprising a typical wholesale market may include:

1. Market yard with a cold storage facility.
2. Backward linkages that is, collection centres supplying/assembling for the market yard.
3. Forward linkages such as cash-and-carry stores in terminal market and city, retail stores, wholesalers, and fruit vegetable processing unit.
4. Processing and packaging facilities.

The return expectation of the private investor from the project would be a function of the following parameters:

1. Capital investments, which mainly depend upon:
 - i. *Size of the terminal market*: This is based on projected arrivals and estimated consumption of fruit and vegetables. This can be expected to grow at a rate that correlates with the rate of growth of population and estimated market share that this terminal market can capture vis-à-vis the supply. Modal prices of various fruit and vegetables, prevailing at the market and arrivals of major fruit and vegetable items are used to reach a single weighted average price for key commodities;
 - ii. *The technology selection* that is, the degree of mechanization/modernization and, therefore, the attendant costs;⁷ and
 - iii. *Means of financing* which may include debt, equity, and in some cases grants available through government schemes, particularly the National Horticulture Mission. The collection centres may be financed by member/stakeholder equity and borrowings/equity from the market-owning entity (in case of private markets). Collection centres will arrange for loans through banks, government financial institutions, and co-operatives. Forward-linkage players may be privately financed by entrepreneurs, mainly through the franchisee route.
2. Revenue streams primarily comprise
 - i. Market fees payable on turnover,
 - ii. Entry fees and parking fees,
 - iii. Service charges as applicable for any value addition,
 - iv. Rentals from the real estate: wholesale and retail component,
 - v. Rentals from any other infrastructure owned,
 - vi. Royalty from franchisee,
 - vii. Any other value added service.

⁶ Details of the Terminal Market Scheme are available at the website india.gov.in/sectors/agriculture/agri_marketing.php. Currently eight market sites in states like MP, Maharashtra, AP have been proposed to be developed through private participation.

⁷ Unlike the existing wholesale markets which comprise mainly auction sheds, wholesaler shops, minimal cold storage facilities—if at all—and some weighing equipment, the proposed terminal markets are modern and equipped with sophisticated auctioning, grading equipment, cooling facilities, processing facilities, material handling equipment, crates & packaging facilities and so on.

3. The main expenses comprise
 - i. Administrative expenses,
 - ii. Operational expenses for the sorting/grading/cooling facilities/value addition provided by the market which are mainly
 - a. Power,
 - b. Crate charges, and
 - c. Transportation charges.

Unlike traditional wholesale market yards where the costs are to the tune of 10 per cent of the market earnings, operational costs in modern markets may be to the tune of 30–40 per cent of the market earnings.

IDFC MODEL FOR RURAL HAATS

Rural haats are periodic rural markets which serve as the first point of contact for the producers with their sellers for encashing agricultural produce and buying other goods. For haats to serve as a strong basic link in the marketing chain, they must be strengthened with necessary infrastructural amenities especially those leading to operational, technical, and pricing efficiencies. It is expected that improvements in the marketing infrastructure, particularly at this level, will lead to increased farmer income.

An indicative study by the World Bank has shown that the annualized capital cost of market improvement does not exceed Rs 0.1 per kg of market throughput assuming a sale price of Rs 5 per kg. Therefore, a quality gain or reduced losses gain of 2 per cent would cover the marketing investment costs. Typically, losses⁸ have been of the order of 20 per cent. A willingness-to-pay analysis conducted on a sample rural haat by World Bank suggested that investment into improvements in infrastructure could, in the first year itself earn a financial rate of return ranging from 5 per cent to 11 per cent. Another market analysis by World Bank indicated that with an increase in vegetable prices of only 5 per cent, the rate of return on first year alone would be to the tune of 25 per cent. Thus, prima facie there seems to be a case for making public investments in the rural haats.

Rural haats currently serve as distribution points for daily consumables of rural consumers and 80 per cent of rural household income countrywide is spent in these markets. Therefore, there exists an opportunity for creating self-sustaining markets at this level. Market earnings could be deployed towards development of facilities and amenities as well as to cover regular O&M costs. Since these haats are periodic in nature the infrastructure created for them could be put to multiple uses depending on the requirements of the local communities

they serve. The haat premises could be used as platforms for consumer goods companies targeting rural consumers. Various development agencies could also utilize them for gaining access to rural populace. The facilities can also be utilized as purchase centres, assembly centres, banquets or baraat ghars. This would not only expose villagers to various consumer products, community activities as well as development objectives, it would increase revenue for the haat managers.

Panchayati Raj Institutions (PRIs) have been found to be the most dependable managers of haats and related infrastructure. The 73rd Amendment to the Constitution in 1992 specifically provides for an active role of PRIs in making haats a more robust instrument of market transactions. However in practice, rural haats are mostly regulated by different authorities that collect levies, fees, and charges but make no provisions for haat-development.

An extensive study of haats in rural Uttaranchal by IDFC, conducted in 2002, has successfully demonstrated the tremendous potential of haats in triggering economic growth at the local level. There is scope for increasing the frequency of the bigger haats to twice a week from the current practice of one weekly market day.

For example, in Udham Singh Nagar the Zila Panchayat regulates the haat painths and gives out the contract for management of these on a yearly basis. This contract is awarded through tenders published in the newspapers. While the revenues from the contract are significant, these are not used for the purpose of development and upgradation of the haats. In Dehradun, all the haats including the roadside haats are being regulated by the Gram Panchayat and management is outsourced to contractors. There are three private haats as well which need a licence from the regulating body.

IDFC's study indicated that in most haats, the management of the haat is given to the contractor. The existing system for management of the haats was found inadequate and ineffective in servicing the market users. There is an absence of any organization (formal or informal) which can ensure continuous and planned development of the haat so as to maximize its potential, demanding and enforcing operations and services of a standard required by the local community.⁹ The profile of the contractors was not amenable to making these haats 'economic growth centres'. An alternate to these contractors as suggested by IDFC based on discussions with the community members was that of a 'Haat Samiti' itself having the ex-servicemen residing in the area, local Self Help Groups, local educated youth and so on. User participation and involvement can be facilitated through a 'Haat Samiti' constituting the residents of the hinterland villages,

⁸ Wastages/losses on account of perishable nature of produce being handled.

⁹ Stakeholder surveys were conducted by IDFC at the village/district level.

Gram Panchayat members, and even sellers. This Samiti would necessarily volunteer to visit the haat. The state can build capacity of such 'Haat Samitis' and 'managers' to facilitate more professional management of the haat painths to facilitate multiple usage of the infrastructure created.

CONCLUSIONS

Haats can be upgraded and there is an economic case for the same. Apart from the unique features of agriculture

market infrastructure, the upgradation must take into account requirements for future expansion and seasonal expansion and the specific requirements for the village/region. Considerable stress should be laid on the dual role for the market infrastructure, namely as a venue for both the haat as well as a meeting point for all community/social activities. The structures may require a one-time grant but with innovative management the infrastructure may become self sustainable. Thus the role of local entrepreneurs, stakeholder bodies becomes critical.

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