

Land-Incentivized Joint Ventures for Infrastructure Development in India

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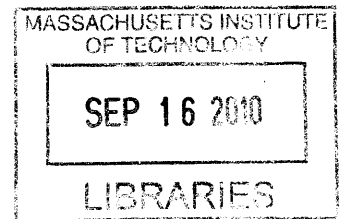
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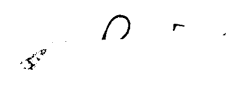
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## **Abstract**

Over the next 20 years, it is projected that India will make the transition from a primarily rural economy to one in which more than half of its 1.1 billion strong population will live in urban areas. As this demographic shift occurs, the Indian Government is tasked with providing the necessary urban and regional infrastructure to accommodate this growth. At present, existing urban infrastructure systems are operating well above capacity so that any response must address both the existing shortfall and impending demand. To meet its massive infrastructure requirements, India must mobilize resources at an unprecedented scale and speed.

This thesis examines the use of land-based public finance as one avenue through which a significant portion of this financing might be obtained. In particular, I focus on one type of land-based public financing recently undertaken in India – a land-incentivized joint venture. I suggest that this ‘tool’ is premised on a set of assumptions or enabling preconditions that are largely necessary for its success. Thus I use this thesis first to outline what I have come to understand the main set of these assumptions to be. I then briefly examine the case of the Bangalore International Airport that was built in 2008 under a land-incentivized joint venture. As I am constrained by my lack of in-depth information on many aspects of the case, I use the case merely as a tool to illustrate how a number of the implicit assumptions might be compromised in actual implementation. It is hoped that identifying possible sources of complication can begin to help policy makers and future researchers think about accompanying reform that can facilitate the future use of land-incentivized joint ventures in the broader Indian context.

In particular it appears that addressing some existing distortions and structural inefficiencies, particularly in land markets, might lead to better land-based finance outcomes.

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## CHAPTER 1: INTRODUCTION

India stands at the brink of an urban transformation. According to the McKinsey Global Institute (MGI), over the next two decades, this change will occur at a scale and pace that has not been witnessed anywhere in the world other than in China (2010, 14). According to estimates, in the next 20 years Indian cities will house over 590 million residents – a result of a doubling in the rate of urbanization of the last 40 years (Sankhe and Dobbs 2010). Cities are expected to generate more than 70 percent of GDP by 2030, and drive large increases in per capita incomes and consumption across the country (MGI Report 2010, 17). Based on current projections India will have 68 cities with populations of more than 1 million, 13 cities with more than 4 million people and 6 ‘megacities’ with populations of 10 million or more (*ibid.*, 15). Many of these cities will be larger than the size of some countries today in terms of both population and economic output. For example, it is projected that the Mumbai Metropolitan Region’s estimated 2030 GDP of \$265 billion will be larger than the individual GDPs of Portugal, Colombia, and Malaysia (*ibid.*, 16).

One of the most critical issues that policy makers must address as they prepare for this new reality is that of providing urban and regional infrastructure. This infrastructure – city roads, highways, airports, ports, large scale water and sanitation systems, public housing, power lines, transit systems and so on – is critical both to quality of life and to continued economic growth. The massive in-migration to cities in recent years has put tremendous pressure on existing infrastructure systems, most of which were not designed to deal with the capacity they are currently forced to bear. As investment has been slow to catch up to demand, the majority of urban residents currently live without some of the most basic of infrastructure facilities. As Rina Chandran documents in an article for *Reuters* on August 3, 2010, about 60 percent of Mumbai’s 18 million residents live in slums without formal access to piped water, sanitation or electricity. Moreover, she writes, the lack of urban infrastructure, particularly airports, freight lines and roads, is also one of the most often cited constraints to India’s growth, taking an estimated 2 percentage points off GDP every year.

### 1.1 Context

A large part of the reason for this urban neglect is that Indian cities have long been what IT entrepreneur turned Cabinet Minister Nandan Nilekani (2009) calls “fugitives in the Indian

imagination". He argues that from the time of Independence, Indian cities have been pitted against rural India in the popular imagination as representing a rich versus poor divide – a bias that is clearly reflected in legislation that has favored rural over urban investment programs in almost every respect<sup>1</sup>. However, in 2005, in recognition of a number of factors including the glaring gap between per capita expenditure on rural versus urban citizens (Rs 1000 versus Rs 100 respectively), the massive urban infrastructure deficit and the catalytic and central role that cities had been playing in economic development, the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) was established (Ramanathan 2005). For the first time in India's history, this national program has acknowledged the need for a strategic, systematic and holistic approach to the city management and development process.

On the infrastructure front alone there are two challenges to be addressed. One, the *time compaction* created by the increasingly rapid rate of urban growth necessitates an expeditious response that not only makes up for the large backlog in infrastructure supply but also simultaneously anticipates and provides for imminent demand. Two, the *scale* of the challenge requires a mobilization of resources unprecedented in the nation's history. India currently spends only \$17 per capita on urban infrastructure, compared to China's \$116 (Sankhe and Dobbs 2010). To meet current growth projections and offer a decent standard of living to its citizens, it is estimated that India will need to invest \$134 per capita every year for the next 20 years (MGI Report 2010, 19). This figure represents an eight-fold increase over current spending levels. The MGI predicts that overall India needs to inject an additional USD 1200 billion of capital spending into its cities between now and 2030 (*ibid.*). Yet, according to Nilekani, the work of the High Powered Expert Committee on Urban Infrastructure convened in May 2008 seems to be indicating that the amount of money that can be generated through traditional government sources is grossly inadequate to meet the investment needs of Indian cities<sup>2</sup> (Nilekani 2009).

Given this constraint, developing an effective response to this challenge requires a fundamental rethink of the manner in which the country's infrastructure has been financed to date. Already privatization and user fees have become more palatable to both governments and

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<sup>1</sup> That said, investment in rural infrastructure too is severely lacking as a large share of spending goes towards subsidizing water, power and other agricultural inputs as well as towards a massive nationwide food distribution program.

<sup>2</sup> The findings of the Committee are in the process of being submitted to the Central Government and are not yet publicly available.

end users as an appropriate method of financing (Garg 2007, 125-126). Increasing political decentralization, that puts more responsibility for infrastructure investment in the hands of State and Municipal governments and reduces the previous dependence on Central government transfers means that new (or restructured) institutions and new funding mechanisms will need to be deployed in the coming years. Some of these funding and institutional reform issues are being tackled under the Urban Infrastructure and Governance sub-mission of JNNURM.

## 1.2 Scope of this Thesis

This thesis focuses an avenue of financing that could hold tremendous potential for India – that of “Land-based Public Finance”. In essence, land-based public finance refers to any mechanism whereby publicly generated increases in the value of land are appropriated by the government to fund public services or infrastructure. This mode of finance operates through a range of ‘tools’ – amongst others, betterment levies, developer exactions, and outright sale of government land – to deliver revenue. These tools are particularly effective in environments where land values are rising quickly and where governments already own significant parcels of land, although neither are necessary preconditions for their use. Fortuitously in many cities in India, decades of state-led development have endowed governments at different levels with extensive land banks, and the rapid economic growth of the last decade or so has spurred a startling escalation in land prices (See Phatak 2009, 249 and Sridhar and Reddy 2009, 20)<sup>3</sup>. As Chapter 2 will explain in more detail, the structure of most tools explored in this work, make them well equipped to address both the speed and scale issues of the Indian funding requirement. Thus, at least in theory, land-based public finance could form a vital and significant portion of the funding mix for urban infrastructure going forward. The MGI estimates that Indian cities alone can generate over \$27 billion a year from leveraging their existing land assets (2010, 74). At present only \$3 billion a year is generated from land monetization (*ibid.*).

Monetizing of land assets is fairly common in many of today’s developed countries but the systematic use of many of its tools is relatively new to many developing economies. However, recently there has been strong interest in exploring land as a source of revenue in Indian policy circles. The theme of the 2009 India Infrastructure Report was “Land – A Critical

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<sup>3</sup> It is important to note that this might not be true of all cities in India. Also, the government entities that hold the largest land banks might vary from the city to city – from the army to municipal or state government.

Resource for Infrastructure”. In the same year, the Indian Urban Space Foundation, in collaboration with the Brookings Institute and the Industrial Development Bank of India (IDBI) organized a conference to bring together Indian and international policy makers, planners, government officials and other experts to share their experience capturing land increments. While some projects that leverage land assets have already been undertaken by the Indian Railways and some city and state governments, this conference was formal recognition of the fact that the extensive use of this avenue will be a major priority for the government going forward.

As we will see in Chapter 2, land-based public finance has a number of compelling advantages. With a current national debt to GDP ratio of 78 percent<sup>4</sup> perhaps one of the most enticing aspects of this financing option is its potential to reduce dependence on debt. However, at the conference, numerous presenters highlighted some of the difficulties they have faced implementing land-based tools in the Indian context. This is probably because, as is the case with most economic models, land-based finance is predicated on certain base ‘assumptions’ regarding the context in which it is deployed. When these assumptions fail, outcomes might be different than anticipated and in some cases even generate negative externalities that wipe out most of the gains. It is important therefore to try to identify what these assumptions – both implicit and explicit – might be and then determine how the ‘tools’ might function in a context where these preconditions are met either partially, or not at all. This scrutiny is important to help us understand which tools might be most easily adapted or suited to the broader Indian context<sup>5</sup>. It is critical to ensure that land-based finance doesn’t generate its own set of liabilities. In other words, we must ensure that the marginal benefits of its use equal the marginal costs and that failed implementation doesn’t bring a whole host of negative secondary effects and distortions upon an already fragile fiscal system.

Institutional responsibilities and archaic land and property legislations are still evolving as the administration comes to grips with the demographic changes underfoot. Economic liberalization reform that began in 1991 is still in the process of dismantling an elaborate system of controls that has left behind a legacy of distortions in land prices. Moreover, land is a

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<sup>4</sup> This is considered high as compared to an average of 45% for emerging economies (Topalova and Nyberg 2010, 3)

<sup>5</sup> In a country as diverse as India while it is hard to identify a uniform ‘context’ some of the issues raised are broad enough that they could apply to a significant part of the country.



contentious and emotive issue in India where over half of the population is reliant on agriculture as their main source of income. Shortsighted policies to exploit land assets could jeopardize long-term financial stability and have intergenerational equity implications for the social and economic development trajectory of the country. Thus while the literature presents us with a whole menu of options to choose from it is essential that we first look at the fine print.

Towards the aim of better understanding the implications of land-based public finance of infrastructure in India, this thesis examines the use of a 'land-incentivized joint venture' in the construction of the Bangalore International Airport (BIA). In this case, the airport was built under a public-private partnership (PPP) with land being the most important financing tool. While generalizing on the basis of one case and one context is spurious it is nevertheless hoped that this exercise will generate some insights and considerations for future use of at least this tool of land-based finance.

### **1.3 Methodology and Limitations**

The research for this work comes from secondary sources – technical documents, agreements, newspaper articles, reports and opinion pieces. I have been careful to crosscheck all my facts by only using those that appear identically in at least two independent sources. Overall, for a lack of detailed information on many aspects of this case, I use this case more as a tool to illustrate and highlight many of the potential issues that could arise from the use of this mode of land-based finance and offer each issue as an avenue for future, more extensive research. For example, while I am not able to quantify the benefits and costs encountered in the Bangalore case, such an endeavor might be undertaken as more information on the case becomes available.

For data and information reasons I was constrained in my choice of cases to study. The Bangalore Airport case is both interesting and representative of many of the infrastructure projects being implemented in India. However, by virtue of being a PPP, some of the problems and benefits encountered are inherent in all PPPs whether or not they use land as the primary financing incentive. I have tried to make the distinction between those issues that arise from the use of land and those that result from the exigencies of PPP formats.

Lastly, in describing the theory of land-based finance, I recognize that no tool can ever be implemented perfectly in reality. Rather, it is a question of degree that determines failure or success. Unfortunately because of the limited scope of this study, I did not provide any comparative analysis between land-incentivized joint ventures and other land-based public

financing schemes.

#### **1.4 Structure and Organization**

The thesis is organized as follows. Chapter 2 introduces the reader to the theory of land-based public finance and describes a subset of its tools most relevant to the Indian context. After evaluating the pros and cons of each tool it summarizes the assumptions that underlie their successful use. Chapter 3 briefly outlines the current fiscal structure and position of the Indian government to highlight the need for alternative sources of revenue. Drawing on the information presented in Chapter 2 it highlights how India might benefit from the prudent use of land-based finance in theory. Chapter 4 examines the case of the Bangalore International Airport (BIA). Using the framework of assumptions developed in Chapter 2, this chapter describes the potential issues that might arise when a land-incentivized joint venture is executed in a reality where some of the theoretical underpinnings do not hold. Chapter 5 concludes.

## **CHAPTER 2: LAND-BASED PUBLIC FINANCE**

This chapter provides an introduction to the concept of land-based public finance, and describes a subset of its “tools” that are most pertinent to the Indian context. These tools have been identified by reviewing public discussions amongst policy makers, urban planners and financiers as to how India might more systematically capitalize on escalating land values to fund its massive infrastructure requirements and augment state and local budgets. Thus, while there are a host of other tools used around the world such as Business Improvement Districts, Tax Increment Financing and others, these are not discussed here. At present, Indian policy makers are focusing primarily on the use of betterment levies, developer exactions, land-incentivized joint ventures and land asset management.

While recognizing that each tool is modified to suit the context it is applied in, this chapter broadly lays out the theoretical basis, pros and cons of each approach. It goes further in trying to establish a dialectical relationship amongst the set of tools presented so that the reader can appreciate how one mechanism, in theory, seeks to address the shortcomings of another. Finally, this chapter summarizes certain fundamental assumptions that implicitly or explicitly underlie most of the land-based financing instruments. When these assumptions or pre-conditions fail, I argue, the tool may produce sub-optimal outcomes or generate negative externalities that nullify the gains. The set of assumptions developed in this chapter will provide a useful framework for evaluating the performance of the land-incentivized joint venture undertaken for the BIA.

### **2.1 An Introduction to Land-Based Public Finance**

Land-Based Public Finance refers broadly to any mechanism whereby increases in the value of land are systematically appropriated by an authorized government entity to fund public works, services, administrative operations or infrastructure. This mode of financing is predicated on two, usually concurrent events – one, in light of increased urbanization, population growth and income levels, a city’s investment needs grow rapidly; two, this growth in turn raises the value of urban land exponentially making it an attractive potential source of revenue.

The desirability of a piece of land may increase due to any number of factors - rapid urbanization, the building of public infrastructure, public perception of future worth, changes in land use, population growth or private or community investment – and it is assumed that the value of these enhancements are *capitalized* into immediate or surrounding land values<sup>6</sup>. Creating, estimating and capturing this increment is the goal of a host of land-based financing tools that have been developed over the years. Property taxes for instance, might be regarded as one of the oldest forms of land-based public finance; for centuries rulers and governments have taxed away a portion of the value of land held by private entities to fund activities of the state or kingdom. Over the years as the notion of the state and private property has changed, attempts to balance efficiency and equity have resulted in guidelines that govern what constitutes appropriate capture of land value. Most crucially it must be ensured that value capture is not confiscatory i.e. that it does not take away that portion of the increase in land value that accrues from private investment as that return does not theoretically belong to the state (Hong 2010).

Referring to “tools” of land-based public finance can be misleading in that it implies a level of homogeneity in structure and application of each tool that does not and should not exist across the varying institutional structures, socio-economic, political and cultural contexts that these tools are used. Property taxation schemes, though similar in their basic concept, are designed very differently in different countries to best suit their unique needs and constraints. Some tools are better suited to certain environments. In India for instance, property taxation is underutilized and does not form a significant source of local government income (Rao 2004, 22). This is because the high ratio of informal to formal housing, political unfavorability of rural property taxation, rent control legislation, poor land ownership and transaction records and weak reprehension of tax evasion make this tax, or “tool” particularly difficult to administer and collect. In other countries however, property taxes might form the backbone of a local government’s budget. What this means from a public finance perspective is that countries should consider those tools that yield

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<sup>6</sup> We can imagine this in the form of an equation where under perfect market conditions: Final Land Price = Original Land Price + Market Valuation of Cost of Enhancement. While this is a gross simplification and in reality there are numerous market imperfections that render this equation inaccurate, it serves to explain the fundamental premise of land-based financing. Please see caveats above.

them the most substantial income and are the most efficient and equitable for their particular context. As conditions change (e.g. the gradual formalization of land markets) a different set of tools might be employed. These may be applied either individually or together and, as we will see below, should be chosen to best suit the nature of the increment. Thus, the tools presented below should not be interpreted as cookie cutter, one-size-fits-all solutions or as a depiction of a chronological progression of instruments that have improved over time. Rather, they are presented as a range of mechanisms that have responded to, but not completely overcome, the weaknesses of each other.

## **2.2 Some Tools of Land-Based Public Finance**

### **2.2.1 Betterment Levies: Reclaiming Public Value**

Betterment Levies, as a kind of property tax, are amongst the older tools of land-based finance and have been used by almost every country under different names and modified frameworks. In essence, they comprise a one-time charge against an unearned increment in land values that is attributable to a publicly funded infrastructure project or a change in municipal decisions on land use (Burki et al 1996, 364). The money earned from the levy is then used to fully or partially cover the borrowing or spending incurred to build the infrastructure in the first place. For example, it was argued that the Jubilee Line Extension of the London Underground could have been entirely financed by betterment levies within a 20-year period. To do so would involve taxing away part of the large increment in land values observed by households along the project's length (that presumably occurred due to the improved locational benefits) and using the earnings to defray the project cost (Riley 2001 in Gihing 2009,11). As this example might indicate however, betterment levies are conceptually simple but difficult to implement.

The first major difficulty from an implementation standpoint is that of accurate estimation. Even in countries where land records are reliable and where land prices and ownership have been tracked over a period of time, it is hard to isolate exactly how much of an increase in observed land value can be directly attributable to one particular investment or land use decision as opposed to other changing variables. Depending on how land parcels are placed within a particular locality, a related problem is estimating how the increment might differ between parcels. Moreover, as Peterson (2009) notes, while

empirical studies have consistently demonstrated a statistically significant relationship between infrastructure investment and increases in land values, the actual magnitude of this relationship has varied dramatically (38). To levy a heavy tax – with rates that have typically ranged anywhere from 30 to 60 percent of the notional gain in value – with poor empirical backing for its rationale, and large potential variability in its estimates, can prove hugely unpopular (*ibid.*). In a 1962 study of agricultural taxation in Kerala, India it was decided to abandon the imposition of a betterment levy following an important irrigation project as the “discontentment that it would create [was] likely to be great” (Groves and Madhavan 1962, 62). In many developing countries where concrete information on land prices and title deeds is only now beginning to be collected systematically, this tool is particularly hard to defend. Its political unpopularity has resulted in betterment levies in their traditional form falling out of favor.

Great Britain made extensive use of a “development value tax” in the post Second World War period but abolished this tax by 1954 due to high administrative costs, estimation difficulties, and citizen discontent. (Davies 1998, 5). “Contribución de valorización” or “contribución por mejoras” (literally, contribution for improvement) has long been a part of infrastructure finance in Spain from where it was later transferred to Latin America (Peterson 2009, 36). In the United States the variant on betterment levies are “special assessment districts” or “benefit assessment districts”. In India there are a number of Acts that legislate the use of betterment levies or “Land Value Increase Tax”. Among them, the Mumbai Highways Act of 1955 offers the owner of the land the option to pay the tax (equal to half the value of the increment) in terms of a parcel of land of equivalent value (Phatak 2009, 231).

A reasonably successful variation on traditional betterment levies has been formulated by the city of Bogota from 1997 onwards. Unlike the previous forms of valorización this tax does not claim to be tied to actual increases in land values or one specific infrastructure project but stands merely as an assertion of the belief that “the public has a right “to participate” in increases in [socially generated] land values” (Doebele 1998, 6). The traditional system estimated land value gains before project construction using a fixed (and often outdated) set of parameters to arrive at a ‘notional’ land value increase and did not adjust the tax levied for actual observed changes in land value. This

meant that if for some reason land values did not rise as expected, or decreased due to some other factor, residents still had to pay the same pre-determined amount. In the newer variation however, instead of imposing a project-specific tax the city bundles together all its infrastructure investments into one package and imposes a more general citywide infrastructure tax whose magnitude varies according to broad 'benefit zones'. In administering the tax, the city accounts for a number of factors, such as the ability of different income groups to pay, the type of land-use being taxed (commercial-industrial versus residential) as well as the traditional metrics of plot size and location (Peterson 2009, 63). The general nature and complex structure of this tax has made it harder to disaggregate and challenge in court. Moreover, according to Peterson, the fact that the revenue earned from the tax is now used to finance improvements *across* the city has reduced resistance (*ibid.*). Indeed, one of the chief criticisms of traditional betterment levies is that they are potentially 'vertically' inequitable i.e. since they have to be tied to a specific location they tend to encourage development in those parts of the city where authorities know they will be able to recover their costs. As a result there is more emphasis on some neighborhoods relative to others, which leads to unequal infrastructure provision within a city. Yet, also in theory, these levies have 'horizontal' equity because when they are applied within a neighborhood all the residents are required to pay for the cost of infrastructure investment on the basis of their property price (Hong 2010). Both betterment levies and the developer exactions we will examine in the next section are considered 'efficient' from a public goods perspective because beneficiaries pay exactly for the cost of the goods they consume (*ibid.*).

Betterment Levies are costly to estimate and potentially inaccurate. Moreover, coordination with a large number of stakeholders (individual households) makes them administratively complex and expensive to administer. Being potentially subject to litigation this tool can have a slow process of cost recovery. Since land markets are cyclical and are affected by more than one factor i.e. beyond infrastructure provision, uncertainty over future land prices makes revenue streams from this tool harder to predict. Thus, one way to provide local infrastructure that cuts down the number of stakeholders and increases predictability is to get developers to build, or pay for, the infrastructure required to support new development or growth.

### 2.2.2 Developer Exactions and Impact Fees: “Paying Your Way”

There are a number of ways in which developers can be required to provide either in-kind or monetary compensation for the additional infrastructure requirements their property development imposes. Also known as “impact fees” the fundamental premise of this form of land-based finance is that new development or growth imposes an externality by way of increasing the pressure on infrastructure or requiring an extension of existing infrastructure systems. Growth creates additional demand for sewage, water, roads, electricity and other basic amenities. While it is typically the domain of local governments to provide these services, it is argued that the cost of doing so should be at least partly internalized by and recovered from the property development that necessitates it (Phatak 2009, 231 and Kirwan 1989, 291). Technically, developer exactions refer to developer provision or compensation for *internal* project infrastructure whereas impact fees apply to *external* infrastructure such as roads linking new projects to the existing road network. This tool is “land-based” in that funds are typically raised through the sale or lease of the developed land, or surrounding land whose value has been enhanced by the adjacent development (Peterson 2009, 214).

While developer exactions are standard practice in most developing countries, impact fees are largely only used in the United States (Peterson 2009, 45)<sup>7</sup>. However, impact fees are being seriously considered in India as well with an MGI report recommending that cities charge fixed impact fees for all new developments in order to provide incremental trunk infrastructure. As per the recommendations, this charge would be on a per-square-foot basis and set as a percentage of the property price e.g. 2-3 percent for Tier I cities (MGI Report 2010, 75). As impact fees have become more common practice in the United States, a set of guidelines has evolved. These guidelines primarily seek to ensure that the impact fee charged is proportional to the incremental infrastructure requirement that the growth necessitates and does not finance upgrades for existing users. Revenue from impact fees may also not be used for the general operating expenses of local

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<sup>7</sup> Phatak (2009) argues that the critical ‘rational nexus’ between the cost of providing infrastructure and the fees charged is easiest to establish in the United States on account of their well-established practice of preparing capital improvement plans. This might explain why impact fees are more widely used in the US than elsewhere (230).



government bodies (Peterson 2009, 46). Standardization of practice has gone a long way towards reducing initial resistance from developers and any country that implements such exactions will have to tread carefully in the initial stages so as not to dissuade new development.

A related funding mechanism is the sale of development rights. For the Indian context, these fall into two main categories – *the right to convert land from rural to urban use* and the *sale of additional construction rights* such as those authorizing increased density in Floor Area Ratio (FAR)<sup>8</sup>. Here too, the price charged for this change in regulation should technically reflect the additional cost of servicing increased occupants. The MGI Report cited above also recommends that Indian cities look to increase FAR around central business districts or along major transport corridors and use the proceeds to finance the higher infrastructure needs of those areas. In Mumbai, India's commercial capital, it is estimated that an FAR increase from 1.3 to 4 in a key commercial area could fetch the government Rs 4,000 – 5,000 (USD 87<sup>9</sup> - 109) per square foot (MGI Report 2010, 75). As will be described later there are others who are strongly opposed to the idea of using FAR sales.

The set of mechanisms presented above offer a number of benefits. For one, they *reduce the burden of debt* on local or state governments by requiring the developer to raise the funds required for investment. The timing of the inflow also offers an advantage over betterment levies as governments can wait to extend infrastructure until they receive the payment instead of being reimbursed later. However this is not always the case – in a slow real estate markets governments may not have the bargaining power to obtain the required level of developer exactions and may have to pay for the infrastructure themselves (Hong 2010). Yet, in requiring a strong link between additional demand imposed and infrastructure provided, developer exactions might also offer more *quid pro quo* to contributors than betterment levies. This greater perceived “fairness” could create greater buy-in that could potentially speed up the process of service delivery and increase

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<sup>8</sup> This is known as Floor Space Index or FSI in India.

<sup>9</sup> All conversions use the average Rupee/USD exchange rate from Nov 2009 to April 2010 (6 month average) = 45.8086 as obtained from <http://www.exchange-rates.org/history/INR/USD/T> accessed 05.03.10

predictability in government budgeting. Coordinating with individual developers instead of multiple households might also make this process logistically simpler.

It is implied that developer exactions are also economically efficient in that they ensure that the correct level of incremental infrastructure is provided (See Phatak's quote below). Developers should be careful to ensure that the marginal revenue they expect to earn (in the form of land value increments) from infrastructure provision equals the marginal cost of providing it. Technically, government authorities should also be careful to ensure that they do not grant more marginal revenue to developers than the marginal cost they are able to extract after factoring in a reasonable profit margin. Thus it could be argued that this tool ensures greater rationality in spending and less dead weight loss. Of course, as we will see later, the reality of lumpy capital investments and the difficulties of accurate estimation somewhat temper this advantage in reality.

Developer Exactions can also play an important role in the *spatial development* of cities and introduce efficiency in the use of urban land. By varying the magnitude of impact fees local governments can steer growth and development to where it can be best accommodated or is most desired<sup>10</sup> (Peterson 2009, 5). If demand and supply are allowed to price the infrastructure cost of different locations, this method of financing could ensure allocative efficiency as resources ostensibly flow to their most productive use. However this logic assumes that governments have a master plan in mind (if not on paper), and the foresight to predict future growth patterns. It does not account for situations where the institutional structure is such that it allows for a principal-agent problem to develop; when the same government body in charge of regulations stands to earn revenue from the regulation change there is the moral hazard that the authority will exploit its power to maximize its economic gain (Hong 2010). It could be imagined that in contexts where political control over state or local government tends to swing from one political party to another and incentive structures are more shortsighted this problem might be heightened.

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<sup>10</sup> At the same time, governments can charge extortionary impact fees to prevent or dissuade development in a particular area. For example, a municipal government can come under pressure to charge higher impact fees than are economically rational to block a condominium from being built in an area of predominantly single-family homes (Hong 2010).

It could be equally troublesome in the case of single-party but kleptocratic government institutions.

Thus, it appears that while developer exactions and its related tools overcome some of the problems faced by betterment levies they also have their own set of problems. For developers and governments to reach an agreement there still needs to be considerable accuracy in predicting the magnitude and cost of the incremental infrastructure. Therefore, much like betterment levies, this form of finance is less suited to countries where estimation is cumbersome due to poor data. Estimation in turn relies on having a master plan for the city, yet while most cities in India do have master plans these are rarely followed in practice and cities tend to develop in a less planned manner. Further, this tool assumes that existing infrastructure is already at its optimal level. Vidyadhar Phatak, the former Principal Chief Planner for the Mumbai Metropolitan Regional Development Authority (MMRDA) summarizes the difficulties with implementing developer exactions in contexts such as these:

“The principle ‘growth pays for itself’ followed in the USA implies that impact fees do not cover the cost of clearing the backlog of infrastructure investment. It is possible to follow this stipulation on account of the well-established practice of preparing capital improvement plans. Indian cities, however, do not generally follow such a practice<sup>11</sup> Consequently, it is difficult to estimate and attribute cost to additional infrastructure required to new developments proposed. [Often] The infrastructure investment requirements are so high that the required impact fees based on ‘growth pay for itself’ principle would be too high to implement.” (Phatak 2009, 230)

Phatak is also critical of the sale of development rights particularly the sale of FSI in cities like Mumbai where regulation has kept the intensity of development low. While FSI can be sold for large sums of money in Tier 1 cities, he asks whether it is fair that authorities exploit a scarcity rent that was caused by restrictions they have themselves imposed<sup>12</sup> (Phatak 2009, 232). Sebastian Morris and Ajay Pandey (2010) take this

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<sup>11</sup> With the exception of mission cities participating in the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) that are required to prepare City Development Plans including Capital Investment Plan, 2006–13)

<sup>12</sup> Moreover, since development rights (FAR etc) were never nationalized in India and therefore the government does not technically ‘own’ these rights in the first place, this avenue actually requires legal clearance before it can be a significant source of revenue. Despite this, many cities have already begun the sale of FSI. (Phatak 2009, 232)

argument one step further. They argue that the historical practice of urban planning in India has strayed so far from economic rationality so as to create massive distortions in prices for urban land; charging for FSI or collecting other scarcity or regulation imposed rents (such as for a change in urban land use) is hard to defend and restricts access to all but the rich and upper middle classes (7).

Developer exactions suffer from the same equity problem as betterment levies in addressing the needs of only a narrow section of the population. However, unlike betterment levies whose variations have tried to correct for uneven infrastructure provision, developer exactions by nature of their design require private investors and not the government to make the first move. Thus beyond reasonable incentivization using lower impact fees this tool might not be suited to address the needs of those parts of a city or state where developers do not wish to locate. Since the magnitude of revenue is directly tied to that of investment the funds raised do not benefit those outside the target population. The following financing mechanisms seek to overcome this drawback by serving as ways to raise funds that are not tied to a particular project and can be used with greater latitude to develop new parts of the city. They also overcome a chicken and egg situation in which cash-strapped governments cannot reap benefits from infrastructure until they have raised the capital to invest in it in the first place.

### **2.2.3 Land Asset Management and Sale: Balance Sheet Optimization**

Land Asset Management capitalizes on the fact that municipal and state government authorities in many developing countries already own significant land parcels in their jurisdictions. Monetizing these assets and using the money to invest in infrastructure can be regarded as a desirable asset transformation especially in cases where the land is lying idle. Land asset management offers a number of advantages over the tools listed above, as long as the decision-making involved is strategic and not driven purely by financial gain. Like all the other tools it also suffers from a number of difficulties in practice.

One of the most appealing features of this form of land finance is its potential to generate large sums of money up-front. Unlike most other land financing instruments this tool is unique in that revenue and investment are not necessarily linked to the same project and the revenue earned can be put towards any use that the local government deems fit.

However, it is expected that the bulk of the revenue would go towards capital and not current expenditure. In 2009, the Hyderabad Urban Development Authority (HUDA) auctioned 69 acres of land for over \$15 million to partially fund an Outer Ring Road for the city - a transaction that generated revenue four times the annual property tax collection of the Hyderabad Municipal Corporation (Ramanathan 2010). This relatively quick schedule of revenue generation affords significant benefits especially in countries where obtaining long-term credit is difficult<sup>13</sup> (Peterson 2009, 5). Both the volume and quick delivery of revenue allows city or state governments to reduce their dependence on debt financing and its associated fiscal risks (*Ibid*). As Ramesh Ramanathan, a prominent Indian civil society activist and Chairperson of the Technical Advisory Group (TAG) of JNNURM points out, when correctly utilized, land-financing of this sort allows cities to “accelerate infrastructure build-out so that [they] are not constantly playing catch-up” as revenue trails economic growth (Ramanathan 2010). Yet, while the potentially staggering revenue generating capacity of this mode of financing makes it desirable, it is not in itself a rationale for its use.

Land asset management can also act as an important mechanism to direct growth in a city by selectively freeing up new sites for development. Moreover, it is argued that use of this tool allows governments to streamline their assets and utilize market indicators (mainly price) to determine which land parcels are most useful to hold on to and which to divest (Peterson 2008, 3). This benefit can fit into the broader argument for economic efficiency mentioned above because in utilizing market indicators the tool introduces market principles and rationality to government’s asset management and decision-making<sup>14</sup>. It is also argued that by outsourcing development activities to the private sector, which can handle them more efficiently, land sales leave governments to focus on their core ‘business’ (Peterson 2009, 216). In India many city and state governments such as the MMRDA act as developers and lease their properties. However, often management of these leases is poor, rents are nominal and construction is shoddy (Sridhar and Reddy 2009, 54). Poor accountability and the lack of land records even for municipal government’s own

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<sup>13</sup> This same potential for revenue generation can be quite troublesome as described below.

<sup>14</sup> As a positive externality one could argue that by bringing the government into land markets they act as a market maker which is especially helpful in countries where land transactions are often informal and not transparent.

properties leads to significant abuse; in Karnataka it was found that the Judicial Employees' Cooperative Housing Society illegally allotted and sold nearly 190 acres of land and sites to excise, police and municipal government officials (*ibid.*).

Land Asset Management suffers from a number of drawbacks and caveats to its use. For one, the argument for economic efficiency and market orientation is rendered moot if the government is the main player in the real estate market. In that case there are few "market signals" to rely on in making decisions regarding land sales (Hong 2010). Second, depending on the institutional structure governing land regulation this form of finance is also susceptible to a principal-agent or "referee" problem; similar to the issue with FSI, if the same government authority that is selling its assets is also in charge of regulations that could affect the price of the land then they might be able to earn supernormal profits by artificially inflating land values to their benefit (Hong 2010 and Peterson 2009, 216). Indeed, extensive reliance on this form of finance creates a vested interest for governments to ensure that land prices are constantly increasing; inflated land prices (especially those created by artificial means) in turn create distortions in the market for urban land. Conflicts of interest and skewed incentives in government decision-making that lead municipal and state governments to lose sight of the public good and turn into profit-maximizing real estate agents also has serious implications for the spatial and economic development of cities (*ibid.*).

Naturally, one of the most common risks of any scheme that involves such large sums of money is the huge potential for corruption and misallocation of resources. However, while this mode of finance can be particularly prone to corruption, this is true for all methods of land finance to some extent and in itself it is not an entirely disqualifying factor<sup>15</sup>. Instead the potential for rent-seeking should be an important factor in the design of finance tools in situations where it is a particular concern. In developing countries where land sales often lack transparency and accountability and where the institutional structure

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<sup>15</sup> In the mid-90s China made extensive use of land financing tools. Alongside its success there were strong criticisms of funds being generated outside the budgetary requirements (EBFs or Extra Budgetary Funds), of large-scale corruption and of misallocation of resources into shopping malls and commercial complexes (Ramanathan 2010). As tax analysts Richard Bird and Christine Wong remark, "while EBFs [in the range of 18-27% of GDP] are not at all bad [and provide] arguably desirable autonomy to local governments [they also] add considerably to the obscurity of the general public finance scene in China" (Bird and Wong in Ramanathan 2010).

might not yet be geared to manage new modes of financing, large and unaccounted leakages are a common problem (Peterson 2008, 3). As Peterson (2009) documents, Mumbai's principal development authority, the MMRDA, generated US\$1.2 billion in revenue from just two land auctions to developers in a prime commercial-business district in January 2006 and November 2007 – a sum almost ten times the total MMRDA infrastructure investment in 2004-2005 (91). Worryingly however, he notes that there has been little documentation of where this money has been spent (*ibid.*).

With potentially large sums of money to be made, land asset management can engender a dangerous culture of profligacy in cash-rich government bodies. Since land-based finance hinges on prices in cyclical real estate markets city governments that become overly reliant on revenue from their land assets might be badly affected by a downturn in land values. Similarly, while rapid urbanization is likely to fuel large annual increases in land prices this trend cannot be sustained over time. If revenue earned is not channeled towards productive investment or being channeled into a ring-fenced infrastructure fund and is instead used to finance a general expenditure budget, then apart from being a wasteful use of funds, the administrative infrastructure itself might be unable to function in more lean times. This is a particular problem with land asset management since there is no legal obligation as such to spend the money earned on infrastructure or other investment. Yet more generally it is critical that while governments should use land as an important element in their financing mix, they realize that this resource too is finite. China serves as an example – after 15-20 years of relying on land-leasing revenue they have now had to switch to user fees, other project revenue streams and domestic savings as the potential for raising funds from land are exhausted. A major contributing factor to this change was a sharp reversal in land value appreciation after the Asian Financial Crisis of 1997 (Ramanathan 2010).

A final downside of land asset management could be that selling off government land depletes the finite asset base of the government agency in the long-term as they forsake rights over future revenue streams that the land might produce. Land also has value as a strategic asset and it is possible that governments might not want to reduce their monopoly in this area completely. Thus one final tool considered below is the “land-incentivized joint venture” which allows governments to utilize their land assets as

collateral without permanently losing control over them. This tool has received great interest in India for the tremendous potential it offers for entering public-private partnerships without much monetary investment.

#### **2.2.4 Land-Incentivized Joint Venture**

Independent of land-based finance, many developing countries have begun to look at PPPs as a way of overcoming their budget constraints. Land can be an important part of PPPs as it allows government bodies to enter these agreements by leveraging the value of the assets they already possess (such as land) and limiting their monetary contribution to a project. Typically, PPPs involving land require the government to contribute the land required for the infrastructure project and the private investor to raise the capital required to build it. Private investors may use the land as collateral to borrow funds for the project, and later recoup their expenditure through the sale, development or lease of land adjacent to the project site. For this purpose, the amount of land contributed to the project typically exceeds the actual amount required by the infrastructure itself.

Where the government does not own the land, it must first acquire it from private owners, typically through the use of eminent domain. The use of eminent domain is highly contentious particularly since the wordings of laws determining “fair compensation” tend to be ambiguous in most countries. Thus outcomes could vary on a spectrum depending on the state-society balance of power in that context. On one end, negotiations could favor the private owner of land so that land is purchased at a market value that includes the market’s valuation of the future benefits to flow from planned infrastructure projects. This extreme could in essence, negate or at least dissuade the use of this financing model. At the other end of the spectrum, the acquisition could take place at current-use values or at administratively set prices that favor the public sector.

Revenue sharing under land-based incentivized joint ventures typically sees public and private owners entering into a voluntary gain-sharing agreement based on joint ownership of the project. Revenues may be earned by sale of adjacent land or by exploiting it as commercial or residential real estate as is the case for the Bangalore airport. China has made extensive use of this model of financing. To finance a \$730 million Outer Ring Road around the city of Changsha, it transferred land use and development rights for two 200-



meter strips of land on both sides of the proposed highway to the Ring Road Corporation, a public-private joint venture company. This was in addition to the land contributed for the highway itself. Through the sale of leasing rights to parcels of land that would enjoy infrastructure service, the Ring Road Corporation was able to raise half the amount of money needed for investment. The other half of the money came from commercial loans with the future anticipated value of the land as collateral. While, toll charges were also a part of the financing package, land was central to the overall strategy (Peterson 2009, 67).

This mode of financing offers a range of benefits and improvements over other mechanisms. For one, as described earlier, it allows governments to retain control over their land in the longer term. In the case of the Bangalore airport for instance, while the BIAL consortium enjoys the revenue and development rights to the project land for 30 years (with the option to renew for 30 years more) the land is still technically under lease from the government for which it earns some nominal income (BIAL State Support Agreement). More than the income however, it is the strategic importance of maintaining control over land, especially that adjacent to sensitive infrastructure. Unfortunately however, ownership of land might convey a false sense of control if the public sector can do little to control activities on that land. It is important therefore that the terms of concession agreements are well thought through as the opportunity cost of ceding control of development rights to the land can be very high.

This tool is similar to the ones above in that it reduces public authorities' dependence on debt. In this case, governments, who already have a natural advantage in procuring land for public use or may own it already, do not have to make monetary contributions but instead can leverage assets that they can most easily access. This is especially useful for municipal governments who have limited borrowing powers such as those in China and India. In return for this contribution they can then earn revenue or gain an equity stake in the project.

Unlike land asset management, joint ventures ensure that land gains are channeled towards productive investment. When properly exercised however, preferably in line with an overall master plan for the city, this tool also serves an important role in directing spatial growth of urban areas. As is the case with developer exactions, this tool also utilizes market rationality in deciding the optimal level of infrastructure provision as it is expected

that at least private developers would weigh their marginal revenue against the marginal costs of construction.

As we will see in more detail later, this tool encounters a number of important estimation problems such as the problem of determining the amount of excess land that should be acquired. Further, since this tool is fundamentally a PPP it also encounters a number of problems inherent to PPPs such as difficulty negotiating the division of returns and accounting for all future contingencies. In this case however division and projections are particularly troublesome since they are based on an asset whose valuation can be hard to predict and establish. Incorrect estimation in this sphere could have far-reaching social implications. This tool could also suffer from principal-agent problems as decisions over the location of certain infrastructure projects can be made to maximize government and developer revenue thus skewing the decision-making process. In their criticism of the Indian urban planning system Morris and Pandey argue that the degree of regulation “puts vast rents into the hands of politicians, favoured landowners and civil servants who know the master plans even before they are formulated and can therefore take speculative positions on land” (Morris and Pandey 2010, 6).

It is important to note that PPPs of various sorts have been troublesome in India with governments allegedly choosing projects that generate more revenue over those that offer services at lower costs. As Partha Mukhopadhyay (2008) has commented, “[The government] must realize that infrastructure is not where you raise revenue; that is a function for taxes. Infrastructure is where you spend those taxes, which then generates more revenue through increased economic growth.”

### **2.3 Underlying Assumptions of Land-Based Public Finance**

Land-based public finance tools offer a host of advantages as described above. However, their successful use and implementation is predicated on some basic assumptions as outlined below. Assumptions can be defined as certain factors that these tools take for granted will exist and also elements that the tools choose not to factor in to their calculation matrices. While it would be simplistic to assume that the more explicit assumptions are not examined in selecting and tailoring a particular tool for

implementation, it is the more implicit assumptions or expectations that can complicate execution and lead to sub-optimal outcomes.

### **2.3.1 Land is an appropriate tool for finance**

The use of land-based financing assumes that land is an appropriate vehicle for finance. While this assumption might sound self-evident it is actually an important assumption underlying the rationale for this medium of financing. Specifically, the operative assumption is that land prices will tend to increase and not decrease given a particular enhancement. For instance, it is assumed in the calculations of developer exactions that the construction of offices or residences will increase surrounding land prices when in actuality the resultant increase in the supply of office space or housing could lower the projected sale price and thereby developer revenues. In making this assumption most tools also discount the impact of other contingent factors. They also assume that land is perceived as a valuable asset and one that will reliably 'absorb' – in the form of a higher land price – the capitalized value of the enhancement.

### **2.3.2 Increments can be estimated, captured and distributed in a non-controversial and accurate way**

Successful use of land-based tools hinges on the assumption that the exact value that will get capitalized into land values can be estimated with accuracy. Thus betterment levies assign differentiated taxes based on 'distance' from the source of enhancement. The tools also assume that the capture and subsequent distribution of value will be uncontested so that actual distribution matches theoretical 'fair' distribution resulting in a zero net welfare outcome (See Section 2.4). This assumption implicitly states then that governments know or can determine what a fair rate of return is, or have a rational and acceptable formula for who should capture how much of any given increment. This assumption in essence summarizes the ones described below that ignore the potential pitfalls in the estimation, capture and distribution process.

### **2.3.3 Information is Perfect and Bargaining Power Symmetric**

One of the main 'complicators' of estimation and distribution is the lack of information and the inability to predict future changes in land prices and land use. In countries with low levels of literacy, poor records and accountability and lack of

transparency in government, this problem is particularly acute. Barriers often exist that privilege one group with more information than another. Many land-based tools however, by virtue of their assumption of accuracy implicitly take for granted that information is perfect and readily available. Beyond this, tools also assume that bargaining power is symmetric. This latter assumption would imply that the outcome of the same negotiation, repeated between different sets of actors, would yield the same distribution of returns every time. Unfortunately however, as we will see in later chapters the terms and outcomes of land acquisition deals can be markedly different based on who is at the bargaining table and the extent to which they understand and are able to articulate their rights in a given situation.

#### **2.3.4 Government Rationality, Capacity and Master Planning**

Most land-based tools put tremendous faith and emphasis on government rationality and capability to evaluate, manage and execute all the steps of the land finance process. In doing so these tools assume that government authorities enjoy a great deal of legitimacy amongst their constituents and the institutional capacity and management expertise to take on such projects.

As we saw above, a number of tools assume that to make the decisions they do governments have a long-term and plan for city development and land use in mind that they adhere to and that is available to everyone (as per 2.3.3 above). Moreover, they suggest that these plans are long-term, stable and realistic and that a strong local planning authority operates with uncontested power relative to developers, politicians and other actors who have the capacity to subvert their plans. This assumption is critical as financing tools that are based on plans that might never come to fruition might fail to generate the revenue expected of them.

Most tools are predicated on the notion that decisions are made by 'rational' governments acting in the public good and uninterested in their own selfish gain. To the extent possible, it is also assumed that market 'rationality' is actually the deciding factor in government authorities' decisions. Since some land-based financing occurs on market terms (or almost market terms) ostensibly it correctly prices the cost of capital. Using market signals it is assumed that governments can make more rational decisions than if

they were using transfers as their source of income. However, as the assumptions below will highlight in more detail, government decisions are not always made on the basis of economic rationality even though the information to do so exists; it is in ignoring the reality of decision-making that the outcomes of tools can differ so drastically in theory and implementation.

### **2.3.5 Political Insulation and “Transaction Costs”**

Most theories of land-based financing pay little heed to the compulsions of political contestation especially in populist diverse, democratic environments. Thus tools tend to assume that bureaucracy, and decision-making is insulated from political pressure. Political pressure might come from a relatively homogeneous group of citizens who protest the use of particular tool. However this is quite different from situations where vote-seeking politicians are looking to appeal to narrow interests for their own gain or where powerful politician-developer nexuses exist that do not respect the independence or authority of the bureaucracy.

### **2.3.6 Institutional Separation and Established Checks and Balances**

As described above, land-based tools place tremendous faith in government implementation and capacity. Beyond just competence however, these tools also assume that institutions are appropriately structured to manage the financing process. As mentioned before, even in situations where authority is well established, overlapping, competing and continually evolving jurisdictions can complicate sharing of revenues and create a principal-agent problem. As Peterson documents, the plan to finance Sao Paulo’s metro using the sale of development rights failed because the city government, who had control over development rights was unwilling to use its leverage to raise revenues for state government expenditure (Peterson 2009, 9). In the case of Mumbai, where jurisdiction over land in the lucrative South Mumbai region is shared by both the regional planning authority, the MMRDA, and the municipal government, MCGM, revenues from large land sales are bitterly contested. In rural areas, where nascent, yet powerful, local authority conflicts with that of the state, the implications might be altogether different. Thus, land financing tools that assume the existence of clear and able hierarchies of

governance, with existing checks and balances, cannot reliably predict outcomes in such different contexts.

### **2.3.7 Underlying System of Land: Land Laws, Acquisition Policy, Ownership Patterns and Land Records**

Since the tools are fundamentally based on land, they naturally make certain important assumptions about the nature of this land itself.

For one, tools tend to imply that land markets are perfect and free from distortions and structural inefficiencies. Thus they do not assume additional transaction costs, imperfect capitalization or prices that reflect bad regulation or structural inefficiencies and not demand and supply.

A second set of assumptions relates to information about land. Tools assume that land records, prices, ownership and transactions are formal, transparent and have been recorded over time so that this information can be used to predict future outcomes. As we will see in more detail in Chapter 4 this is often not the case in India.

More importantly, many land-based tools also do address consider patterns of land ownership, laws relating to property rights and land acquisition in a country when determining their outcomes. In reality, all these factors can have very important distributional implications. Land acquisition and its distributional outcomes for instance, can have quite different ramifications for broader economic development and intergenerational equity in situations where land ownership is concentrated with a small elite, than when small, peasant or farmer holdings are the norm. While the tools themselves, whose purpose is merely to raise the required finance for infrastructure, might not need to consider these issues, policy makers might think about their implications when making their choice of tools.

Historical practice in land markets takes years to reform. In India, it is common to have both a legal (check, money transfer) payment for property together with an undocumented cash settlement; the latter is often a significant share of the total sale price. This system evolved partly to reduce the formal transaction amount and thus the incidence of tax. For a host of reasons “benami” land ownership is also common whereby one person lends their name to a property transaction while real ownership is vested with another

(Raghavan and Raghavan 2009). While it is simplistic to assume that policy makers do not take this into account when developing their tools these facts are pointed out because the tools themselves make no provision to address these underlying complications.

### **2.3.8 Cost of Externalities and Second Round Effects**

Land-finance tools assume that there will be no externalities or second round effects that will not be covered by the positive externalities generated. As an example, while infrastructure might boost land values in an area, it might also push up housing prices for new entrants to the market. Land based tools either assume that the losers will be adequately compensated by the positive externalities generated or consider these costs and actors irrelevant when making their distribution and revenue calculations.

### **2.3.9 Partial Capitalization and Time Lags**

Some land-finance tools fail to account for time lags or market imperfections that might not lead to full capitalization of the enhancement into land values. For instance, two neighbors who purchased their homes ten years apart at different prices might be compensated the same amount under eminent domain based on the current property value. In reality, if the discounted value of the later purchase exceeds that of the prior purchase then the older homeowner has been overcompensated. This is because the newer homeowner paid for the increase in property prices while the older homeowner simply enjoyed an increase in property price by virtue of time. Theoretically, this “capital gain” should accrue to the government either through a capital gains tax or through a lower compensation price to the older homeowner.

As we saw in the case of betterment levies, these tools also rarely account for market imperfections that result in only partial capitalization of the infrastructure investment into property prices.

### **2.3.10 Continually Increasing Land Values**

As we saw with a number of tools above land-based finance is premised on the notion that land prices will continue to increase. Yet as the example of China on page 20 demonstrated, in reality land prices cannot increase indefinitely and governments might want to consider this eventuality.

## 2.4 Chapter Summary

The basic efficiency rationale for land-based finance is that while any infrastructure investment will generate both positive and negative externalities, the positive externalities will cover the costs of the negative externalities so that the net welfare effect is zero.

In reality, it is hard to develop a schematic for how land value increments should be allocated and distributed. For one, issues like time lags complicate estimation so that some of the gains that should accrue to the state might go to private landowners and vice versa. Second, it is hard to determine who should be at the bargaining table when negotiation distributions are decided and how much it is 'fair' for each party to receive. For instance, a municipality that provided the basic sewerage and water lines for an area should technically be included in increment distributions as theoretically they have contributed to part of the increase in land values. Yet for administrative simplicity, some players might be excluded. More commonly, one could think of situations where people who own land but lack formal titles to it are excluded from settlements leading to overcompensation to other parties. In terms of distribution the balance of power context under which compensation negotiations for acquisition are conducted can greatly affect the magnitude of returns enjoyed by each party (See Eminent Domain under 2.2.4). Further, administratively determined regulations such as zoning and land use and the times at which these are changed relative to compensation decisions can also complicate distribution so that overall outcomes can differ quite significantly from one context to another (See Kirwan 1989, 291).

This chapter has outlined the principal methods of land-based finance being considered by the Indian government and described their relative costs and benefits. Chapter 3 will describe the fiscal structure and position of the Indian government to highlight why in theory, land-based finance looks like an attractive and viable option for the country.



## **CHAPTER 3: THE FISCAL STRUCTURE OF INDIAN FEDERALISM**

This chapter outlines the fiscal structure, revenue sources and fiscal position of the Indian Government. In doing so, it highlights the rationale for land-based public finance as an option that seeks to overcome the resource constraints of a debt-laden government. The chapter begins with a description of the three-tiered structure of governance in the country and the principal sources of revenue at each level. Next it presents a snapshot of the overall fiscal position of the country to stress the importance of developing alternate sources of revenue going forward. The chapter concludes by developing a rationale for the prudent use of land-based financing. Yet, just as the country's high debt to GDP ratio poses a threat to long-term macroeconomic stability and sustainability so too can badly designed and implemented land-based public finance schemes. While Chapter 4 will examine the actual experience with a land-incentivized joint venture this chapter underscores the need to look at other options carefully in light of the severe shortage of funds and explains why land-based finance *in theory*, could be such an attractive prospect for India.

### **3.1 The Fiscal Structure of Indian Federalism**

India is a Federal Constitutional Republic with the Constitution of India laying out the functions, responsibilities and sources of revenue for the Union (Center), State, and Local Governments. As a country of over 1.1 billion people spread over 28 States and 7 Union Territories it has a vast, complex and highly bureaucratic civic administration (CIA World Factbook and Rao 2004, 3). When analyzing the fiscal structure of the Indian state it is important to keep in mind that it was designed at the time of Independence in 1947 when there was a strong rationale against decentralization of power and governance. As a result the structure concentrated financial power with the Union Government (also known as Central or National Government).

With the decision to divide British India into two new countries – India and Pakistan, the Indian National Congress – the political party responsible for drafting the Constitution and forming the first independent government – feared for a 'Balkanization' of the region. Moreover, they were tasked with the enormous responsibility for building the physical and social infrastructure for a culturally, economically, socially and linguistically

diverse, predominantly rural and economically backward country. Thus a centrally-controlled government structure was envisaged in which the Union Government held most of the powers for revenue generation and expenditure (See Bardhan 1984, and Nayyar 1998). The Constitution listed “subjects” that were to be the domain of either the Central or the State government. For example, while functions related to money supply, external borrowing, international relations, atomic energy, international waterways and the like are designated “Union Subjects”, the fields of energy, education, health and family welfare and urban infrastructure are the responsibility of individual State governments (Rao 2000: 11-12). Naturally, as the economy has evolved and liberalized some of these assignments have changed over the years. Nonetheless for the first 40-odd years after Independence the governance structure evolved as primarily a two-tier structure – with States holding the residual responsibilities of the Center (*Ibid*).

It was only in 1992 with the 73<sup>rd</sup> and 74<sup>th</sup> Constitutional Amendments that an attempt was made to establish and empower a third tier of governance – that of municipal or local governments. These Amendments were made in recognition of the growing importance of certain towns and cities and in recognition of the fact that greater decentralization was needed to better address the demands of a heterogeneous and faster growing polity. Despite having been instituted over 20 years ago, till date very few local governments wield any real power (See RBI Report 2007 and Garg 2007, 113).

Informally, some level of decentralized authority had existed below the State level for a long time in both rural and urban areas. However, the Amendments formally mandated the creation of *panchayats*<sup>16</sup> at the village, *taluk* (block) and district levels. In urban areas this legislation entailed the creation of Municipal Corporations, Municipalities and Notified Area Committees to provide urban services depending on the population of the area (Sridhar and Reddy 2009, 8). The Amendments laid out 18 subjects ranging from urban planning and slum improvement to secondary and adult education that they expected fully functioning and empowered city municipalities to manage. However, since the decision to actually devolve these responsibilities and grant revenue collecting powers lay with individual State governments very few urban local bodies have actually been

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<sup>16</sup> Literally means assembly (yat) of five (panch) respected elders chosen and accepted by the village community.

empowered as envisioned by the Central Government (Rao 2004, 7). With the exception of the Mumbai and New Delhi Municipal Corporations that own and manage a large asset base almost all urban local bodies (ULBs) suffer from an acute shortage of financial resources and are perpetually dependent on State Government grants. The situation is even worse for rural local governments. Since India is primarily a rural country, of the more than quarter of a million local governments only around 3,000 are in urban areas (*ibid.*).

### **3.1.1 State Government Revenues**

State Governments in India enjoy a much stronger financial position and have a longer history and capacity in governance.

In terms of *revenue generation*, the States have tax handles of land revenue, tax on agricultural income and wealth (although this is rarely levied), stamp duties and registration fees, tax on sale and purchase of goods, excise duties on sale of alcoholic products, tax on motor vehicles, tax on goods and passengers transported through the roads and inland waterways. Traditionally, the tax on sale and purchase of goods has been the most remunerative. All residuary tax powers lie with the Center (Rao 2000, 12).

To supplement tax revenue, States can also *borrow* from the market as well as from the Union Government. This has resulted in almost all the States being heavily indebted to the Center. The Union Ministry of Finance, the Reserve Bank of India and the Planning Commission regulate State borrowing from the Center. States may also borrow from Public Accounts that comprise small savings accounts (net collections from investment in national savings certificates) and savings in the Public Provident Funds (Rao 2000, 12-13).

Lastly, the Center also arranges for *direct transfer of funds* to States by tax devolution and grants in aid. These transfers are determined by a Finance Commission that is appointed every five years. The National Planning Commission also provides sizeable assistance to States as a mix of grants and loans to finance development plans. Central Ministries also entirely fund the Central schemes that they ask States to implement in their respective constituencies. A few Ministries however, require matching contributions from the States (Rao 2000, 13).

Although the Center is tasked to control deficits incurred by the States their laxity has allowed States to further supplement their revenue streams through four main channels as outlined by Rao (2000, 19)

- (i) Creating contingent liabilities by establishing separate corporations to implement major projects undertaken by the States and financing these through borrowing from the market rather than from their own resources
- (ii) Borrowing from the public enterprises they own in times of need
- (iii) Borrowing from the Public Account, and
- (iv) Borrowing from the Reserve Bank of India (RBI).

With the advent of liberalization reform in 1991, the Government of India (GOI) deregulated interest rates and disallowed borrowing from the RBI. This had the impact of increasing interest rates and thus the associated interest burden for States (Garg 2007, 119). Moreover, while the fiscal position of most States was quite comfortable until 1991 since then there has been a steady increase in deficits both at the State and Central level (*ibid.*) Unfortunately, there are not enough statutory checks and balances in the system to enforce fiscal prudence amongst States and a number of structural features of the system create a moral hazard issue whereby States have few incentives to manage their finances since they can rely so heavily on the Central Government (Sen 2003, 146).

### **3.1.2 Municipal Government Revenues**

Although there are a number of constitutionally mandated source of revenue for Municipal Governments many of them have not been granted access to these sources by their State Governments. Octroi, used to be the principal revenue source for municipalities, but it has been largely abolished over the years (Garg 2007, 122-125). Some States compensate for this with a surcharge on sales tax or simply by granting municipalities a certain share of their revenue. Most municipalities are allowed to collect property tax although each individual State Government determines the specific method of assessment. About half of the States allow municipalities collect a "Profession Tax" while almost all States pass on some share of the Entertainment and Advertisement Taxes they collect. Minor taxes such as water, lighting, animal, boat and toll tax are granted to municipalities.

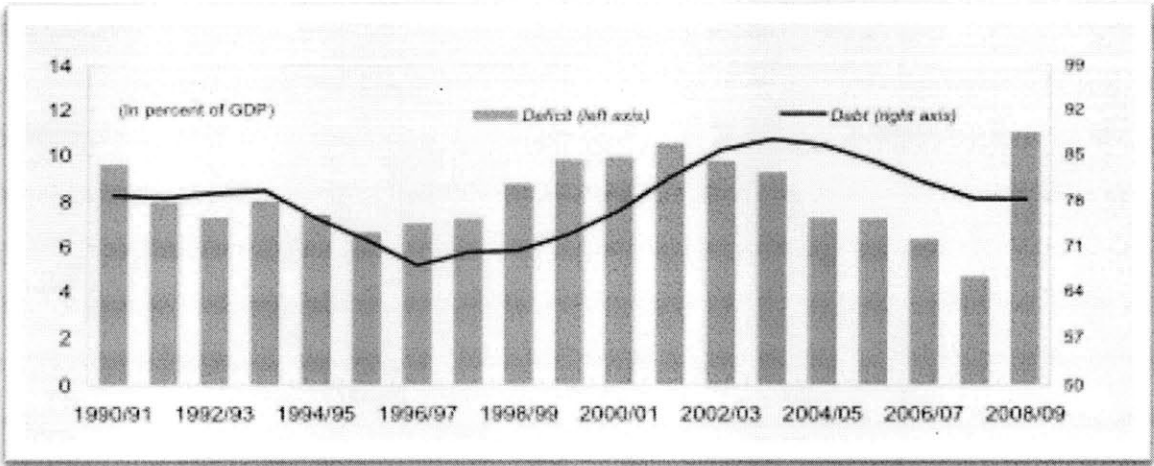
Based on the recommendations of the Eleventh Finance Commission, the Central Government also provides grants for urban local bodies and State governments also provide block grants for general purposes and grants for specific purposes (*ibid.*).

Despite this, revenue remains woefully inadequate for Municipal Governments. More recently some of them started experimenting with user charges for some basic services. This has not typically been common practice in India. Others have turned to public-private partnerships for projects that involve large-scale investment like solid waste management. As market-oriented reforms have liberalized their borrowing potential some Municipal Governments have begun to supplement their finances with market borrowing and wealthier, more established municipalities such as Ahmedabad have even begun issuing municipal bonds. Market borrowing by municipalities has to be underwritten by the State however, which adds to the latter’s contingent liability (Garg 2007, 126).

**3.2 Fiscal Position of State and National Governments**

National debt to GDP ratios in India stood at 78% in 2008-09. This figure is significantly higher than the average for emerging economies which stands at 45% of GDP. As mentioned above, the overall level of public debt has increased since 1991 (See Figure 3.1). Between 1991 and 2009, public debt has ranged between 68 to 87 percent of GDP, with an average of 78 percent of GDP (Topalova and Nyberg 2010, 16).

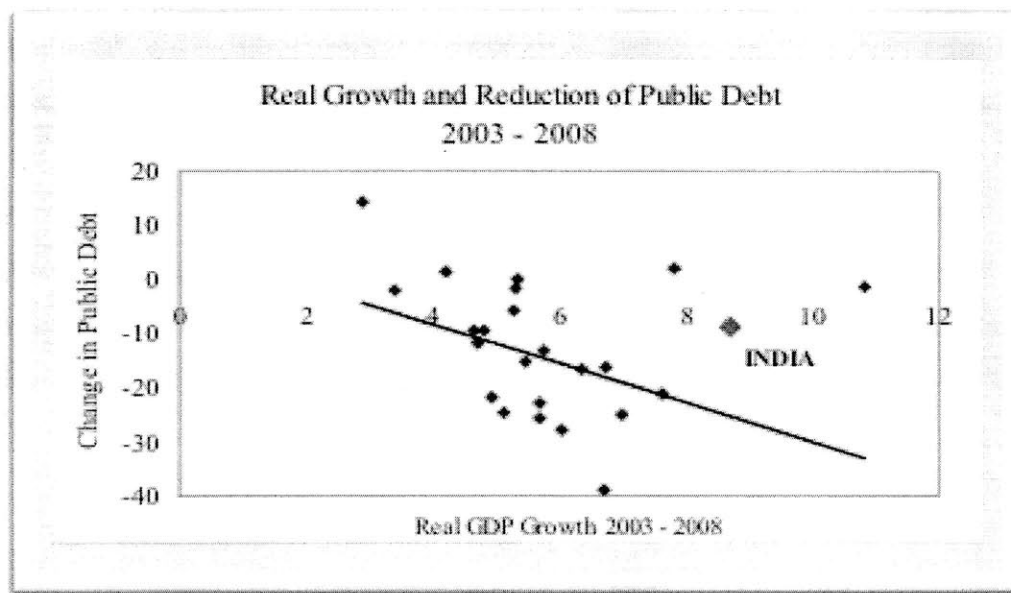
**Figure 3.1: Total Government Fiscal Deficits and Debt Share of GDP**



Source: CIEC and IMF Staff Calculations. Topavala and Nyberg 2010, 17

Recognizing the danger to macroeconomic stability that such high debt ratios pose, the Indian Government has undertaken two periods of substantial fiscal consolidation since 1991 – once in the first half of the 1990s and again in 2003 after the introduction of the Fiscal Responsibility and Budget Management Act (FRBMA). While both periods of consolidation were successful in reducing the debt share of GDP by several percentage points (11 and 6 points respectively) both positions were reversed due to subsequent economic slowdowns, soaring subsidies and mandated increases in government pay (Topalova and Nyberg 2010, 16). What is all the more worrying from a ‘quality’ of debt perspective is that as the economy has grown over the last few years economic growth has not been synonymous with a reduction in debt levels (See Figure 3.2 for how India compares with other countries on this trend). After accounting for enough of a time lag this should suggest that debt expenditure is not being funneled towards productive uses. Data shows that this inference is true. After accounting for loans and advances provided by the Central government, average capital expenditure by both levels of government is only about 3.5 percent of GDP, which in 2002-2003 was roughly Rs 880 billion (USD 19 billion) (Garg 2007,119).

**Figure 3.2: Cross-Country Comparison of Real Growth and Reduction of Public Debt Trends**

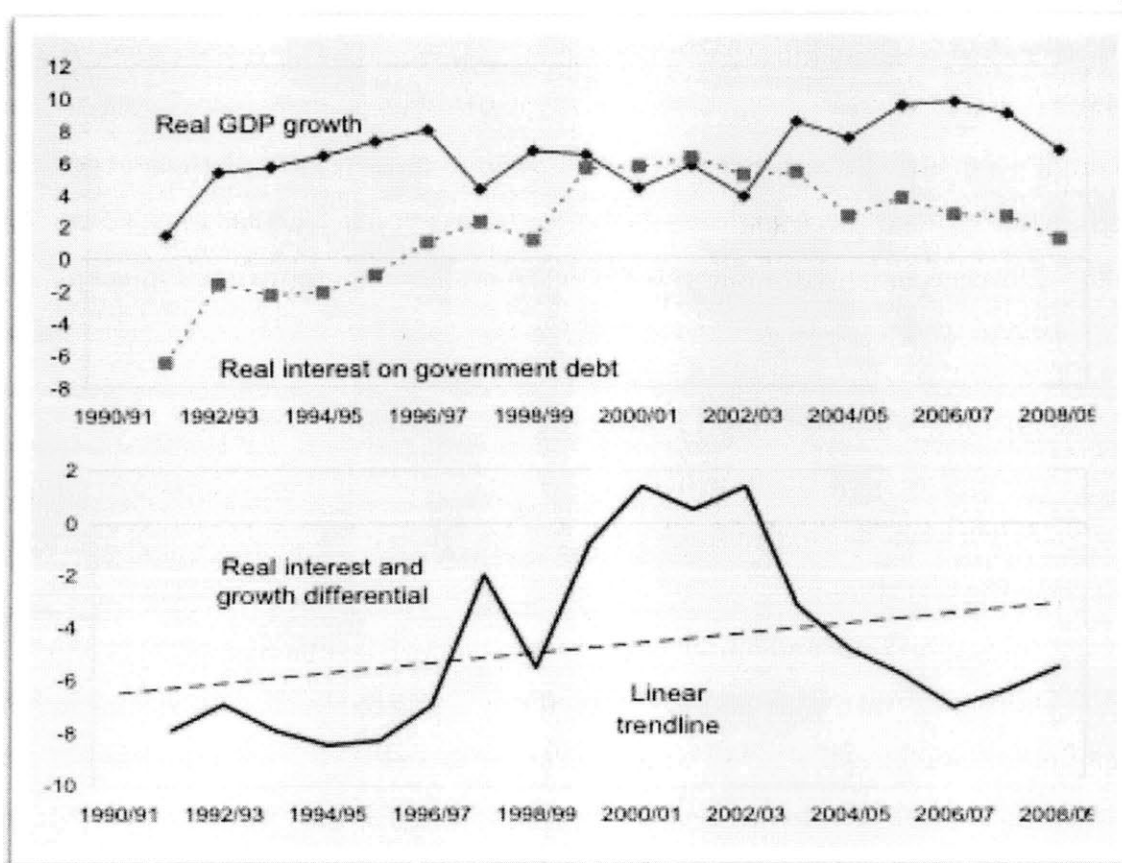


Source: Topalova and Nyberg 2010, 14. Fitted Line from source document.

Previous fiscal consolidations were aided by a negative interest growth differential

(See Figure 3.3). As the economy grows and matures and the gap between interest rates and growth rates narrow (as they have in more developed economies) sustaining such high levels of debt will become even more difficult in the long term. Thus Topalova and Nyberg suggest that India take steps to reduce its debt share of GDP to 60 percent by 2015-16 (Topalova and Nyberg 2010, 3). They suggest that maintaining a debt ceiling of 65 percent (a figure that is at least lower than the historical average minus one standard deviation) would demonstrate the Indian government's commitment to fiscal consolidation (*ibid.*, 17). The primary avenues through which they recommend the government attain this goal are revenue reform (reducing tax evasion), subsidy reform and privatization (Topalova and Nyberg 2010, 18).

**Figure 3.3: Relationship between GDP Growth and Interest on Debt**



Source: CIEC and IMF Staff Calculations. Topalova and Nyberg 2010, 17

The situation at the State level is worse. States are still highly dependent on the Central Government with the dependence of high-income states at around 36 percent, low-

income states at almost 62 percent and 'special category states' at 77 percent for (Rao 2000, 25). Moreover, almost half of all States use more than 50 percent of their revenue base for meeting interest obligations and retirement payments. There are a number of reasons for this dire fiscal position. As Bagchi (2001) describes "poor accountability" as a result of weak monitoring of government finances and arms-length State administration of local activities has allowed for large leakages in the system (17). "Competitive populism" has enlarged the subsidy budget of the government so that in 1998-99, budgetary subsidies formed nearly thirteen percent of GDP, 9 percent of which came from the states (Bagchi 2001, 16). Large and persistent losses in inefficient public sector enterprises have further deepened this position (*Ibid*). Despite steps to bring about greater fiscal responsibility, demands on the State are only increasing. Recent commitments to bring in employment guarantee legislation and other welfare programs means that asking state governments to increase their outlay on urban infrastructure dramatically would be quite unrealistic (Garg 2007, 121).

Overall, the Central Government acknowledges that there is an "asymmetry" in decentralization of expenditures and revenues (Rao 2000, 15). Thus while Central Governments exercise control over one-third of revenues as expenditure, they raise two-thirds of all revenue in the country.

### **3.3 The Rationale for Land-Based Financing of Urban Infrastructure**

In light of the dire fiscal position of the government, the question of how the country is going to finance the massive expenditure required for urban infrastructure development is particularly worrying. Moreover, as the Central Government continues to push for greater decentralization, State and Municipal governments will be increasingly asked to generate the funds required for investment without relying on the Central Government. As responsibilities for city infrastructure – water and sewerage, electrical services, bus services, area and road development, development of new housing areas/sub-cities, cleanliness and street lighting – are increasingly passed on to Municipal Governments, State Governments will have to step in to some of the arenas previously funded by the Center. Particularly relevant to this thesis is the fact that as the scale of total national



investment required increases, State Governments have been called upon to finance regional-level infrastructure, such as airports, ports and docks.

Under the current system urban infrastructure is funded by states as follows (See Garg 2007, 128-134):

- (i) **Central Government Grants:** These are targeted central plan schemes implemented with the relevant State/Municipal government and the concerned Central Ministry. They focus on one particular type of infrastructure e.g. resettlement of slums. The outlay on these is relatively small and they cannot be relied on to address the larger problems into which these smaller initiatives fall, e.g. housing.
- (ii) **Housing and Urban Development Corporation (HUDCO):** As a completely central government owned non-banking finance company HUDCO funds specialized state agencies for urban infrastructure projects.
- (iii) **Infrastructure Development Finance Corporation (IDFC) and Infrastructure Leasing and Financial Services Limited (ILFS):** Both are set up by the Central Government with equity participation from the State Bank of India and others to provide concept-to-end solutions for urban infrastructure projects. These institutions are likely to increase in importance in the new context.
- (iv) **State Level Municipal Finance Agencies:** These are agencies, such as the Karnataka Urban Infrastructure Development and Finance Corporation (KUIDFC) and the Tamil Nadu Urban Infrastructure Financial Services Limited (TNUIFS) that serve as nodal corporations to manage, finance and advise externally-aided or State-initiated urban infrastructure projects.
- (v) **World Bank, Japanese Bank for International Cooperation, French International Development Agency and others:** These agencies fund and advise local and State governments on urban infrastructure projects.

As can be seen, all the options above either rely on Central Government funding or borrowing from external agencies. In this context, land-based finance offers tremendous

potential to supplement the budgets of State and Municipal governments by offering a buoyant, dynamic and debt-free financing option.

As described in Chapter 2, land-based finance substantially overcomes the current fiscal constraints attendant on State and Local governments. For one, it offers the opportunity to reduce the **reliance on debt** by generating revenue up-front or soon after project completion. As more and more government bodies are looking to public private partnerships to partially defray their investment burden these tools allow them to **participate in profitable projects without making a monetary contribution** and freeing up their budget for other expenditure. Moreover, it allows them to **manage and streamline their asset holdings** by disposing off those assets that are not earning them a significant enough return or that are generating additional liabilities to maintain. Indian government authorities are particularly advantaged in this respect since past legislation has encouraged large-scale accumulation of land assets by all levels of government.

Unlike outright privatization land-based finance allows government authorities to **retain some degree of control** over the infrastructure provided if that is what they desire. This is important from both an equity and national security point of view.

These tools **reduce dependence on the Center** so that the Union Government can focus on reducing their fiscal debt. Land-based finance also overcomes the inherent moral hazard problems that come with transfer-based revenue systems thus **injecting greater rationality** in spending into the economy as a whole.

Lastly, land-based finance is particularly **suited to the rapidly urbanizing context** of India today. Demand for land has resulted in startling increases in land values over the last decade thus making this source of revenue a potentially very lucrative one.

### 3.4 Chapter Summary

If correctly implemented then, land-based finance can work in all the ways described above to ameliorate the current fiscal position of the State and National governments while strengthening capacity and budgets at the municipal level. Yet while it appears that the government is almost compelled to move in this direction in order to meet the infrastructure requirement it is important to first evaluate the performance of these tools in practice. Thus while Chapter 3 highlighted all the potential gains that could come

from using well-designed and implemented land-based finance tools, Chapter 4 will describe actual outcomes in the case of the BIA to determine the actual costs and benefits that might be involved in using a land-incentivized joint venture.

## **CHAPTER 4: THE BANGALORE INTERNATIONAL AIRPORT**

This chapter explores the details of the project to build the Bangalore International Airport. Land, in the form of a contribution from the State Government of Karnataka through its implementing agency, the KSIIDC, was the primary financing element for the airport. The chapter begins with a brief overview of the economy and politics of Bangalore and the recent changes in India's national civil aviation policy that made public-private partnerships of this kind possible in the first place. The chapter goes on to present the available details of the case and then uses the framework developed in Chapter 2 to examine whether the fundamental assumptions and tenets of land-based finance (and specifically land-incentivized joint ventures) hold up in reality. As described above as I am limited in the concrete information I have on the case the facts are presented mainly to use to highlight instances where the underlying assumptions of many of these tools can be compromised in reality. With the information available I cannot establish the degree to which the project was a failure or success nor credibly establish the extent to which the opinions and reports cited are true and unbiased.

### **4.1 Bangalore: Economy and Politics**

Bangalore, the capital city of the southern state of Karnataka, is India's second fastest growing region and the heart of the country's famed and booming information technology (IT) industry. In the 1990s, it was primarily the extraordinary growth story of this city – dubbed the “Silicon Valley” of India – that catapulted India and Indian entrepreneurs to the world stage. Today, Bangalore accounts for more than one-third of India's USD 31 billion IT exports (Ramesh 2007). In 2008 Bangalore was ranked the fifth largest city-contributor to national GDP, and with a growth rate that has averaged 10.3 percent over the past seven years, this trend looks set to continue (Rediff 2008). A 2008 Ernst and Young study pegged Bangalore and Mumbai as the next top centers of global investment (Rediff 2009).

IT industry legends Wipro, Tata Consultancy Services (TCS) and Infosys have based their sprawling headquarters within the city's two major IT Special Economic Zones (SEZs) - Whitefield and Electronics City. Not only are these firms India's three biggest IT giants but

they also rank among the top ten IT firms globally in terms of stock market capitalization, gross profits and employees (The Economist 2005). Beyond IT, Bangalore is also home to almost half the 256 biotechnology firms in the country including the homegrown global powerhouse Biocon that earned revenues of USD 525 million in 2010 alone ((The Hindu 2004 & Biocon Press Release). “Call Centers” or Business Process Outsourcing units for multi-national corporations (MNCs) are another major industry in the city. Many MNCs also take advantage of the Export Promoting Zones of Whitefield to set up their manufacturing operations. Over the years the city has developed a unique entrepreneurial culture that spawns hundreds of new small to medium-sized enterprises every year.

Prior to the IT boom, Bangalore was known for its colleges and research universities particularly the prestigious Indian Institute of Science. Due to its distance from China and Pakistan and its primacy as an academic center, the city was also chosen to house several public sector heavy industries, and the bulk of the sensitive aerospace, telecommunications and defense facilities. Popular for its cool climate and vast open spaces, Bangalore had earned the title of India’s “Garden City”.

In terms of demographics, Bangalore is the country’s third most populous city with an estimated 2010 population of almost seven million (World Gazetteer<sup>17</sup>). The city had a literacy rate of 75 percent in 2001, which is significantly higher than the national average of 65.4 percent and the state average of 66.6 percent (Sridhar and Reddy 2009, 48). With growth has come increased affluence and the city is second only to Mumbai in the number of resident dollar millionaires (The Economist 2005).

Behind the glitz of the “Bangalore Dream” however lies a more conflicted reality. As Olivier Toutain and S. Gopiprasad (2006) explain, Bangalore suffers from many of the institutional and principal-agent problems described in Chapter 2:

Without the full implementation of the 74 CAA, many of the authorities designated to plan today wear the caps of a planner and a developer simultaneously. This dual role magnifies urban problems as physical development supersedes planning concerns. This is largely driven by the fact that the authorities have inadequate budgetary support from the state.

Provision of sites and service schemes (real estate activity) contributes to funding their day-to-day operations. Real estate activities include transactions of land—

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<sup>17</sup> Available at <http://www.world-gazetteer.com/wg.php?x=&men=gcis&lng=en&dat=80&geo=-104&srt=pnan&col=aohdq&msz=1500&va=&pt=a> accessed August 17, 2010.

acquisition of land, development and sale of sites/plots, which distort land markets. Rarely do development activities cater to the market demand. As a result, a number of private land sub-divisions (layouts) crop up as affordable sites with partial or no infrastructure in place, without necessary planning compliance. These lead to the formation of 'illegal layouts'.

The weak land laws, rules and regulations work at cross- purposes and support the formation of different types of land tenures. Nearly 30 per cent of Bangalore is developed in such manner. On the other side, through unrealistic regulation of restrictions on land occupation in the core area along with segregated land use, encourages quite often, the violation of rules and un-authorized construction (62).

Moreover, in recent years, ideological clashes between the city's IT moguls, and different factions within the State Government have come to a head. Riding on their success in putting Bangalore on the world stage and in bringing millions of dollars of foreign investment, business leaders have put tremendous pressure on the State Government to improve the city's infrastructure or risk losing their business. Indeed, uncertainty about the government's commitment to improving this situation has led many MNCs in the city to work on a "plug and pull" concept, leasing or renting property and making only marginal investments so they can move out of the city at any time (India Today 2005). At the same time, there is a significant portion of the urban electorate resent what they see as preferential treatment to the business elite in terms of investment priorities, the granting of tax breaks and assistance in land acquisition. The latter voices are somewhat allied with an electoral base in rural Karnataka – poor farmers with small holdings who would rather see greater investment in rural programs than urban (See Ghosh 2006). As Chief Ministers pick sides to gain political mileage, State Government priorities have oscillated. When the urban residents demanded an upgrade in civic facilities after a particularly bad monsoon, the pro-farmer Chief Minister Dharam Singh responded "We need the rains, and we have them," he said. "We are pro-poor, pro-farmer and cannot dream of making Bangalore a Singapore unless we address the realities." (India Today 2005).

Yet despite these politics, there is little denying the dire need for investment in Bangalore's urban infrastructure. Within the campuses of the large companies, Wipro, Infosys and the three clusters into which the IT industry is divided — Software Technology Parks of India (STPI); International Tech Park, Bangalore (ITPB); and Electronics City, the infrastructure is privately provided and of excellent quality. It is traveling between these

enclaves that proves incredibly problematic. Bangalore suffers from a severe lack of basic infrastructure common to most Indian cities: a water shortage, inadequate sewers, an erratic power supply, and pot-holed roads stretched far beyond their capacity (See The Economist 2005). As the famously pro-IT Former Chief Minister of Karnataka S.M. Krishna, expressed "The success of India's hi-tech and outsourcing industry was scripted in Bangalore, but the city has now become a victim of its own success" (India Today 2004).

On the issue of the airport however, there seemed little disagreement as to the necessity of an international airport for Bangalore and the surrounding area. Given the scale of financing required for the project and as per the new civil aviation policy this project would be implemented at the State level. The Government of Karnataka chose its wholly-owned principal investment arm, the Karnataka State Industrial Investment and Development Corporation (KSIIDC) to act as a partner in this project.

The KSIIDC was originally established as the Mysore Small Industries Corporation, and provided financial services to encourage the development of small-scale industries in Karnataka (KSIIDC website). From 1960 however, as its responsibilities evolved to the setting up of industrial estates and other medium-size industry services<sup>18</sup> the name KSIIDC was adopted. As primarily a financing institution, in 1996 the KSIIDC began to get involved in the debt financing of large infrastructure projects like cement, steel and mining in the state (Shenoy 2010).

However, at the time the airport project was floated in the early 2000, the KSIIDC was deeply in debt. In 2004, KSIIDC's equity holding in various companies was about Rs 300 crores (USD 65 million) while its loan portfolio was a staggering Rs 2,000 crores (USD 436 million) of which over 50 percent was non-performing assets (Raghavendra 2004). KSIIDC's accumulated losses were at Rs 350 crores (USD 76 million) (*ibid.*). Moreover, KSIIDC owed nearly Rs 600 crores (USD 130 million) to the Small Industries Development

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<sup>18</sup> Amongst its other early functions, the KSIIDC website lists procurement and distribution of raw materials, assistance towards marketing, dissemination of information by participating in the internal and international exhibitions, supply of machinery under hire purchase scheme, providing guidance to SSI entrepreneurs and providing technical library facilities.

Bank of India (SIDBI) and IDBI – both major Indian development banks. It had proposed to IDBI the paying back of loans worth Rs 400 crores (USD 87 million) in three installments and has asked for an interest waiver (*ibid.*). Given this precarious financial situation, the State Government decided that as part of the revival strategy, KSIIDC should change its approach to act as a nodal agency promoting projects on a PPP basis rather than as a lender (*ibid.*). At the time of the deal the KSIIDC would not have had the money to build the airport from their own finances (John 2005, 1016).

As a result of this restructuring, over the past few years the KSIIDC has changed its role to promoting major infrastructure projects undertaken on a PPP basis and providing the supporting infrastructure for the same (Shenoy 2010). In recognition of this fact, in March 2010, a decision was taken to rename it the Karnataka Stake Industrial and Infrastructure Development Corporation, although the abbreviation KSIIDC remains the same (*ibid.*).

Another reason that land formed such a large part of the financing deal was the new national civil aviation policy drafted in 2006. The next section will briefly touch on the important developments in civil aviation policy in India that made this form of PPP possible.

## **4.2 Airports and Civil Aviation Policy in India**

The landscape of civil aviation in India has changed dramatically in the last 15 years. The first big change came with the landmark 1994 Civil Aviation reform that allowed private players into the airline industry – a move that resulted in a sharp drop in air fares, made air travel more affordable to the middle class and spurred the massive increase in air traffic witnessed today (See Bhadra 2008). In the years 2002-03, 2003-04 and 2004- 05, the passenger movement at the 126 airports managed by the Airports Authority of India (AAI) increased by 9.96%, 10.69% and 21.6% respectively and cargo movement by 15%, 8.75% and 19.9% respectively (Government of India (GOI) 2006, 4). By 2006 when the national Committee on Infrastructure commissioned a Task Force to develop a financing plan for airports they did so assuming an annual traffic growth of 16% up to 2010 (*ibid.*). The Airports Authority of India has a nationwide projection of 6% growth year-on-year from 2012-2017 (Policy on Airport Infrastructure of India 2002, 8). A recent report by



Centre for Asia Pacific Aviation (CAPA) states that over the next 12 years, India's Ministry of Civil Aviation (MoCA) is aiming at 500 operational airports (GOI 2009, 2).

In 2005, an Empowered Sub-Committee of the Prime Minister's Committee on Infrastructure decided to set up a Task Force to deliberate the best means of financing the upgrading, modernization and construction of India's airports. The Committee recognized the huge obstacle the lack of airport and other infrastructure posed to the growth of the Indian economy. In 2006, the designated Task Force presented a Rs 40,000 crores (USD 8.7 billion) investment plan (See GOI 2006). Of this amount, it was assumed that approximately Rs 31,000 (USD 6.7 billion) would come from public-private partnerships in which the private partners would be responsible for management as well as construction of the facilities (*ibid.*, 14). Revenue would be shared between the government and the private parties on the basis of a negotiated concession agreement. This landmark move reflects a shift in thinking of airports as pure infrastructure to businesses that earn a significant share of their revenue from non-aeronautical sources. Privatization of airports was also authorized on the belief that it would induce efficiency in airport management and take some of the burden of investing off the government (Ohri 2009, 13). Until this point, airports in India had been entirely funded and managed using the internally generated returns of the AAI with almost negligible reliance on external assistance, debt and equity. Moreover, non-aeronautical revenues<sup>19</sup> formed only 22% of total revenue even at some of the busiest airports (Ohri 2009,7).

Recognizing that private investment would be forthcoming initially only for larger metro city airports, the new airport plan calls for greenfield airports to be built in Bangalore, Hyderabad as well as for modernization and expansion of existing airports in Chennai, Delhi, Kolkata, and Mumbai (Peterson 2009). Greenfield airports under PPP agreements would follow the shareholding pattern of BIAL with 74% equity from private entities, 13% from AAI (subject to a cap of Rs. 500 crores per airport) and 13% from the respective State Government (GOI 2006, 12-13). The airports would typically be built

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<sup>19</sup> The bulk of revenue in Indian airports comes from aeronautical sources e.g. landing fees. Most international airports derive up to sixty percent of their revenue from non-aeronautical sources e.g. shops, restaurants and other commercial development (Ohri 2009, 16).

under BOT contracts with 30-year terms and an option for renewal. Small, less lucrative non-Metro airports would continue to be funded and managed by the AAI (*ibid.*)

In keeping with the aim to make airports lucrative business propositions, it was recommended that State Governments acquire and provide subsidized real estate and airport land to private developers. Developers would then be able to exploit some part of the land for commercial purposes (Ohri 2009, 2). This in-kind contribution would also allow State Governments to earn equity in the project without making monetary contributions. The Task Force determined that User Development Fees (UDF) were not an appropriate form of project finance and should be used only as a last resort when all attempts at PPP financing were exhausted. It was decided that UDFs also made air travel more expensive and less accessible to the common person (GOI 2006, 14). However, In order to increase private interest in development of airport infrastructure, private providers would be allowed to finance up to 20% of their capital costs through capital grants or 'viability gap funding' under the national scheme for support to PPPs in infrastructure (GOI 2006, 15)<sup>20</sup>.

### **4.3 The BIAL Case**

The plan for a new airport for Bangalore was originally conceived of back in 1991 and Devanahalli, a plot 30 km outside of Bangalore was chosen for the purpose. At the time, Bangalore was served only by the Hindustan Aeronautics Limited (HAL) Bangalore Airport. The HAL airport was built in 1964 and could handle approximately 7.5 million passengers a year – a capacity deemed grossly inadequate even in 1991 to accommodate Bangalore's rapidly growing needs. Moreover, the HAL airport was primarily a domestic airport although in 1997 it began to handle a limited portion of international flights. As the city grew it became increasingly clear that a growing international business hub like Bangalore needed more connections with the rest of India and directly with the rest of the world.

In 1994, the Government of Karnataka began to invite global bids for construction of the airport under a Build Operate and Transfer (BOT model), and in 1998, a consortium led by the Indian conglomerate Tata Sons was selected to build the airport. Eventually, for a

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<sup>20</sup> I was unable to find information on a guaranteed rate of return (ROR) for private investors in the draft Civil Aviation Policy, the Concession Agreement or other sources.

number of reasons – including delays and disagreements over closure of the HAL airport – the deal fell through (Saraswati 2001: 131).

Acquisition of an identified 4,200 acres of land in Devanahalli had already begun in 1998. Following the breakdown of the Tata agreement the State government initiated the bid process again, and received seven eligible contenders including another major Indian industrial house, Reliance Industries, in partnership with Singapore's Changi Airport (*ibid.*). In 2002 a Shareholder Agreement was signed with the current consortium<sup>21</sup>.

By 2002 India was a remarkably different economy than it had been in 1991 or even 1998. Economic liberalization reform that began in 1991 had picked up pace; restrictions on Foreign Direct Investment had been eased, national income levels had risen creating a new middle class with more disposable income than before, and GDP growth had averaged 8.5 percent over the six years spanning 2003-2009 as compared to its long-run annual growth rate of 6.6 over 1989-2009 (Panagariya 2008, 1). Indeed, it had been against this very backdrop of increased integration and openness to the world economy that the Bangalore success story had taken off. Most importantly, as described above, the face of civil aviation in the country had changed and important changes were afoot that put infrastructure development at the forefront of the government's agenda for growth.

#### **4.3.1 Terms of the Agreement**

The Bangalore International Airport would be the country's first largely privately owned greenfield airport. Under the terms of the State Support Agreement signed January 20, 2005, the consortium formed to execute the project would be called Bangalore International Airport Limited (BIAL). This consortium comprised the Government of Karnataka (represented by KSIIDC) with 13% equity, AAI (13% equity), Siemens Project Ventures (40% equity), Larsen & Toubro (17% equity) and Zurich Airport (17% equity) (John 2006, 1015). The consortium has the right to design, develop, finance, construct, operate and manage the airport for a period of 30 years from the opening date with an option to extend the concession by another 30 years (See BIAL State Support Agreement). In accordance with the new Aviation Bill of 2006 no new or existing airport would be allowed within an aerial distance of 150 kilometers of an existing airport (*ibid.*). This meant

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<sup>21</sup> I do not have information on the criteria on which the bid was selected.

that the old HAL airport would have to be closed. To enhance the “viability” and “bankability” of the project, the State Government of Karnataka, through its appointed agency KSIIDC, would provide the airport land of 4,050 hectares free from all encumbrances (*ibid.*). Under the terms of the Land Lease Agreement (executed on June 20, 2005) KSIIDC is the owner of the land and will lease it out to BIAL at a cost of Re. 1 from the day of land delivery to the airport opening date, and thereafter as a percentage of the total land acquisition cost of Rs 175 crores (USD 38 million) according to the schedule – 3 percent for the first 7 years, 6 percent for the 8th year, and thereafter a sum equaling the rent of the preceding year plus 3 percent (See Land Lease Agreement 2005). Moreover, the government would make available to the consortium state support of Rs. 350 Crore (USD 77m) for the purpose of the project (Brenner 2007, 227). This was in the form of an interest-free loan payable at the end of 10 years. At the time of signing the agreement the airport was to be built for a capacity of 4.5 million passengers at an estimated cost of 1,411.79 crores (USD308 million) (*ibid.*). Realizing this capacity would be inadequate by the time the project opened, this was upgraded to 11.4 million at a projected cost of 1,930.29 crores (USD 421 million) (*ibid.*). The redesign resulted in an increase in the size of the terminal, the number of aircraft stands, new taxiway layouts and supporting infrastructure.

In keeping with revenue structures across the world where 60 to 70 percent of revenue to airport operators is generated from non-aeronautical sources, the agreement made provisions for the exploitation of the commercial potential of the airport so that the facility was only viable but also capable of generating enough profits for expansion and development in the future (See GOI 2006 and Ohri 2009). To ensure this, the BIAL consortium will have almost half of the 4,050 acres to develop as commercial space from which they can earn rental income. Moreover, there will be total freedom from Government control for them to raise revenue from commercial activities. The non-aeronautical activities approved under the agreement include the development of hi-tech parks, hotels, industrial parks, golf courses, IT parks and production centers amongst other activities specified in the State Support Agreement.

### 4.3.2 Land Acquisition

As per the agreement, the State Government was required to acquire the airport land for the consortium. The Indian “Land Acquisition Act” allows government authorities to acquire privately held land if it is deemed to be necessary for a project of “public purpose”. Originally written in 1894, and largely unchanged since, the Act has proved deeply contentious in recent years and serious proposals for its amendment are currently being debated although nothing has been passed into law yet. As per the Act, the ‘requiring body’ places a request for land acquisition before the government who is represented by the area’s district collector. The district collector then studies the plan and decides on its approval. If approval is granted, the land losers are notified, their land measured and compensation calculated. By law, even if the land losers are not satisfied with the terms, the district collector might acquire the land if the terms are to his satisfaction. While land losers may legally approach courts for redressal, this alternative has offered little comfort as the judicial process in India is notoriously slow (Asif 1999, 1564). With the judicial process offering little hope, most disgruntled landowners have turned to vote-seeking politicians or local militias to safeguard their rights – a process that favors strong-arm tactics over negotiation and creates long project delays and often lop-sided outcomes.

Using this act, KSIIDC eventually acquired more than 4,500 acres of land from private owners in Devanahalli<sup>22</sup>. As per the records, compensation paid to most landowners was approximately Rs 4-6 lakh (USD 8,732 - 13,098) per acre or less than Rs 13.5 (USD 30 cents) per square foot (John 2005, 1016). Those who lost homes were also granted a site in addition to monetary compensation but largely relocated to distant areas (Shivanand and Srivatsa 2008 and John 2006). Ninety percent of the land acquired was designated as agricultural land and comprised small land holdings of usually an acre or less each. The majority of landowners were poor farmers who lived off the land as their main source of livelihood. In total more than 2,000 farmers in about 13 villages were displaced (*ibid.*). Hundreds of these farmers were “unauthorized cultivators” who had cultivated the land for decades yet did not possess formal land ownership documents. According to Karnataka Prantha Raitha Sangha (KPRS) State General Secretary G.C. Bayya Reddy,

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<sup>22</sup> The exact amount of land acquired is not known as will be seen below.

“Cultivation on much of this government land was on the verge of being regularised. The applications were suddenly rejected when the airport plans materialized” (Gandhi 2009). As a result, hundreds of these farmers were displaced without any compensation at all.

It has been alleged that plans to choose this site were known to many politicians and others with access to policy-making circles, which resulted in many speculators entering the market for surrounding land (DNA 2009). By 2007 it was estimated that areas surrounding Devanahalli had registered between 66 to 166 percent increases in residential land values (Deccan Herald 2007). A large part of this increase was due to the state government issuing a post-acquisition Non Agricultural Use Clearance (NAC) for the surrounding land that fueled a massive real estate bubble in the area. Thus, while some poor families in adjacent areas and particularly those along land acquired for an access road to the airport, were able to profit from selling their plots at astronomical prices, the vast majority of original landowners were displaced and compensated at the pre-inflation and pre-change in land use price (Times of India 2008).

### 4.3.3 Project Execution

Construction work on the airport began on July 2, 2005 and after a few minor delays the airport opened on May 23, 2008. Estimates of the final project cost vary with some sources putting it at Rs 2,470 crores (USD 539 million) (One India 2009). A 2007 breakdown of costs published by Albert Brunner, the then CEO of BIAL lists the final contributions and equity as below (Brunner 2007, 228).

**Figure 4.1: Shareholding and Contributions**

Investor	Amount (in Rs millions)	Equity Stake
KSIIDC	3,500	13%
AAI	Not given	13%
BIAL		74%
Equity Contribution	3,270	
Debt from Lenders	11,850	
Internal Accrual/Security	680	
TOTAL	19,300	

Source: Brunner 2007

Note: The lack of consistency in the amount of contribution by the consortium and the total project cost from public sources may lead to slight discrepancies in the figures cited through the text. Therefore the conclusions presented are tentative.

Within the first 100 days of operation, Albert Bruner, CEO of BIAL noted a 30 percent increase in international airlines and airfreight carriers into the city (The Hindu 2008). He also noted that despite being built with a capacity of 11 million the airport could accommodate passenger traffic of 15 million without further investment in infrastructure. At the 100-day mark, passenger flow was already 11.5 million (*ibid.*). Anticipating further increases in demand however, the consortium announced their decision to begin work on a second terminal in July 2009. Mr. Bruner said that at least Rs. 4,000 crores (USD 873 million) would be spent on the expansion project, which would include the construction of the second terminal building on the eastern side of the existing facility, the second runway and an express terminal on the western side (*ibid.*). However, these plans are currently on hold as controversy has arisen over the land utilization pattern of the airport as described in more detail below. Until it is cleared the consortium is not allowed to continue expansion work (Kumar 2009). As per the expansion schedule they are expecting 13.4 million passengers by 2014, 19 million by 2019 and a final capacity of 40 million (India Focus 2009).

#### **4.3.4 Controversies**

Despite the overwhelming success of the airport in addressing the escalating aviation needs of the city, a number of controversies have dogged the project. These controversies have important implications for the use of land-based finance.

##### **4.3.4.1 Excess Land**

In December 2004, the Chief Minister of Karnataka, N. Dharam Singh announced that of the roughly 4,500 acres acquired for the project, approximately 427 acres would be kept aside and vested with the KSIIDC as in retrospect it had been found to be in excess of the requirements for the airport<sup>23</sup> (The Hindu 2004). This reduced the acreage allocated to the airport to 4,050 acres. By some accounts this excess land would be used to finance an

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<sup>23</sup> The criteria for deeming the land 'excess' is not mentioned but it is assumed that it means that as per KSIIDC calculations, 4,050 acres is sufficient land to build the airport and enough commercial space to generate an "appropriate" (See Section on Consortium Revenue below) return. As per the theory of land-based finance this implies equality in marginal costs and revenues.

expressway to the airport as the current access route via National Highways 6 and 7 often results in long journey times of up to 3 hours (Peterson 2009). The land would be divided up into 25-acre plots and sold with the proceeds going towards highway construction. By 2007, the market price of the 427-acre parcel was estimated at a minimum of Rs 2,000<sup>24</sup> crores (USD 436 million) – more than Rs 4 crores (USD 873,198) per acre – which would have been more than enough to cover the cost of construction (Peterson 2009, 88; The Hindu 2007).

However, other proposals for developing this land soon began to surface. In February 2007, the Chairman of the KSIIDC, Yogish Bhat presented a plan to “establish facilities in a public-private partnership mode” from which they hoped to earn Rs 250 crores (USD 54.5 million) in annual lease rent (The Hindu 2007). In June 2007, State Chief Minister H.D. Kumaraswamy agreed with the KSIIDC that giving the land on lease rather than auctioning was preferable, as it would allow the State Government to “mobili[z]e more resources” and therefore be more beneficial in the long term (Business Standard 2007.). Despite the Finance Department’s opposition to this plan in favor of conducting an auction, they were instructed to study the new proposal and submit a report so that the Government could take a final decision. (*ibid.*)

It is still unclear what will be done with the excess land. There is also not much clarity from amongst different public sources on how much excess land there is. By some reports, there is approximately 627-670 acres in excess of which 27 acres has already been allotted to the Karnataka State Tourism Development Corporation which will use it to build a hotel, information center and conference facilities (OneIndia, 2007, The Hindu 2007). More recent reports peg the total amount given to various government agencies, including Departments of Tourism, Meteorology, Customs, Director-General of Civil Aviation, Mysore Sales International Limited, Karnataka Power Transmission Corporation Ltd. and others at 104.57 acres (The Hindu 2008). As of 2008, bidders have been invited to submit plans to develop 309 acres as the Devanahalli Business Park (DBP). Among the activities planned for the park are multi-specialty hospitals (to take advantage of the growing medical

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<sup>24</sup> This valuation figure is consistently cited in a number of sources as a direct quote from the Chairman of the KSIIDC Yogish Bhat but again the method of valuation or the specific agency responsible for valuing the property is not mentioned.



tourism industry), special economic zones, entertainment areas, and 5-star hotels (*ibid.*). The business park, which will be built on a BOT basis for an initial lease period of 30 years, is expected to attract USD 2.2 billion in investment (*ibid.*). Finally, some sources report that the public complaints from farmers over the terms of land acquisition have led the State Government to say that it will return an eighth of an acre of airport land to farmers for each acre of land that was originally acquired (Peterson 2009). It is unclear whether this last deal will be implemented as the Law Minister has argued that there is no provision for the return of excess land under the Land Acquisition Act<sup>25</sup>. Meanwhile plans to build access routes to the airport – both the planned ‘Namma Metro’ and the original expressway – still hang in the balance. Multiple newspaper reports suggest these will be tendered as separate PPP projects and require further land acquisition.

#### **4.3.4.2 Consortium Revenue & Stakeholder Equity Contribution**

As per the proposed revenue structure under the 2006 airport financing guidelines, the consortium was awarded approximately 2,000 acres more than needed to build the airport itself so that this land could be developed for commercial purposes (John 2005, 1016). As described below, numerous civil society organizations, independent consultants and a recent government investigation have alleged that the amount of revenue that the consortium will earn from this land is excessive relative to regular or ‘fair’ airport revenue<sup>26</sup>.

Jacob John, a consultant with the Financial Management Service Foundation, an organization established to promote accountability in development projects, has argued that the financial structure of the BIA project is unfair to taxpayers and the broader public who are essentially providing a “massive subsidy” through cheap real estate to ensure the viability of a project from which they are not benefiting as much as they should. His argument is based on the following calculations (See John 2006, 1016-1017).

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<sup>25</sup> Yet, for the nearby Devanahalli IT park, farmers whose land was acquired are being given the option of Rs 62 lakh in compensation or 9,583 sq ft of developed land for every acre acquired (Times of India 2008).

<sup>26</sup> Unfortunately none of these sources actually quantify what a fair return is or how much they estimate the excess to be. The report of the government investigation described below is still private but when released will reveal the extent of overcompensation calculated.

London's Heathrow Airport sits on 35% less land than the Bangalore airport yet its capacity is almost 1,400 times that of the BIA. John argues that the same is also true for the Hong Kong and Singapore airports relative to the BIA – both sit on much smaller land parcels but have a much higher passenger capacity. Moreover, all derive a significant portion of their revenue from commercial non-aeronautical sources – for example, he says, for Heathrow this share is nearly forty percent of its total revenue. Given that the BIA will develop additional capacity over the years, John proposes that we estimate the “excess land” as the number of acres over Heathrow's total area and arrives at a figure of 1,085 acres in excess. Using the FSI of the nearby International Technology Park in Whitefield, and a conservative rent of Rs. 2 per square foot, John estimates the consortium earns monthly revenue of Rs 6 crores (USD 1.3 million) and Rs 2,151 crores (USD 469 million) over the 30-year period. Using a more “realistic” rate of Rs 4 per square foot, the total revenue from rentals increases to Rs 4,302 crores (USD 939 million). Both these calculations assume that no higher intensity development takes place, that rents do not increase and that rental income is the only source of non-aeronautical revenue. Also, this ignores the fact that the BIA has been seeking additional land for its expansion plans.

Unfortunately, although he calculates projected returns, John too does not put an exact number to what he thinks a reasonable return should be or what he estimates to be the magnitude of overcompensation. Instead, he goes on argues that this revenue translates into a ‘substantial’ implicit subsidy on behalf of the State Government to a consortium that only brought in Rs 50 crores in FDI and yet has received 74% equity in a natural monopoly enterprise projected to grow at approximately 8 percent a year. Thus he questions whether the airport is generating enough public benefit to justify the large returns being granted to a private entity.

The GOK did not undertake the project themselves ostensibly due to a lack of funds and expertise. Jacob argues that given the volume of the subsidy involved the government would have been better off “buying” the expertise and earning this revenue directly (John 2006, 1016). To do so, he suggests that they could have divided the project into a real estate component and airport component with the revenues from the former providing a cash subsidy to the latter (*ibid.*). Only if the revenue accrues to the government who can use it for the “public good” can it be justified to transfer this large increase in land value

away from the original owners. John proposes two ways in which the returns could be more equitable. One, given that the land acquired appreciated in value by approximately 60 lakhs before construction on the airport even began, the amount of compensation provided to farmers should be revised upwards. Second, since the terms of the current deal were worked out on the basis of the land costing Rs 6 lakh (USD 8,732) per acre, he argues that the equity stake of the KSIIDC be increased so that a greater share of returns flows to the public (*ibid.*). If at least these changes are not made, John concludes, the BIA project will be a “virtual replica” of an older Bangalore-Mysore Infrastructure Corridor project (described later in this chapter) that numerous studies have revealed to be more of a “real estate” than road project (*ibid.*, 1017 and see Raghuram and Sundaram 2009).

Jacob John has not been the only one to object to the earnings of the consortium. In September 2008, a 21-member Joint Legislative Committee (JLC) comprised of ministers across political parties in Karnataka was set up by the Speaker of the House when several Members of the Legislative Assembly who alleged that the BIA was not built to international standards. The Report, entitled “Examination of Construction of Bengaluru International Airport (BIA)” was tabled in the Legislative Assembly in December 2009 but has not yet been released publicly. However, some of the key findings have been widely reported in the media. In corroboration of John’s point above, the report alleges that GOK’s equity stake in the project has been underestimated. Other than the two major heads of expenditure – the interest-free loan of Rs 350<sup>27</sup> crores and the land (with an estimated present value of Rs 10,000 crores or USD 2.18 billion), the report states that the government also spent significant amounts on a water pipeline, a power substation and “contributed” to the project by way of property tax exemptions (Sridhar and Reddy 2009). In total, the report estimates GOK’s contribution to be Rs 843.74 crores (USD 184 million) (*ibid.*). Yet the share awarded to the GOK was only thirteen percent versus the 74 percent awarded to private investors who contributed only Rs 284.60 crores (USD 62 million) or 11.5 percent of the total project cost (Business Line 2009). Given this, the report argues,

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<sup>27</sup> Referring to the “financial support” provided to BIAL by the Government, the committee estimated the net present value of the interest-free loan to be only about Rs. 90 crore, “a clear pay-off of Rs. 245 crores” (Sridhar 2009).

the GOK's equity stake should be revised upwards to reflect their actual contribution (*ibid.*). Thus, while John only alleges miscalculation in equity share on the basis of land value contributed, the report is able to account for other omissions. However, since these additional omissions could have occurred in any PPP concession agreement, for the purpose of this thesis the issues relating to the fundamental difficulties in predicting and estimating the value of the land input are more relevant.

The report goes on to argue that the lack of lock-in stipulations for all of the private promoters had allowed them to benefit tremendously from their modest investment. On December 6, L&T, India's largest engineering company, sold its 17% stake in BIA to GVK Power and Infrastructure Ltd for Rs 686 crores (USD 150 million) (Trading Markets 2009). In November, Zurich Airport sold 12% of its 17% stake in BIA to GVK. Both the firms earned 10 times their investment in 2005, valuing the airport at more than \$1 billion within 18 months of its opening (*ibid.*).

#### **4.3.4.3 User Development Fee**

Six months after the airport opened, the BIAL consortium was able to negotiate with the government to allow them to charge a User Development Fee. Although this fee is not allowed, except as a last resort, under the 2006 Airport Financing Plan, the consortium argued that it was necessary as passenger volumes had dropped as a result of the global recession. BIA currently charges a UDF of Rs 260 on domestic flights and Rs 1,070 on international flights – less than half of the fee they had originally petitioned for (BIA website). Other airports in India have made the argument for user development fees as their estimated earnings from real estate did not meet their expectations.

This fee has been contentious from the start with many arguing that the consortium should be earning enough revenue from its land bank to offset any temporary losses in revenue. Partha Mukhopadhyay (2009), a prominent infrastructure specialist and Senior Fellow at the Center for Policy Research in India writes,

“[P]rivate operators, who were supposed to bear the risk of revenue changes, were allowed to shift the burden of their commercial mistakes to passengers by charging “airport development fees”. At 20 million users, Rs 250 per passenger generates an additional Rs 5 billion (USD 109 million) annually. The absence of a regulator helped facilitate this multi-billion bailout of badly structured modernization projects.

Despite the concession agreement, the private sector, thus, actually did not bear the revenue risk.”

In May 2009, an Airport Economic Regulatory Authority (AERA) was established whose responsibilities include determining appropriate tariff structures and user fees for airports. Their first order of business will be to evaluate the hefty UDFs that have been levied not only by the BIA but also by the Hyderabad and Delhi airports (GOI 2009, 9).

#### **4.3.4.4 Land Utilization**

A key issue in the JLC report was the consortium’s land utilization pattern; the report charges BIAL with commercial exploitation of state land. As stated by the report, “While the state government was generous in giving land, BIA seems to be more interested in exploiting the land for commercial purposes than using it as passenger service<sup>28</sup>.” (DNA India 2009). In light of these findings the state government wants a proper land audit before any further land utilization and has put a freeze on the expansion plans for the airport. A member of the panel has asked that excess land be taken back and that the GOK and AAI as partners should seek renegotiation of the pact with BIAL to ensure that the land is used more for passenger amenities and other non-commercial purposes. Unfortunately, as noted by Mukhopadhyay (2009), this seems to be a common trend amongst airports with “new operators [...] focusing more on growing retail business at airports – worldwide, airport retail and hotels are a major source of revenue – and quibbling over the definition of revenue while neglecting the expansion of passenger services”.

Beyond land utilization the report also finds that the services and building standards of the airport are shabby and below international standards thus raising serious doubts about the padding of costs and actual expenditure incurred in construction (Kumar 2009). However, this problem is a common to all PPPs irrespective of whether or not land is used as a financing element.

As per the report’s recommendations, “the committee is of the view that the actual allotment of land should have been in a phased manner concurrent with actual utilisation. It has become imperative for the State to enact a control mechanism to re-establish public

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<sup>28</sup> At this point the supporting evidence for this allegation is not available.

supremacy while respecting the PPP model that prevails in this liberalised environment,” the committee report stated (The Hindu 2009).

#### **4.4 Implications for the Use of Land-Based Tools**

This section uses the details presented above to illustrate some of the complications that can arise when land-incentivized tools are applied in practice. Many of these complications directly contradict the assumptions as described below and therefore have implications for the neat distributional outcomes predicted by the theory of a land-incentivized joint venture. As mentioned earlier, it is unrealistic to assume that any tool would be implemented perfectly in reality. However, since the lack of concrete data on this case does not allow me to measure the “degree” of failure or success, I use the case merely as an illustration of potential complications in implementation. These should be kept in mind when structuring such projects in the future. Chapter 5 will discuss some of the potential reforms that could help bring ‘reality’ more in line with the assumptions.

##### **4.4.1 Land is an appropriate tool for finance**

As described in Chapter 2, the fundamental premise of land-based finance is that land is an appropriate financing tool and ‘absorbs’ the value created by the infrastructure development. The BIA case seems to indicate that this is true. For one, land values have risen exponentially in and around the Devanahalli area - from the pre-construction compensation price of Rs 6 lakh per acre in 1998 to Rs 2 crores (USD 436,600) by 2009 (Deccan Herald 2009). As described before, the airport has also spurred a substantial increase in the value for surrounding land with increases of between 66 to 166 percent in official residential land values observed even four months prior to the airport opening (Deccan Herald 2007). A large part of the increase in value for land surrounding the BIA occurred when the government rezoned the land from agricultural to non-agricultural. This further suggests that land does internalize the value of the potential benefits that could accrue from it as the change would now allow the land to be put to a more remunerative use than agriculture.

As we saw in Chapter 2, a related assumption of land-based tools is that land is actually perceived as a valuable asset. Ironically, if the findings of the JLC report are true and the consortium really is more focused on the commercial exploitation of the land than

management of the airport then it would suggest that this assumption holds true and private investors would in most cases appreciate the potential of land as an asset that would continue to earn them high returns in the future. Indeed, as documented by Montek Singh Ahluwalia (2009), the Head of the Planning Commission it has been a challenge to attract private investment in big infrastructure projects (1):

Several experienced international companies are interested in investing in infrastructure development in Asia provided the overall investment climate is perceived as attractive, and many countries in the region have domestic entrepreneurs keen to enter these sectors. [...] The slow pace has not reflected the lack of private capital. Although the resources available are probably inadequate to meet all of the infrastructure needs of the region, which are indeed enormous, fewer private sector projects are currently being financed than are feasible with current levels of resource availability. In other words, the operative constraint is not the level of resource availability but the ability to structure projects in a manner suitable for private financing.

Ahluwalia attributes much of this reluctance to the predominant use of a tariff-based system for public infrastructure projects that inspires little faith in private investors that they will be adequately compensated for their investment. In this case it appears that land might well be a viable alternative to attracting private investors. Of course the fact that airports are a natural monopoly with consequently less revenue risk might be part of the appeal. Particularly in instances where acquisition of land is cheap and pre-construction land prices are low, the scope for returns is greater and land's use as a financing tool in PPPs is more effective. Yet none of this implies that the capture of increments is equitable.

#### **4.4.2 Increments can be estimated, captured and distributed in an accurate and non-controversial way**

Unfortunately the Bangalore case seems to indicate that this assumption simplifies some of the complexity of estimating and determining the distribution of returns. In reality, governments as the main actors have to manage the expectations of private investors as well as their responsibility to their citizens. In addition, they might also have their own agenda either as individuals within the organization or as an agency as a whole. If this is the case then actual distributions might not correspond to theoretical divisions of land value increments.

For instance, judging by the fact that more than 400 acres of land were found to be in excess, it seems that the KSIIDC was not able to correctly estimate the future value of the land they were granting to the consortium, at least at the time of acquisition. Nor, either for a lack of data or maybe even intentionally, did they seem to be able to estimate the true value of the land they were taking away from the original landowners. Most media reports concur that compensation has been woefully inadequate with a majority of the displaced being pushed even deeper into poverty (Shivanand and Srivatsa 2008, 2009 and Times of India 2008). While some of these estimation problems might have stemmed from a lack of information problem as will be described below some might have accrued from the selfish desire to reduce their own costs of acquisition. The KSIIDC was in a bad financial condition at the time that they executed the airport deal. Their aspirations to become a larger player in the infrastructure finance realm however hinged on winning the consortium as much of a share in land value increments as they possibly could. Thus it is conceivable that they could have utilized their power as the government to short-change those who had little power to resist at the time. In the last few years land acquisitions in Devanahalli have taken place at astronomical prices; compensation for land acquired for the Devanahalli Industrial Park has touched 70 lakhs (USD 152, 810) per acre (Deccan Herald 2010). While this might reflect actual land prices in the area, post-airport construction, it may also be overcompensation to savvy farmers who now understand their leverage in this high demand situation. At both ends of the spectrum this level of compensation might be entirely different from that deemed 'fair' in theory with resultant implications for the overall net zero welfare effect. If indeed, John's estimation described above holds true, then due to incorrect estimation (of compensation and land value contribution) the distribution of benefits in this case has benefited some parties more than others. Moreover, 'social benefit' itself is hard to measure so it is hard to quantify how much the city has benefited from the airport even if the landowners have been the net losers.

Given the precarious condition of the KSIIDC and high levels of debt-indebtedness at the State level across India it is important that State governments are able to estimate, with some degree of certainty, the benefits they are affording to private investors, their opportunity cost and the returns they can hope to make of their investment. The purpose of undertaking the airport project on a PPP was to alleviate and limit the burden of



investment on the State to 350 crores plus the cost of land. It appears from both the findings of the JLC report and Jacob John's calculation that instead the GOK ended up shouldering a heavier investment than anticipated partly due to difficulties in estimating the future value and development potential of the land.

There are a number of reasons – simple miscalculation, political pressure or perverse incentives within organizations – that can affect estimation and distribution and these will be discussed in the sections below. These demonstrate that while a certain distribution of returns might be economically rational and equitable, they might be hard to execute in actual practice.

#### **4.4.3 Information is Perfect and Bargaining Power Symmetric**

The tools of land-based finance implicitly assume that the information needed to accurately estimate returns, predict future increases in value, calculate the amount of land needed and so on is available and perfect so that authorities will have all the information they need to arrive at pareto optimal solutions where there are no winners or losers. For instance as we saw in Chapter 2 developer exactions assume we can precisely estimate the increased burden of growth. If they did not assume this then their use would be hard to defend.

Perfect information is a common assumption in many economic theories, but one that has shown time and time again not to hold up in reality. There are a number of reasons why information is not perfect in the real world. One set of reasons relates to the simple lack of availability of data. For example, when compensating landowners in Devanahalli the lack of transaction records and formal tenure could have allowed the government to acquire the land at a price they deemed appropriate with little basis for contestation. According to a number of newspaper reports hundreds of unauthorized cultivators who did not possess ownership documents yet had cultivated government land for decades were excluded from compensation decisions<sup>29</sup> (Gandhi 2009). While the latter especially might be entirely fair and in fact protect the government from squatters and false claims the broader point is that in countries where formal systems to track value, ownership and

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<sup>29</sup> As quoted earlier, apparently many of these cultivators were on the verge of having their "ownership" formally recognized until the decision to acquire the land came up (Gandhi 2009).

transactions are not widespread, information failures are common. For example, when outlining some of the reasons for the initial hesitation to allow residential and commercial development on agricultural land in the larger Devanahalli area, a senior official in the GOK's revenue department explained, "There are no proper revenue records maintained at the taluk office on several survey numbers. Sixty per cent of the lands are grants to Scheduled Castes and Scheduled Tribes. This can only complicate conversion sanctions." (Madhusoodan 2009)

Another set of reasons for imperfect information relates to the simple unpredictability of future developments that might generate greater or lesser returns than predicted. For example, the airport construction seems to have created a real estate boom in Devanahalli and the subsequent building of IT parks and residential estates in the area has pushed up land prices even further (Times of India 2008). Some farmers who owned land along the existing access road to the airport have sold their land at 1 crore (USD 218,300) per acre or entered profitable rent-sharing agreements with developers who build on their property (*ibid.*). As John (2009) argues the equity share was negotiated on the basis of land costing Rs 6 lakh per acre; maybe if the KSIIDC had been able to correctly estimate how much revenue the land could generate in the future they could have claimed a greater share of the profits. Similarly, it appears that an inability to price future revenue streams from the land led to them to miscalculate how much land would be required to sufficiently compensate the consortium with a reasonable rate of return. While the former issue of the equity stake can be more easily rectified (e.g by introducing a clause for a sliding scale for returns above a certain amount in concession agreements<sup>30</sup>) the latter issue is largely irreversible and can have negative equity implications if more landowners are displaced than is necessary. Thus, especially with land markets, which are cyclical, unpredictable and influenced by more than one factor, information asymmetries are quite likely. To go back to Phatak's point in Chapter 2 – developer exactions tend to uphold the

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<sup>30</sup> Dr. Ashwini Bhide and Dr. Satish Bagal (2009) of the MMRDA assert that since it is very difficult to know the actual value released by land, infrastructure development with commercial use of land should have absolute clarity in the Concession Agreement and continual monitoring by independent engineers and accountants (23).

'rational nexus' between the cost and benefit of infrastructure much better in environments where greater predictability can be assured.

Other reasons that make the assumption of perfect information problematic relate to natural monopolies in information. While I have not encountered any evidence of this in this case, it is possible that a private consortium can have more sophisticated methods or "insider" information to better predict their level of revenue than the government which it is not in their interest to share or vice versa. Similarly, a lack of sophistication amongst farmers might have put them at a natural disadvantage to the government back in 1998 if they were not able to estimate just how much value they were losing. Thus whatever the reason for the information failure, this case illustrates a number of instances where it might exist.

In theory, land-incentivized joint ventures imply that bargaining power between parties is equal. However, there are a number of reasons why this assumption might not hold true. The JLC report reports serious lapses in drafting the Concession Agreement that were heavily loaded to benefit the private participants (The Hindu 2009). At present a clear listing of these lapses is not available but this does suggest that in any negotiation distributional outcomes might differ based on the relative balance of power between parties at the table or parties' real interests in the negotiation. Given the strong demand for an airport in Bangalore and a reported inability of the KSIIDC to finance it at the time, it is possibly that the GOK had less leverage at the time to demand a greater share of revenues. Similarly they could have made the conscious decision to compensate the consortium above the amount 'public benefit' they were creating, in contradiction to the theory of land-incentivized joint ventures. While there is no more than speculative evidence of concessions at this time, it seems fair to suggest that asymmetries in bargaining power can potentially skew the distribution of created value in favor of a particular party. Thus, it is important not to ignore this factor when structuring a land-incentivized joint venture and take steps to minimize it as far as possible so that distribution is actually made on the basis of contributions to land value increments.

#### **4.4.4 Government Rationality, Capacity and Master Planning**

Land-based finance tools assume that governments are rational and act in the public interest. Unfortunately, the BIA case seems to indicate that government action is not always the best course. Anecdotal evidence from a range of newspapers indicates that the KSIIDC did not take much care to ensure that compensation or rehabilitation for the project-affected people was well thought out or carefully executed. For instance, many of those relocated were moved to sites 12 kilometers away where water scarcities made farming difficult and employment less accessible (Shivananda and Srivatsa 2009). As mentioned before, there is also a general agreement that the compensation amount awarded to the displaced landowners was inadequate (Times of India 2008). At the other end of the spectrum, compensation in later acquisitions for the Business Park have proved extremely lucrative with small farmers making huge windfall gains overnight (ibid.). Yet neither outcome necessarily demonstrates government rationality as much as a growing awareness amongst farmers and other small landowners of the potential value of their assets. In a separate Joint Legislative Committee probe into how Karnataka politicians were facilitating the “great land grab” happening in Bangalore, it was found that the certain government agencies and “powerful lobbies” were complicit in destroying revenue records when the BIA project was announced (Srinivasaraju 2007). Regrettably, this is not an isolated incident in India where such revelations are all too common (see Sridhar and Reddy 2009, 54). Thus assuming government rationality might be problematic and steps to ensure greater transparency and institutionalized checks and balances should be considered in implementing future such projects.

A related assumption for effective implementation of a land-incentivized joint venture is that governments have the required capacity to correctly calculate returns, land requirements, value increases and the like. As described in Section 4.4.2 the KSIIDC seemed to have incorrectly estimated how much land was needed for the project and how much value they were effectively contributing to it. However, this is not entirely surprising for a government entity entering such a partnership for the first time. As Ashwini Bhide and Dr. Satish Bagal (2009) of the MMRDA have observed, part of the difficulties in management of such projects stem from the fact that handling real estate issues requires different and complex capacities that existing government bodies might not have or because the nature

of government functioning may not permit a quick response to the markets (23). Uma Asudumilli (2009) of the MMRDA critiques such real estate-driven projects by saying that they assume that appropriate accounting of the components is possible when in reality the absence of asset valuation as established practice in India and inadequate project preparation often leads to incorrect valuation of the real estate value of land (17). Thus, at present it seems that a large number of government bodies in India will lack the capacity to handle such computation and project valuation tasks especially as the scale of the project and land component increases (*ibid.*).

Lastly, many land-based tools assume that government decisions are made on the basis of a long-term master plan for the city. As Phatak describes in Chapter 2, the mandatory preparation of capital improvement plans in the US is one of the major reasons why developer exactions can be worked out with confidence. However, it does not appear that this project was executed amidst a stable long-term plan for the area. Controversy has shrouded the choice of Devanahalli as a site with allegations that the decision was leaked ahead of time to allow politicians and their confidantes enough lead-time to make money of real estate speculation in the area. Numerous newspapers articles have reported that “real estate sharks” have spent lakhs of rupees buying up property in the area surrounding the BIA to cash in on the real estate boom (DNA India 2009). In January 2009 it was reported that the Chief Minister BS Yeddyurappa was reconsidering the sanction that had rezoned the use of the predominantly agricultural land in the Devanahalli area to non-agricultural purposes (*ibid.*). This was being done due to concerns over the capacity of infrastructure in the area to support large growth and reports from geophysicists that the groundwater in the area was already severely depleted (*ibid.*). However, if this sanction was revoked then those who had bought land adjacent to the airport would not be able to develop it as planned and would lose their investment. While it is not the responsibility of the government to protect the interests of speculators in real estate markets, the back and forth in zoning decisions or the lack of transparent and reliable plans for the area are indicators of the fact that as discussed before, institutions in India, particularly in India are still in the process of evolving. In 2009, the Bangalore International Airport Area Planning Authority (BIAAPA) was instituted to manage development in the larger Devanahalli area. As jurisdictional overlaps are resolved and new roles and responsibilities assigned it might

be difficult, at least in the initial years, to have stable and uncontested long-term master plans. Information asymmetries described in Section 4.4.3 could potentially be more common during an adjustment period. Eventually, the sanction was not revoked and the Devanhalli Business Park and other development project appear to be in process (Shenoy 2010).

#### **4.4.5 Political Insulation**

A related assumption to government rationality is that estimates and decisions regarding distribution between stakeholders can be made free from political compulsions. In reality, the compulsions of competitive populism might lead to a preference for politically motivated rather than economically rational decisions.

Recent investigations of the Bangalore-Mysore Infrastructure Corridor (BMIC) a now notorious but once pioneering land-incentivized joint venture undertaken over 20 years (but never completed) have shown that the project was rife with stories of politicization and corruption:

According to various newspaper reports as well as Supreme Court observations, approvals and facilitating activities slowed down whenever a particular political party was a part of the government. Even the government's stand in various courts kept changing, depending on the party that was heading it. The government went to the extent of reviewing the project and scrapping the same... (Raghuram and Sundaram 2010, 246-7)

Numerous government officials who had advised on the BMIC project went on to work for the executing Nandi Infrastructure Corridor Enterprises (NICE) consortium in later years. Moreover, issues of excess land, lack of clarity on actual amount of acquisition and under- compensation to farmers that bear resemblance to the BIA issues plagued this project as well and were shown to be largely due to rent-seeking activities (*ibid.*, 246).

Unfortunately, such stories are quite common in India. For the BIA case however, while there are numerous allegations of corruption, I do not have any reliable proof or studies to back them up. However, small instances demonstrate where political pressure may sway decisions away from economic rationality. For example, the fact that the state government strongly considered returning developed land as compensation despite the fact that it is not allowed under the terms of the Land Acquisition Act, might be a potential

indicator of the power of politics in the state. Similarly, the decision to override the Finance Department's opposition to the sale of excess land points as described above might allude to outcomes being negotiated on the basis of political power and not economic merit.

In an interesting turn of events, the Congress Party's leader on the JLC panel DK Shivakumar – who had demanded and initiated the JLC probe in the first place – rejected the findings of the report and petitioned to have its proposals revoked. Shivakumar and at least one other member of the Committee alleged that the Head of the Committee Dr. Hemachandra Sagar had tabled the report in a hasty manner without giving them enough time to read it through. In a public statement Shivakumar rejecting the findings of the report and in particular its indictment of a number of important bureaucrats and businessmen (Deccan Herald 2009). Indeed, the report has proved quite contentious with the committee divided on the recommendations presented in the report (*ibid.*). Again, while this anecdotal evidence is far from concrete proof and the differences in opinion might also be healthy, given the manner in which opposition politics play out in much of the country it might not be a stretch to imagine that in some cases this sudden change of sentiment could indicate political pressure to rescind punitive action.

Thus the point of these examples is to illuminate that it is not always the case that the best economic outcome is prioritized and the “transaction costs” in economies lacking political insulation might be one reason for deviations from pareto optimal outcomes.

#### **4.4.6 Institutional Separation and Checks and Balances**

Broadly speaking, land-based financing tools are most successful when institutional arrangements are set up so that there are enough checks and balances in the system to prevent a principal-agent problem from developing. We saw in the Chapter 2 how principal-agent problems might lead to misuse of land asset management. Unfortunately, in the BIA case it appears that possibly due to an evolving institutional structure, where for the most part the KSIIDC as the implementation arm of the State Government had free reign, there were not many institutionalized checks and balances in place. As increased decentralization takes hold and as urbanization creates new cities or city-regions a thorough restructuring of institutions that have managed growth and development so far looks important. In the meantime, the legacy of institutions structured for a different

demographic and economic context might continue to complicate the implementation and regulation of land-incentivized joint ventures.

#### **4.4.7 Underlying System of Land: Land Laws, Acquisition Policy, Ownership Patterns and Land Records**

One of the more troublesome assumptions of land-based finance tools is that they often do not fully appreciate the context of the land markets in which they are being deployed. The lack of information that comes from poor record keeping and a legacy informal ownership is such one factor already discussed above. Another assumption discussed in Chapter 2 relates to the structure of ownership of land with its attendant implications for intergenerational equity and for economic and social development.

Two additional and pressing omissions are the failure to account for the history and practice of land acquisition in a country and for existing structural inefficiencies in land markets.

The price at which land can be acquired in a country can have profound implications for how much is acquired and built and therefore how much excess benefit is created and where it is captured. In the BIA case, the artificially low cost of land and the 'ease' of procurement gave the KSIIDC the incentive or ability to acquire more than what was needed and thus facilitated the transfer of value from public to private hands. Meanwhile landowners were not awarded benefits (in the form of compensation) that were commensurate with their "costs". Since the consortium's land allocation was priced at a mere Rs 4 lakhs per acre they may have been granted much more land than they would have been if the acquisition process had been undertaken at the correct market value. As a result of the mispricing it appears that the bulk of the costs (or lost benefits) were borne by the landowners who transferred them to the consortium and general public. As per John's (2009) argument and that of the JLC Report on the incorrectly estimated equity stake, the KSIIDC too transferred away more of its benefits than it should have. Although it is unrealistic to assume that in practice every party would receive benefits equal to their costs this case does suggest that land acquisitions that take place at artificially high or low prices can have implications for the distribution of benefits.

Structural inefficiencies in land markets can cause similar distortions. The discussion



around FSI in Chapter 2 describes how years of regulation in planning in India has created high scarcity rents (See Section 2.2.2 for more details). Similarly, restrictions such as Non-Agricultural Clearances can potentially be manipulated for unfair capture of value by rent-seeking government entities who enjoy arbitrary power over such regulation. As discussed in Section 4.4.1 a large part of the increase in value for land surrounding the BIA occurred when the government rezoned the land from agricultural to non-agricultural and landowners were not granted any share of this increase. While this itself is not a problem it indicates that certain structural inefficiencies in land markets – such as historically undervalued prices for agricultural land – have implications for both the price of acquisition and the extent to which zoning can be misused for private gain. Perhaps, if as Morris and Pandey (2010) argue, were urban land use regulations more market friendly to start with they would have resulted in minimum absolute scarcity rents on land and reduced the scope for rents to politicians, builders, land sharks and the mafia and lowered the cost of providing infrastructure (7).

Thus they argue:

[S]ince the business of real estate and land valuation is still in its infancy in India, governments role (especially of the central government) in aiding the creation of intellectual capital to this important aspect of business and life is important, since otherwise the reform itself is likely to be hijacked by vested interests who have gained enormously through the administrative and ad-hoc process of determining land use, acquiring land and granting/allocating land. (Morris and Pandey 2010, 20).

#### **4.4.8 Cost of Externalities and Second Round Effects**

As described earlier any infrastructure investment generates both positive and negative externalities. If the theory translated perfectly into practice then in the BIA case we would have seen adequate compensation of those who were negatively impacted so that the net welfare effect is zero. However, the information presented above seems to indicate that this is not the case. Moreover, it might also be the case that there are further externalities that the land-incentivized joint venture did not account for. These externalities may be more prevalent in certain contexts than others. For example, while a large number of farmers displaced by subsequent development around the airport area received large windfall gains that allowed most of them to relocate comfortably, not all of

them have known how to manage their newfound wealth. To quote the Karnataka Rajya Raitha Sangha President K S Puttannaiah, “Many don't succeed as they lack elementary knowledge about running a business. Sometimes they get so much money that they don't know what to do with it. They spend it all on a lavish lifestyle and end up as paupers” (Times of India 2008). The social and economic burden of this fallout might pose an additional cost to the state or city government that land-based finance does not compensate for. The idea that land-based finance should account for the costs of these externalities might be more defensible when compensation is not adequate. In these cases, those who know no other way to support themselves than agriculture and lack the education to find other jobs may migrate to slums, which in turn puts additional pressure on urban systems and grants a less secure future for their children. In fact this has been observed amongst some of those displaced by the original airport land acquisition (Srivatsa and Shivanand 2008). Many locals who can no longer afford the cost of living in Devanhalli where real estate development has pushed up the prices of housing and essentials have also moved out even if their land is not acquired (Srivatsa and Shivanand 2008). While it is not necessary to do so in every case (for instance if those relocating receive a good price for the homes they vacate) there are instances where the developmental context – levels of literacy, the lack of affordable housing elsewhere in the city, or employment for welfare programs – create additional costs that are not factored into the cost of the project. As far as possible it is important to at least keep these impacts in mind when designing the distribution of costs and benefits; current “formulas” of land based-finance might operate in silos in a way that is not suited for developmental contexts like India.

#### **4.4.9 Partial Capitalization and Time Lags**

As the homeowner example in Section 2.3.9 described time lags in ownership may have led to under or overcompensated landowners in Devanahalli. However, at present the lack of data makes this point hard to establish.

#### **4.4.10 Continually Increasing Land Values**

At present the consortium is earning large gains on their real estate as a result of the boom in land values around the airport. This revenue stream however seems like it will be

contingent on the continued increase in land prices in the area. If land prices drop, or increased availability of space lowers rents in the area (See Section 2.3.10), then the returns promised by the land-incentivized joint venture might not materialize.

#### **4.5 Chapter Summary**

This chapter has used the story of the BIA case to construct a picture of how easily many of the assumptions of land-incentivized joint ventures and other tools can be contradicted. In particular it seems the allocation of costs and benefits is not as straightforward and equitable as predicted. Again, while some of these problems stem from the difficulties inherent in managing PPPs independent of land contributions, many also come from the fact that the value of land as an asset is hard to allocate and manage. Chapter 5 concludes by suggesting possible reforms that could be undertaken so that the fundamental assumptions of land-based finance can appear more realistic in the future.

## CHAPTER 5: CONCLUSION

The previous chapter used the BIA case to help illustrate how a number of the implicit assumptions of land-incentivized joint ventures as developed in Chapter 2 might not hold up in actual implementation. When reality does not correspond to the enabling preconditions suggested by the theory, actual outcomes might deviate from what is predicted. While the lack of quantifiable data for the BIA case does not allow me to measure the degree of deviation, from the information available it appears that a number of distortions and structural inefficiencies exist that could complicate the implementation of land-incentivized joint ventures in Bangalore. Some of these inefficiencies may relate to antiquated legal systems while others represent an institutional context in flux and as yet not fully equipped or designed to represent a changed demographic context and the requirements of new modes of financing. Tentative information presented in chapter 4 seems to indicate that not only might these distortions have led to less optimal outcomes than predicted in theory but that use of land-incentivized joint ventures without first correcting these underlying inefficiencies could actually compound their effects. Many scholars and policy analysts in India have raised similar concerns about land-based public finance that I will discuss in more detail below.

At the same time it is hard to ignore the seemingly large potential of land to incentivize private investment on this scale. Eventually, the BIA consortium was successful in delivering an airport to the city of Bangalore and seems to have encouraged large-scale development and investment in the larger Devanahalli area. According to the Chairman of the KSIIDC, the once defunct agency is now looking to become “a major infrastructure arm of the Karnataka Government” and has a number of projects on its plate from the Dhabol-Bangalore Gas Pipeline to the high speed rail link to the airport and Tadri Sea Port all being undertaken on a PPP basis (The Hindu 2009 and Shenoy 2010). If properly used then, it is possible that land-incentivized joint ventures could also play a catalytic role in reversing the fortunes of State Government bodies that have languished for too long under the lack of Central Government funds<sup>31</sup>. For these reasons (and others as discussed in Chapter 3) it is

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<sup>31</sup> Although the JLC Report argues that the KSIIDC has ended up footing a larger part of the investment bill than originally planned and John (2009) suggests that KSIIDC has provided too

important not to be dissuaded by the use of land as a financing option but rather look to avenues through which the regulatory, institutional and market context can be strengthened and distortions ironed out.

This chapter suggests some possible reforms that might be considered to bring about greater convergence between the assumed preconditions and ground reality and briefly speculates how their prior implementation might have impacted outcomes in the BIA case.

## **5.1 Land Reform**

One of the most important areas for reform seems to be land – its acquisition and management by public authorities.

Amendments to the Land Acquisition Act are currently being debated in the Parliament (See Shah 2010). Thus the huge costs the current method of acquisition imposes on both those displaced and to private capital investment are already been recognized by numerous lawyers, policy makers, academics and politicians. Amongst the proposals for reform it has been suggested that the requiring body establish why the specific parcel of land they want to acquire is needed and why it cannot be substituted with land elsewhere. This reform seeks to address the problem of imperfect information and political collusion that can allow rent-seeking government bodies to arbitrarily acquire land based on their own or other vested interests, and not necessarily in accordance with economic or spatial rationality. In the BIA case this reform would have required the KSIIDC to justify why the airport had to be built in Devanahalli and why it could not be accommodated elsewhere, perhaps where the GOK already held a large share of the land. Not only would this change help justify the resultant cost of acquisition and possible reduce displacement but it would also allay fears amongst landowners that the project was not an arbitrary decision or a disguised land grab. It would also ensure that infrastructure is built at an optimum location for its functioning.

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much of an implicit subsidy to the consortium it would be interesting for further research to examine how the BIA case may have catalyzed the fortunes of the KSIIDC. It is possible that they may have made losses, or less profits than hoped on their first project but that it has given them either the stature, recognition, expertise or earnings to become a larger infrastructure player in the future.

A related reform that has been proposed by a number of lawyers, bureaucrats and others is that of requiring private investors to acquire approximately seventy to seventy-five percent of the land by themselves before approaching the government for acquisition assistance when the land is to be put to commercial use (See Shah 2010 and Morris and Pandey 2010, 13). As the private sector has stepped into the provision of services that were previously defined as the “public domain” and governments have begun to undertake commercially oriented activities, the notion of ‘public purpose’ needs to be more clearly defined. As Morris and Pandey write in a 2007 paper on further proposed reforms to the Land Acquisition Act:

“Since amendment to the LAA in compulsory acquisitions in 1984 the discretionary power of the government has gone up in several ways: The period from announcement of intent to acquire to possession has been shortened. And most importantly government can acquire land for companies – i.e. even if the land is to be owned and used by private companies or any party for that matter. But since the public purpose is not defined in any case, this has opened the door wide for government to acquire land for many reasons. Thus lands have been acquired for housing colonies, ashrams, manufacturing enterprises, entertainment establishments, service industries etc. Indeed the working framework is one where all large investors bank upon government to acquire land for them. *The considerable transfers that this results in, both on account of excess land being asked for and acquired, and because of the vast depression in prices due to prior regulatory restraints are very large. Today such inequity portends to create large-scale protests and dissatisfaction and make an otherwise democratic state system oppressive*” (15). [emphasis mine]

Indeed reforms such as the two described briefly above that somewhat curtail the freedom of the government as to acquire land are becoming increasingly crucial. As a major land rush has gripped the country almost every industrial house has petitioned the government to use the Land Acquisition Act on their behalf to help them acquire land. An article in Business World (2010) reports:

Indian companies, funds (both Indian and overseas), and entrepreneurs are buying land as if there is no tomorrow. According to estimates, they are in the process of acquiring some 400,000 acres of land. That’s four times the size of Mumbai, double the size of Hong Kong, and slightly more than the size of the National Capital Region (NCR) (Business World 2010).

Driving this land rush has been the realization that unlike China or Singapore where the infrastructure build-up was undertaken by the State, in India it will be driven by the private

sector (Business World 2010). For the BIA case however, given the public good nature of airports, it is unlikely that the private consortium would have been asked to acquire the bulk of the land themselves. Thus this latter reform is discussed in less detail here.

A third set of reforms that could bring greater perceived fairness to the acquisition process is in the area of compensation and resettlement policy. Already in 2003 the National Policy on Resettlement and Rehabilitation for Project-Affected Families was formulated to provide additional compensation to project-affected families, over and above the provisions of the Land Acquisition Act. This legislation acknowledges the particular structure of land ownership in the country where both title and non-title holders may derive their livelihood from a piece of land (Raghuram, Bastian and Sundaram 2010, 6). Moreover, since State laws have varied in their level of compensation and their definition of what constitutes “project affected people” this policy seeks to bring greater equality to displaced people across the country (*ibid.*). Unfortunately however this policy has been widely regarded as a failure especially in its inability to address the most fundamental issue of contention – that of forcible acquisition of land without taking into account any input from displaced people themselves (ACHR 2007). Draft Policies to rectify the above-mentioned, and other omissions have been drafted again in 2006 and 2007. These too have met with criticism and to date a number of issues remain to be addressed. Criticisms include the high threshold for qualification of displacement so that only very large scale displacements of people might fall under this policy, exclusion of landowners and project affected people from the decision-making process and the complete inability under the legal system to oppose acquisition once it has been approved by the relevant government authority (ACHR 2007).

Given that much of the land for the BIA was acquired before the 2003 policy was instated this reform did not apply to the project. However, if it had, it might have allowed the landowners to obtain greater compensation for the land acquired and also potentially provided support to some of those not recognized by the KSIIDC as being project-affected. This may have reduced some of the negative externalities generated by the project as discussed in 4.4.8. However it is not clear that assigning the responsibility for designating people as project-affected or not is better conducted at a national rather than a more local level as the scope for fraudulent claims might be more. In a Position Paper on the Airports

Sector in India, the national Department of Economic Affairs has recognized the need for airports to develop their own policies on resettlement, compensation and rehabilitation of project affected people. Recognizing that it is hard to sidestep the need to acquire land when such large land parcels are required they suggest:

“There should be proper and comprehensive guidelines in respect of how much land is required for a particular airport and the way to pay the compensation. The project affected people should be made as partners in the project. The guidelines also should include how to handle the issues in case land acquisition involves religious structures”  
(22)

Thus, while acquisition seems to be causing a number of difficulties at present, it appears that steps are being taken at numerous levels to address this problem so that future land-incentivized joint ventures might yield more equitable distributional outcomes. It might be added however, that the reform of including project-affected people as partners in the project does not necessarily overcome the issue of asymmetry in bargaining power discussed above especially if landowners are able to ally with powerful politicians or lobbies.

Other proposed amendments to the Land Acquisition Act seek to bring greater rationality to the acquisition process by requiring more independence and impartiality in the required social and economic impact surveys, land valuations and in the appointment of the Administrator of Rehabilitation and Resettlement (ACHR 2007). Provisions have also been suggested that allow the “acquirees” to appeal the method of valuation and request a second professional valuer to vet the recommendations of the first (Moriss and Pandey 2010, 15). Indeed, assistance in the valuation of land in the BIA case could have potentially led to greater accuracy in the amount of land acquired and an equity stake for the KSIIDC commensurate with their contribution to the project. Independent valuation could also have guarded against any deliberate attempts to under or over compensate any of the parties involved. Thus this reform is a step towards addressing both any government capacity and political insulation problems that the project may have encountered.

Beyond land acquisition reform, on which numerous experts have written, other areas for reform are the strengthening of land records, formalization of title and recording of transactions. As we saw in Chapter 4, a lack of information in this sphere might have



been responsible for the inadequate compensation of both those affected by the project and the KSIIDC as it became harder to predict future revenue streams that might accrue from land. Simultaneous reform to build capacity for valuation and estimation within government bodies as discussed by Bhide (2009), Bagal (2009) and Adusumilli (2009) while also improving collection of land and transaction data might go a long way towards improving the outcomes of land-based finance. If new notions of private property and ownership are to inform national policy then it is important that these notions be reflected in reality on the ground as well. Although this is not a change that can typically happen overnight, it is one that seems important to initiate.

## **5.2 Institutional Reform and Capacity Building**

The comments of Bhide (2009), Bagal (2009) and Adusumilli (2009) of the MMRDA cited in Section 4.4.4 point to the need to strengthen capacity in government offices so that they are able to correctly handle land-based deals and the complex valuation and estimation that they involve. Even if independent valuation does, as I hope, become part of established practice for most land-based tools, it is important that these skills are developed in house as well so that both sides might vet each other's recommendations. As the KSIIDC expands its participation in infrastructure projects in the state it will be important both for their own finances (and therefore presumably the public good) and for the investment climate in the state for them to better understand and manage returns in the land markets.

This previous reform actually goes hand in hand with the issue of institutional reform whereby at the national, state and local government level a reformulation of power and jurisdiction could be undertaken to better address the demands of new urban realities. We saw earlier that the KSIIDC saw it fit to create the BIAAPA to manage development in the Devanhalli area. Since ninety percent of Devanahalli was rural prior to the airport development this institution must have been necessary to replace older rural governance structures. As new local institutions are created and jurisdictions negotiated, credible checks to power might prove vital to curtailing the power of rent-seeking institutions and promoting transparency and public availability of information. As we saw in Chapter 2,

almost all the tools of land-based finance can be manipulated for personal gain when principal-agent problems are possible.

At the national level, as the government moves more towards PPPs and greater private provision of infrastructure, institutional reform might take the form of new regulatory bodies to manage the returns and serve as a point of redressal for all parties involved. As described in Section 4.3.4.3 the AERA was set up to manage private investments in the airport sector. Regulation, if properly undertaken, may even create a better investment climate for private and even international capital to enter the country. On the flip side however, if the regulatory bodies are perceived as being intrusive or excessively conservative, then there could be negative implications for attracting investment. Already regulatory bodies to manage investments in ports, telecom, private utilities and beyond have been considered and in February of 2009 the Competition Commission of India was set up, although it will not function for another few years (Mukhopadhyay 2009).

Lastly, as institutions evolve, particularly at the municipal or local level it is hoped that the regulation they impose will also move towards being more market oriented so that minimum scarcity rents of the sort described by Phatak (2009) and Morris and Pandey (2010) decrease. It is important that the returns being earned from land-based finance are perceived as fair and actually belonging to the party who claims them (See discussion of FSI in Section 2.2.2). While this might have the impact of reducing the amount of money that local governments can earn it will go a long way towards protecting the overall integrity of the use of this financing mechanism. Without addressing these issues Morris and Pandey (2010) argue the infrastructure thus financed could be unnecessarily expensive, exclude or disadvantage a large section of the population and act as an impediment to broader social and economic development (3).

The use of land-incentivized joint ventures faces an uncertain future in India. If properly utilized their legacy could be the timely and efficient creation of the infrastructure needed to support a rapidly growing nation. As per the theory, land could generate just the amount of finance required to cover the project cost without unfairly disadvantaging any of the parties involved. Yet if they fail due to inadequate supporting reform or bad project management, they could result in large-scale misappropriation, a deepening of existing

inequalities and an unfriendly environment for private capital. Reform appears vital before these tools are employed at a larger scale. As Ramesh Ramanathan sums it up “There is no justification in opening the funding taps if the buckets of our [nation’s] budgets have holes in them” (Ramanathan 2010).

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