

Chapter 8

Land for Development: Market Versus Non-market Mechanisms



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8.1 Introduction

The land is an important factor in production for economic activities in the industrial and services sectors. Therefore the demand for land increases with economic growth. Demand for infrastructure and other public goods also increases with economic growth. The building of roads, railways, ports, airports, schools, and hospitals all require land. Consequently, as the economy grows, the demand for property increases from the private as well as the public sectors.

However, the supply of land as a factor of production is not fixed. Its availability critically depends on land use regulation. Nonetheless, in many cases, the demand for land by the private and the public sectors has to be met by transferring land from agriculture to the industrial and services sectors.

Traditionally, there have been two main mechanisms to transfer land from one economic activity to some other use. The first is the 'market mechanism.' The second mechanism of land transfer is through use of the *Eminent Domain* by the government agencies.¹ World over, eminent domain laws empower the state and its agencies to acquire private property for a public purpose. These laws permit compulsory acquisition or what is popularly called condemnation of a property by the government if the owner refuses to sell the property voluntarily.

The actual use of these mechanisms can have very different implications for the property rights of the landowners. This especially is the case with most of the

¹The power of the state to forcibly take over private property is known with different names in different countries. For e.g., eminent domain in the US, Philippines; land acquisition in India; compulsory purchase in UK, New Zealand; resumption in Hong Kong; expropriation in France, Italy, Mexico, etc.; etc.

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less-developed economies where legal and political institutions aimed at preserving property rights are still fragile, and as such, property rights are insecure. The insecurity of property rights over land comes at a hefty price. It can divert resources from productive to appropriative or protective use. Moreover, insecurity of property rights can seriously undermine the incentives for productivity-enhancing investment in the land.

In this paper, we discuss the merits and demerits of the market mechanism and land acquisition law for transferring land from current to developmental purposes. We show that both mechanisms suffer from serious shortcomings. We argue that the land pooling mechanism is a better alternative to the traditional mechanisms of land transfer. The land pooling is more efficient as well as equitable, especially in Indian settings. Drawing upon the national and international experiences with the land pooling schemes, we demonstrate how suitably designed land pooling mechanisms can protect property rights, induce voluntary participation in land transfer to and encourage productive investment.

In Sect. 8.2, we discuss two types of land transfer mechanisms, namely, eminent domain and market mechanism (voluntary exchange). In Sect. 8.3, we examine the Indian experience with eminent domain. We show that the use of the eminent domain for property transfers suffers from three pressing problems: one, the compensation to property owners is less than full compensation; two, there is excessive litigation over compensation; three, the project choices by the government agencies are generally inefficient. In several cases, the project choice is not only inefficient but also socially wasteful. In the past, the decision-makers have used the power guided by ulterior motives. In Sect. 8.4, we discuss some pressing questions while exploring the limitations of eminent domain. In Sect. 8.5, we discuss various forms of land pooling mechanisms and show how the land pooling mechanism is superior to the other mechanisms in terms of efficiency and equity. In Sect. 8.6, we conclude.

8.2 Land Transfer Mechanisms

8.2.1 Land Markets

Primarily, there are two types of land transfer mechanisms, namely, the market mechanism and the eminent domain. Under the market mechanism, a buyer can buy land from a willing seller. Presumably, a voluntary transaction will go through only if both parties gain from it. Assuming that market transactions are voluntary, it follows that land market transactions will benefit both the buyer and the seller leading to a Pareto superior outcome.

Market mechanism also implies security of property rights, since their land cannot be taken away without their consent expressed in the form of acceptable price by the

property rights holder.² The security of property rights is conducive to productivity-enhancing investment. There is a large empirical literature showing that the protection of property rights is crucial for productive investment. See for example Besley (1995), Goldstein and Udry (2008) and Gonzalez (2007).

In contrast, insecurity of property rights over land comes at a hefty price. It can divert resources from productive to appropriative or protective use. De Soto (2000) along with economic historians North (1981), and Mokyr (1990) have cited overwhelming evidence to show this. These studies show the impact of insecure land rights on investment and productivity. Johnson et al. (2002) demonstrates the impact of insecure property rights on the investment decisions taken by manufacturing firms. These works weave a common and persuasive narrative. That is, secure property rights incentivise productive investment thus facilitating the creation of wealth.

However, there are several problems with the market mechanism. The first problem with the market mechanism is that not all Pareto improving transactions take place. The land market is vulnerable to multiple failures. The first cause of market failure is the asymmetry of information between the owner and the buyer. While asymmetric information is a source of market failure for many goods and services, the problem is acute for the land market. Many factors determine the value of land in addition to its area—for example, its location, proximity to other infrastructural and public amenities, quality of underground water, its susceptibility to flooding, and salvation, among many others. Consequently, no two land parcels are identical, and the owner of a plot can successfully hide many aspects of the property from the potential buyers. In this scenario, many potentially Pareto improving transactions fall prey to the asymmetric information.

In fact, unlike in the case of other goods, the land markets are prone to failure even in the presence of complete information. In other words, even if the buyer has all the information about the land, the market mechanism precludes many socially desirable transactions. At the heart of this problem is what is called the hold-up problem.

The hold-up problem arises in cases where the buyer needs several parcels of contiguous land and land purchases to happen in sequence. That is, the buyer approaches the sellers in the course to buy the required land. In such real-world contexts, the hold-up problem exhibits itself as the landowners exercise the market power by being the last to sell their property.

When land parcels are purchased in sequence, this gives sellers the bargaining power which drives up prices and makes land acquisition through the market infeasible. This causes governments to resort to the aforementioned legal alternatives.

Due to the sequential nature of the land purchase, by the time the buyer approaches the owners of the last parcels, the buyer has had already sunk the cost of acquiring the preceding plots of land. In other words, the landowners who are the last to sell their land exploit the fact that when negotiating with them, the buyer has already sunk

²In this paper, we will use the terms ‘owner’ and ‘right holder’ interchangeably. However, it should be noted that property rights do not necessarily mean ownership of the land. For the purpose of this paper, property rights can be taken as a bundle of rights over usage and control of the property including entitlements on income flows from the land.

the cost of acquiring the other plots of land. This gives the late sellers bargaining power and drives up prices of their parcels. The result is that land purchases through the market become very costly. Consequently, projects suffer from delays and cost overruns (Singh 2011). Besides, less than socially optimal levels of transactions take place. This problem becomes more pronounced as the number of parcels or the number of property rights holders over the given set of parcels goes up. For example, if tenants and landowners both have property rights over a given set of parcels, the problem of holdout becomes acuter to that extent.

Notable and very much present friction in a typical Indian rural market setting is the hold-up by the property owners. Potential sellers hold up from voluntary transactions due to their urge to draw out a disproportionately larger share of the surplus from the buyer. This further restricts the incidence of transactions in the Indian land market. Consequently, drawing from the earlier discussion of the hold-up problem, transactions in the land market become costlier.

The high transaction costs due to poor land records are also responsible for dormant land markets, especially in rural areas.³ Retrieving land records becomes excruciatingly difficult and involved when data is laid out across various departments and has also not been kept up to date. In the past, poor or non-existent land records have led to the diversion of resources from productive to appropriative uses. That is, poor or non-existent land records created a situation where resources have been used for grabbing the land of others and/or defending their own land from others. Thus, appropriation is a rival, and socially wasteful, utilization of scarce resources, which not only causes economic underdevelopment but can actually make the situation a negative-sum game.

It is the presence of unusual market frictions like poor land records, inactive land market culture, and others, which explain the rather resting nature of the Indian rural land market.

The hold-up problem and the high transaction costs are the main economic justification behind the compulsory land acquisition by the government. Most legal jurisdictions allow government agencies to forcefully acquire land for public purposes. This legal power is bestowed on the government agencies by the legal doctrine called Eminent Domain.

8.2.2 Compulsory Land Acquisition

World over, eminent domain laws empower the state and its agencies to acquire private property for a public purpose. These laws permit compulsory acquisition or what is popularly called condemnation of a property by the government if the owner refuses to sell the property voluntarily. At the same time, the compulsory acquisition laws entitle the owner to compensation for forgoing the property. The compensation is to be paid by the acquiring-agency/condemnor at the time of acquisition.

³See Singh (2012).

As far as the amount of compensation is concerned, in the law of eminent domain, a precise formula leading to the damage award by way of deduction such as the differential method is missing. Instead, one finds a large number of definitions, which are often vague and have to be substantiated by jurisdiction.

The UK Compulsory Purchase Code (2002): “... *the right [of the owner] to be put, so far as money can do it, in the same position as if his land had not been taken from him. In other words, he gains a money payment not less than the loss imposed on him in the public interest, but on the other hand no greater.*” US Constitution. Fifth Amendment (1791): “...*nor shall private property be taken for public use, without just compensation.*” German Constitution: “*Such compensation shall be determined by establishing an equitable balance between the public interest and the interests of those affected.*” Art. 14 (3) French Law: “*sur les expropriations pour cause d’utiZit publique*” provides for Market Value. Republic of Korea: “*just compensation*” (Art. 23, 3)UN resolution on the “New International Economic Order”: “*just compensation*” (see Singh, 2004 Schäfer & Singh, 2018).

In effect, most legal orders entitle the acquisition affected owners to the “market value” of their property or some multiple of it.⁴ It should be noted that the market value is less than the full compensation—if the market value were higher, the owner would have already sold the property on the market.⁵

In particular, the market value compensation is less than the full compensation under the civil liability is taken as the norm. What is worth noting is that civil liability, however, is for a wrongful act and therefore demands full compensation. Eminent Domain taking, on the other hand, is a legal act of the state in the public interest. Unlike a civil-liability settlement intending to compensate for the repercussions of an unlawful, tortious act, a constitutional taking is lawful and in the interests of the public. This means that the affected citizens may have to make some contribution to the pursuance of the common good for which the taking decision was made. This rationale for less than full compensation under eminent domain explains how less than full compensation can be more suitable than full compensation for taking decisions under eminent domain.

Indian law has seen significant changes related to the amount of compensation. The old Land Acquisition Act of 1984 entitled the affected owners to the “market value” of their property, on the date of Sect. 8.4 notification. According to the LAAR 2013s compensation provision, compensation is two times the market value in urban areas. In rural areas, the compensation can be up to 4 times the market value. In addition, the law provides for additional compensation in consideration of the compulsory nature of the acquisition. In India, this extra compensation is known as the *solatium*.

⁴Also see Sect. 8.3 to learn more.

⁵On merits and demerits of full compensation see Singh 2003 and Schäfer & Singh, 2018)

8.3 Eminent Domain and the Indian Experience

Market value is a counterfactual amount, as the property taken by the government is not traded through the market. So, there is discretion enjoyed by the government officials while assessing the market value. The compensation is determined with reference to the market value of the land at the date of the publication of the acquisition order, taking into account the value of superstructures (if any).

Depending on the jurisdiction or the context, the owner of the condemned property may or may not be allowed to negotiate the compensation amount with the condemner. However, under all jurisdictions, the owner has the right to litigate the compensation amount, if not satisfied with the compensation offered by the condemner. In India, litigation over compensation is rampant and is a nation-wide phenomenon (see Singh, 2012, 2013).

8.3.1 *Actual Compensation is Less Than Market Value*

In its various judgments, the Supreme Court has directed that the market value of the acquired property should be determined on the basis of what is called “circle rates” or “sale deeds” of a similar property, whichever is higher. However, in practice, the Land Acquisition Collectors (LACs) award compensation based on the circle rates, which vary from locality to locality. The circle rate of an area is popularly known by different names, such as the registry rate or the stamp duty rate. It is the minimum rate decided by the government authorities for the valuation of land for determination of duty/tax imposed at the time of registration of sale-deed of a property. When a sale deed of a property is registered, the stamp duty is imposed on the value of the property, as mentioned in the deed or its value based on the circle rate, whichever is higher. Generally, the sale-deed rates are above or equal to the circle rate of the property. In practice, the state governments revise the circle rates once in several years. As a result, these rates are generally well below the market value of the property in the area in question. See Fig. 8.1.

Under the LAA, while determining compensation, both the Land Acquisition Collector (LAC) as well as the courts are required to follow the same set of guidelines. These guiding rules are provided in the LAAR Act itself. However, the analysis undertaken has shown that there is a consistent difference between LAC provided compensation and court awards.

8.3.2 *Excessive Litigation*

While the Indian judiciary has not attempted to second guess the executive decisions regarding the acquisition of land, the courts have been lenient towards property

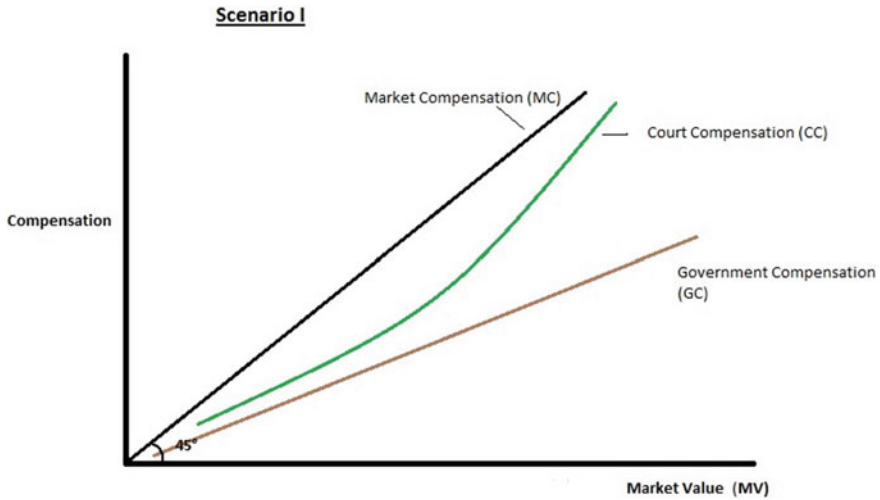


Fig. 8.1 Market value versus government compensation and judicial awards

owners on the question of compensation. The average court-awarded compensation is greater than the government awards. Consequently, many owners choose to litigate overcompensation.

Moreover, for any given property, the High Court (HC) award is different from the award of the Additional District Judge (ADJ). Given that the same set of guidelines is to be followed by the LAC, ADJ, and as well as the HC, the observed difference in awards is intriguing, which also results in excessive litigation. The relatively more financially well-off section of property owners benefits more from the litigation. The data presented below are drawn from Singh (2013), which is a project research report on this subject.

We use Tables 8.1, 8.2, and 8.3 to show and discuss the striking contrast in compensation rate between the compensation decided by LAC and the award determined by the ADJ court; the ADJ and HC awards; and the LAC-determined settlement and the HC award.

Table 8.1 shows the percentage increase in compensation by ADJ over that of LAC. In 2010, on average, the gap between the LAC awarded compensation, and the ADJ award was higher by more than 184 percentage points. In 2011, this difference

Table 8.1 Percentage increase in the compensation by ADJ over LAC

Cases adjudicated in 2010		Cases adjudicated in 2011	
Number of cases = 881		Number of cases = 523	
Mean	184.46	Mean	205.10
Standard deviation	399.58	Standard deviation	279.66
Min	0.00	Min	0.00
Max	8370.00	Max	2493.09

between the two further increased by 205.10 points. This stark on an average rise in the difference between the LAC compensation and the ADJ award in both years, 2010 and 2011, can explain the incentive to choose litigation over compensation for property owners.

On another note, the standard deviation, a measure expressing the degree of variation between the compensation rate provided by the LAC and the ADJ court award, is measured at 399.58 and 279.66 in 2010 and 2011, respectively. The high standard deviations in both years, 2010 and 2011, point to the significantly huge variation in the compensation and reward determined by the ADJ courts.

Table 8.2 shows that the average compensation provided by HC is higher than the ADJ awards. However, appealing before the HC against the ADJ court award is not a risk-free decision for the property owners. The HC may increase the compensation beyond the ADJ award, but it can also reduce the compensation below the ADJ provided compensation. Nonetheless, the HC provided compensation cannot be less than the LAC award.

Table 8.3, too, shows that the compensation awarded by courts through litigation is on average, significantly higher than that determined by LAC. According to Table 8.3, the percentage increase in compensation by HC over LAC was a whopping 265.6047 in 2010 and 363.0225 in 2011. In 2011, however, the standard deviation was measured at 1657.334—a seemingly enormous number. This could be explained by a possible outlier that is observable with a look at the maximum increase (36,810.26) in compensation of 2011.

To sum up, in the final analysis the litigation for compensation does not have a downside for the property owners. Unsurprisingly, all of the property owners under the study had opted for litigation by seeking a reference to the ADJ court. Our data provides both evidence of a strikingly substantial increase in the compensations by

Table 8.2 Percentage increase in the compensation by HC over ADJ

Cases adjudicated in 2010		Cases adjudicated in 2011	
Number of cases = 1085		Number of cases = 523	
Mean	32.54577	Mean	48.25835
Standard deviation	98.82402	Standard deviation	278.4299
Min	-40	Min	-48.1618
Max	1188.75	Max	5205.85

Table 8.3 Percentage increase in the compensation by HC over LAC

Cases adjudicated in 2010		Cases adjudicated in 2011	
Number of cases = 862		Number of cases = 517	
Mean	265.6047	Mean	363.0225
Standard deviation	442.4263	Standard deviation	1657.334
Min	0	Min	0
Max	8370	Max	36,810.26

courts over LAC and the consequent incentive for property owners to choose litigation over compensation.

Moreover, litigation favours the rich property owners over the relatively poor. The poor cannot afford to go all the way to the HC to get their due. Table 8.2 shows that the average compensation provided by HC is higher than the ADJ awards. However, appealing before the HC against the ADJ court award is not a risk-free decision for the property owners. Only the relatively rich property owners have resorted to litigation beyond the ADJ courts. Moreover, the rich own a relatively high-value property. The market is more active in high-value properties, especially the ones located near highways and urban areas, so it is easy to get comparable sales deeds for these properties. This, in turn, means that the rich get a bigger bang from the buck while investing in litigation efforts.

8.3.3 *Excessive Acquisition*

The Indian judiciary has been reluctant to second guess the executive decisions regarding the acquisition of land. This reluctance has made it easier for politically preferred but socially undesirable projects to get implemented. This indeed was the case under the old Land Acquisition Act, 1894.

The majority of the official land has been procured from everyday citizens in the wake of paying next to no remuneration. This endowment has both boosted and promoted both—the administration offices, and much of the time privately owned businesses—to gather huge supplies of unused land. For example, a report by the CAG on Special Economic Zones shows that as much as 31,886 ha, or 53% of the absolute land gained by the administration for these zones, stays unused—land which would otherwise have been put to more beneficial use by its unique proprietors. The states have famously obtained land for organizations' exercises, which can't even marginally be viewed as identified with any social government assistance reason. Some of such occurrences include getting land for setting up shoe-fabricating production lines, climate control system blower plants, lodgings, and pools. See Singh (2012) for a detailed account of misuse by the state and central government department of the eminent domain power.

Since the land is much cheaper when acquired under eminent domain, compared to its cost if purchased through market transactions. So, the private players and government departments might be tempted to over-acquire. This over-acquiring of land leads to land hoarding, discussed in the previous section. At the same time, it has not helped in reducing the problem of project delays (See Singh, 2011).

The area of land lying vacant with the Ministries of Railways and Defence, respectively, stands at 43,000 ha and 32,780 ha. This land is lying vacant without even any proposed use! Moreover, the 13 primary port trusts have 14,728 ha of land lying idle. (CAG report).

Though deeply startling, these numbers only show a flash of the epidemic of land hoarding. Not only do they factor out various departments of the Centre, but also,

and more notably, do not include the undue landholding by the States. What makes this whole scenario more miserable is that an enormous part of the area of unused land is the high-value property lying in top-tier regions in major cities.

Furthermore, this land hoarding has managed to create a phony shortage of land in various areas. This phony undersupply of land is one of the critical drivers triggering skyrocketing urban real estate prices. Inflated land prices lower competition as it increases the cost of commercial and development projects.

According to the Government Land Information System (GLIS), central ministries own about 20,00,000 ha of land. What is problematic is that a large proportion of government land lies unused. For instance, Ministries of Railways and Defence, Civil Aviation have lakhs of hectares of land lying vacant. The Indian Railways own the tag of the most prominent landowner in the country. According to CAG reports, the 13 primary port trusts have 14,728 ha of land lying idle. Moreover, changes in land-use post-acquisition are frequent. In response to an RTI filed by an India Today respondent, the Indian Railways said that it owned approximately 4.77 lakh hectare of land as of March 3, 2018.

As a result of the large sections of governments' land lying unused, the unlawful land infringement or land grabbing has gained momentum over the years. Individuals and groups not only encroach governments' land but also take part in illicit exchanges of the administrative land. According to the revenue department in the Odisha government, by June 2018, over 45,000 acres land has already been encroached either by groups or by individuals. The experience in other states is not very different.

8.4 The Inherent Vulnerability of Eminent Domain

The above discussion begs the following questions. Can higher compensation reduce litigation for compensation?; Can full compensation ensure that takings are in the public interest?; Can less than full compensation be justified on the grounds of efficiency?; Can Judicial Review of government decisions improve the use of land acquisition laws?

Can Higher Compensation Reduce Litigation? No, people will litigate as long as they gain from litigation. The key to reducing litigation is to remove the divergence between government awards and judicial orders. An exploratory inspection of various court judgments across the country insinuates the prevalence of court awards being higher than the LAC awards. In a few cases, the variation between the LAC award and the judiciary-awarded compensation is stunning. Hence, an increase in compensation by LAC may simply not be enough of an incentive to induce property owners not to choose litigation over compensation.

Consider an agricultural land of area 100 m^2 . The circle-rate is, say, Rs. $1000/\text{m}^2$. But there is a sale-deed of rate Rs. $1300/\text{m}^2$. Under the old law, where the multiplier was 1.3, this meant the gains from litigation would be Rs. 39,000. This compensation translates into Rs. $300/\text{m}^2$ times the area from litigation. Under the 2014 law, the multiplier and thus the compensation from litigation over compensation is even

higher. The compensation from litigation over compensation is four times higher than before. This means that the gains from litigation in the previous example, under the new law, would be Rs. 1,20,000! Property owners now have an even stronger incentive to litigate.

Can higher compensation improve the quality of taking decisions? No, preferences of the decision-makers – politicians and policymakers—are different from what is in the best interest of society. Contrary to popular belief, governments or politicians do not necessarily work towards maximizing the social welfare function. Governments, mostly run by politicians, are additionally driven by a different set of objectives, like gaining vote shares than solely focusing on social welfare. Empirical literature shows political considerations guide governments when it comes to using eminent domain for using private property. Many times, marginal communities are vulnerable to the government’s target (see Levine-Schnur, 2017 for Israel and Palestine; Somin, 2015, Garnett, 2006, Boudreaux, 2005, for the USA; Singh, 2012 and 2013 for India).

Mandatory higher compensation can be seen as tightening the budget constraint of the government. Given current income, they are now required to pay higher compensation to property owners for any piece of land they say they need to acquire for *social welfare purposes*. We can show that, contrary to the popular view in the relevant literature, this tightening of government’s budget constraint and the implicit assumption that their preferences diverge from what may be in the best interests of society can lead to more inefficient decisions. (Schäfer & Singh, 2018) The government decision is not solely guided by the associated costs. See Cohen (1990), Garnett (2006), Brennan and Boyd (2006), Levinson (2000), Fischel (2015). State Liability literature also corroborates this.

Government does not internalize costs in the same way as a private firm. Government actors respond to political incentives; not financial ones-to votes; not dollars. Levinson (2000)

We might better direct our efforts to design effective “political” markets instead of attempting to use economic signals to influence state and bureaucratic action. Cohen (1990)

For example, consider a city with three neighborhoods. Let us say that the government is considering these three projects to be implemented in the city: public park, access road, and golf course. Moreover, suppose the government can choose to implement any of the three projects at any one of the three locations. Suppose that for the city, the social ranking of projects is a public park, access road, a golf course, in descending order. In contrast, the government prefers a golf course over an access road and the access road over a public park. See Fig. 8.2.

Let us assume that the government can only implement any one of the three projects. In this case, even if they were *required* to pay full or higher compensation of the land acquired—they might move forward with implementing the project choice that they prefer the most, which in this case is the golf course. The financial illusion can explain this phenomenon the government may experience; in essence, they might perceive takings to be costless with a potential gain of voters. That means, without any additional political and other friction to induce them to choose a more efficient project, they are most probably going to go with the least preferred project by the city—a golf course.

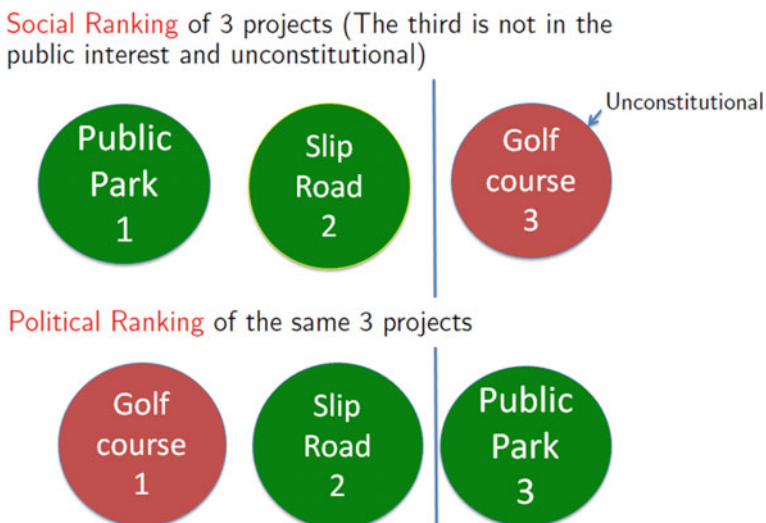


Fig. 8.2 Social versus political ranking of projects

Consider another case where the government can now implement two projects in the city. Even in this case, the government is going to go with the least two preferred projects by society.

The above discussion shows how the divergence in the preferences of the government and that of the society, may lead to scenarios where the choice of projects implemented is inefficient. This divergence in preferences, paired with the financial illusion that the government experiences concerning the associated cost of takings, explains how a higher compensation does not lead to more efficient taking decisions.

8.4.1 Can the Provision of Judicial Review Help?

Eminent Domain Law, including LAAR 2014 of India, requires a clear definition of *public purpose* in the constitutional law and the relevant cost and benefit analysis (SIA) of the project by the authorities. These provisions enable courts to check whether infringement of a right is 'proportional' to the project's benefits, or if the acquired land is actually the mildest infringement of property for the realization of the project. In several countries, courts still check whether a project is 'necessary' in view of the totality of social benefits as well as the related costs.

Under full compensation, the outcome cannot be efficient even with the provision of the judicial review. The kinds of projects taken up will be politically preferred but socially inefficient. In addition, investment choices will also be inefficient.

However, suppose less-than-full compensation is incorporated with the provision of restitution. In that case, the outcome is a cut above that under full compensation

on the subsequent three measures; namely, levels of productive investments by the property owners, use of the eminent domain power, and choice of project conditional on the use of eminent domain power. Using a formal model, Schäfer and Singh (2018) prove the following: “investment levels are more efficient, a taking happens only if it contributes to social welfare, and the choice of the project by the government is also better.”

If these conditions are met, then investment choices are relatively efficient; all takings result in improved social welfare; the ‘First Best’ result cannot be achieved.

However, the judicial review needs to be credible to deliver the above outcomes. When the judicial review of the takings decisions cannot be guaranteed, the desired outcome cannot be achieved. In fact, less than full compensation without judicial review can only make things worse. As the land under eminent domain comes in cheap, the private players and government departments might get tempted to over acquire leading to land hoarding, as was discussed in the previous section.

8.5 Land Pooling Mechanism

Given the above-discussed problems with the Eminent Domain and the market mechanism, land pooling (or land readjustment (LR)) schemes emerge as a better alternative. The actual origin of the land pooling schemes is considered to be in Germany, where it was practiced in the late nineteenth century. The country has a well-established method for implementation and it has developed thousands of hectares of land through land pooling techniques since the 1980s (see Viitanen, 2002, p. 10). The land pooling schemes have drawn the attention of many Asian nations as they are more positive in approach and beneficial to the landowners.

Land pooling involves the legal consolidation of land parcels owned by individuals or groups of individuals by transfer of ownership rights to the land pooling agency. The agency later transfers parts of the land back to the owners, after undertaking the development activities. Development activities are projects of public purpose like schools, hospitals, roads, open spaces, and alike which fulfill the needs of the community while safeguarding natural resources.

The Land Pooling Scheme, by definition, is conducive enough to incorporate local participation and hence better in dealing with the objections raised by landowners with respect to compensation and land use under Eminent Domain.

Land Pooling can be cheaper than acquisition because there is an option of self-financing of a project via the increased value of land in the future, so it may not necessitate a monetary compensation at the time of initiation of the project if the participants are willing. Japan shifted to this model because of the increased frequency of run-ins with the hold-out problem, and increasing property prices. He also highlights that this policy might work only when the scale of projects is not large. A negative externality is that this does not necessarily address the problem of land inequality by making the redeveloped land with increased prices even more inaccessible to the poor.

The above benefits are borne out by the international experiences of the adoption of the land pooling schemes in various parts of the world. Land readjustment schemes have been adopted by a number of countries, the outcomes vary in all of them, with each facing a different set of problems.

8.5.1 International Experience

Experience in the Netherlands shows that the success of land-pooling is contingent on the strength of public institutions involved in the process (Needham, 2007). The citizens should have trust in the developing authority, which is pivotal in getting consent. The Netherlands example throws up a few caveats as well—While land-pooling is pitched as a self-financing mode of land acquisition, the Government needs capital while developing the project; therefore, it is important that the authority is financially solvent. In addition, the success of the land-pooling model was dependent on the economic factors in the country, as the increase in the value of the property is correlated with the economic climate.

In Kathmandu Valley, Nepal, the successful conversion of failed sites and services projects into successful land pooling schemes proves that the land pooling technique can be useful in addressing most of the deficiencies of sites and services. Due to the landowners' opposition, these projects were deadlocked for many years. Later, an agreement was reached to convert them into land pooling projects, and today, they have been completed. Despite the successful execution of many projects in the Valley, its demonstration effect is not as overwhelming as it should have been. The project highlights the downsides of the schemes. It shows that the land pooling projects can serve only the landowners of the project area. They do not ensure the access of plots to low- and middle-income families who do not own any piece of land in the city and are desperately looking for a plot. Landowners who already have houses outside the project area or who own housing plots in the project area might withhold their plots for speculative and strategic purposes in order to gain a higher value in the future. As a result, building development in the project influenced areas can be slow and plots can lie idle for many years (see Karki, 2004).

Hong Kong's experience presents an interesting case of vertical application of land pooling. With rising population density and vertical development of towns and cities, it is important to also look at vertical integration of property for development purposes. In this case, the connection with price fluctuations in the real estate market is important to predict the changes in the valuation of the property. Since this particularly applied to the housing market, developers in Hong Kong also had to provide extra monetary compensation to those owners who were unwilling to part with their homes, due to lack of alternative housing. This is bound to raise the costs associated with the projects and must be kept in mind while evaluating the benefits and costs.

According to the Land Use Planning report (Metternicht, 2017) by United Nations Convention to Combat Desertification (UNCCD), land use planning is defined as the systematic assessment of land and water potential, alternatives for land use, and

economic and social conditions in order to select and adopt the best land-use options. Its purpose is to select and put into practice those land uses that will best meet the needs of the people while safeguarding resources for the future.

Foresight Land Use Futures Project report (Newberry et al., 2010), the Government Office for Science, London, discusses climate change, demographic shifts, and changing societal preferences and attitudes as significant challenges on the alternative use of land for future use. Many development projects across the world have started recognizing the potential benefits of considering diverse areas such as ecosystem services, mitigating climate change, and well-being. However, rolling out new land policies to balance these competing pressures and demands is a significant challenge for the coming century.

The difficulties of implementing land use plans in settled areas stem from conflicts of interest within local communities, between government and local people, and, not least, the failure of professional planners and administrators to comprehend and respect these different goals. There have also been difficulties in getting several agencies to work together and, often, a lack of technical solutions to land use problems that are practicable, profitable, and easily-incorporated into existing systems.

However, there have been continuous efforts from time to time by different organizations and individuals all over the world to find out the best possible ways, guidelines, mathematical tools for land use planning by defining goals, identifying opportunities and constraints, integrating diverse strands of physical, socio-economic and environmental information to devise a range of land use options and to choose between them.

Due to the mechanisms designed by economists and technological advances, project developers are well equipped with professional expertise and of resources for both planning and implementation. Therefore, land use planning procedures have become sophisticated over time. Different methods and procedures have been adopted in different land-use planning depending on availability, accessibility, and affordability of the information and expertise.

Consider for instance the LUPLAN package, developed in Australia, is one such mathematical model that can hold individual characteristics of each planning area/mapping unit, provide attractiveness ratings for each potential land use, determine the most attractive land use for each mapping unit, and allocate land use on this basis. The output is in the form of percentages which express the extent to which individual land use plans achieve a given policy. Results can be reviewed, and weights assigned to different characteristics may be changed. Further runs of LUPLAN can be made until broadly acceptable results are achieved.

Another approach developed by the Canadian group of the University of Guelph and Agriculture Canada also starts with land mapping units and sets of policy objectives or land-use scenarios. Objectives are quantitatively specified as production targets. Scenarios define supply-side conditions, such as land availability, quality, and productivity. The relationships between production potential and needs can be expressed in terms of resource use feasibility, flexibility, and sensitivity. This procedure could also be used to assess the possible impact of soil erosion, acid rain, land drainage, and climatic change.

However, two continuing problems of local-level land planning have been witnessed in many contexts. Firstly, there has been an acute shortage of both professional expertise and of resources for both planning and implementation. Secondly, there has been a growing awareness of the need for people's participation in planning. (Dent & Goonewardene, 1993).

8.5.2 The Indian Experience

As discussed in the previous section, issues exist with land acquisition in India, which goes from pay to restoration and resettlement for people affected. An enormous part of India's population relies upon agriculture for livelihood. Therefore, resistance to giving up agricultural land can be understood. Additionally, states are regularly incapable to fund suitable compensation for land acquisition. Alongside these issues, various pending cases identifying with land disputes in the legal framework make land pooling a suitable alternative.

The idea was presented in India in 1915 as a Town Planning Scheme under the Bombay Town Planning Act in Maharashtra. It has been predominantly used in the state of Gujarat, Andhra Pradesh, Delhi, and Kerala. In recent years, Gujarat used land pooling to acquire land to build a 76-km long ring road in Ahmedabad and develop the Dholera Special Investment Region. Similarly, Andhra Pradesh has amassed land for the development of its new capital city of Amaravati. In 2018, the Delhi government approved land pooling to provide 17 lakh homes to a population of around 76 lakh residents in areas that have been earmarked by the Delhi Development Authority. But the policy implementation has not been immune to criticisms. Land pooling, although increases the value of land, raises questions on the social and environmental front. The scheme was criticised in Amravati because fertile land was also pooled and the state relied on law enforcement to curb resistance against the scheme. Delhi's policy does not address air and water quality issues.

In the absence of a national-level enabling legal environment, the use of LR in India varies from state to state. The town planning scheme implemented in Gujarat gives us three major insights (Mathur, 2013). First, the local governments in Gujarat reap substantial financial benefits from the sale of reserved land. They retain the reserved land for a considerable period of time, allowing them to benefit significantly from the increases in land prices. The ability to retain land is primarily a result of local governments not requiring land sale revenues to bear the up-front scheme costs. Second, Gujarat's LR process is largely equitable for landowners. Furthermore, the net demand does not need to be paid until the landowner is ready to realize the increased value of her land by applying for a land-use change or a building permit. Therefore, such designing of contracts enabled the Gujarat government to successfully undertake land readjustment and subsequently smooth project development.

8.6 Concluding Remarks

In this paper, we have discussed the merits and demerits of three mechanisms for land transfers for developmental activities. We have argued that both, eminent domain as well as the market mechanism, suffer from serious shortcomings. In contrast, the land pooling mechanism is a better alternative to the traditional mechanism of land transfer. We argue that land pooling is more efficient as well as equitable, especially in Indian settings. Due to the minimum displacement of land-owners and increased value of the returned land due to development activities, generally, there is less or no opposition by landowners. Moreover, this policy is self-financing since for development activities to begin, landowners have to pay upfront fees to the agency. This scheme is also inclusive in the sense that it provides transferable development rights to the landowners on the returned land.

However, for successful pooling of land, it is necessary that an adequate proportion of landowners voluntarily participate in this scheme. Therefore, it is necessary for the agency to mechanize contracts that involve voluntary participation by a sufficient number of landowners.

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