Special Issue on

Land Pooling/Readjustment for Development Projects: Lessons Learnt & Way Forward

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Administrative Staff College of India

Centre for Excellence in Management of Land Acquisition and R & R (CMLARR)

Special Issue

ASCI Journal of Management

Conference Papers and Proceedings
of
Online International Conference

LAND POOLING/READJUSTMENT FOR DEVELOPMENT PROJECTS: LESSONS LEARNT & WAY FORWARD

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Foreword

Massive investments in infrastructure will be critical to kick start the global economy in the post-covid phase. Assembling land efficiently and equitably for infrastructure projects is an ongoing challenge. Acquisition of land in areas with potential for vast appreciation in land values post project intervention poses several issues. Primarily, some landowners may have to be displaced from the area. The cost of the land they would receive may not sufficiently account for the appreciation in land values that their neighbours would experience after the project development. When the government pays hefty compensation to acquire the land, the broader public pays (through their tax contributions) for the development, while few people get the benefit. Some people who receive property value increases are those who do not encounter any losses. Though Land Pooling (LP)/Land Readjustment (LR) has its share of challenges, it addresses most of the issues mentioned above under the land acquisition regime. LP/LR largely avoids physical displacement and makes the landowners share their land for undertaking the project and paying back for the improved infrastructure. In the face of rapid urbanisation and limited financial resources with the government, LP/LR often becomes the only available strategy to improve infrastructure. The process is known in different parts of the world by various names, viz. Land Readjustment, Land Consolidation, Land Pooling etc. The method is widely practised in Japan and Germany for more than a century. LP/LR is most widely used as an urban planning tool. The legal bindings regarding land use in a land pooling area is usually covered in the urban/spatial planning law. As a tool to address urban challenges, LR is used to alter plots' shape and conditions and install/improve public facilities in the city planning area to provide better public facilities. LP can also work successfully in different project contexts. The model is workable if each project generates land value sufficient to cover the project costs and leaves the landowners with a significant gain in their total land value despite the reduced size of their landholdings.

Land pooling is gaining acceptance in India in varied project contexts. This is a good indicator of its attractiveness and potential transferability. However, ASCI's consultancy studies on alternate land assembly models in India reflect the need for significant improvements on diverse aspects of planning and implementation of LP/LR. As the country expands the use of this innovative land assembly tool, there are several issues that merit attention of both the policy makers and practitioners. With this objective, ASCI organised an online International Land Pooling Conference from 27th to 29th June 2020. The Conference aimed at bringing both global and domestic experts on a common platform to share their valuable country experiences besides sharing perspectives on some of the key practical issues associated with the assembly tool. The Conference also aimed at addressing the knowledge gap among professionals in the design and implementation of LP/LR. Besides reflecting

upon the varied country experiences in the implementation of these tools, the Conference discussed the improvements required for the existing pooling models to evolve as sustainable futuristic assembly models. The Conference was made possible by the support from GIZ, Madhya Pradesh Industrial Development Corporation, State Industries Promotion Corporation of Tamil Nadu, Mahatma Gandhi Institute of Public Administration, and Western Coalfields Ltd. ASCI acknowledges the timely and valuable support from each of the supporting institutions. We thank Ms. Aparna Das, Senior Advisor, GIZ, and the entire technical team from GIZ, including the Technical Advisor, Mr. Arpan Mazumdar for their support in the publication of the Special Volume.

More than thirty experts, considered globally authorities on the subject from various countries and development institutions (JICA, World Bank, Asian Development Bank and UN-Habitat) presented papers/participated in the three-day virtual Conference discussions. The success of the event owes to their remarkable contribution. We dedicate this Special Issue of ASCI Journal of Management on Land Pooling to each one of them. About 300 participants from more than 30 countries participated in the event.

The Special Issue of ASCI Journal of Management on Land Pooling is divided into three sections. Section I provides an overview of Land Pooling models in India. Section II presents the summary of the Conference presentations, the compilation of queries raised by the participants along with the summary of the reflections by the Session Chairs. Section IV includes six important papers on LP/LR; A Global Perspective of Land Readjustment by *Mr. Takeo Ochi*; Special Aspects & Practical Experience of LR in Germany by *Prof Hans-Joachim Linke & Raphael Bretscher*; LR Experience in Turkey by *Prof Sevkiye Sence TURK*; Land Pooling in Nepal-Promises and Pitfalls by *Dr. Kirti Kusum Joshi*; Land Trust/Spillover Return to Infrastructure Investors by *Prof Naoyuki Yoshino & Ms. Saloni Lakhia* and Analyzing Development Costs And Benefits in Replotting Design in the Nakasu Land Readjustment Project, Nagoya, Japan by *Dr. Felipe Francisco De Souza.*

We hope this Special Issue will enrich the body of knowledge.

Dr. Reshmy Nair
Professor and Director
Centre for Excellence in Management of
Land Acquisition and R & R (CMLARR)
Administrative Staff College of India

Administrative Staff College of India

Centre for Excellence in Management of Land Acquisition and R & R (CMLARR)

Online International Conference

LAND POOLING/READJUSTMENT FOR DEVELOPMENT PROJECTS: LESSONS LEARNT & WAY FORWARD

(JUNE 27-29, 2020)

CONFERENCE AGENDA

INAUGURAL SESSION & CONTEXT SETTING	
DAY:1 June 27, 2020	**Timing: 0800-0900 hrs Indian Standard Time (IST)**
0800-0805 hrs Welcome/Agenda	**Dr. Reshmy Nair** Professor & Conference Director, ASCI
0805-0810 hrs Special Address	**Mr. K.Padmanabhaiah, IAS (Retd.)** Chairman, Court of Governors, ASCI
0810-0815 hrs Special Address	**Mr. Maninder Gill** Global Director, Environmental & Social Framework, World Bank
0815-0850 hrs Global Perspectives	**Mr. Takeo Ochi** Senior Advisor, JICA
0850-0900 hrs Introductory Remarks	**Ms. Aparna Das** Senior Advisor, GIZ

SESSION I	LP/LR-DECODING SUCCESS STORIES
DAY1: June 27, 2020 Session Timings: 0925-1130 hrs IST	
Session Chair: Mr. K B S Sidhu, IAS, Special Chief Secretary and Director General, Mahatma Gandhi State Institute of Public Administration (MGSIPA), Govt. of Punjab	
KEY SPEAKERS	
0925-0930 hrs	Introduction of Distinguished Session Chair
0930-0940 hrs Session Chair	**Mr. K B S Sidhu, IAS** Special Chief Secretary & Director General, MGSIPA, Govt. of Punjab
0940-0950 hrs Overview	**Dr. Felipe Francisco De Souza** Senior Urban Specialist & Ph.D. Researcher, University of Tokyo
0950-1015 hrs LR in Germany	**Prof. Hans Joachim Linke** Head of the Chair "Land Management" at the Institute of Geodesy, Germany
1015-1040 hrs LR in Japan	**Prof. Andre Sorensen** Professor, Department of Human Geography, University of Toronto, Scarborough
1040-1105 hrs LR in Israel	**Prof. (emerita) Rachelle Alterman** Senior Researcher, Neaman Institute for Policy Research, Technion Israel Institute of Technology, Israel
1105-1130 hrs Session Chair	**Mr. K B S Sidhu, IAS** Special Chief Secretary & Director General, MGSIPA, Govt. of Punjab

SESSION II	LP IMPLEMENTATION IN DIVERSE SECTORS IN INDIA
DAY1: June 27, 2020 Session Timings: 1400-1630 hrs IST	
Session Chair: Mr. Takeo Ochi, Senior Advisor, JICA	
KEY SPEAKERS	
1400-1402 hrs	Introduction of Distinguished Session Chair
1402-1412 hrs Session Chair	**Mr. Takeo Ochi** Senior Advisor, JICA
1412-1420 hrs Overview	**Dr. Reshmy Nair** Professor & Conference Director, Administrative Staff College of India, Hyderabad
1420-1445 hrs Urban Projects	**Mr. K B S Sidhu, IAS** Special Chief Secretary & Director General, MGSIPA, Govt. of Punjab

1445-1510 hrs Industrial Project	**Mr. Vivek Porwal, IAS** Managing Director, Madhya Pradesh Industrial Development Corporation Ltd.
1510-1530 hrs New Capital City	**Dr. Sreedhar Cherukuri, IAS** Joint Secretary, Chief Commissioner of Land Administration, Govt. of AP
1530-1550 hrs Disaster Reconstruction	**Mr. Harpal Dave** Assistant Town & Country Planner, Ministry of Urban Development, Govt. of India
1550-1610 hrs Housing Projects	**Ms. Aparna Das** Senior Advisor, GIZ, India
1610-1630 hrs Key Observations	**Mr. Takeo Ochi** Senior Advisor, JICA

SESSION III	**LESSONS FROM COUNTRY EXPERIENCES – I**
DAY 2: June 28, 2020 Session Timings: 0930-1200 hrs IST	
Session Chair: Mr. Vivek Porwal, IAS, Managing Director, Madhya Pradesh Industrial Development Corporation Ltd.	
KEY SPEAKERS	
0930-0932 hrs	Introduction of Distinguished Session Chair
0932-0942 hrs Session Chair	**Mr. Vivek Porwal, IAS** Managing Director, Madhya Pradesh Industrial Development Corporation Ltd., India
0942-0950 hrs Overview	**Dr. Felipe Francisco De Souza** Senior Urban Specialist and Ph.D. Researcher, University of Tokyo, Japan
0950-1010 hrs LR in Germany	**Ms. Marta Lora Tamayo** UNED, Universidad Nacional de Educación a Distancia, Spain
1010-1030 hrs LR in Spain	**Prof. María Cristina Rojas Eberhard** Advisor, Urban Planning, Land Management, & Land Value Recapture, Columbia
1030-1050 hrs LR in Columbia	**Dr. Gisela Faerber** Chair, Public Sector Economics & Public Finance, German University of Administrative Sciences Speyer, Germany
1050-1110 hrs LR in Turkey	**Dr. Sevkiye Sence Turk** Professor, Land policy, Urban Law & Urban planning, Istanbul Technical University
1110-1130 hrs LR in Sweden	**Mr. Tommy Österberg** Part-time Professor at the University of Lund, Sweden.
1130-1200 hrs Key Observations	**Mr. Vivek Porwal, IAS** Managing Director, Madhya Pradesh Industrial Development Corporation Ltd., India

TECHNICAL SESSION IV	LP/LR -Learning from Country Experiences -II
DAY 2: June 28, 2020 Session Timings: 1400-1630 hrs	
Session Chair: Dr. Girija Vaidyanathan, IAS Retd., Ex. Chief Secretary, Govt. of Tamil Nadu	
1400-1402 hrs	Introduction of Distinguished Session Chair
1402-1410 hrs Session Chair	**Dr. Girija Vaidyanathan, IAS Retd.,** Ex. Chief Secretary, Govt. of Tamil Nadu
1410-1420 hrs Overview	**Dr. Reshmy Nair** Professor & Conference Director
1420-1440 hrs Magarpatta LP Model	**Mr. Satish Magar** Managing Director, MTDCL
1440-1500 hrs LC Projects in Indonesia	**Dr. Ngakan Ketut Acwin Dwijendra,** Assosiacet Professor, Udayana University, Bali, Indonesia
1500-1520 hrs Gujarat/Raipur/ Delhi LPS	**Mr. Jacob Manohar** Associate Town & Country Planner, Ministry of Urban Development, GoI
1520-1540 hrs LR Projects in Nepal	**Dr. Kirti Kusum Joshi** Urban Specialist, City Planning Commission, Kathmandu Metropolitan City
1540-1600 hrs LR Projects in Bhutan	**Ms. Tashi Wangmo** Executive Secretary, Gelephu Thromde (Municipality), Kingdom of Bhutan
1600-1610 hrs Key Observations	**Dr. Girija Vaidyanathan, IAS Retd.,** Ex. Chief Secretary, Govt. of Tamil Nadu
1610-1630 hrs	**Q and A-Session Chair**

TECHNICAL SESSION V	ALTERNATE VOLUNTARY LAND ASSEMBLY TOOLS
DAY 3: June 29, 2020 Session Timings: 0930-1140 hrs	
Session Chair: Dr. Sanjay Kumar, Director Personnel, Western Coalfields Ltd.	
0930-0932 hrs	Introduction of Distinguished Session Chair
0932-0942 hrs Session Chair	**Dr. Sanjay Kumar** Director Personnel, Western Coalfields Ltd.
0942-0950 hrs Overview	**Dr. Reshmy Nair/ Dr. Felipe Francisco De Souza**
0950-1010 hrs Land Sharing	**Dr. Paul Rabe,** Senior Land Expert, Institute for Housing & Urban Development Studies, Erasmus University, Rotterdam.

1010-1030 hrs Land Leasing	**Dr. Reshmy Nair** Professor & Director CMLARR, ASCI
1030-1050 hrs Land Trusts	**Prof. (Emeritus) Naoyuki Yoshino, Keio University**, Tokyo, Japan & **Ms. Saloni Lakhia**, Public Policy Consultant, India
1050-1110 hrs LP & Equity Sharing	**Prof. Guoqing Shi** Director, National Research Centre for Resettlement, Hohai University, China
1110-1140 hrs Key Observations	**Dr. Sanjay Kumar** Director Personnel, Western Coalfields Ltd.

TECHNICAL SESSION VI	**LP/LR-TOWARDS A FUTURISTIC LAND ASSEMBLY STRATEGY**
DAY 3: June 29, 2020 Session Timings: 1630-2000 hrs IST	
Session Chair: Mr. Maninder Gill, Global Director, Environmental & Social Framework, World Bank, DC	
KEY SPEAKERS	
1630-1632 hrs	Introduction of Distinguished Session Chair
1632-1642 hrs Session Chair	**Mr. Maninder Gill** Global Director, Environmental & Social Framework, World Bank
1642-1700 hrs Evaluation Findings	**Dr. Reshmy Nair** Professor & Conference Director
1700-1720 hrs Participatory LR/LP	**Mr. Robert Lewis-Lettington**, Chief, Urban Legislation Unit, UN-Habitat
1720-1740 hrs Land Value Capture Instruments	**Mr. Jon Kher Kaw** Senior Urban Development Specialist, World Bank
1740-1800 hrs LP/LR in Post Covid-World	**Prof. Martim Oscar Smolka** Senior Fellow & Director, Lincoln Institute of Land Policy
1800-1810 hrs	**Q and A**
1810-1830 hrs	**Break**
1830-1850 hrs Transforming LP Practices	**Mr. Padma Mainalee** Deputy Director General, Ministry of Urban Development
1850-1910 hrs Safeguard Issues	**Mr. S. Viswanathan** Senior Safeguard Specialist, Asian Development Bank
1910-1940 hrs Equity in Land Value Distribution	**Dr. Felipe Francisco De Souza** Senior Urban Specialist and Ph.D. Researcher, University of Tokyo
1940-1950 hrs Key Observations	**Mr. Maninder Gill** Global Director, Environmental & Social Framework, World Bank
1950-2000 hrs	**Q and A-Session Chair**

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Section I
Overview of Indian Land Pooling Models

Reshmy Nair*

Introduction

In India, the Town Planning Scheme (TPS) was first introduced under the Bombay Town Planning Act (TPA) of 1915. In the words of A. E. Mirams, credited to have introduced the concept to India, "The Bombay Town Planning Act aimed at distributing the cost of development schemes over the lands improved thereby, and yet at the same time allowed a fair margin of profit to the owners of the land, who as a rule had done absolutely nothing to improve the value of the property. At the same time, the Act brings into the market large areas of land which without cooperative action would for untold years remain agricultural land. In this way, the community at large is able to obtain land at a reasonable price". The Overview is divided into two parts. Part I provides a summary of key issues emerging from the implementation of Land Pooling (LP)/Land Readjustment (LR) in India. Part II provides an assessment of three important LP/LR policies in the states of Gujarat, Punjab, and Andhra Pradesh.

I – Key Issues from LP/LR Implementation

Legislative Framework & Judicial Interpretation: In India, the legislative competence of the Central and State Legislatures are demarcated by the Constitution under Article 246, with the fields for the exercise of legislative power enumerated in Central, State, and concurrent lists. The statutory backing of the land pooling models lies in the Town Planning/Urban Development Acts of various States. The constitutional validity of the Gujarat Town Planning Act was upheld in several judgments. The Gujarat High Court had held that TPS *ipso facto* is a form of delegated legislation and such a scheme is prepared not by the legislature but by the competent authority constituted under the delegated legislation and that TPS at any time can be varied by a subsequent scheme to be made by the competent authority[1]. The

* Professor & Conference Director, ASCI, Email: reshmy.nair@asci.org.in, reshmy.asci@gmail.com

[1] Rajan Sankalchand Patel Vs. State of Gujarat (1997) 1 GLR 31 28

Court has held that complaint of pecuniary loss to the petitioners become immaterial and irrelevant in such cases as individual interests have to be subordinated so as to serve the public good[2]. Regarding the applicability of the central land acquisition law on the state planning act, the Supreme Court in Girnar Traders Vs. State of Maharashtra[3], held that the application of *Doctrine of Pith and Substance* makes it clear that the State Act (Mumbai Regional Town Planning Act) is aimed at planned development unlike the Central Act where the object is to acquire land and disburse compensation in accordance with law. The paramount purpose and object of the State Act being planned development and acquisition being incidental thereto, the question of repugnancy does not arise. The Court held that they would fall within the permissible limits of doctrine of "incidental encroachment" without invalidating any part of the State Law.

It is, however, important to recognise the changed legal environment after the enactment of the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (2013 Act henceforth). The field of compulsory acquisition is occupied the Central Law (2013 Act), and the statutory rights accorded by the Act may require protection by any law framed by the State. Defining affected families solely in terms of title-holders may also lend the models vulnerable in case of judicial scrutiny. It is important to note that tenants insights were upheld under the TPS even prior to the enactment of the 2013 Act. In a significant Judgment[4], the Court ruled that the TPS had injuriously affected the tenant by terminating his possession and adversely affecting his business and directed that he may be provided alternative premises by allotting a suitable shop within the city. Given that LP/LR interferes with the property structure and rights of communities, there are several other pertinent issues for consideration in the current practices. The important ones are comprehensive provisions covering planning requirements, choice and conditions for the use of alternate and assembly models, cost recovery, value capture, and allocation; stringent conditions for adherence to timelines; penalty clauses for discrepancies between plans for an area and its eventual development; rights and duties of affected families, implementation agencies, and other third parties involved from the initial phase until project completion; option for landowners to choose between compensation (appropriation) and developed land; a minimum percentage of voluntary land owners participation for both government/private projects; a time bound dispute settlement framework etc. LP/LR mechanisms may also require improvements regarding consultation and transparency requirements. While some projects have progressive practices, others leave a lot to be desired. Whether we should have a specific LP/LR law or incorporate it under the relevant statutes is another matter to be considered.

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[2] Hasmukh Shah Vs. Ahmedabad Municipal Corporation (2001) 4 GLR 2840

[3] (2004) 8 SCC 505

[4] Jaswant Singh Mathura Singh Vs. Ahmedabad Municipal Corporation, 991 AIR 2130

Planning for LR/LPs: To result in a win-win situation for all stakeholders, the selected site should be physically and economically suitable for LP/LR. The size of the LP/LR project, level of development, the trend of property prices, and the real estate market are all important. It may be progressive to have a quick study of the proposed pooling area (especially agricultural peri-urban areas) to understand the land use pattern, identification of the affected families and the special needs so as to develop appropriate safeguard measures in line with the specific needs of the region. When the proposed area comprises of agricultural lands, the due diligence measures to avoid, minimize and mitigate adverse impacts on livelihood will assume critical importance. There are some countries where the recognition of occupation rights is recognised as the first step in LP/LR. There are others in which this is ignored and gets delayed owing to multiple reasons. In India, the practices and challenges vary across states. Recognising and institutionalising mechanisms to address the issue, including greater synergy and coordination between the revenue departments and urban local bodies, become vital for LP projects in new cities/areas.

Equity and Social Acceptance: Not all land pooling projects present similar impacts. An urban rehabilitation project in the core city area will be different from a project in the urban periphery or another one which proposes reconstruction of a damaged city. Equity considerations may not be the same in both projects. Equity in land pooling/reconstitution refers to both substantive and procedural equity. For two landowners who had pooled their lands for a project, will equity not demand parity in the proportionate value of plots after LP/LR? If yes, what are the diverse instruments of land value capture including balancing fees that could be integrated with LP/LR to maintain the proportionality rule? Can the uniform contribution ratio provide rationale outcomes when lands pooled are non-homogenous?

Further, is it fair to have the landowner bear the risk of uncertainty surrounding the expected land value appreciation, or would it have to be shared with the government and facilitating entity? The small landowners face an inherent disadvantage under LP/LR. The graded/progressive contribution ratio was implemented in some projects and it does promote fairness. However, much more attention and efforts are required to address the operational challenges of cut-off dates, fragmentation of land etc., in such cases. Equity also means how well the strategy is meeting the needs of particular groups that have special needs namely the landless, tenant farmers etc. Loss of income during the land development period also requires ameliorative measures.

Reserve Lands: Many countries avoid the self-financing options given its impact on the contribution ratio, and as the concept of reserve land/ self-financing nature of land pooling is difficult for landowners to comprehend. LR is considered an alternative to expropriation. Under expropriation, the land is acquired by the government by paying due compensation, following which public utilities are financed through multiple sources. Is there a potential for misuse of the self-

financing nature of land readjustment both in terms of its quantum as well as its allocation? Is the provision of 'reserve lands' equitable, considering that the public amenities may benefit the population outside the project area? Should the use of reserve land only be restricted to big infrastructure projects where the government has severe fund constraints? These are fundamental questions to be considered by the policymakers. While the provision cannot be uniform across projects, it may be important to ensure that the use of provision for reserve land is guided by certain pre-defined criteria along with the quantum and mode of sale of these lands for financing public facilities.

II – Assessment of Key Land Pooling Models in India

1. The Gujarat Plan-Town Planning Scheme, 1976: In Gujarat, the first TPA was implemented in 1915. The recent version of the Act is the Gujarat Town Planning and Urban Development Act (GTPUDA), 1976. The legislation provides for the development of the decadal macro level "Development Plan" for the entire city and is followed by a many micro level TPSs of 100 ha area each. The Act was amended in 1999 to enable the local Government to take possession of land to construct roads after obtaining approval of the draft TPS. The allotment of land in the TPS is 15 percent for roads, 5 percent for parks, playgrounds, garden & open spaces, 5 percent for social infrastructure plots, 15 percent for sale for residential/commercial or industrial plots, and 10 percent for housing for social/economically weaker sections. The remaining land is to be reconstituted and returned to the landowners. The scheme is conceptualised as a joint venture between the local authority and the landowners, who voluntarily agree to pool their land, redistribute the reconstituted plots of land among themselves and share the development cost. To address the grievance, there exists a Board of Appeal in which the Principal Judge of the City Civil Court or the District Judge acts as the President. The appeals against the President are addressed by the State Government in consultation with the High Court. The common demands raised by landowners include changes in the plot allotted (near garbage dumps/informal settlement), higher contribution ratio, higher compensation for land taken, widening of the road in front of their plot, settlement of ownership disputes, etc.

The Process Flow: The process includes a detailed topographical survey of the proposed TPS area; preparation of a base map by collation of the ground survey and the cadastral maps; marking of the boundary of the TPS area on the final base map; publication in local newspapers; design of subsidiary roads; drawing up of plots for amenities; assessment of Final Plot (FP) size, compensation payment to landowners and assessment of the value of FPs and betterment charges. A public meeting of the landowners is called to present the draft TPS, and suggestions/objections are solicited, following which the draft TPS is modified and published. It is again put for objections and suggestions from the landowners. Based on the second round of objections and suggestions, it is modified and then submitted to

the State Government for approval. Once approved, the draft TPS is now called the sanctioned draft TPS. After the sanction, the Development Authority can take physical possession of the land designated for roads. A quasi-judicial officer called the Town Planning Officer (TPO) is appointed after the approval of the draft TPS. The TPO's task is to deal with each landowner both on the physical planning proposal, the shape and location of the FP and the financial proposal viz. the compensation and betterment norms, and eventually demarcate the FP on the ground and hand it over to the owner. The TPO conducts three individual hearings to each landowner and revises the preliminary TPS, if required. There are four rounds of public inputs. The first round is initiated by the development authority at the Draft TPS stage. The other three rounds are initiated by the TPO in the Preliminary and Final TPS stages. The TPO finalizes the preliminary TPS by writing his/her decisions with regard to every plot, following which it is sent to the State Government for approval. The preliminary TPS comes into effect from the date of sanction, and all plots appropriated for public purpose vest with the local/development authority.

Benefits Entitlements to Land Owners/Others: The landowner gets back 50 to 60 percent of the size of the original plot. The Government is entitled to pay compensation for the land surrendered to the Government. The landowners are entitled to pay betterment levies at the rate of half the increase in land values of the final plots.

The TPS is being implemented by all urban development authorities in the State of Gujarat. The scale of TPS implementation has however, increased since the 1999 amendment across different development authorities. TPS is an established mechanism and working very successfully in Gujarat. This can be expanded to the other States too. The TPS essentially is an integrated mechanism through which the various tasks of urban transformation governed by diverse laws are brought under the same legal mechanism. In States that do not make use of the TPSs, a number of different departments governed by the different legal frameworks would have to coordinate and work towards the objective. With the enactment of a new land acquisition law in India in 2013, the entitlements to affected families deserve attention. It is also extremely important to recognise the impact on families other than landowners and provide for entitlements to non-title-holders/livelihood losers. Though the Gujarat LPS is progressive for its consultation with landowners at multiple stages, these schemes do not require the consent of the landowners' to proceed. Further, the Government can take possession of land needed to construct roads after the draft scheme is approved. It would be progressive if the consultation exercises can engage the community more in planning for design for TPS (layout of roads, networks, open spaces, public amenities etc) than just issues relating to particulars of individual plots. A major concern with regard to the mechanism is the delay in completion of projects, often extending between the four years contemplated in the law. It would therefore be progressive to have effective

monitoring arrangements to ensure adherence to timelines, development of public amenities, and utilisation of the land reserved for low income housing (with penalties for delay).

2. The Punjab Land Pooling Model: The Department of Housing and Urban Development, Government of Punjab, notified the Land Pooling Policy in June 2013, though the practice of sharing a proportion of developed land existed earlier. The stated aim of the land pooling policy is to avoid complications of compulsory acquisition and share benefits of urban development with landowners so as to make them a stakeholder in development. The landowners can opt for compensation, as arrived under the provisions of the Land Acquisition Act (LAA) or the package under land pooling policy. The land pooling policy is available to the landowners even if the land is acquired for other than residential purpose. If the land is acquired under LPS through land aggregators, the aggregator is paid a two percent commission on handing over possession of land (calculated at Collector rates excluding solatium or any other charges payable).

The Process Flow: The process framework is as per the Land Acquisition Act. The option for returnable developed plots is given to the landowner at the award stage.

Entitlements to Land Owners/Others: For every acre of land pooled, the landowners are entitled to 1000 square yards of residential land. The commercial returnable plot is Shop cum Office (SCO) of 121 sq yards or two shops of 60 sq. yards (12ft x 45ft). A landowner possessing half an acre of land is entitled to 500 square yards of residential land and one shop of 60 sq yards. The minimum land size that can be pooled is one canal (one-eighth of an acre), for which the residential returnable land is 150 square yards. Similarly, returnable land for two and three canals is 300 and 450 square yards respectively. Commercial returnable plot entitlements are only for those possessing half acre or more. In case the area acquired for the scheme is in fractions and if the fraction is more than half of the unit, the area acquired shall be counted in the next upper category. The residential and commercial plots are allotted through an open draw. The compensation for structures is carried out as per the provisions of the LAA. In case the possession of the structure (house) of the landowner is taken by the Authority, the possession is not made effective for a period of one year to enable him/her to construct a new house. The landowners are entitled to a subsistence allowance of Rs. 25,000 per acre up to a maximum of three years or till the possession of developed share of land is not handed over to him/her, whichever is earlier. Benefits to non-title-holders or special benefits to vulnerable sections are not envisaged under the policy. An assessment of the data collected from GMADA reveals that despite the high compensation given to landowners who had opted for the same, GMADA could easily recover the same from the sale of plots (about 27 percent of land remains with GMADA). The period taken for the return of developed land is about five years in most of the projects.

The Punjab LPS provides a real option to the landowners to choose between compensation or share the developed land in return. The implementation experience reveals that market conditions and outlook for the real estate sector govern the choices of the landowners exercising the option. Land pooling is not always the preferred option. This also points out the difficulties that may crop up if the land assembly process provides for land pooling as the only option for landowners. Given the high compensation cost of land in the State, the land pooling has helped the Government in reducing its financial burden as well as reducing litigation at different courts. It is also seen that the Government can easily recover its high compensation outgo by the sale of high value plots. The delay in the period for returning the land to the landowners is the most common concern with land pooling models. This transition period is critical if the landowners were dependent on the pooled land for their livelihood. The Punjab Policy provides a transitional allowance for the landowners for a maximum period of three years. This should be extended till the period the developed land is returned to the landowner. The policy does not have a structured consultation mechanism or institutionalised GRM. The Punjab policy has not been modified after the coming into force of the 2013 Act. According to the 2013 Act, a mandatory Social Impact Assessment (SIA) is to be carried out prior to land acquisition. Since the Punjab policy is integrated with the land acquisition framework, it remains to be seen if a diligently conducted Social Impact Assessment (SIA) study prior to notification would cover the gaps in the existing pooling policy viz. holistic assessment of the impacted and providing entitlements to non-title-holders and others adversely impacted.

3. The Andhra Pradesh Capital City Land Pooling Model: The Andhra Pradesh Capital Region Development Authority (APCRDA) Act, 2014 notified an area of 8352.69 Sq.Kms for Capital Region and 217.23 Sq.Kms as AP Capital City area. The Capital City area falls in Guntur district, covering 24 revenue villages and part of Tadepalli Municipality covering mandals of Thullur, Mangalagiri, and Tadepalli. The Capital Region Development Authority (CRDA) notified the Andhra Pradesh Capital City Land Pooling Scheme (LPS) Rules in January 2015. Through the LPS, land parcels owned by individuals or group of owners were legally consolidated by transfer of ownership rights to the CRDA, which later transferred the ownership of a part of the land back to the land owners. Half of the total land in the capital city is reserved for roads, utility services, parks, playgrounds, gardens, open spaces, social amenities and affordable housing. The balance after meeting the above requirements and the return of plot to the landowners were vested with the Authority.

The Process Flow: Upon issuance of the Notification by the Commissioner (declaration of intention to make the LPS), the landowners had to submit their consent/suggestions/objections within 30 days. The Authority made a draft LPS of the area in accordance with the sanctioned plans, and in consultation with the landowners. A 30-day period timeline was provided for suggestions/objections and the final LPS was notified by the Commissioner. After the landowners executed a

Development Agreement cum Irrevocable General Power of Attorney with AP CRDA, the rights over the land were transferred to CRDA by executing a registered deed. The finalised plan was notified, and landowners were allotted their 'returnable plots' by means of a digital lottery. Along with the lottery allotment, the landowners were given their Land Pooling Ownership Certificate (LPOC) that specified the details of the original and reconstituted plots. This was followed by the registration of land. The notified area under the final LPS vests absolutely with the CRDA free from all encumbrances. The reconstituted plots, given to the landowners, were within the same revenue village boundary in most cases. The landowners could opt for different sizes of standard plots as per their eligibility. The owners of the reconstituted land required permission for the development of the plot after payment of necessary fees. Though the reserve lands with CRDA initially worked out to be about 20 percent, the actual share turned out to be less owing to hike in commercial space granted to the landowners; grant of plots in the capital city to displaced population of a proposed international airport etc.

Entitlements to Land Owners/Others: For every acre of irrigated and semi urban land surrendered for the LPS, the landowners received 1000/450 square yards of developed residential/commercial plots. Those possessing dry land have a lower entitlement of 1000/250 square yards of residential/commercial plots per acre. The landowners are also entitled to an annuity for crop loss at the rate of Rs. 30,000 for dry and Rs. 50,000 for irrigated lands (with an annual enhancement of ten percent); one time additional payment up to Rs 1 lakh for gardens. Agricultural loans amounting to Rs. 1.50 lakh for each family were also waived off. The AP LPS was also unique in providing benefits to the landless families viz. Rs. 2,500 per month for a period of 10 years besides a plethora of other benefits that included the provision of National Rural Employment Guarantee Scheme (NREGS) upto 365 days a year per family, Interest free loan up to 25 lakhs to all the poor families for self-employment, free education and medical benefits and skill development training with sty-fund to enhance the skills of cultivating tenants, agricultural labourers and other needy persons to have alternative livelihoods.

The AP LPS mechanism is grounded in the legislative framework with a detailed consultative framework. The extraordinary success of the model was in procuring about 35000 acres of private land in a record time. Several factors can be attributed to this success; political commitment; massive State-led consultation exercises, avoiding displacement by marking old village sites and extended habitations as part of the Capital City, an innovative package for various categories of affected families that includes annuity scheme for landowners, pensions for the landless etc. The returnable developed land entitlements to even farmers who had been cultivating on objectionable government lands is a very progressive measure that reflects the inclusiveness of LPS model. However, the fact that the non-pooled lands were to be compulsorily acquired meant that those not desirous of joining

the LPS did not really have an option. Could the land procurement and discontinuation of agricultural activities have been carried out in a phased manner, particularly given the mammoth challenge of building a new capital city? Delay in the envisaged timeline adversely impacts all the stakeholders; for the land owners, the value of these plots would increase only when the capital city develops and becomes livable; for the small and marginal farmers, the annuity component may not have been enough for sustenance though the anticipated spur in construction activities was expected to vastly increase the employment opportunities for unskilled labour. The assessment of the distribution of landholdings of the landowners in the capital city area prior to their joining LPS could have helped a better understanding of the quantum of such adversely affected population and the extent/magnitude of impact. While the provision of monthly pension for the landless families is progressive, the 'per family' norm may go against the interest of the bigger families. Other than the environmental concerns associated with the project, there were concerns over the large quantum of land procured for the capital city project along with the transfer of fertile multi-crop land for non-agricultural use. It would be progressive for models which try to replicate the AP LPS to institutionalise these measures. Also, areas with vast variation in the pre and post valuation of land may require paying greater attention to the technical assessment of land contribution area and/or additional measures to ensure fairness.

The above discussion summed up the experience of land pooling models in Gujarat, Punjab, and Andhra Pradesh, the largest projects in terms of quantum of land procured. There are several other states/projects that are implementing LP projects in India. These include Chhattisgarh, Madhya Pradesh, Kerala, Delhi, Haryana, Rajasthan, Maharashtra, etc. Balancing social and economic issues is central to any strategy for land assembly. Even the established land pooling models may have to bring forth necessary changes in the light of the changed legal environment after the enactment of the new land acquisition Act (2013) in India. The alternate models of land assembly including land pooling, has both strengths and shortcomings. The success or failure of the policies in the initial years may not be appropriate barometers to predict their potential performance in the future. Any successful land assembly strategy should maintain the delicate balance of the mutually influencing objectives of efficiency, equity, and social acceptance. The suggestions for improvement are with the objective of strengthening these models on these lines as we expand their use for assembling lands for infrastructure development.

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Section II
Summary of Paper Presentations

LR in Israel: The Routine Instrument of Urban Development- Prof Rachelle Alterman

LR is the "Sleeping Beauty"[1] of urban planning tools: despite its powerful potential, it is still limited in its implementation across the globe, and is particularly rare among advanced economies (Organisation for Economic Cooperation and Development (OECD) member countries). Attempts to introduce LR decades ago in the United Kingdom failed, and in the United States, it has not progressed beyond a proposal in a single academic paper. There are perceived legal limitations (some real, but most imagined) that may have prevented its widespread adoption, including amorphous conceptions of "property rights" and other socio-political fears that should be dispelled.

LR in Israel: Israel is an exceptional case of an OECD country that employs LR widely and frequently. While there is no global, comparative data on the practical use of LR or alternative instruments, Israel appears to have the highest (and rapidly increasing) rate of applied use of urban LR globally (in terms of per area developed/ per building permits. In Israel, LR is already a standard part of planning routines for all types of land uses. The use of LR is borne from necessity: Israel—with a density of 400 persons per square kilometer and an annual population growth rate of 1.6—stands to soon become the most densely populated country in the OECD. Every city in Israel is growing, and with them the price of land, though there remain significant differences between central and peripheral locations.

[1] This image was first introduced by Prof Rachelle Alterman in Alterman, R. (2012). Land use regulations and property values: The 'Windfalls Capture' idea revisited. *Chapter in: 'The Oxford Handbook of Urban Economics and Planning'(Nancy Brooks, Kieran Donaghy, and Gerrit-Jan Knaap, eds.) pp*, 755-786.þ

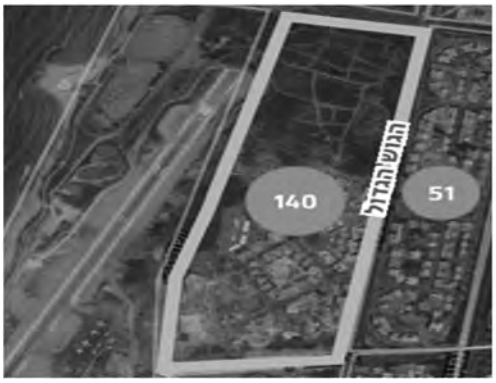

Fig. 1 (left): The largest vacant land plot in Tel Aviv (possibly the most expensive in the country), freed for development by LR;

Fig. 2 (right): Rendering of the proposed project on the site featured in Fig. 1

Easily developable open sites have already been exhausted, and the need to preserve scarce open spaces requires a massive urban regeneration and densification effort (for both housing and non-residential uses). As in growth areas in other countries (even countries experiencing overall or regional decline), there is a distinct need for an instrument that will reallocate property within existing urban configurations. LR is easily applied to all types of land uses, as well as land values (i.e., areas of all socio-economic status).

LR compared with other land instruments: LR has become popular in Israel partially due to the unsuitability of other land instruments. The private sector, on its own, is limited in its capacity to pool developable land purely through market forces. Land banking by municipalities—i.e., the purchase of agricultural land in advance of need at cheaper prices—is economically infeasible given their limited reserves. Land expropriation for new or re-development is politically and legally problematic, and there are no available budgets for compensation. (Land expropriation is, in fact, no longer a common tool in most OECD countries, although it is in continued use in Germany and the UK). Thus, where development without LR is either impossible (according to planning or property law) or is much less lucrative for landholders, LR is regarded as the better choice.

Fig. 3: An example of an initial plan (right) and a new plan (left) featuring LR

The Essence of the Legislation: The context for Land readjustment (or re-parcellation scheme) is found in Israel's body of planning law dating to 1955, and it appears to have been imported from Germany. The law provides that LR can be initiated in two ways: in the first, LR is initiated by the planning authority *without* the relevant landowners' consent. In practice, landowners often initiate the LR procedure *as if* it were without their consent, as the tax system gives priority to *non-consent* procedures. The second way is *with* the consent of all the landowners (who, as aforementioned, typically initiate the procedure anyway). The Israeli Planning and Building Law provides rules for re-parcellation *without* consent, as follows:

a) **The proximity rule:** The location of each plot after re-parcellation should be as close as possible to the location of the original plot.
b) **The proportionality rule:** The proportionate value of each new plot, relative to the total value of all the new plots included in the scheme, should be equal to its proportionate value in its original state prior to re-parcellation. When the value is not equal, the proportionality should be corrected via "balancing fees," with the local authority acting as an intermediary.

Balancing fees are, however, complex to administer; appraisers have become skilled at avoiding such fees and instead seek to redistribute land via floor area so that the value share is kept precise.

In both cases, with or without consent, the rules of consultation and transparency are enhanced compared to regular planning processes. Individual owners involved in LR must be contacted, and they are usually intensively involved in the allocation.

Simplicity and Strengths of LR Institutional Structure: The institutional structure for LR in Israel is relatively simple for a number of reasons. For one, there is no need for a special landowners' association, though owners may form one of their volition. The fact that LR can be applied *with* or *without* full owners' consent is also a simplifying factor. It prevents the majority from bullying minority holdouts, pursuing illicit arrangements with developers, and other unsavory outcomes that

sometimes result in systems where consent is required. However, the with/without consent system should not be regarded as a dichotomy but as a spectrum. In practice, there is almost always full consent and full participation, because owners generally stand to profit significantly from LR and cannot otherwise develop. Empirical research indicates that, in almost all cases, landowners agree to participate, even when the LR is formally classified as "without agreement." Despite the institutional simplicity, the LR process is lengthy because it entails a great deal of negotiation; Israeli society being quite litigious, LR-related court actions are common, but they rarely concern agreement to participate.

The LR process in Israel has several other strengths. The rules of valuation are clear and are based on the specific value of each plot and not by approximation or by the size of plot. LR can be applied to any type of land ownership or holding, whether private, public leasehold, national ownership, or other.[2] LR can be applied to built-up areas, with which the country already has considerable experience. Allocation after re-allotment can be vertical based on floor area (e.g., apartments). Israel has developed very mature land valuation professionals, with sophisticated regulations to ensure fairness, transparency, and an appeals process. This is a huge deficiency in many countries where LR law is consequently rendered dysfunctional due to the lack of professional valuers. More recent regulations have established a panel of dedicated appraisal decision arbitrators who are nationally appointed and for whom this is their exclusive task. These good valuation principles and practices ensure that the reconstituted plots maintain the closest location and relative value.

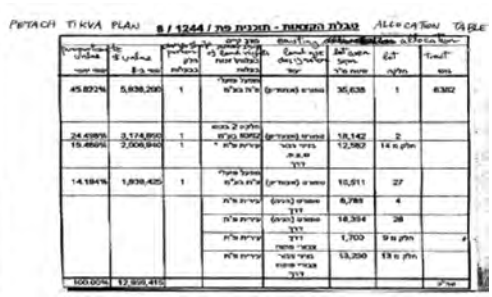

Fig. 4 (left): Plan for the redevelopment of an old low-rise housing area into higher density housing and public facilities in the city of PetahTikva (Tel Aviv conurbation)

Fig. 5 (right): Allocation table for the PetachTikva plan

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[2] Land ownership in Israel is complex in part due to its historical and present conflicts. Most land is nationally held and is leased to citizens and private entities for development and use (in addition, of course, to public lands that remain under public ownership for public uses). There is also a land that is privately owned outright, including by Israel's significant (20%) Arab minority, whose ownership predates the establishment of the State in 1948. In the Occupied Palestinian Territories, in the West Bank and Gaza, planning law (and LR) is not applied.

Value capture for public needs: What can be extracted? The issue of value capture and land extraction for public the benefit has been a subject of dispute in Israel for a long time. Normally, without LR, land dedication can be up to 40 percent of the area in question, even if there is no value increase. After years of the legal contest and contradicting decisions, the Supreme Court finally held that, where there is a value increase, there shall be no limit to land exactions so long as the owner's benefit. In effect, the percent dedicated can reach up to 60-70 percent. It remains unsettled for what range of public services land can be taken (or, indeed, what constitutes a public service). However, the law provides that land cannot be designated for transfer to the government for sale. It is also illegal to exact money in cash to finance the construction of services. In the past, landowners or developers were sometimes asked to dedicate or build public services; subsequently, after having benefitted from the new plan, they appealed to the courts and lost. A recent Supreme Court decision ruled that any agreements with developers are, in fact, illegal.

LR, in the Israeli planning system and in the courts, also interacts with betterment levies. This has led to two contradicting Supreme Court decisions, ultimately forcing the Court to reverse itself. The binding decision held that, upon approval of a new plan with higher value development rights, betterment levies of 50 percent beyond the land dedication will be imposed as in any land development (without LR). What remains unclear is if the land dedicated beyond 40 percent should be deducted from the betterment tax. However, it is resolved that the money from the betterment levy should go into the city's general fund, and not towards the particular project that paid it.

Concluding thoughts: The biggest challenge for LR's present and future in Israel is the length of the process, despite its seemingly simple structure and conditions. When LR is applied intensively in a country where courts are highly involved in land transactions, LR becomes far more complex than the simplistic image projected in the literature. The existing institutional structure for planning regulation can be fit to handle LR without special additional institutions, but with important caveats: the degree of litigiousness in society matters; the culture of expected participation matters. LR is not a quick process, nor is it a panacea. But it has the best built-in mechanisms for fair distribution of gains and losses.

LP Vis-à-Vis Compulsory Land Acquisition: Punjab's Experience in Mohali- Mr. K.B.S. Sidhu, IAS

Chandigarh had been conceived as a new and modern capital of Punjab, following the partition of the country in 1947. After the Reorganisation of Punjab in 1966, Chandigarh was carved out as a Union Territory and was governed directly by the Central Government. The planning of Chandigarh is in the native of a sectoral grid, comprising independent sectors, each of an area of 250 acres.

As soon as the development of the new Capital City (Chandigarh) of Punjab commenced in the early 1950s, the State Legislature of the united/undivided Punjab enacted the Punjab New Capital (Periphery) Control Act, 1952. This Act *inter alia* provides that the land use within 10 miles (i.e., 16 km) of the area originally acquired for the Capital Project of Chandigarh would stand frozen. In other words, agricultural land could not be converted to non-agricultural use. No doubt, the Act empowered the State Government to grant permission for the change of land use, yet such approvals were accorded very sparingly. In the year 2006, the Periphery Change of Land Use Policy was notified, but this also did not open up many new pockets for development; rather the conditions for a change of land use were quite strict and stringent. Also, for the first time, change of land use charges/cess were levied/ imposed. In this scenario, whenever GMADA was acquiring land, from a strict legal perspective, it was paying for what was merely agricultural land, the existing of land use of which stood frozen under a law. On the other hand, when after acquisition, the Authority developed residential/commercial sectors, the value of land was automatically enhanced on account of the implicit permission of change of land use. This created a huge perceived difference in valuation in the eyes of landowners/farmers and the Acquiring Authority, which was bound to pay compensation only for agricultural land under the provisions of the Land Acquisition Act, 1894. Indirectly, the Land Pooling Scheme also reconciled these differences, as it spoke only in terms of percentage of developed land returned rather than the price paid/assessed.

Mohali, situated wholly in the State of Punjab, was conceived in the 1970s as a satellite township of Chandigarh. The layout was planned and maintained as a sectoral grid, as a natural and logical extension of the one obtaining in Chandigarh. The agricultural land was acquired by the Urban Estate Organization, a Department of Punjab Government, in "phases" under the provisions of the Land Acquisition Act, 1894. Thenceforth, after executing internal and external development works, residential plots were allotted at prices significantly below the market price, through the system of a draw of lots. Commercial sites were generally auctioned off. In general, land acquisition was contentious, and litigation regarding the compensation to be paid to the landowners lingered on for decades. With effect from 1st July 1995, Punjab Urban Development Authority (PUDA) was constituted under the newly enacted Punjab Regional and Town Planning and Development Act, 1995. The sectors previously developed by the Urban Estate Organisation were merged, along with other assets and liabilities, with the newly constituted PUDA, a statutory corporate body. Further, land acquisition for creating new sectors took place under the aegis of PUDA, invoking the Land Acquisition Act (LAA), 1894. The major problem regarding the land acquisition was that the compensation/valuation of the land as arrived at through the mechanism provided under the British-era LAA, 1894 was very low as compared to the valuation perceived by the landowners, especially considering the open market price of the residential plots developed therefrom. For instance, if the all-inclusive compensation paid to the landowners was approximately Rs. 15 lac per acre in the year 2000, the price of a residential plot was approximately

Rs. 7,000/- per square yard. Assuming a conservative saleable area of even 50 percent and disregarding the commercial sites, PUDA was seen as garnering Rs. 1.75 crore on a gross basis, against a pittance paid to the farmers. It was under these circumstances that the Land-Pooling Scheme was first envisaged under Greater Mohali Area Development Authority (GMADA), the Regional successor entity of PUDA.

In essence, land pooling comprises offering to the farmers 1000 to 1200 square yards of developed residential plots and 120 square yards of developed commercial sites for every one acre (4840 square yards) of land acquired. The scheme is optional, and a farmer can opt to receive compensation in accordance with the provisions of the LAA, 1894 and under the new Land Acquisition Act. One could also opt to go in for land pooling allotment "*parchi*" entitlement for a part of one's land, while opting for cash compensation for the remaining part of the land in accordance with the statutory land acquisition award. The attractive part of land-pooling allotment "*parchi*" was that these Letters of Intent for Allotment were freely transferable in the open market, and the name and the particulars of the transferees/vendees could be entered into the record of the Land Acquisition-cum- Allotment Department of GMADA. The transfer of "*parchis*" was carried out in-house within the GMADA with a nominal transfer fee, and these transfers were not required to be registered with the Sub Registrar, which should have entailed payment of a significantly high stamp duty and registration fee etc. The holders of the land allotment pooling "*parchis*" also enjoyed the benefit of escalating real estate prices, whereby the open-market price of the "*parchi*" could go up. Compared to the quite low interest rates on bank deposits, accompanied by income tax on the interest component, the "*parchi*" allotment was not subject to any taxation on account of escalation in the market price, till of course, it was sold in the open market. Table 1 shows the land pooling scheme and entitlements of the landowners.

Table 1: Land Pooling Scheme and Land Owners' Entitlements

Acquired Land Kanals)	Residential Area Returned (Sq Yd)	Commercial Area Returned (Sq Yd)	FAR-Commercial Area
1	150	Nil	-
2	200 sq yd/Lower size 150 sq yd **OR**	40 Sq yd Booth	FAR 1:1
3	300 sq yd	Nil	
4	400 sq yd approx. 0r Lower size 350 sq yd **OR**	100 Sqyd SCO	FAR 2:1
5	500 sq yd (R)	60 Sq yd Shop	FAR 2:1
6	800 sqyd(500+300, 400+400) OR Lower size 750 sq yd **OR**	200 Sq SCO	FAR 3:1
	1000 sq yd		

Note: 1 acre is equal to 8 canals.

The advantage from the point of view of the Urban Development Authority/GMADA was that it did not have to borrow funds from banks/financial institutions and invest them upfront in the acquisition of land in the shape of payment of compensation to the farmers. The litigation in the compulsory land acquisition format was fraught with litigation not only from the point of view of the basic price of the land being acquired but also in terms of compliance with mandatory, procedural land acquisition laws as well as the statutory provisions of the Punjab Regional and Town Planning and Development Act, 1995. Some of land acquisition projects also hit a road-block on account of purported violations of Master Plan, as envisaged under the Act of 1995. Even when there was no litigation or active opposition to land acquisition, farmers were at best passive observers of the development process and had no personal stake in making the scheme successful. On the other hand, they felt expropriated, alienated, and uprooted from their very roots, while the new township grew on the very land that they owned. With the "*parchi*" allotments issued in their favour, the farmers were far from being strangers to the development process. In fact, they regarded themselves as active stakeholders, who were interested in the expeditious development and completion of the project so that they could obtain the actual physical possession of the residential plots. Thus, the Land Pooling Scheme converted the landowners from adversarial opponent to a stakeholder who could well be part of a pressure group to make the Urban Development project a success. In the traditional land acquisition method, the farmers had often organised themselves to wage a legal battle but under the new Land Pooling Scheme, very often farmers would cast peer pressure on isolated farmers who might have been seen as derailing the land acquisition/ development process. Table 2 shows that in the various schemes undertaken by GMADA, whether to the south of Chandigarh or to the west, the land-owners greatly favoured the land pooling alternative (share of developed land) as compared to cash compensation.

Table 2: Scheme-wise Preferences by Landowner-Developed Land and Cash Compensation

S.No.	Name of Scheme	Award Date	Land Acquired (acres)	LP%	Cash Compensation
1	Aerocity	16-4-2010/30-12-2013/17-11-2014	830	188 (22.65%)	620.00
2	I.T.City	13-12-2011	1686	416 (24.67%)	1277
3	Medicity-1	22-12-2011	97	84 (86.59%)	13
4	Eco City-1	2-8-2011	435	399 (91.72%)	36
5	Sector 88-89	15-11-2011 30-12-2013	668	614 (91.91%)	54
6	Medicity	31-12-2013	162	76 (46.91%)	86
7	Ecocity-II	31-12-2013	301	135 (44.85%)	166
	Ecocity extension	8-7-2015	86	21 (24.41%)	65
8	Sector 90	10-6-2015	212	212 (100%)	—
9	Sector 76-80	571 (16-8-2018)	22	20 (90.90%)	2

As regards the farmers who felt that their land was preferentially located, the Land Pooling Scheme allowed them to take up compensation for the traditional land acquisition process where a higher price/premium is generally paid for the land abutting the main road. As compared to the traditional Town Planning Scheme, where the ownership continued to vest with the original landowners, the Land Pooling Scheme is backed up by the statutory framework of the Land Acquisition Act, where the land vests in the State/Authority free from all encumbrances. The only difference being that the compensation was new receivable either in cash or through "*parchi*" allotment or a combination of both. Wherever there was litigation/dispute of a civil nature in respect of the land being acquired, the Land Acquisition Authorities were still free to deposit compensation amount in the Court, while taking over possession of the land in question. The traditional Town Planning schemes were rarely carried to the logical conclusion because landowners getting preferential use such as commercial refused to/resisted the payment of betterment cess/charge tooth and nail, while those landowners whose land was put to non-commercial uses such as road/parks would find ways to get hefty compensation through the Courts. Thus, in the Town Planning schemes, the grievance is basically by one aggrieved landowner against the other, who is seen as getting a much better deal. Incidentally, the Land Pooling Scheme also takes care of these disparities, inevitably arising in Town Planning Schemes.

Also from the perspective of the eventual end-purchasers of the developed plots, they had no fear regarding the title disputes since they were purchasing the plots/land from a statutory Urban Development Authority in which the land had vested far from all encumbrances. The scheme also had its drawbacks, which are sometimes not very obvious. Although it looks good that Urban Development Authority did not have to borrow funds and thus could save an interest burden, there was an adverse factor that they come to the fore. Many "*parchi*" holders opted to sell of their entitlement "*parchis*" in the secondary market if the prevailing price was attractive. When this trend grew, the price of the "*parchis*" fell but along with the same, the price of the fully developed plots already in the stock of the Urban Development Authority or the private colonizers also fell correspondingly. It was almost as if the Futures and Options (F&O) segment of the stock market was pulling down the price of the underlying equity assets. Moreover, no new capital funds were injected into the market, and the multiplier effect of the displaced farmers purchasing agricultural land in the adjoining districts also waned. Many would argue that significant portion of slump in the real market price surrounding the periphery of Chandigarh could be attributed to the "*parchi*" allotment being sold enmass in the secondary market.

Another factor which is generally not discussed in official circles is that many influential persons, with good cash-reserves, are known to buy agricultural land that is coming up for acquisition under the Land Pooling Scheme. The members of the so-called land mafia purchase the agricultural land, registering the transaction

at the "Collector/Circle Rate" while making the bulk of the payment to the original landowners in cash. The landowner is also quite happy to enter into this transaction because he could get some premium on the official land acquisition compensation rate but more importantly, he would get it immediately. The members of the land mafia are thus able to absorb their unaccounted cash into assets which soon provide them within income tax free return following the land acquisition, since as per section 96 of the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013, no amount received as compensation under this law is subject to Income Tax. Thus the Land Pooling Scheme has the potential of indirectly assisting money-laundering in the hands of unscrupulous persons with unaccounted money.

In summary, land-pooling is an attractive alternative to the compulsory land acquisition model, especially in the areas where residential plots/small commercial sites are much sought after. It is a win-win situation not only for the landowners as well as the end-users. The secondary market players like dealers and estate agents also benefit in the process. Protracted litigation and enhancement through Courts is avoided, and expeditious implementation of the projects takes place. However, it would be naive to reach a conclusion that land pooling is the elixir of all the ills that bedevil the process of land acquisition. In big projects like setting up of new cantonments, industrial estates, airports, there may not be any developed residential plots to part with and the statutory provisions of the new Land Acquisition Act are the only alternative. Moreover, the Land-Pooling Scheme does not recognise any further stakeholder except the landowner, and persons like tenants, landless labourers and other dwellers of the village get nothing under this Scheme. The Award under the new land acquisition has some space for them. Nevertheless, in the periphery of U.T. Chandigarh and other big towns of Punjab, Land-Pooling Scheme is set to remain as the preferred alternative. Depending on the market conditions, the landowners may at a future date clamour for a higher share for the developed land, but that negotiation is, of course, an ongoing process. No doubt, the scheme can said to be ideal, but in essence, it remains a fair, just, and equitable framework for the extension of planned cities, wherein the landowners become a positive contributor in the urban development process.

LP for Industrial Projects in Madhya Pradesh, India-Mr. Vivek Porwal, IAS,

The paper outlines the experience of land pooling for an industrial project in Indore, Madhya Pradesh (MP), India. Madhya Pradesh is the second largest Indian state by area and the fifth largest state by population with over 75 million residents. MP Industrial Development Corporation Ltd (MPIDC) is an undertaking of the State Government entrusted with the responsibility of industrial promotion through the development of growth centers in selected areas of its jurisdiction. In 2019, the MPIDC designed a Land Pooling Scheme for assembling land through a government order by the Department of Industrial Policy and Investment Promotion Department.

MP is the first state in India to pool land for an industrial purpose. India has 330 million hectares, out of which only 50 percent is inhospitable. The land under agriculture is 152 million hectares. While agriculture takes up 46 percent of India's land resources, it produces only 16 percent of India's GDP (2018-19). Industry uses approximately 1.5 percent of land and contributes 73 percent of our GDP (2018-19). Land can be acquired for the industry in three ways; through consented purchase, compulsory acquisition, or through pooling. Though the cost for the government is highest under compulsory acquisition, it faces the maximum resistance by landowners.

In the present project, 121 landowners from 8 villages agreed to pool 321 hectares of land. The entire project area is spread across 587 ha of land including 321 ha of private pooled land, the remaining comprising of government lands. As compared to other forms of obtaining land for industry, land pooling has several strengths. However, there is a critical design element, and if it is not designed properly, it will create problems. Land pooling can only be successful when there is development around that area. Farmers take the land pooling certificate in the hope that the land value will always go up. Since land prices will go up only when there is development in the area, it was recognised that this is a responsibility that the state has to take up and cannot be left to any third party. In the present case, the lands were pooled for the industry. The MPIDC, for whom lands were pooled, took up the responsibility of bringing industries to the areas that the price does go up. The land acquisition process is reflected in the following chart.

Another issue is regarding the percentage of land that will be returned as developed land. This varies from project to project, and it cannot be fixed as per the law. In Madhya Pradesh, the power for the planning was devolved to the industry department, and planning has to be very flexible as per the need of the people. One of the design elements was to facilitate the exit of the farmers as soon as possible. The developed land as per land pooling certificate is to be issued to the landowner within 30 days. The tradeable land pooling certificate that was issued to the landowner was not only made tradeable but exempted from taxation in both

the transactions-both when the land is given to the landowner and when he sells it. According to the scheme, twenty percent of compensation is paid as cash and the remaining as developed residential plots. The market value of undeveloped land is arrived as provided under India's new Land Acquisition Law. To arrive at the returnable plots, the twenty percent of cash compensation is deducted from the compensation payable for the undeveloped plots and divided by the current price of the developed residential plots. Table 3 reflects the entitlements to the landowners.

Table 3: Land Pooling Scheme of the MP-Entitlements (Rs. Millions)

Land pooled (Ha)	Present Market Value of Undeveloped Land (Multiplied by 2)	Present Market Value of Developed Land	Total Value of Undeveloped Land	Cash Component (20%)	Returnable Land (4)-(5)/(3)
1	2	3	4	5	6
320	15	50	4800	960	76.8 ha

Comparison of Cost as per Acquisition and Pooling: The cost to MPIDC would have been 4800 million if cash compensation was to be dispensed to the landowners. However, as per the LPS, Rs. 960 million was paid as cash compensation, and the remaining as returnable developed plots. In other words, the government assembled 243 ha of land by paying Rs. 960 million, the land cost effectively being 3.9 million per ha instead of 15 million, thus saving the government exchequer about 74 percent of the total land cost. The landowners, on the other hand get an upfront land value of 20 percent in cash besides 24 percent developed residential plot with potential for value accretion. This is reflected in Table 4.

Table 4: Comparison of Land Acquisition and Pooling Cost

Acquisition	If Land is acquired, Cost to MPIDC	479.64	
	Allottable Land Obtained by MPIDC	393.68	Ha.
Pooling	Land Pooled, Cost to MPIDC	95.92	INR Cr
	Allottable Land Obtained by MPIDC	316.94	Ha.
	Cost per Ha.	0.3026	INR Cr/Ha.
	Net Reduction in Cost/ Ha. due to pooling	75%	

Other Benefits for Farmers and Way Forward: The 20 percent cash component increased liquidity to the landowners that would have helped boost rural demand. Further, the model was based on a non-displacement strategy. There was no displacement of any habitation from the project. At the completion of the project, the landowners would receive plots of regular sizes and shapes in place of the irregular land parcels that they are in possession now. Given the success of the

model, the Government is extending land pooling to more areas-Mandideep, Vikram Udyogpuri, and Bagroda. One key learning from experience is the need to have a functioning Grievance Redressal Mechanism that resolves the grievances in an effective and time-bound manner.

Consultation with Landowners

LP for Capital City Project, Andhra Pradesh, India-Dr. Sreedhar Cherkuri

Background: In 2014, when Andhra Pradesh parted from Telangana, the new State had to build a capital city. The Government decided to have a greenfield new generation city named Amaravati for a population of about three million. Planning land assembly for Amaravati, across a staggering extent of 217 sq.km. was always a challenge. For assembling the land, various options were available - land acquisition, town planning schemes, land pooling etc.

After consultation with farmers, landowners, and other stakeholders, the Government decided on the Land Pooling model.

The Unique Partnership Model: Under Section 3 of the Andhra Pradesh Capital Region Development Authority (APCRDA) Act, 2014 the Government notified an area of 8352.69 Sq.Kms for Capital Region and 217.23 Sq.Kms as AP Capital City area. The Capital City area falls in Guntur district, covering 24 revenue villages and part of Tadepalli Municipality covering mandals of Thullur, Mangalagiri, and Tadepalli. The Capital Region Development Authority (CRDA) notified the Andhra Pradesh Capital City Land Pooling Scheme (LPS) Rules in January 2015. Through the LPS, land parcels owned by individuals or group of owners were legally consolidated by transfer of ownership rights to the CRDA, which later transfers the ownership of a part of the land back to the landowners. The Andhra LPS became the largest of its kind in the world. Over 33,599 acres were assembled from 27,365 farmers, and over 70,000 plots were returned to the farmers.

Envisioned Land Pooling Scheme layouts in the Capital City

Entitlements under Andhra LPS: Unlike the usual land acquisition mechanism, where the landowner is always treated as a subject, the Andhra government envisaged a partnership between the state and the landowners. There are two types of land categorisation in Andhra Pradesh, dry land and wetland. The land pooling scheme entitlement had to reflect this difference in the quality of the lands pooled. Further, the Government also focused on two more things, the need to protect the farmers during the transition phase and the plight of people who are indirectly dependant on the land, viz. agricultural labourers, village level traders and artisans, etc. Substantial stakeholder consultations were carried out to finalise the entitlements under the Amravati LPS as given in Table 5.

Table 5: Entitlements and Benefits under AP LPS

Returnable Land/Entitlements (per acre)		
Land	**Category**	
	Dry	**Jareebu**
Patta		
Residential	1000 Sq.Yds	1000 Sq.Yds
Commercial	250 Sq.Yds	450 Sq.Yds
Assigned		
Residential	800 Sq.Yds	800 Sq.Yds
Commercial	100 Sq.Yds	200 Sq.Yds
Annuity (10 years)	30000($460)	50000($767)
Yearly increase (Rs)	3000 ($46)	5000 ($77)
One time additional payment for gardens	100000($1534)	

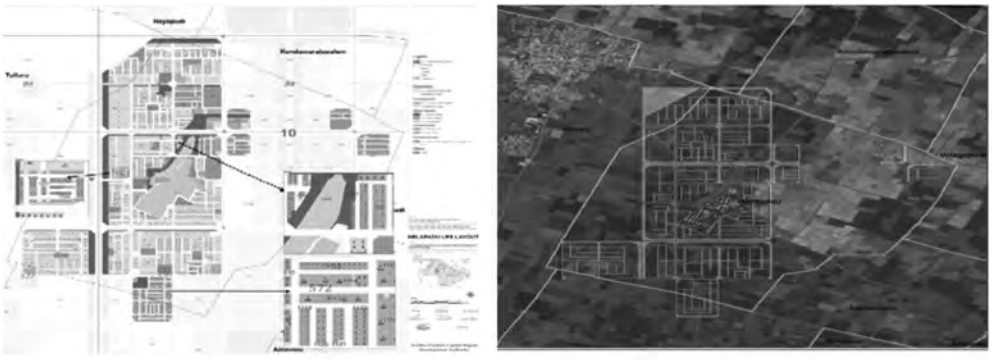
Social benefits

1. INR 2500/- ($38) pm to each of the land-less poor family for 10 years
2. Debt waiver up to INR 1,50,000/- $2300)
3. Training and employment
4. Free higher education
5. Universal medical insurance
6. Habitation development
7. Skill and entrepreneurship development
8. Housing
9. Old and infringed people care
10. Limited displacement

The entitlement matrix was designed to take into account the identified issues. Differential entitlements in terms of returnable land were provided to owners of dry and wetlands. To address livelihood issues during the transition period, an annuity of Rs.30,000-50,000 per acre (with a yearly increase of 10 percent) was provided to the farmers over a period of ten years. Financial support was also extended to the labourers/non-titleholders in terms of monthly family pension of Rs.3000 and rehabilitating them in terms of livelihoods. A debt waiver of INR 1,50,000/- was allowed to the landowners in the affected area. The social benefits for the people in the capital city area include the establishment of NTR canteens to serve the poorest of the poor with nutritious food at cheaper rates (established at Velagapudi, Thulluru, and Yerrabalem); distribution of heath cards, conducting health camps, tuition fee reimbursement, utilisation of tractors and local machinery for the construction work, etc.

The lands were pooled outside the habitation area to cause minimal displacement. The farmers were given options to have a single plot or a combination of plot with friends or relatives through the open lottery system. Also, an electronic platform was developed for the farmers to sell their land in the open market.

Consultation: Dedicated personnel were engaged by the APCRDA to convince and explain the benefits of the scheme to farmers; Each of the 26 units set up were headed by a "Deputy Collector", senior officer of the district administration to work at the grass-root level and sort out land-related issues, The land issues related to family disputes, enjoyment issues, survey errors, extent variations, encroachments, etc. The Authority created an environment for continuous facilitation, duly updating the land records as well as the settlement of family disputes duly conducting enjoyment survey. The draft notifications were published at the offices of the local government as well as the official website. The inputs received from the consultations with the village elders and gram committee members were taken into account for the preparation of LPS layout plans**.** The key enabler in the overall success is considered to be consultation at all levels - farmer level, family level, and village level and in every step in the process. The farmers were required to sign with the Government at least six times before final consent is taken.



LPS Layout for Nelapadu village

Use of IT for the entire process-The Amaravati LPS made extensive use of IT tools. For land management in the capital city area, blockchain technology was made use of. The entire documentation process for the massive exercise was based on blockchain. Since blockchain essentially means that making a change to a record without disturbing the previous records in the chain is not possible, this was to ensure that the data that is with the CRDA is safe and can be traced back at any given point of time so the security of title is always maintained. The entire process, allocating plots, registration, storing the data was fully automated. The exact locations of these plots are all recorded on the blockchain. A total of 58 attributes, name, Aadhaar number, mobile number, boundaries marked with latitude and longitude coordinates, neighboring plots, roads, and so on are linked to each property in the database. Data on the blockchain can serve as indisputable proof in cases of disputes over ownership, even after redevelopment. Geospatial co-ordinates were taken to Identify the property accurately. The project also developed a "One stop mobile application "Mana Amaravati." The application provided the platform for citizens to register their grievances, identify the plot in a larger masterplan, provide regular updates about capital city development activities, etc. The Amravati LPS provided several good practices for land pooling models in India and worldwide.

LP for Urban Planning and Disaster Reconstruction, Gujarat, India- Mr. Harpal Dave

TPS in India: In Gujarat and Maharashtra, LR is popularly known as Town Planning Scheme (TPS). TPS has a long legacy in Gujarat. In 1915, the TPS was introduced in the erstwhile Bombay State of British India. The detailed procedural provisions for the implementation of the TPS that exist presently have been created in the State Urban Development Act known as the Gujarat Town Planning and Urban Development Act, 1976. During the period between 1915 and 1976, there have been several TP schemes, mainly in the cities of Baroda, Ahmadabad, and Surat. The Act provides an overall framework, first for the preparation of a development plan and then a TP scheme which is used more as an implementation tool for DP. In Gujarat, it is

therefore called the DP-TP model. TPSs provides the advantage of creating a micro-level plan/legal plans, and DP is the overall Development Plan for the city. TPS is a tool to implement the DP. TP gives the advantage of creating a micro-level plan and helps to mobilise land for infrastructure, reconstitution of plots and financing of the infrastructure through the creation of land banks (reserved plots). Generally, under the TPS, about 40 percent is retained for public use, and 60 percent is returned to owners. TPSs are generally implemented in new development areas in the urban fringes.

Key steps in TPS: As per the legal provisions, TPS is Implemented in four stages as given in Table 6. The TPS is initiated with the publication of intent by the government. The preparation of the draft includes re-constituted plots presented for public viewing and objections. Once the draft plan is sanctioned, the lands can be taken under possession for public use. At the preparation of the preliminary scheme, the State Government appoints a Town Planning Officer (TPO) to arbitrate between the owners and the Government and there are three rounds of individual hearings with the landowners before the physical plan and layout is finalised, and financial calculations freezes. Generally, an area of about 100 to 150 hectares is considered for a typical TPS, though in some cases, large projects of 900-1000 hectares is also planned under TPS. Legally, there is no limitation on the land extent/size of the TP project. Implementation of TPS is a lengthy process and sometimes takes up to 8-9 years or even more to finalise the TP scheme. The Land is a sensitive issue, and people have their attachment with land, and many rounds of discussions and negotiations take place before the TPS is finalised.

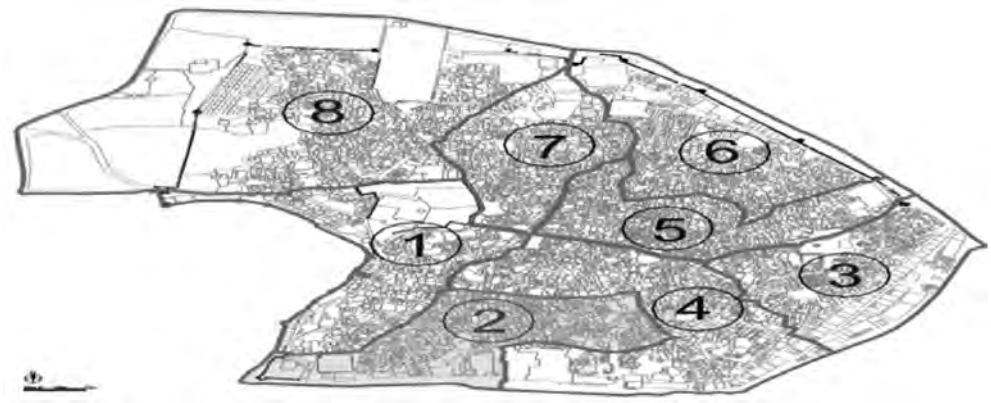
Table 6: Implementation of TP Stages

Stages	Processes
Stage I- **Declaration of Intent**	· Declaration of Intent by appropriate authority to prepare TPS in a delineated area, identifying an area
Stage II-**Preparation of Draft**	· Reconstitution of plots, the framing of tentative proposals, for public viewing, objections, and suggestions · Plan is submitted to the State Government for sanction. · After plan is sanctioned, authority can take possession of roads and other land allocated for public use.
Stage III-**Preliminary Scheme**	· Town Planning Officer (TPO), a quasijudicial authority appointed for arbitration · Three rounds of individual hearings are given to the owners and the physical plan and layout is finalised.
Stage-IV-**Final Scheme**	· Implementation of the physical plan · Resolution of all outstanding issues/financial matters.

TP Scheme in Ahmedabad - In the TP Scheme in Ahmedabad, an area of approximately 100 to 150 hectares is taken up for planning. Firstly, a preliminary survey is conducted, and the boundaries of the detailed planning area is defined and delineated. A survey follows, where the internal plot boundaries are again surveyed, and every square inch of land is measured. After the survey, the ownership details are taken from the land registry, following which the plot size and the original value details are tabulated. The original plots are marked on the survey maps, and roads are marked and delineated. The final plots marking the area are to be returned to the landowners along with other uses, and public amenities are delineated. Efforts are taken to ensure that the owner receives the land in the same place where the original plot was located more or less. Where this is not possible, there is a slight shifting of the location but within the same TP scheme area. The final plot values are then calculated. The betterment levies are tabulated which incorporates the increase in value of land because of the infrastructure development which the development authority has undertaken in a particular area.

Various Uses of the TPS Mechanism-In Gujarat, the TPS mechanism is mostly used for the planned urban extension. However, it has also been used for city level infrastructure (roads, parks, amenities, etc.). For e.g., in Ahmedabad, more than 95 percent of the land has been mobilised by using TPS mechanism. There is also land consolidation besides post disaster reconstruction as incase of the Kutch Earthquake reconstruction project (discussed below).

Post Disaster Reconstruction in Kutch (Bhuj)- Kutch, one of the districts in the western side of Gujarat, was hit by a devastating earthquake (7.7 on the Richter Scale) on 26th January 2001. Many of the urban settlements in Kutch faced largescale destruction. There were four major towns in Kutch that were devastated; In Bhachau, which was the epicenter of the earthquake, about 90 percent of all its buildings collapsed, and in Bhuj about 10 percent of the buildings collapsed. Most of the inner city of Bhuj was destroyed. The development plan of Bhuj as it existed before the earthquake was prepared several years back in 1976. The information on land records, land maps or survey maps was also not available. When TPS model was adopted to rebuild the city, the important consideration was also to ensure the reduction of loss of life and property in future disasters by creating a more efficient street network. It was recognised that the earthquake caused a large scale loss of human lives owing to the extremely narrow streets, and people could not escape to open spaces when the earthquake struck. Since Kutch has a history of recurring earthquakes, creating an efficient street network was a top priority under the TPS. The plan also tried to improve the shape of plots and the pattern in which they are laid out for more efficient buildings besides creating more open spaces for other utilities. Since the population density was very high i.e., about 35,000 in just one Km, eight TPSs were delineated so that each scheme was a manageable design unit.



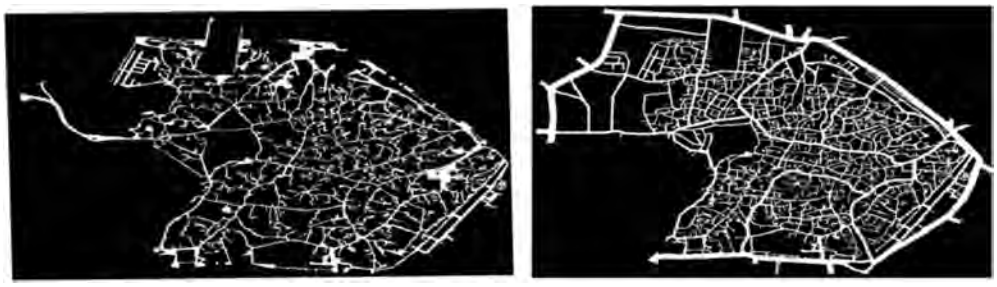
Delineated TPSs for Reconstruction of Bhuj

There were some buildings that were still standing without any damage, while others were completely erased. The preparation of the Development Plan of the Bhuj town took about 4-5 months. There were no survey drawings available, and hence the survey was done of the entire area. The roads were consciously widened, boundaries were reconstituted, and provisions were made to build the road network.

Design of the Bhuj TPS with wider Street and Final plots

The ward offices were established in each scheme area. The maps were displayed, and people were assisted in filing written responses. The draft TPSs were detailed out and were discussed with people in vernacular medium. Though it was a distressing situation (with many people having lost family members in the earthquake), the Administration made special arrangements for conducting discussions/negotiations and the process went smoothly. Four ward officers were appointed so that people could come anytime and submit their oral request to the Development Authority. A unique feature in the Bhuj TPS is the progressive land contribution ratio. Accordingly, there was no deduction for very small plots i.e., less than 30 sqm. Between 30 sq.m to 100 sq.m, ten percent deduction was levied, and so on. It was also decided that standing buildings would be spared from deduction unless they were affected

by proposed road alignments. Some people who wanted to move out of the old city because of the trauma gave away 100 percent of their lands for which they received suitable compensation.



Comparison of Street Network-Original and Final Plots

The project was completed in record time with final plots handed over to the landowners in a year and the city completely transformed in three years. The timeline of the implementation of the Bhuj TPS is given in Table 7.

Table 7: Bhuj TPS-Timeline of Activities from Initiation to Completion

Time	Activities
February 2002	Initiation of Project (base map preparation, data collection, consultation)
April 2002	Eight draft TPS were completed (Plot reconstitution, plot valuation and deduction, public consultation)
July 2002	TPS submitted to government for sanction
October 2002	Major roads were demarcated
December 2002	Final plot layout was finalised &simultaneously demarcated
Feb - Mar 2003	Final plots handed over to the owners
June 2003	Streets started getting developed, and results started getting visible
Early 2005	City transformed with the city infrastructure getting developed

February 2001 **January 2004** **January 2006**

Bhuj Reconstruction with TPS- Improvement of a locality named 'Soniwad'

The re-development of the walled City of Bhuj proved to be a very complex planning exercise. The project involved over 12,000 plots on which there 30,000 persons had ownership claims. It consumed over 200,000 man hours of work by highly qualified professionals using the best available technology, coordinating the work of nearly a dozen organisations. It was a multidimensional team effort, involving construction workers, contractors, engineers, planners, administrators, social workers, and political leaders. However, the project was successful in rebuilding the city along with its economy and infrastructure in an expeditious manner.

Planning/Implementation of LR in Colombia-Prof. María Cristina Rojas Eberhard

There is no specific LR law in Colombia. However, with the technical support of the Japan International Cooperation Agency (JICA), LR was included as a management instrument in the Planning Law of 1989 that can be implemented in the frame of other two planning instruments-Partial plan and Urban Action Unit (UAU). These two concepts have been adapted from the Spanish Land Law. The Colombian law defined land readjustment as a mechanism to "encompass several land plots to, as a consequence, subdivide them more adequately, providing basic infrastructure, such as roads, parks, water supply network, electricity and telecommunication networks" in areas without proper urbanisation and real estate connectivity, designated for undeveloped areas, and renewal. LR in Colombia is implemented at a municipal level.

The "Partial Plan" is an urban planning tool used to develop and specifies the City´s Master Plan at an intermediate scale of planning. In other words, partial plans constitute a tool that shapes the conditions for planning, management, and financing for urban land and land for urban expansion, and that may use mechanisms like Land Readjustment to define land management intervention. Within the Partial Plans, the government can implement and develop "Urban Action Units" (UAU) as the area consisting of one or more property buildings as a planning unit, aiming to promote the rational use of land, to ensure the compliance of planning regulations. UAU, based on the principle of the law, "Social function of property" is the instrument with which landowners can be forced to participate in LR. A minimum of 51 percent of the landowners in the UAU have to agree before the municipality initiates the LR, while the law permits the expropriation of the remaining 49 percent through the 'eminent domain' principle. In practice, the municipality agrees for expropriation only if the percentage is much higher (around 90 percent of landowners are in agreement). The partial plan regulations using LR is essentially implemented in Columbia for urban renewal, urban expansion and in vacant urban areas.

The partial plan regulations that have been developed by Bogota (the capital city of Colombia) and later by the national level include the criteria for area delimitation; the plan contents (plots and owners identification, urban design, building area,

land use); the minimum contribution ratio/exactions that contribute to provide public facilities, parks, streets; the basic and maximum building rights (FAR) according to planning objectives in the territory of the city; the compulsory minimum percentage for social housing; the procedure and timelines for information and participation; the regulation of compensation payment to public funds; the "Project announcement" authorisation which objective it to establish initial land value, before the project for possible purchase or expropriation; mechanism or tools inside the partial Plan; Costs and benefit distributions, in which the goal is to secure development financing and ensure equitable distribution. Partial plans also provide for other urban planning tools viz. value capture and regulation for its investment; priority development and construction; inclusionary housing and right of preference or right of pre-emption.

The approach to LR in Columbia is defined by the classification of land management complexity. The first generation urban projects are those that do not have an association of landowners for its implementation but share one urban design for the plots involved. Each property owner obtains a license for urbanisation, and both the design and the distribution of costs and benefits ensure equity between owners. Compensation is paid when urban design cannot solve equitable distribution. In this generation, it is less likely that reserve land will be defined to obtain resources to leverage the infrastructure. Most partial plans in Colombia belong to this generation. The second-generation urban projects are those with an urban design that involves all the plots and implies an association of landowners and investors through trust agreements/contracts. In such projects, reserve land is used to finance public infrastructure and other costs.

Example of First-Generation Partial Plan, "LA FELICIDAD": The initial challenge was to develop vacant land in the city's geographical centre by generating supply of employment, commerce and social housing. The project included large public land for urban parks, public facilities and roads, and additional building rights in turn of land obtained for main roads to connect parts of the city. There was 20 percent of compulsory land for social housing, producing 3000 units of social housing. The project involved 13 landowners and 100 hectares of land.

Example of Second-Generation Partial Plan "Triángulo de Fenicia": The initial challenge was to develop a project that includes actual inhabitants and commerce and making space for the extension of the campus of a University in the central area of Bogotá City, avoiding gentrification. Other challenge was to ensure social housing supply; and articulating heritage buildings. The land contributions included providing more public space in the central area. There were additional strategies, including special programmes for a vulnerable population and social housing. The project intervention area was 8.8 ha., of which 3.8 hectares are dedicated to public space and 5 hectares are private land, to be developed and build.

Example of Third-Generation Partial Plan, "CIUDAD VERDE": The project was formulated and approved by the national government as a strategy to ensure a wide social housing supply. This project was an exception of the national planning law, incorporating rural areas to urban out of the decisions of City´s Master Plan (Soacha City). Land value increase as a result of the planning decision to incorporate rural areas to urban, is reflected in Table 8. Although some costs that could use the increments inland value to finance them were not included and the public sector finance them. The 18 landowners create a trust agreement with investors and builders which allowed the management of the project.

Table 8: Land Value Increases in the Project Area

S.No	Heads	In US Millions
1	Construction sale	US$ 862,50
2	Construction costs	US$ 625,83
3	Useful land sale	US$ 236,67
4	Urbanization costs	US$ 138,27
5	Residual value of gross land	US$ 98,40
6	Initial land value	US$ 26,24

Comparison: The least area used as well as the lowest contribution ratio of 27 percent is in urban renewal project. The rural land project is providing more units of social housing. In the partial plan of urban renewal, the replacement of the residential properties to the state assumes importance.

Table 9: Comparison of the LR Projects

Parameters	La Felicidad	Triángulo de Fenicia	Ciudad Verde
Initiative	Private	Private	Private
Land use	Urban vacant land	Urban renewal	Rural land
Area	100 ha	8.8 ha	327 ha
Contribution Ratio	60.90%	27%	51.3%
Properties	13 plots (1 land holder)	504 properties	18 plots
Management	!st Generation	2ª generation, TRUST	2ª generation, TRUST
Inclusion	20% Of Land For Social Housing	108 Properties for Social Housing; Tenant Households	55.000 Social Housing Projects
		380 replacement for residential properties	
Additional	Release of land for main streets and construction finance	Historic building restoration	Release of land for main streets

Lessons Learnt and Way Forward-There are different initiatives-private, public, and mixed LR projects in Colombia. Given the larger number of landowners in urban renewal projects, these projects face more difficulties in land management than in the other LR projects. Identifying advantages for landowners is central to ensure willingness to participate (initial and resulting land values). LR is an opportunity for inclusive housing, building public facilities, restoration of historic buildings, and an opportunity to involve tenants. Trust is a very important requirement in such processes. There is a need to provide for monitoring mechanisms to control private initiatives, which Colombia does not have. Regularising the property in the urban renewal areas is also a huge problem in some areas of Columbia. There is a need to develop criteria to address the issue faced by vulnerable people. Increasing the 51 percent consent requirement from landowners and improving the transparency mechanisms will also improve social acceptance of LR.

Why was LR not Successful in Sweden? Mr. Tommy Österberg

The law about LR was introduced in Sweden in connection with the reform of the Planning and Building Act. The legal origin of urban LR began when the Joint Land Development Act came into force in 1987. The principles and procedures introduced had a legislative history that was greatly influenced by the rural land consolidation processes successfully carried out over the past 250 years in the country. About 10-15 LR projects were carried out in Sweden, but since the legislation did not attract much interest from the landowners, municipalities or developers, the law was

cancelled in 2012 for not being in use since the 1990s. The paper discusses the LR processes that existed in the law along with an analysis as to why it was not successful.

LR Law in Sweden: The LR was expected to be used in mainly three situations; First, in the renewal of large areas in the urban fringe, presently consisting of old buildings on large sites not used extensively or being used for recreational purposes; second, in the renewal of old buildings and sites in city centres including new constructions or renovations and improvements of the physical environment and third, in rural areas with weakening population in order to create more income possibilities for the existing population by the development of areas for recreational housing and tourism. The procedures in the law specified that the initiative of LR should come from the landowners from the area by applying to the Cadastral Authority. The landowners were to form a joint venture to undertake physical planning and the implementation of the area development approvals. The Cadastral Authority would start a procedure, investigate interests by the concerned, and establish the preconditions for the project. The municipality had to approve the initiative in the beginning. The idea was that each participating landowner would participate in a joint venture with a share, mainly depending on the area he was contributing to the project and independent of the future use of that land. The interested land owners had to form an association to implement the project, including development of a physical land use plan, the establishment of joint facilities like roads, water and sewerage, playground, parking, etc. All of this had to be included in the land development. The cost was to be shared between the participants according to the shares in the association. The profits were also to be distributed according to their shares in land. The transfer of land, compensations, etc. was to be handled by the Cadastral Authority, and the municipality was to approve the physical land use plan. The transfer of land titles to new owners was made through sale contracts between the original landowners (sellers) and the new inhabitants of the area (buyers). About 10 to 15 projects were implemented at the beginning of the 1990s following the above procedures, following which the interest waned.

Reasons for the failure of LR in Sweden: First, there was a decrease in demand for new housing in Sweden (until 2010), and hence there was no real pressure from new development potential to change the use of existing land to more efficient use. There was low interest among municipalities to promote private land development since they already owned considerable land areas intended for development. The rural population that were to benefit from land development had already left for urban areas when the law finally came into force. The interests behind the legislation was initially mainly from the private entrepreneurs for private developments who saw a possibility to break the municipal control of land for development. The previous policy in Sweden was that land for urban development

should be acquired by Municipalities and then distributed among developers. However, the political situation changed, and a more liberal legislation came, which giving private entrepreneurs other possibilities to acquire land for development for themselves or through municipalities. The pre-emption rights for municipalities were abolished, and also the expropriation laws were changed that made it more difficult for municipalities to acquire land. So, the private entrepreneurs found it easier to acquire land without involving land readjustment. The financial institutions like banks were not acquainted to handle the cooperation between landowners, and they preferred to handle development through professional developers. Last but not least, the cooperation between landowners is very difficult as they have different opinions, desires, possibilities, etc., which are often difficult to manage efficiently.The problems in Sweden today is similar to Germany with regard to high demand for social housing for low-income groups and private investors have not been able to meet the demand gap.

Magarpatta-India's First Private Land Pooling Scheme-Mr. Satish Magar

The Magarpatta city was developed by pooling 430 acres of land owned by about 130 farmer families covering 800 beneficiary participation. These farmers joined together to form the township called Magarpatta Township Development and Construction Company Limited (MTDCCL), and developed the city, thereby realising their dream of converting their land into a value-added finished product that gave them benefits and returns in perpetuity. The Magarpatta area was in the agriculture zone but was listed as part of the Pune Municipal Corporation from 1960 onwards. Under the Urban Land Ceiling Act, the Government had the authority to acquire the land at rates decided by them. This was in most cases substantially lower than the market rates.

The Land Pooling Model provided the farmers with an opportunity to become entrepreneurs while in the other course, they would have sold off their land, spent unproductively, and ended up as labour often in their own fields. The objective of the Magarpatta joint venture model was to create long term wealth for the farmers from their landholdings, create an opportunity for the farmers to turn into entrepreneurs; to provide them with a long-term annuity, and to create a strong real estate franchise to enable the development of other large-scale projects. The farmers contributed their individual landholdings under a Joint Development Agreement (JDA) to the project for a refundable security deposit and a revenue share. In addition to the share of revenue, the farmers were also given equity in the project's Special Purpose Vehicle. As opposed to the situation elsewhere, where the farmers were losing their land to the developers with urbanisation, in Magarpatta, every farmer became an equity holder in the company in proportion to his holding. The Magarpatta city with five million sqft of leased space created long term annuity for all the farmers. Most of the farmers have also become contractors, building material suppliers, and machinery owners. The second-

generation landowners were trained to become entrepreneurs by identifying their capacities and providing them onsite and off-site training. Over 250 entrepreneurs were created in the field of manufacturing of construction material, setting up of infrastructural services, actual building construction, and vendor development.

The financial model of the Magarpatta LP is built on proportional sharing of sale proceeds of plots/built up area among the landowners while earmarking a portion of the same for meeting the expenses of the company. Where the built area is sold, 30 percent of the sale proceeds from land cost is distributed in proportion to landholding on the accrual basis, and 70 percent is reserved for meeting the company expenses. In the case of sale of plots, 60 percent of the sale proceeds are distributed in proportion to landholding on the accrual basis, and 40 percent earmarked to the company for expenses. On the leased premises owned by the company, the landowners receive a dividend as income from business and leased assets. The property values in Magarpatta City increased from about Rs. 1000 per square feet to about Rs. 5000 per square feet during the period 2003 to 2011. This appreciation in property prices had come back to the farmers as dividends from the company as per their JDA. There had also been a tremendous value appreciation in the farmers' land. For e.g, the land cost would have been Rs. 16 lakhs per acre prior to pooling. This has increased to about Rs. 4 crores now. The landowner gets about Rs. 50,000 as a dividend each month. There is also an educational and social upgradation of the landowners who had pooled their lands.

The model has also offered significant advantages to the developers. Offering equity positions to landowners enables negotiations of better terms for the JDA vis-à-vis a traditional JDA. The developers were able to acquire larger tracts of land with minimal capital. Litigations from landowners which are a proverbial problem, were non-existent since the model locks in the landowners. No specific timelines or selling price conditions were there in the JDA for completion of the development as opposed to typical JDAs. It also enabled the raising of debt, based on mortgage of land which is not permitted by the landowners in a typical JDA. Due to the creation of a strong franchise, the farmers invested their share of profits and revenue share amounts with Magarpatta city, making its financial position much stronger. The strong franchise and surplus free cash flows also enabled Magarpatta to start the development of Nanded City, on a similar model, with the landowners of Magarpatta owning control equity, with the rest of equity held by 235 farmers of Nanded city. The other project which is presently being implemented is the Riverview City, Pune, where land is being pooled by 180 farmer families. In both the above projects, there is 51 percent shareholding by the Magarpatta City Group and 49 percent by the new farmers of the area.

Magarpatta City-Economic Contribution

- Employment for 1,01,513 people (direct and indirect).
- Annual salary of 65,221 million INR i.e., Rs 6521.1 Cr.
- 20,000 indirect employees creating a total impact of 344.23 million
- 160 national and international companies have offices in Magarpatta City
- GDP of Pune City enhanced by 18,000 million INR per year
- 70 Million to Pune Municipal Corporation towards development Charges

LC and Transformation of Sustainable Urban Morphology in Indonesia- Dr. Ngakan Ketut Acwin Dwijendra

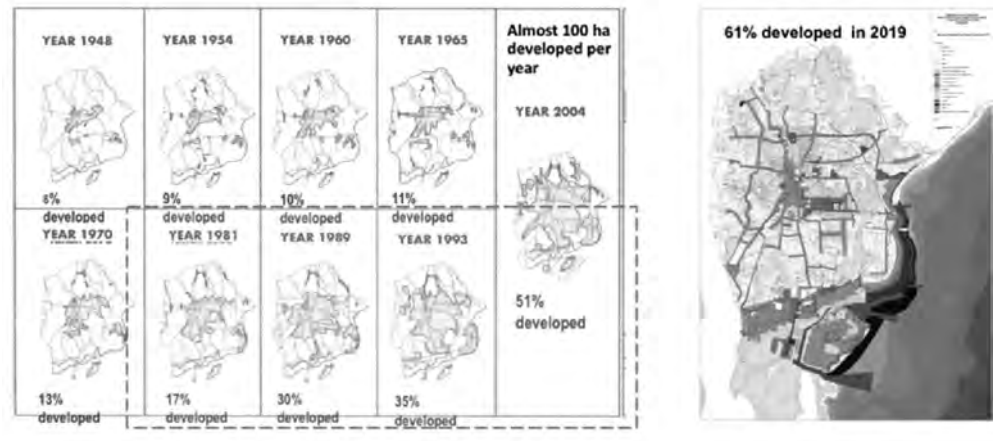
Importance of LC/LR in Indonesia- Indonesia has a population of 258 million, with 50 percent concentrated in Java Island. With a geographical area of 1904.569 square Km, the country is growing at a rate of 14 percent per year. It cannot be denied that the physical development of urban space is strongly influenced by urbanisation. The development of urbanisation in Indonesia can be observed from three aspects: first, the number of people living in urban areas, now reaching 120 million from a total of 230 million people; second, uneven population distribution (almost 70 percent in Java with 125 million people and in Sumatra with 45 million people); and, third, the high rate of urbanisation, in which metropolitan cities, such as Jakarta (including Bekasi, Bogor, and Tangerang), Surabaya, Bandung, Medan, Palembang, and Makassar, are the main magnets. Statistical records show that since 1970, Indonesia's urban population fraction increased from 17.4% (1970) to 22.3% (1980), 30.9% (1990), 43.99% (2002) and, finally, 52.03% (2010). This means that within 40 years, urbanization has doubled and the urban population has tripled.

In the future, the trend in urbanisation is expected to continue due to natural urban population growth, rural-urban migration, and regional expansion. With a moderate growth rate of 1.5%/year, the proportion of the population of the city is expected to increase to 60.39% in 2020. Urban areas have a relatively fixed area, while the need for land continues to increase. Weaknesses in urban management lead to speculation, illegal land use, and the proliferation of slums. In the last few decades, we have observed a very rapid process of social transformation in urban areas that has changed the morphology of Indonesian cities. This transformation was accelerated after the implementation of regional autonomy in Indonesia since 1999. To deal with various land conflicts, Indonesia has regulations and national, provincial and local spatial planning under National Land Agency and Planning Board. LC/LR is used as an Instrument to improve the urban land use, initiated in 1981 in Denpasar. It is important to understand the extent to which the implementation of LC/LR has been able to improve the efficiency and productivity of the morphological transformation of urban land use in Indonesia.

The Legal framework of LC/LR: The Law number 5 of 1960 provides the basic regulations on agrarian principles in Indonesia. In 2019, the Minister of Agrarian and Spatial Planning is institutionalised as the Head of BPN No.12 of 2019 concerning Land consolidation. The aim of the legal framework is to achieve optimal use of land, increase the efficiency and productivity of land and space use, improve the quality of the environment and provide legal certainty of land and space rights. The purpose of land consolidation/readjustment is to achieve optimal land use through increased efficiency and productivity in land use so as to be able to (1) meet the need for an orderly and healthy residential environment, (2) give landowners the opportunity to enjoy direct land consolidation/readjustment benefits, both land price increases and other benefits, due to the creation of an orderly environment, (3) increase the equitable results of settlement development so that it can be enjoyed directly by landowners, (4) avoid conflicts that often arise in the provision of land conventionally, (5) accelerate the pace of development of residential areas, (6) curb land administration and saving government funding for the cost of building road infrastructure, public facilities, compensation, and operations, (7) increase efficiency and productivity of land use.

Role of LC/LR In Indonesia: In Indonesia, LC/LR is used for arranging scattered parcels of land into a larger project for harmony in design, service, and territorial division. In terms of the efficiency and productivity of urban land, LC/LR is used to realize the infrastructure and public facilities needed by the community, such as roads, green lines, irrigation, etc. LC/LR has become the most successful instrument of implementation of city planning in Indonesia. For the government, LC/LR has helped streamline development in urban areas and savings in providing costs for land acquisition, create areas in accordance with the principles of environmental and land management and limit the use of land that reflects the implementation of Urban Spatial Planning and Control of land ownership and completion of the land certificate. For the landowners, the availability of desired public facilities increases along with the value of the land after the LR planning. LR also guarantees land rights with certificates obtained in a relatively fast time and minimise land disputes.

Urban land development in Denpasar City, Bali, Indonesia: Denpasar is the capital of the Bali Province, developed from a former royal city with spatial planning and the social community which is regulated according to a cultural system that is a tradition of customs based on Balinese culture. The population of Denpasar City in 2018 is 930,600 and is in the 'big city category' (500,000-1,000,000 residents), with a population growth rate of 2.21% per year (population growth of Bali Province was only 0.94% per year, Bappeda, 2018). The growth rate of the population of Denpasar City is due to a large amount of migration/urbanisation. Before LC in 1948, the land development was at a slow pace and less than 10 percent till 1970. From the late 1980s onwards, the land growth rate kept on increasing at a high rate of above 30 percent and stood at 61 percent in 2019.



Land Development in Denpasar City

LC/LR Increases Efficiency & Productivity Transformation of Sustainable Urban Land Morphology in Indonesia. There are two systems for implementing LC/LR in Bali, Indonesia, namely the *voluntary system* where LC/LR is carried out if an agreement has been obtained from all landowners whose territory will be consolidated and *the mandatory system*, where the implementation is based on the legislation binding for it through 'Land for Development'. The target of LC/LR covers areas planned to become new cities or settlements, areas that have begun to grow, residential areas that are growing rapidly, areas that are relatively empty, and areas that were disaster-prone. There are two types of approaches in the urban land consolidation/readjustment in Bali, Indonesia; first, the top-down approach, whereby the implementation of the development plan is outlined by the government towards the regions, and the implementation of the LC/LR is from funds provided from the national/regional budget. The participants are only subject to land donations for the procurement of infrastructure. Second, the bottom-up approach, which is an approach originating from the proposals of community landowners who have been coordinated and wish to regulate their land through a LC/LR program. This approach is more focused on public awareness of environmental regulation and harmony. The landowning community then submits a request to the government for consolidation/readjustment on their land. The project implementation costs are borne jointly by the participants of the LC/LR. Communities are subject to land donations for infrastructure and project implementation.

An assessment of LC/LR reveals that it increases the efficiency and productivity of urban land. For the Government, it helps in streamlining development in urban areas and results in savings in land acquisition costs; creating areas in accordance with the principles of environmental and land management; creating the use of land that reflects the implementation of urban spatial planning etc. For the

participants. LC/LR increases the availability of desired public facilities, increase value of land, guarantees of land rights with certificates obtained in a relatively fast time and minimises the land disputes.

Conclusion: Efforts to restructure the morphology of cities through LC/LR will be better if done early on, when urbanisation and population density is not high, and spaces for maneuver are still available. Further, regulation is needed regarding land consolidation/readjustment as outlined in the form of law because there are still voids between the Basic Agrarian Law on land consolidation and readjustment, resulting in weak legal rules for implementation. Attention to small and medium cities is very important. Further, intervention is needed through the formal system in planning and zoning regulations. It must be strengthened by operational instruments at a more detailed level. The initiative for LC/LR should not only come from the government but from the private sector and community. The government should also improve the capacity of the community regarding the understanding of LC/LR to increases efficiency and productivity transformation of sustainable urban morphology in Indonesia.

Innovations and Challenges-Land Pooling Schemes in Raipur, Gujarat, and Delhi, India: Mr. Jacob Manohar

Land Pooling/Readjustment is used as a tool for planned urban development by some states in India and is considered as a better alternative to land acquisition for infrastructure development. The redevelopment of existing areas (urban renewal) is yet to be undertaken in India. Gujarat and Maharashtra are the pioneering states in land pooling in India (known as Town Planning Schemes in these states). Since the land pooling and readjustment are carried out by State Governments, variations are found in land pooling models across states. The paper covers the case studies of land pooling policies in three states of Chhattisgarh, Gujarat, and Delhi, besides the challenges of implementing the tool in India.

Town Development Schemes in Chhattisgarh: The land pooling scheme is called the Town development Scheme in Chhattisgarh. The provision of land pooling was included in Chhattisgarh Town and Country Planning Act 1973" in 2009. The entire cost of development works is recovered through the sale of developed plots reserved for that purpose (about 10%). There is also a provision for levy of development charges, if necessary. TDS is always proposed in the fringe areas in Chhattisgarh. There are four TDS under implementation in Raipur. Two schemes have been completed by December 2015 for a combined area of 700 hectares designed for a population of 1,50,000. There are two schemes in the planning stage with a combined area of 700 ha. The Raipur Development Plan, 2021, covers 107 villages in its planning area.

Land Use before TDS **Areas where TDS is to be Implemented**

Town Planning Schemes (TPS) in Gujarat: The city is divided into several TPSs ranging from 100 to 3000 ha in size, as per requirement in different areas. About 50-75 percent of land is returned to actual landowners with a significant increase in value. TPS used for neighbourhood development and master plan implementation has met with remarkable success across the state. TPS is considered as a true alternative land assembly tool for urban infrastructure development in Gujarat. A successful TPS in Ahmedabad is given below:

- Creation of city level urban infrastructure through land readjustment
- Project Duration: 2000 – 2004
- Length of road: 76 km, Four lane
- Total land readjustment in 46 parcels of size of 100:1000 ha paced adjacent to each other
- Public consultations in all villages falling along the proposed road
- Strong political and administrative leadership was helpful
- Benefits: creation of infrastructure, land mobilisation free of cost; appreciation of land value.

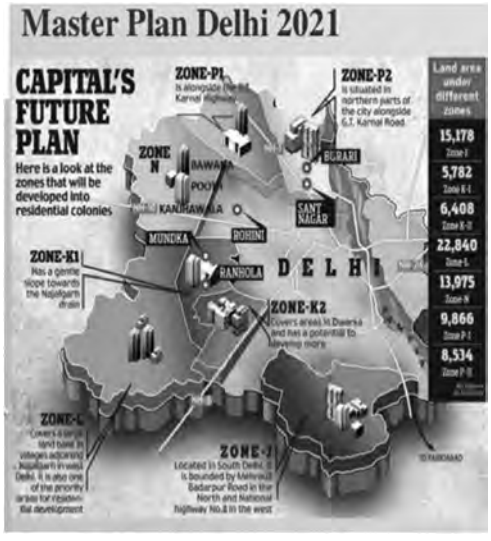
Land Pooling Policy of Delhi: The Land Pooling Policy for Delhi is recently notified, and rules and regulations are still in the process of finalisation. It is based on voluntary assembly of land by landowners. The land development model followed in Delhi was "Acquire-Develop-Dispose." The urban fringe areas are yet to be developed and it is proposed to develop these areas with the land pooling policy. The preparation of zonal plans aids the process of land pooling. The role of the Delhi Development Authority (DDA) is to act as a facilitator. The landowners and developers are permitted to pool land and undertake development. Under the Delhi Master Plan, 2021, 95 villages as development zones have been divided into five

zones for development through land pooling. The land parcels measuring two hectares and above and located in remote parts of an area will be eligible, depending upon the layout plan. The landowners will form a consortium and will retain 60 per cent of the pooled land and surrender 40 per cent to service-providing agencies or the DDA, for building infrastructure and public facilities. The landowners can also become a separate developer entity and develop 60 per cent of the land, as a sub-project. The consortium has to complete integrated planning and take due approvals. DDA is a facilitator, and landowners in these sectors form a consortium or some group. After the formation of the consortium by landowners, the land will be distributed between the members and service providing agencies for taking up development as per the policy. Also, a minimum of 70 per cent of land of the developable area of a particular sector, is required to be pooled to make the sector eligible for development.An extra FAR of 15 is allowed for affordable housing for Economically Weaker Section (EWS), and the dimensions of the house shall be 32-40 sqm. The Table 10 provides the details of the conceptualised land pooling scheme:

Table 10: LPS in Delhi

Minimum Land	Surrendered to Govt.	Remaining With DE	Land Returned to Developer Entity (DE)		
			Residential	Commercial	PSP Facilities
2 Ha	40% (8Ha)	60% (12Ha)	53 % (10.6 Ha)	5% (1.0 Ha)	2% (0.4 Ha)

DDA gets ownership of the balance pooled land, which shall be utilised for roads, utilities, green areas and development of commercial, industrial and public & semi-public uses. Out of the share of DDA, the utilisation of land is mandatory for city level facilities viz. roads (12%), recreational facilities (15%), Utilities (5%) and the remaining 8 to 20 % land may be utilized for Govt. Use, PSP, Industries & other use.



Zone	Villages	Area	Pooled
J	1	15178	4
K	20	12190	231
L	30	22840	1659
N	21	13975	3294
P	23	18400	1261

As on February 2020, DDA has received 6,113 applications from landowners, through which 6,449 hectares of land has been registered. Most of the areas pooled are in Zone N (3,294 hectares), which is 50 per cent of total developable area in the zone, followed by Zone L (1,659 hectares), Zone P-II (1,261 hectares), Zone K-I (231 hectares) and Zone J (4 hectares).

Issues and challenges of land Readjustment in India: Successful LR is grounded in three main enablers; fairly well-defined property rights(Land records/title); streamlined, independent, and transparent evaluations process (consultation and people participation), and a strong judicial system to address public concerns (statutory backing). The biggest roadblock between the design of TPS using the Land Readjustment method and the supply of serviced land for construction is the multiple and complex bureaucratic procedures. There is a need for an online building permission system in the local government without integrating all agencies involved in the building permission process. The local government must be given more authority for sanctioning plans, managing land auctions, revising land use rules and regulation such as FAR (floor area ratio) and TDR (transferable development rights). Countries like Japan have very advanced land value estimations, and we need substantial improvement in this regard. The other areas of improvement related to the fairness, consultation, and transparency, use of land pooling for urban renewal projects and brownfield development etc.

LP Implementation Experience in Bhutan and Way Forward - Ms. Tashi Wangmo

In Bhutan, there are different levels of plans such as the 1) Valley Development Plans which are prepared to ensure integrated development of an urban centre and its hinterland and which enables the shared use of resources and infrastructure between an urban centre and its surrounding areas; 2) Regional plans that are planned for specific development interventions in a region that lags behind in the overall socio-economic development and in regional growth centres where there is potential for a particular urban centre to stimulate economic development of a region; 3) Structural Plans that are broad land use plans for settlement areas with the development potentials and 4) Local Area Plans (LAPs) that are developed with reference to and within the framework and provisions of the Structure Plans. LP in Bhutan is actually used in the local area plans as given below.

Valley Development Plans

- Variation of the concept of a regional development plan.
- Enable shared use of resources and infrastructure between an urban centre and its surrounding areas.
- Ensure integrated development of an urban centre and its hinterland.

Regional Hubs/ Growth Centres

- Regional Hubs - planned for specific development interventions in a region that lags behind in the overall socio-economic development.
- Regional growth centres - planned where there is potential for a particular urban centre to stimulate the economic development of a region.

Structure Plans

- Broad land use plans for settlement areas with the development potentials, objectives and strategies.
- Outline the main precincts/ zones, infrastructure layout plans, LAP boundaries.

Local Area Plans (LAPs)

- Detailed plot level plans, ready for implementation (with implications for individual landowners especially in land pooling schemes).
- Developed with reference to and within the framework and provisions of the Structure Plans.

Different Levels of Plans

LP and Other Land Assembly Tools: Bhutan has three kinds of planning tools; land acquisition that was used till the year 2000; guided land development that is generally used in the developed areas whereby landowners donate their land for laying roads/public infrastructure and the third and the very popular one is the land pooling. Unlike other countries, LP in Bhutan is at its learning phase, having been initiated only from the early 2000s. However, LP has gained popularity in the country. LP was introduced in 1998 in the Thimphu Urban Development Plan. However, it could not be implemented due to the resource constraints. In 2002, LP was initiated in one of the eastern parts of Bhutan called Ranjung.The *Ranjung Township in Tashigang* was the first LP project undertaken in the country.

Pic. 1: Picture showing the LR project area before the scheme

Pic. 2: Picture showing the LR project area after the scheme

Fig. 1: Original cadastral map before the scheme

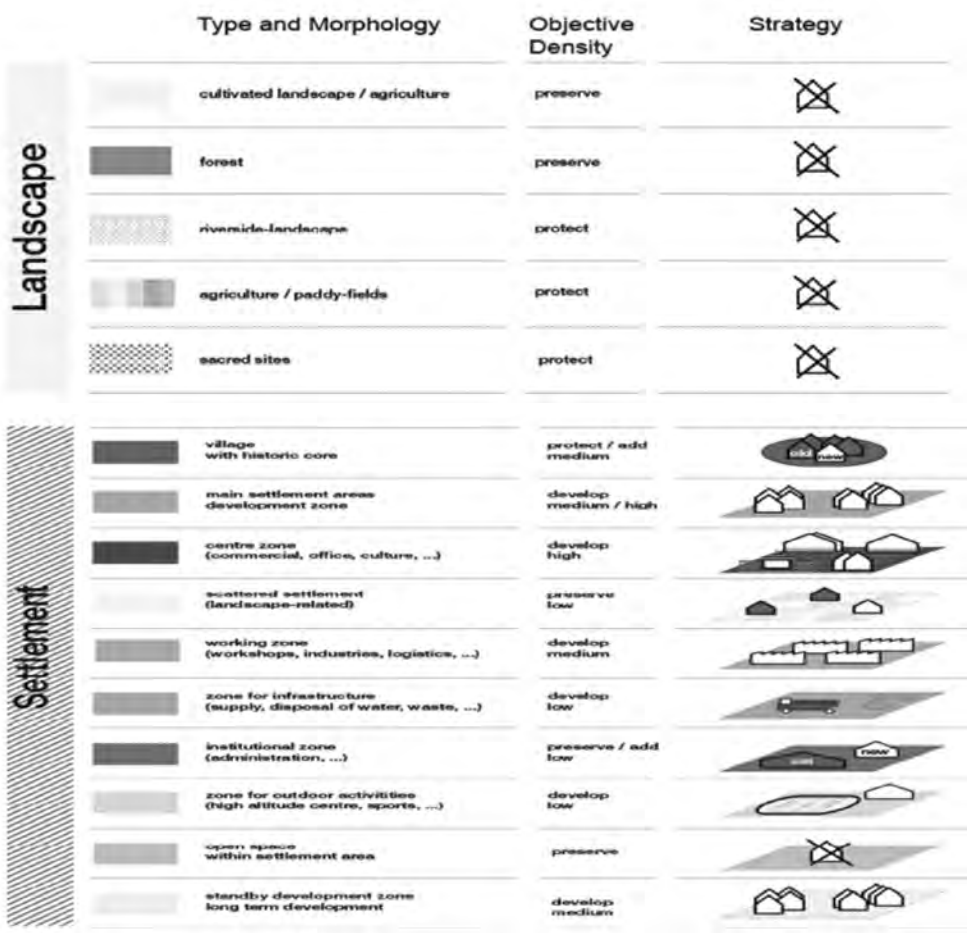
Fig. 2: Subdivision map after the scheme

Rangjung LR Project

Prior to LP, land acquisition was adopted to assemble land for urban development, but it soon proved unpopular as it was considered to be an inequitable tool that displaced the original landowners and favored the business communities. Presently, in all the 24 districts of the country, local area plans are prepared using LR/LP as the planning tool. Though people are given the option of other tools such as the acquisition or guided development, they invariably choose LP. The land pooling rules of the Kingdom of Bhutan was adopted in 2009 and later revised in 2018. The standard of distribution is area based flat rate(not more than 30 percent irrespective of the project coverage). Though the Spatial Planning Bill has been formulated and is yet to be discussed in the Parliament, the legal backing for LP is provided in the Local Government Act, 2009 & Land Act of Bhutan, 2009.

LP, at the policy/planning level is looked upon as an incentive-based planning approach where landowners in return for land contribution receive buildable serviced plots with all urban facilities (park, road, drainage, pathways, and other urban amenities). The LP is considered self-financing. However, at the implementing level, the stakeholders are not able to understand the concept and it is difficult for the planners to convince the landowners regarding auctioning of the reserve land to finance infrastructure development. Also, the use of area-based flat rate method for LP results in inequitable benefits to stakeholders when there are differences in land uses (precinct) and varying development provisions (height, coverage, commercial space).

Way Forward: Given the above challenges, three improvements are proposed for LP implementation in Bhutan. First, change in the way Development Control Regulation is drafted. These regulations are framed as an integral complementary document to every development plan that contains mandatory requirements on land use, building construction procedure, and regulations like plot coverage, building height, procedures during construction, precinct sanctions, building regulations, etc. For uneducated people, it is often difficult to comprehend. It is therefore proposed that the objective of the development control regulations for landscape and settlement areas is also presented in the pictorial form so that people who cannot read can also understand.



Pictorial Representation of DCR

The second important change is the use of differential LR/LP contribution method. Given that the value-based standard of distribution may be complicated to start with and convince the landowners, there may be area-based differences in the contribution method, and the parameters considered would be commercial usage in the building, number of floors, etc. For e.g., the contribution ratio can be more from landowners for commercial usage of the building, with a larger number of floors etc. This method was successfully tried out in one of the towns in Central Bhutan for a small area. The third important change is proposed in the plan preparation method. Though the consultation is done, the entire work is done by the planners. The landowners should also be extended the opportunity to provide plan proposals that can then be reviewed by the municipality. The Municipality can then guide also by involving an urban planner who will ensure that the development happens as per the planning guidelines. Table 11 reflects the proposed planning procedure for the implementation of LP in Bhutan.

Table 11: Proposed LP Planning Procedure in Bhutan

Activities	Main Tasks	Main actors
Preliminary/ feasibility study	Availability & adequacy of land & water.Identification & demarcation of the boundary.Topographic Survey, Geo-technical studies & EIA.Potential for growth & development	Committee Members Local government NLCS
Data collection and analysis	Site analysis.Compilation of land records & details. Population studies & SWOT analysis. Initial public & stakeholder consultations. Selection of planning technique	Committee Members Concerned Urban Planner Stakeholders
Plan preparation and review	Preparation of plans. Presentation & review of plans. Revision & improvement of plans.	Committee Members Concerned Urban Planner
Plan approval and implementation	Presentation of the plan to the Municipal Management. Release of the approved plan. Demarcation & implementation of the plan. Coordination with stakeholder agencies.	Committee Members Concerned Urban Planner Municipality & NLCS

Land Sharing as an "Alternate Land Assembly Model" for the Urban Poor: Lessons from Southeast Asia-Dr. Paul Rabe

As cities rapidly expand, is there room for the poor? As countries are developing rapidly and the real estate market getting bigger, those who can least afford are pushed to the margins to the urban periphery. This is not a sustainable model in the long run because cities need all segments of the population. Land sharing is a technique that tries to stop the poor from pushing into the peripheries and tries to accommodate them. Land sharing is among the lesser known tools in the tool kit available with the policymakers.

Irregular and informal development: In most cases around the world, the informal settlers have some claim to the land. Since this stops commercial development from happening in the cities, there is also interest on the parts of the local governments to rectify the situation. The question is how to improve this situation to allow for better land use and better conditions for land claimants on urban lands which are subject to multiple land claims? Land sharing is about dividing up a piece of land in a systematic fashion in order to accommodate land "occupiers" (who have some sort of right or claim to the land) and landowners. In the process, the land claimants receive legal title to their new houses/plots. Land sharing thus enables commercial development without displacing existing residents. Herein, the parties agree to divide/share a plot of disputed land; the developer is given the right to build on one portion of the site, and the land occupants are re-housed on another portion, with a promise of secure tenure on their new plots. Land Sharing is a "win-win-win" tool of urban (re)development because it benefits all the four

important stakeholders viz the landowners, private developers, informal settlements, and the public authorities. The tool benefits the landowners and private developers by resolving the land conflict that has been blocking the use of land, thus enabling private development (on one portion of divided land); informal resettlers' through avoiding their displacement while improving their housing and legal development. Finally, the public authorities get benefited by resolution of long-standing land conflicts in the city with minimum subsidy[3].

Land sharing vs. Comparable Land Assembly Techniques: Land sharing is dividing a plot of land so that it can be shared fairly by all claimants for development/ resettlement on site to avoid resettlement and enable development on-site. LP/LR refers to the pooling of all land parcels in a particular area in order to plan them as a unit (UN-Habitat, 2018), often to facilitate planning and implementation of infrastructure. The difference between LP and LS is that LS is usually carried out on a site where there is an ongoing land conflict. LP, on the other hand does not have to involve land conflicts but is just a way to reorganise the plots of land to facilitate planning for infrastructural development. Land swaps refer to negotiating a land exchange, so that current land occupants are resettled off-site in exchange for alternative land use on the vacated site.

Pre-Conditions for LS: There are six pre-conditions for LS to be successful. The first condition is a booming property market because unless there is a boom, there is no incentive for landowners and land occupants to come together and try to negotiate a solution. Second, there should be well-established communities (length of settlement; some kind of land right) because if the community is weak, they can be resettled outside the city. The third pre-condition is a community organization and consensus. If the community is not organised, there is a no consensus within the community, and that results in weaknesses in negotiation and LS does not really take place. Fourth, third party intermediation is very important to facilitate negotiation between landowners, and land occupants. A third party can be a government organisation or a civil society organization and the interest may be in keeping the land occupants on the site and solution of a long-standing land conflict in the city respectively. The fifth condition is with respect to the physical/technical feasibility of the project i.e., the site needs to be big enough to accommodate the LS solutions. The final pre-condition is the financial feasibility. The financial feasibility is accomplished either through loan schemes or through cross-subsidy from commercial development. In the latter, there is a deal with the developer that as part of development on the site, the developer needs to fund the housing for the land occupants already on the site. Our research shows that the existence of the above pre-conditions ensures the success of the LS and the absence on one

[3] Usually, LS is financed either from small loan schemes to build the housing for the land occupants or it is a cross subsidy from the commercial development, that is how it is done in Cambodia.

or more of them may result in the failure of the LS model. When it succeeds, land sharing offers the prospect of a negotiated, "win-win-win" resolution to land conflicts between land occupants, landowners and developers, by accommodating the interests of all on one single site.

LS Innovations-Two Cases: The Bangkok (1977-1997 and later) LS projects resulted in the resolution of seven long-simmering land disputes in central areas of Bangkok, affecting over 10,000 households. It took place over the course of twenty years. The new on-site housing for slum residents was financed by various kinds of loan schemes. Most cases involved private developers or leaseholders, on public land. The intermediaries during negotiations included the National Housing Authority and other public organisations, as well as a network of concerned individuals from civil society. In all the seven projects, it was the public agencies that decided to go for the LS as private landowners generally tried to look out for other ways. Only in one case, there is an exception in having a private landowner who decided to go for LS solution. The Bangkok cases are reflected in Table 12.

Table 12: The Bangkok LS Cases

Name of Settlement	Number of families	Total area (ha.)	Landowner before land sharing	Negotiation period	Intermediary organization	Summary of outcome for slum dwellers
Rama-4	1,250	8.5	CPB lease to developer	1977-81	NHA, Treasury Department	2.4 ha. reserved to re-house residents; 850 high-rise units leased to community by CPB on 20-year leases.
Manangkasila	500	1.6	Treasury Department lease to developer	1979-82	None	0.87 ha. leased to 198 remaining families
Wat Lad Bua Kaw	63	1.6	Private land-owners lease to developer	1978-83	NHA, BMA, Military	0.32 ha. sold to 67 remaining families
Klong Toey Area-3	7,500	69	PAT	1982-85	NHA, Military	11.5 ha. sub-leased to 1200 families for 20 years, via NHA
Sengki	143	1.1	KPB	1984-87	NHA	Housing co-operative purchased 0.60 ha for all families, with loans from KPB
Sam Yod	30+	0.95	CPB	1982-89	NHA	0.65 ha. sub-leased to 200 families (including newcomers), via NHA
Klong Pai Sing To	350	n/a	CPB	1989-97	None	All families relocated to two high-rise buildings owned by CPB

LS in Phnom Penh: Phnom Penh is the capital and primate city of the Kingdom of Cambodia, with a population estimated at 1.3 million and rapidly growing. In a 2003 NGO survey, the city has 569 officially recognised "urban poor settlements" housing approximately about a quarter of the city's population (SUPF survey). The urban poor settlements were characterised by five features: insecure tenure, poor sanitation, unsafe water supply, poor quality of housing and insufficient living area. The Phnom Penh (2003-2009) on-site upgrading model for four large slums in central Phnom Penh with a population of 17,000 is the more recent in comparison to Bangkok. The new housing for slum dwellers was financed through cross subsidies from commercial development. Currently, land sharing is being applied as a tool in several cases within the Royal Thai Government's new slum upgrading program nationwide (the Baan Mankongprogram). In 2003, the apparent "breakthrough" for the poor came about when the President of Cambodia decided to go for LS in the city instead of going with a massive resettlement scheme. The resettlement schemes were not working, and the poor were coming back to the city after multiple violent resettlement schemes, and it did not come as a long-term solution. The Prime Minister announced a slum upgrading campaign for over 500 slum settlements with upgradation on site, with full services and land titles. The historic announcement of four pilot projects of "land sharing" resulting from NGO advocacy was a clear break from decades of forced evictions and housing rights organisations predicted an era of newfound power and citizenship for the urban poor. All the four projects in Cambodia were in the centre of the city which made LS a necessity.

Case study settlement of Borei Keila LS: The site is where the South East Asian Games was held in the 1960s but came to be inhabited by squatters after the civil war. The area of about 14.12 hectares was inhabited by 1776 families, and after the land sharing agreement in 2004, ten new "community buildings" were constructed to re-house the slum population on the site. The project was cross subsidised by a private developer. After the completion of the LS scheme, out of the total area of 14.12 ha, 2 ha is used for new buildings for slum dwellers, 2.6 ha is awarded to the developer for market housing, and 9.52 ha is "returned" to the State. As a part of the contract, the developer built ten high rise buildings on a portion of the site that was housed by the community and the commercial development took place on the rest of the site. The people were living in the absence of sanitation facilities and without legal documents. After the LS, the people had titles and were allowed to live in the new and better housing system. However, the developer broke the contract with the Municipality and failed to construct the last two community buildings, and 154 households remained homeless. The municipality has not pursued the developer to complete the project. The former "slum" areas have made way for new commercial development.

Case study settlement of Dey Krahom: The second case in Phnom Penh was in a L- shaped squatted property. In this case, the LS failed, and people eventually moved out of the city due to their own will. LS, therefore, became a land swap as

the people decided that they did not want to live in a ten-floor building which would be the LS solution, but would stay outside the city (about 12 Kms out of town) in single storey buildings. The Land swap was a negotiated solution instead of LS. The project area of 4.8 ha had a population of 1465 families.

Case study settlements of Railway A & B-The project area of about 11.3 ha had a population of 325 families squatting next to the railway line. The LS here did not work out because the communities could not agree among themselves, and so they delayed the negotiation process. The area was leased by a developer. After years of deadlock, the developer bought off the residents by paying them individual compensation.

Latest developments in Phnom Penh and Thailand: Massive Chinese investment is changing the skyline of Phnom Penh. There is a massive transformation of the Bassac riverfront area with residential towers, casinos, malls, and commercial towers. There are enormous structures coming up all across the area, and commercial development is expanding on an explosive scale. It remains to be seen if there is room for affordable housing in the new "spectacular" Phnom Penh or will they be pushed out? In Thailand, LS is now being "scaled up" as part of formal government supported upgrading schemes (Baan Mankongprogram, supported by Community Organization Development Institute). LS is part of a broader solution. Communities are also being given more power and responsibility to plan, design, and negotiate their upgrading schemes (in the Baan Mankongprogram, and by the Crown Property Bureau) and in a way are becoming the "owners" of their projects (risks and responsibilities) with supervision and technical assistance by CODI and CPB.

Other experiences in Asia: There are varieties of "land sharing" in other parts of Asia, known by different names; China (urban village redevelopment in the process of conversion from rural to urban land); India (Slum redevelopment in Dharavi, Mumbai; Slum Rehabilitation Policy, SRP in Pune and previous land sharing experience in Hyderabad), etc.

Evaluation of LS Cases: In Phnom Penh, LS happened in one of the biggest projects but in three out of four cases, the parties could not come to a land sharing agreement, and slum redevelopment took a "familiar" turn: relocation and individual payouts, as the land occupants did not get the housing as big as the housing outside the city. It was seen that the residents were not active participants in the planning of the land sharing projects and were overruled by the developer (in Borei Keila) and by community leaders (Dey Krahom and Railway settlements). But the two largest projects were unique. In Borei Keila, the residents were re-housed on site in fully serviced walk-up medium rise buildings, free of charge. In Dey Krahom, the residents were relocated at the expense of the developer and received fully serviced new housing units with social infrastructure and facilities free of charge. In 3 of the 4 settlements, residents had to relocate, many of them

involuntarily. The compensation packages were generally below market rate, and the redevelopment process was characterised by large-scale abuses. However, the free replacement housing (in Borei Keila and Dey Krahom) ended up going mainly to outsiders, and the original objective of the Prime Minister's social land concession program (keeping the poor in the city) was not met. The cases reflect that the pre-conditions are important for the success of the LS Model. LS still offers a unique tool for resolving land conflicts with the benefits of flexibility, compromise, and win-win outcomes.

Land Pooling: Policies and Practices in China - Prof. Guoqing Shi & Mr. Wang Nan

In China, besides the national constitutions, the key laws and regulations regarding land and resettlement are framed at both the national and local levels. The national laws and policies include the Real Right Law, 2007; Law of Land Administration, issued in 1986 and revised in 2019; Basic Farmland Protection Regulation adopted in1991, revised in September 1999,2004 and Regulations on the Housing Acquisition and Compensation on State owned Land (new revision,2011). The local laws include the provincial level legal regulations and rules, city level implementation rules, and county level implementation rules. Besides the above, their special resettlement policies and implementation rules in big projects. For e.g., the Xiaolangdi Dam Resettlement Implementation Management.

The Chinese Constitution (Article 10) provides that the state may, in the public interest, requisition land for its property or use in accordance with the law.No organisation or individual may appropriate, buy, sell or lease land or otherwise engage in the transfer of land by unlawful means. All organisations and individuals using land must ensure its rational use. According to Real Right Law (Article 42), in order to meet the demands of public interests, it is allowed to requisition lands owned collectively, premises owned by units and individuals according to the statutory power limit and procedures. When there is the requisition of land owned by the collective, it is required to, in accordance with the law and in full amount, pay land compensation fees, resettlement subsidies, compensations for the ground attachments and green crops, arrange endowment insurance for the land-losing farmers, guarantee their livelihood and protect their lawful rights and interests. Similarly, when requisition of the premises owned by units and individuals, it is required to compensate for demolishment in accordance with the law and protect the lawful rights and interests of the owners of the requisitioned realities; when requisitioning the individuals' residential houses, it is required to guarantee the housing conditions of the owners of the requisitioned houses.

The policy and practices relating to LP/LR in China vary for different regions and projects. For urban shantytown reconstruction, the national policies since 2009 provide for the transformation of the old houses in cities. With the advancement of

urbanisation, the transformation of urban shantytowns has also been attached great importance to development. During the period 2009 to 2017, more than 80 million residents have been "put out of sheds and into buildings" through the renovation of sheds. More than 32.87 million sets of apartments have been constructed to resettle 25.92 million in urban shantytowns, 3.02 million in state-owned industrial and mining shantytowns, 1.64 million in state-owned forest (field) shantytowns, and 2.29 million in state-owned reclamation areas. LP/LR has been used for the extension of urban land from rural farmlands. The following figure shows the transformation in Nanjing, the historical city of China.

Urban Extension-Farmlands to construction and industry-Nanjing

Similarly, in case of resettlement by development projects in case of large dam projects like the Three Gorges Dam Project, the Xiaolandi Dam project, the new R & R sites were drawn with master plan that provided integrated land use promoting urbanization and industry. Another area, where LP/LR is extensively used in China is the post disaster reconstruction projects and national rural poverty reduction program (8.63 million poor farmers left the old village to move to cities and advanced rural areas with national and local financial support).

Land Pooling Models in India-Some Reflections- Dr. Reshmy Nair

Land pooling is emerging as a promising tool for land assembly, especially for infrastructure projects in the urban/peri-urban areas in India. ASCI was involved in the evaluation of these models, both those being implemented by Government departments and some of the upcoming models. Several good practices exist in these diverse models. The Gujarat Town Planning Scheme (TPS), the oldest practicing model, has robust enabling legislation, involving multiple rounds of consultation during the implementation process. The Punjab, Andhra Pradesh, and Maharashtra (Maharashtra State Road Development Corporation) Models had provisions for providing annuity to the landowners besides the returnable land to address economic issues during the transition period. The Amaravati LPS is unique for its array of benefits besides the returnable plots, for instance, the 10-year annuity to landowners to also include monthly pension to landless families besides health, education,

skill building support, etc. The Punjab and Haryana Models provide a genuine choice to the landowner to choose between compensation and pooling**.** All the Indian models have a homogeneous contribution ratio in terms of land to be returned to the landowners with the exception of Andhra Pradesh (differential entitlements for wet/drylands and different categories of assigned landowners) and the Kamal Vihar/Chhattisgarh/Bhuj Reconstruction/Gujarat (progressive contribution ratio).

There are important differences in the Indian LP policies with regard to the standards governing returnable plots to landowners; Delhi (60 percent); Gujarat (40-50 percent); Raipur (35 percent); Andhra Pradesh (25/30 percent); Punjab and Haryana (23 percent). The minimum land size that can be pooled also varies, with a minimum in Raipur to a maximum in Delhi. The AP LPS is unique in being the only pooling model that provides benefits to the landless and other social development benefits to the affected families. The paper presents some cases in LP/LR in India from a socio-economic perspective, both good practices, and areas of concern[4].

Case 1: Who is Impacted & how do we know who is impacted? Andhra Pradesh LPS is unique in the world for providing entitlements to non-titleholders and institutionalising social development schemes for the population in the affected area. A good practice that was followed in the project was the comprehensive socio-economic survey conducted by the project authorities. The survey revealed that i.e., more than 55 percent of the working population residing in the area were landless labourers. This critical information helped the authorities to come up with an inclusive and holistic entitlement matrix reflective of the ground situation. The Table 13 reflects the composition of the workforce in the AP capital City area.

Table 13: Composition of Workforce in the AP Capital City Area

Villages	Population	Cultivators	Agriculture Labourers	Household Workers	Other Workers	Total	% AL
A	43288	3507	16845	191	3440	23983	70.2
B	36952	6595	11810	1802	4507	24714	47.8
C	22161	554	2979	2017	3656	9206	32.4
Total	102401	10656	31634	4010	11603	57903	54.6

Case 2: Issues in the transition phase and uncertainty over the magnitude of price appreciation: A critical concern for the landowners in the LP project is the livelihood related issues during the transition phase as well as uncertainty over the magnitude of price appreciation after the LP that is required to outweigh their

[4] While the projects reflecting good practices are named, those details of the two case studies reflecting unsustainable practices are withheld as the objective is to bring to the front improvement in such practices.

land contribution for the project. These concerns have been taken care in some Indian LP models. For example, the annuity provisions that provide income support during the transitional phase and partially supports the livelihood issues of the landowners are included in the entitlements in the AP and Punjab models. In AP LPS, annuity for crop loss @ Rs. 30,000/Rs. 50,000 per acre dry/irrigated lands with the annual enhancement of ten percent was provided. In Punjab, subsistence allowance @ Rs. 25,000/ per acre up to three years/ till the possession of a developed share of land is taken is provided. Another key concern for the landowners is the risk associated with the appreciation of the land value to the expected extent in the future. There are projects which get delayed or the envisaged development do not happen owing to multiple reasons, including political. The Amaravati LPS is a case example. To allay such concerns, an LPS scheme for a road project in Maharashtra included a provision that if the landowners cannot find buyers for their returnable plots after ten years, the Government will buy back the land at five time the then prevailing ready-reckoner rates. Though the project could not proceed with the LP mechanism, the provision was unique in recognising that there are risks for the landowners in case development does not happen as envisaged.

Case 3: Choice with land owner-returnable plots or cash compensation: In India, land acquisition and cash compensation were the preferred mode of land assembly in most states till the enactment of a new land acquisition law with extensive transparency/consultation process and vastly increased compensation and mandatory R & R norms in 2013. After the new Land Acquisition Act came into force, more and more state governments are coming out with schemes to pool land. Undoubtedly, the value of developed land is many times the compensation of undeveloped land. But will landowners have a choice to decide what is best for them? Punjab is the only Indian state that gives the option to the people to choose between developed land and cash compensation. And It is important to understand that the decision of the landowners is clearly based on the trend in the real estate market and returnable developed and is not always the choice of the landowners as indicated in the Table 14.

Table 14: Landowners Choice in Projects-Returnable Land and Cash Compensation

S.No	Project	Total Area (Ha)	Choice of Returnable Land	Choice of Cash Compensation	% of LP in Total
1	IT City	1693	416	1277	24.57
2	Medicity-Phase I	97	84	13	86.60
3	Eco City-Phase I & II	435	399	36	91.72
4	Sector 88-89	668	614	54	91.92
5	Medicity	162	76	86	46.91
6	Ecocity II	301	135	166	44.85
7	Ecocity Extension	86	21	65	24.42
	Total*	3442	1745	1697	49.30

Case 4: Equity and Progressive Contribution Ratio: In some LP models in India (see the Table 15), the graded contribution ratio was used. This essentially means that landowners of extremely small pieces of land will have more returnable land than relatively bigger landowners. There is a progressive increase in the land contribution as per the size of the original plot. The two case experiences in the case of Kamal Vihar TPS in Raipur, Chhattisgarh and Bhuj, Gujarat is given in the following table. The Graded contribution is like a progressive income tax that imposes higher tax liability on people in the higher income bracket. The graded ratio has worked well in some projects and can be replicated in others. The potential land fragmentation issues can be resolved with strict cut-off dates.

Table 15: Graded Contribution Ratio in Raipur, Chhattisgarh and Bhuj, Gujarat

Kamal Vihar TPS, Raipur, Chhattisgarh		TPS for Bhuj Reconstruction, Gujarat	
Original Plot (Sqm)	**Allotted Plot [Sqm.]**	**Original Plot (Sqm)**	**Allotted Plot [Sqm.]**
90–120	52.50	Less than 30 Sqm	No deduction
120-150	60.00	30-100 sqm	10% deduction
150-200	71.875	100-200 sqm	20% deduction
200-240	86.25	200-500 sqm	30% deduction
240-270	96.875		
270-290	102.50		
290 and above	35% of the original area		

Case 5: Fairness of equal land contribution ratio: A vast quantum of peri-urban land was proposed to be pooled for an urban project. There were huge differences in the land price in different villages coming within the pooling area. The land value post pooling was also expected to be vastly different depending on the land use and strategic location requirements of amenities in the pooled area. Table 3 reflects the status of the land price before and after the announcement of a land pooling project (price expectation). Village A, with dry land agriculture and low market price of the land was placed as a strategic area in the plan for the pooled area. Village B was a peri-urban area with high price land prior to pooling and saw a reduction in price post pooling. In this case, landowners from village A reaped benefits from the pooling scheme while those from Village B did not. Though the proportionality rule is clearly violated, the project considered it as fair as all landowners were uniformly contributing land to the project and receiving a fixed proportion of re-constituted plot within a distance of five kilometers of their original habitation.

Table 16: Pre and Post Valuation of Market Value in Pooling Area

Heads	Land Value (Million)
Present Value of One acre of land in Village A	1.2
Present Value of One acre of land in Village B	20 million
Post Pooling Price Expectation in Village A (Location Advantage)	12 million
Post Pooling Price Expectation in Village B (Location Disadvantage)	16 million

Case 6: Land value capture and benefit distribution: In a successful case of land pooling experience, about 400 acres of land was pooled for a project in the peri urban area. For the returnable benefits, 20 percent was paid as cash compensation and 80 percent as developed land. The cash compensation arrived at the current market value of undeveloped land. Out of these, 20 percent was paid as cash. To arrive at the quantum of returnable developed plots, the balance payable was divided by the price of developed land. In this case, there is a massive saving of land acquisition cost by the government. What is the benefit to the landowner in this case? Does the difference in the present value of developed & undeveloped land reflect the actual cost of development to the government? If not, should there be a more equitable distribution of the value captured between the government and the landowner?

Table 17: Distribution of Benefits in a Land Pooling Scheme in India

Present Value of undeveloped Land	15 Million per ha
Present Value of developed land	50 million per ha
Under LP Scheme (Distribution)	
Cash (20%)	3 million
Land (80%)	0.24 ha
The Government saves 75 percent of the total land cost	
Quantum of Balance Land = Total Compensation Payable minus Cash Payment (20%)/ Present Value of Developed Land	

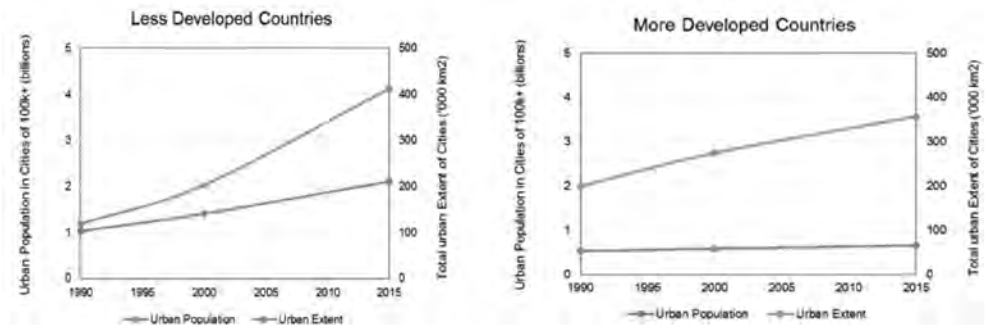
The above cases reflect a few good cases as well as areas requiring improvement. Land pooling models can work successfully in different project contexts. That it is gaining acceptance in varied project contexts in India is a good indicator of its attractiveness and potential transferability. However, balancing social and economic issues is central to any strategy for land assembly. Even the established land pooling models in India may have to bring forth necessary changes in the light of the changed legal environment after the enactment of the 2013 Act. The current legal framework does not provide for stringent conditions for adherence to timelines, penalty clauses for discrepancies between plans and its eventual development, institutional mechanisms for implementation of the scheme, and transparency regarding land valuation/value capture. The existing models largely have a uniform contribution ratio based on size; a practice that would provide optimum outcome only when plots have no dramatic differences in prices pre and post LPS. The Punjab land pooling experience reveals that it is the expectation from the real estate market that guide the choice of the landowners. The failure of the Mumbai Nagpur Super Communication Project LPS and a few others in attracting landowners is a case in point. A genuine option to the landowners to choose between land compensation and alternative mechanisms hence become vital. To ensure legal sanctity in the Indian models, obtaining free consent from the landowners and ensuring that the statutory rights of the affected families under the 2013 Act are protected may also be critical.

The other improvements required include robust planning to minimise land requirements/choosing of alternatives that avoid lands prone to conflicts (irrigated lands, necessitating physical displacement etc.), holistic and inclusive mitigation mechanisms recognising the potential of these strategies to cause economic displacement of people that a compensation mechanism in cash (land purchase) or in kind (returnable land after a transition period) may not be able to adequately address; need to provide cover to non-title-holders and those who are yet to have

formal rights on land, special provision for vulnerable sections etc. Further, the neglect of transparency in implementation and insufficient participation of affected people, reflected in most of the LP models may, cause a loss of confidence in the process. Information flow and consultations during different phases of the project will be essential. The disclosure of information should be accessible in the local language and also updated. An institutionalised GRM which ensures timely and responsive feedback is a critical gap in most policies and may also have to be incorporated on a priority basis with the authority supervising the LP process.

Improving the Urban Fabric Through Land Readjustment-The PILaR Approach-Dr. Robert Lewis-Lettington

The urbanisation trends reveal that both in the developed and developing countries, the land use efficiency seems to be going down i.e., we are using more land per capita than ever before. For instance, between 1990-2015, when the population of cities doubled in less developed countries, their urban extent increased by a factor of 3.5. Similarly, in developed countries, when the population of cities increased by a factor of 1.2, their urban extents increased by a factor of 1.8. In the current covid crisis, it is important to distinguish between density and overcrowding; while overcrowding presents a public health threat, density presents a range of benefits. Also, the informal and not-planned areas seem to be growing in the urban space. The non-planned/informally planned areas increased from 38 percent of the total residential areas in the pre 1990s to about 60 percent during the period 1990-2015. The urbanisation trend worldwide also reveals that in the majority of cities, the average street width is below the minimum legal street width (106 cities as against 82 cities where it is higher). The street width is taken as a proxy for prevailing conditions with regard to traffic safety to emergency access. In many cities, the street width determines street level economic activity, including informal traders. The tendency seems to be for more adhoc planning and less planning as a whole. Though planning is not always solution of our problems but it does tend to imply a more organised process, where it can be considered what a good land design is.



Population Growth Vs Urban Land Extent

LR and manifold objectives-The UN Habitat was involved in the publication of a case study of the LR Project in Fenicia, Bogota, Columbia. This project was initiated with the objective of improving public space and increasing the density of commercial and residential use in an area near to a University. The project was able to quite substantially increase the proportional public space available (48 percent of the private area turns into public space) and to improve the quality of life in the area. This can therefore be one particular objective of LP/LR. There are several other objectives that can be successfully fulfilled through LP/LR. First, urban expansion projects converting land from rural to urban areas on the urban fringes is probably the easiest situation to use LR. In such cases, there are relatively small number of landowners, there is more flexibility in terms of planning development and the choices involved, and most importantly, the potential of value capture is the greatest. For e.g., the average urban multiplier in Sub-Saharan Africa was something between 800-1000 percent. The other potential uses include densification, infill, and urban renewal which includes conversion of the low-density area in high density area, rejuvenating a run-down area, and rebuilding a disaster-prone area. Among the three, it is easier to convert low density area into high density as it is more difficult to rejuvenate the rundown area. It can also be difficult to rebuild the area after a disaster given the social and political situation and difficulty to arrive at a consensus. Upgradation of slums is another critical focus area for LP/LR. The organic growth that one tends to witnesses occurring in slums does not usually lead to an optimal outcome from an urban planning perspective in terms of both service delivery and emergency access. LR implementation can be very challenging when we are dealing with a highly vulnerable and sensitive population in such areas. Besides the above, LR can also be used for linear projects. Though one can use LR successfully in any of the above cases and has definite advantages over expropriation, it is not a silver bullet solution.

Why PILaR? Participatory Inclusive Land Readjustment: UN Habitat is promoting a tool which is called participatory LR. It is believed that it is potentially more affordable in terms of process and infrastructure, and though in many cases, it can take a longer time, the overall net benefit is positive. It is supportive of social capital to maintain the integrity of communities during the change which can improve relationships between government and citizens as well as contribute to improvements in governance. PILaR aims at promoting participation in the process so that outcomes can be more inclusive. A significant driver in all this is the right to adequate housing which is included in the Universal Declaration of Human Rights as well as the International Covenant on Economic, Social and Cultural Rights and it has been restated by the Human Rights Council. The right to adequate housing includes, *inter alia*, the right to protection against arbitrary or unlawful interference with privacy, family, home, and to the legal security of tenure. This affects informal settlements just as much as it affects private landowners. Hence, urban or rural planning and development processes should involve all those likely to be affected.

It also means getting the affected people engaged early on in the process so as to give them the ability to affect the outcomes. The conventional LR projects usually focus on the technical process dealing with the reshaping function. The dialogue is only between 'legally interested' parties and based on the idea of a win-win for property owners and authorities. The other people are considered a transaction cost rather than actors within the project. PILaR focuses on the participation of all stakeholders in the process and not just consultation with a few. If you are dealing with the lower income group, it cannot be a self-sustaining project financially. In such projects, the basic necessity and public investment are critical. PILaR emphasis on compensation not only for property rights but potentially any lost interest.

Lessons from LR in Kigali, Rwanda and Thimpu: The Kigali LR project was a project with many positives especially in terms of spatial outcomes. However, the project was away from the city centre, and there was no commercial type of activity. The project emerged as a mono class area with upper level middle income individuals. The problem with the project was that they did not build any kind of cost sharing into the project, and the project ended up in not having the basic infrastructure roads, systematic water system, etc. Hence, what could have been a very good project seems to have been too narrowly technically designed and could have been benefited from a greater engagement with the people and their needs. The Thimphu LR Project in Bhutan was a World Bank supported LR project that was very successful in its outcome. Infrastructure in the project has been able to be established on a much more rational and effective fitting from a planning and public health point of view and it is substantially more manageable in terms of transport and economic activity. It took several years to reach as it emphasized on full consensus for the process, and the agency did eventually succeed. The government did place value in the process of community building, and the government-citizen relations was a very positive experience for them.

Kigali LR Project in Rwanda

Thimpu Project in Bhutan-Pre and Post LR

Risks in PILaR: There are risks associated with ensuring successful outcomes. It is important to pay attention to each of the following:

- If it is a massively packed existing area and there is no open space and there is no funding to be able to build at least minimal vertical development of up to two/three/four stories, it will be very difficult to create a viable LR project.
- Though LR requires a potential for good municipal-community relations, it is important to recognise that there are high transaction costs. From the outset, the local governments have to get the citizens involved in the decision making, which most the local governments are generally very good at.
- LR requires a potential for a healthy balance between public and private roles in development. if there is a heavily economically pressured environment with a lot of predatory property development, it will be difficult to get the balance.
- LR projects require a careful analysis of gentrification risks. The broader the scale of the project, the more you can mitigate this risk, but if you are operating in small blocks then you are going to face challenges.
- Land readjustment in low income communities will require significant public investment.

Leveraging Land Value Capture Instruments: A Global Experience-Mr. Jon Kher Kaw

Land pooling and land readjustment (LP/LR) can be framed through the broader lens of land value capture (LVC) – when public infrastructure such as new roads and metro stations raise the value of land nearby; they create gains for both private and public land and property owners. Local governments can reap a fair share of that land value increase that their public investments create for surrounding private owners. LVC instruments are based on the government's ability to obtain public benefits, either revenues or amenities, by exercising their control over land and property (both private and government-owned). By so doing, governments can receive a fair share of the increase in the value of private land or property.

The public benefits of successful LVC implementation are varied and can include the ability to improve revenues to cover infrastructure costs by the local government and create public amenities through in-kind benefits. These, in turn, promote local economic activities and, in many cases, more intensive use of space (air rights contracts). There are broadly three types of LVC instruments[5]: (a) those that rely on the government's control of public land and property (e.g., sale or lease of municipal land); (b) those that rely on the government's authority to control public and private land use (e.g., through land-use planning parameters); and (c) through fiscal instruments (e.g., property taxes or developer charges).

LP/LR, in this context, primarily relies on the control of land use, where the government re-parcels and regularises privately-owned land in a predefined area. In so doing, the government also reserves spaces for public use and infrastructure, some sites to pay for infrastructure, and returns smaller but more valuable plots to previous owners. The creation of a reliable land and fiscal cadaster, which often accompany LP/LR schemes, would be essential in enabling the implementation of other types of LVC instruments, such as property taxes.

Creating and capturing value: LVC, if implemented successfully, can provide multiple benefits to governments: namely, it helps create a source of public revenues to cover infrastructure costs, facilitates the creation of public amenities without public spending, provides space for new economic activities, and increases private investments. For example:

- In Singapore, LVC instruments are used systematically as part of the planning to encourage private developments to incorporate public infrastructure – incentives are given to developers for providing public spaces and greenery in return for additional air rights or higher density/height bonuses.
- In India, Ahmedabad's CBD[6] is set to transform through a development plan leveraging on its connectivity to a proposed Metrorail system through transit-

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[5] Based on a World Bank background paper authored by Olga Kaganova, Jon Kher Kaw, and Gabor Peteri.

[6] A case study can be found in the World Bank's "The Hidden Wealth of Cities: Creating, Financing, and Managing Public Spaces" at www.worldbank.org/hiddenwealthofcities.

[7] Transit-oriented development (TOD) revolves around the creation of compact, walkable, pedestrian-oriented, mixed-use communities centered around high-quality transit systems. TOD approaches generate synergies between public investment in infrastructure and the ensuing private investment in commercial development at and around transportation nodes. In TOD projects, densification allows for the generation of revenue streams that can be captured to finance infrastructure and public spaces.

[8] Floor area ratio (FAR) refers to the ratio of a building's total gross floor area over the area of the land site which is it built upon. This ratio is often used in urban planning as a means to control how much floor space can be built on a land site.

oriented development (TOD)[7], allowing the average floor area ratio (FAR)[8] to increase, thereby supporting more economical uses and livable space, and doubling the road and green network through land readjustment. The creation of compact, attractive, and high-density developments could drive up the value of land and development, where the government could potentially use LVC to fund its planned infrastructure and public amenities.

Global application of LVC: Globally, there are about 15 different types of LVC instruments.[9] Depending on the local context, different types of LVC instruments are used differently or combined. Some commonly used instruments globally include:

- Short-term leases of vacant municipal land/property and the use of developer charge/exaction[10] for funding off-site infrastructure and municipal services.
- Local property tax is used in more than 70 countries in Latin America, Europe, and Africa.
- Many big cities in OECD countries make use of the sale of development rights/ density bonuses[11] to capture value.
- OECD countries make use of the Joint Development Agreements (JDA[12]) for delivering public-use facilities.
- Conversion fees[13] are used in India, Indonesia, and the US.
- Real estate transfer tax[14] is used in Australia, France, Japan, Russia, Turley, UK, and the US, and real estate capital gain tax is used in Canada, Pakistan, and the US.

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[9] The analysis and compilation of global LVC instruments in this presentation draws from a World Bank background paper authored by Olga Kaganova, Jon Kher Kaw, and Gabor Peteri.

[10] A one-time contribution of land for public facilities/infrastructure in exchange for development rights.

[11] Rights that allow a developer or property owner to exceed the base zoning density in exchange for a payment or an in-kind contribution of public use facility (such as public spaces).

[12] Joint development between municipality and developer for private and/or public use on municipal land.

[13] Conversion of land classified as not-developable for development.

[14] A tax levied upon completion of a real estate transaction.

- LP/LR is used widely used in some countries such as Germany, Japan, India, and South Korea. Betterment charges are used in Spain and some cities in Latin America.
- Tax increment financing (TIF[15]) is often used in US municipalities to finance medium to large scale infrastructure, urban regeneration, and environmental rehabilitation.

Key challenges for leveraging LVC: In choosing which LVC instruments are appropriate, local governments may wish to consider the following issues, but not limited to: Who pays and assumes the risks? How will it be implemented, such as whether it should be compulsory (e.g., property taxes) or voluntary (e.g., developer incentives)? How large is the payers' base? What are the administrative costs involved, and how feasible is it to implement?

For municipalities to reap the benefits from land values, the government must address and ensure that certain fundamentals are in place, and primary among them are secure land and property rights and a sound legal and regulatory environment. This would, in many cases, include (but not limited to):

- Modernising land-use planning and related regulations like zoning, land use, and density controls;
- Improving land-management capacity;
- Enhancing fiscal autonomy and financial management in areas such as the capacity to set rates and the ability to manage funds for infrastructure investments; and
- Improving administration and management capacities in terms of understanding LVC tools and their applicability in different contexts.

Perspectives for LP/LR in Post Covid World- Prof. Martim Oscar Smolka

For the post Covid phase, some pre-existing trends are expected to accelerate, such as local fiscal pressure, lower demand for office space in the cities Central Business Districts (CBD), and rising redundancy in the labour market. Increasing local fiscal pressures would result from lower tier governments called to contribute to bailing public debts, and this is something which has been going worldwide. After coming back to the new normal, the local governments, which were already in distress before the pandemic, will be expected to pitch-in on the public debt that has been accumulated over time and that will have an adverse impact on the

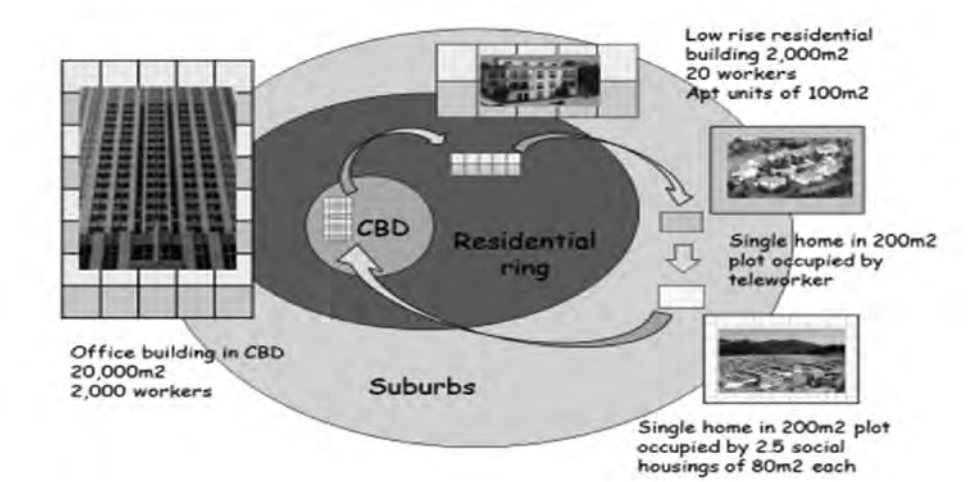
[15] An instrument that allows for the assignment of revenues collected from increased tax base to designated area for development.

public investment capacity for maintenance/expansion of infrastructure/services and the capacity to provide real estate credits. The private sector will be adversely impacted by the fall in mortgage credits.

The second trend is the acceleration of devaluation of office buildings in the inner-city skyscrapers. This has been going on already, rents are going down in many places, and with the pandemic, this will be accelerated. In many of the advanced cities, more than five percent of the total city mobility happens vertically (elevators) in the office buildings. With requirements of social distancing (e.g., elevator density, common areas), most office buildings will not be able to operate. There will be increasing demand for office space in lower rise buildings for exclusive occupation which will include retrofitting of old mansions and low-rise residential buildings. The pre-pandemic trends in tele-work would also accelerate as workers (and their bosses!) in many areas realise they have actually become more productive working from home than in office. The telework professionals have been demanding bigger and better houses, and the lower commuting needs will push demand to the outer lower cost areas bringing about a perceptible change in the real estate demand.

The rising 'redundancy in the labor market' will be accelerated by the pandemic as low paid jobs in small service businesses may disappear and enormous amount of labor will be rendered redundant. White color workers in the CBD has a high job multiplier on supporting services (e.g., restaurant, florists and the like). A perfect storm can be expected for the urban poor owing to multiple issues relating to local fiscal insolvency, unemployable low-income workforce, shrinking opportunities for informal occupations, lower tolerance of informal high dense housing, low capacity to invest in public social housing owing to fiscal stress, etc. In most developing cities, the middle-class sub-urbanisation can be expected to increase the peripheral land prices, and with that the 'closing from within' of an area often open to lower income public social housing projects.

The above scenario poses new and non-negligible challenges but also opportunities for LP/LR as a tool to facilitate the up-coming reshuffling of the real estate market structure. The pandemic-imposed development of the teleworkers moving to new cheaper, less serviced areas may lead to some new developments in the conventional types of application of LR. On the non-conventional side, one may expect a city-wide renegotiation of land (including building rights) to accommodate distinct users upon the 'new vacancies'. The reshuffling of the real estate market structure shows big buildings occupants moving to residential rings, the residents of some low-rise



buildings moving to the periphery, etc. The apartments occupied by the teleworkers now moving to the suburb can be expected to release additional space that may be used for social housing.

Anticipated Covid-19 Impact on Real Estate Market Structure

Retrofitted devalued CBD office buildings may open new alternatives for social housing (as already proposed by the housing secretary of the US). Revisiting rezoning charges would ensure that the new offices building in high-end residential areas (to accommodate some functions of original CBD office buildings) shouldn't be given for free. To address the middle-class appetite for outer bigger housing, self-funding of urban infrastructure & services may be plausible through LR/LP. The reduced mobility need may lower land prices enhancing alternatives to slums other than at the urban fringe. One may envisage new opportunities to promote the idea of more polycentric cities (the 15 mins cities?).

Disentangling the upcoming changes is still an exercise in scenario 'planning' as the phenomena has yet to show its full face! However, the urban trend for bigger and better houses for tele-workers - amidst the negative economic impacts of the pandemic, an 'unexpected' real estate boom is already occurring in many places. A Surrogate Land Trust for abandoned inner city office areas could in turn be considered to address the need for social housing. Abandoned office floor area by various owners may now be treated as land and as in any conventional pooling system. The opportunity is enhanced from the otherwise potential high losses with the deterioration (technical, financial, and moral depreciation) of these abandoned buildings. The latter may thus become a new resource. The rezoning of former high-end residential areas for new exclusive office buildings may in turn become a 'public currency' paying for inner city vacant floor areas to be occupied with social housing.

In sum, the pandemic will result in changes (the 'new normal'?) the way we all live and work. The acceleration of existing trends and the new changes that will be brought about by the pandemic will not be easily reversible as suggested in the above discussion. LP/LR could come on handy - if not indispensable – to take on a fresh look on the urban restructuring (in special real estate) new opportunities open by the post pandemic trends to unlock unsuspected public resources to redistribute investments and produce a more socially and spatially inclusive cities.

Transforming LP Practices in Nepal-Mr. Padma Mainalee

Land pooling characteristics in Nepal: Land pooling is a tool for promoting efficient, sustainable, and equitable land development in urban fringes. In Nepal, the pooling of the land into a single parcel, is called 'virtual acquisition' of land with the commitment of developed urban land as compensation. The method is recognised and endorsed by the town planning act with an explicit explanation on the commitment of developed urban land as compensation. The return of land is proportional to the original land after deducting its cost of development. The provision of urban infrastructure is based on the self-finance approach. The LP projects in Nepal can be divided into three phases as given in Table 18.

Table 18: Phases of LP Implementation in Nepal

S.No	Phases	
1	Phase I (1976-1988)	Phase of Learning/ Institutionalisation, Site and services; Initiation of Land pooling methods; Legislative provisions
2	Phase II (1988-2002)	Consolidation/ Proliferation PhaseReplication of the projects mainly within the Kathmandu Valley; Gradual proliferation of projects outside the Kathmandu Valley
3	Phase III (2002 till date)	Hybridisation/ Sophistication, Corridor development – Nepalgunj; Dhobhikhola; Outer-Ring Road (Kathmandu Valley); Biratnagar Ring Road; New town development - Harishiddhi in Kathmandu Valley; Kathmandu New towns

Issues in land pooling: In Nepal, there are three tiers of government, the federal, provincial and local. The scope of LP is undefined in terms of roles and responsibilities and resources, and issues arise in taking patronage of the project. In the case of the legal sanctity of the model, while LP is provided in the Town Development Act, there are ambiguities with regard to its implementation given in the provisions of the Land Government Operational Act, 2074. In Nepal, the other issues in land pooling relate to those related to governance institutions, difficulty in community mobilization, implementation efficiency as reflected in the delay and insufficiency in infrastructure investment, as well as resettlement (displacement of people with small landholdings).

Way forward: It is important to document good practices for easy replication. We need to upscale from the small projects presently being implemented to mega projects bringing in the application of the lessons learned from years of implementation. It is important to optimise the cost and benefit and make private contributions equitable. To avoid delays in the project and the tremendous cost implications, it is important to finalise the financing norms and seed money for the project. Nepal is in the process of drafting a new urban development act and by which there is more clarity on project initiation and completion as well as on the role of the state, municipality, and group of municipalities. On addressing the issue of governance, it is planned to involve thinktanks and experts. For information dissemination and community mobilisation, a dedicated unit on LP is being planned. It is also recognised that there should be policy intervention to address the issue of resettlement in LP.

Addressing Safeguard Issues in LP/LR-Mr. R. Viswanathan

ADB safeguard principles: LP/LR is a great tool for urban planners given that it is voluntary, helps expedite the period of implementation, and benefits the landowners. To make it the preferred form of land assembly and to move from the pilot stage, there is a need to integrate key principles of safeguards especially related to participation, transparency, disclosure, inclusion, etc. in the LP/LR process. ADB has been working with several countries in planning and designing LP and LR projects in South and South-East Asia viz. Nepal, Bhutan, Vietnam, Philippines, Indonesia etc.

Integrating the safeguard principles in the LP/LR projects enables mainstreaming and promotes fairness, transparency, trust and a strong stakeholder commitment. The integration of these principles, through the establishment of sound procedures and systems (particularly with regard to the early screening of the project, inclusive consultation strategies, restoration of livelihoods, grievance redressal, and disclosures) helps develop strong partnerships that align with creative synergies between government, development partners, civil society and private sector initiatives. In several projects, when these projects go ahead, and land is developed, retrofitting some of these actions as per funding requirements of Multilateral Development Banks (MDBs) become a costly affair. The integration of these principles hence are project enablers and not an additional burden as these ensure project readiness for the participation of MDBs and financial institutions.

Safeguard issues in LP/LR: In most LP/LR projects, there are some safeguard issues encountered. First, is the issue of landowners/ land users who do not voluntarily participate in the LP/LR schemes. For example, if people are not voluntarily opting for LP then there would be forcible expropriation. There are projects where master planning of the area has been done which provide the little option for the landowner not to participate because the continuation of the current land use would be

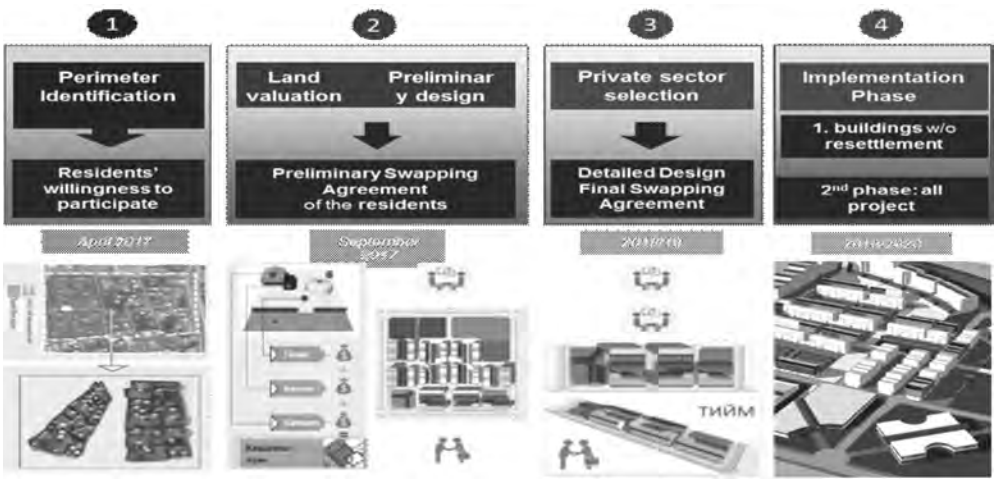
rendered difficult. Second, are all tenure rights and claims (including those of customary and informal users) systematically and impartially identified? This could be achieved with a Social Impact Assessment Study and profiling of all the affected people to enable the formation of an entitlement matrix responsive to the various groups. Third, whether the calculation of the value of the improvements is robust and the expectation of enhanced value within a reasonable period realistic? Fourth, whether appropriate compensation, benefit sharing, transition support, and grievance redress mechanisms are put in place? Fifth, whether the consultations with beneficiaries' addresses the risks of asymmetry of information and bargaining power of all parties involved? Sixth, do we have provisions to address physical/ economic displacement impacts of non-titled persons, laborers, tenants, etc? Seventh, what are the efforts to improve the trust and confidence of the beneficiaries? Finally, whether mechanisms are put in place for monitoring compliance agreements reached?

Case of Ulaanbaatar LR Scheme: Ulaanbaatar is the capital city of Mongolia with a 1.4 million population. ADB is working on an integrated urban development project targeting service provision, infrastructure and followed up with an affordable housing project which is under implementation. About 60 percent of the population of the city comes under the Ger areas. Ger areas mainly result from rural migrations, driven by extreme winters and harsh living conditions in rural areas. These areas have sub-standard living conditions with open pit latrines, limited access to water supplied by water kiosks. Poor drainage, lack of public space for sport, cultural, education and health facilities etc. The city has no heating network to protect its citizens during harsh winters and inefficient individual stove burning with low quality coal, and low energy efficient shelters cause high emission and extreme air pollution. The ADB is working with the Government of Mongolia for preparing a master plan and sub center strategy. The revised masterplan prepared in 2013, for the first time, integrated the development of the *ger* areas.

Ger Areas in Ulaanbaatar City, Mongolia

As per the revised 2013 masterplan, the subcenters are the backbone of peri-urban development to unlock economic and social potential. The plan seeks to encourage

densification and initiate a chang in the urban fabric, where growth potential is high. There is a two steps approach, extension of main truck infrastructure/basic urban and social services and followed by the development of affordable housing and eco-district solutions. Once the key infrastructure is developed, certain eco districts have to be developed based on LP/LR principles, where the individual landowners would come together to share their land for the development of apartments. The project is taken up on an unit area of three hectares. The implementation process is shown in the following chart. The project is based on the voluntary participation of land and taken up only after a cent percent consensus by the beneficiaries, both titleholders and non-titleholders. A communication strategy was prepared for the project. After the land valuation and swapping agreement, there is a private sector which is engaged and the project is implemented.



Implementation Process of the Ulaanbaatar LR Plan

Entitlements for Titleholders and Non-Titleholders: The entitlement matrix included specific provisions for both the titleholders and non-titleholders. The titleholders were given various options; shell and bone residential, finished and fitted residential, retail, office, workshops, garages etc. The plan included an inclusive strategy for the non-titleholders. This included non-landowner/ renter-social housing based on rent-to-town or rental scheme depending of their income, capping of rental/mortgage payments for the poor and vulnerable households so that they do not pay more than 25 percent of their monthly income towards the loan repayments. The non-titleholders (who missed out registering) were also supported in obtaining land titles, following which they would be treated as the same category and entitled to a new apartment. Besides the above, there was a huge element of livelihood activities planned in the project. ADB has developed certain business incubators where they partner with other institutions like GiZ for building skills for the communities. The ADB/BMZ/GIZ "Build for Skills" initiative is

being piloted to build technical skills of the local communities to participate in the program infrastructure and facilities construction. Further, the Asia Foundation Women entrepreneurship program will partner with the business incubator operator to deliver training and capacity support for women entrepreneurs. ADB also partnered with the Global Disability Innovation Hub (GDI Hub) to provide technical support the Affordable Housing PMO to support the inclusive design and inclusive neighbourhoods that support all members of the community.

Way forward: It is important to get the beneficiaries to agree on a project's value, particularly in countries where there is no precedent of successful LR projects or where there is a general distrust for government projects. All LP/LR projects may not be financially viable on a stand-alone basis and may require support from the Government and other sources of funding. It is important to have stakeholder identification and social assessments/surveys at an initial stage. The consent is not a one-time process but also to be taken multiple times during the LP process so as to avoid coercion. All LP/LR projects should develop measures to benefit non-titled households, tenants, laborers, poor and vulnerable households, women groups, etc. It is also important to build local capacities to handle LP/LR, including impartial and fair valuation of land and assets, participation strategies, monitoring, and an effective grievance system. It may be a good practice to include organisations that can reduce fear and distrust of landowners so as to enhance their understanding and reduce suspicion. Such projects would do well to invest in technology and data management tools, as well as geographic information systems to generate real-time data, information, and analysis. The importance of the documentation of all processes, recording of consultations, grievances, agreements reached, etc. needs no emphasis, and this remains more critical for projects with potential funding of multilateral institutions. Last but not least, all LP/LR projects should develop and implement a stakeholder participation/communication strategy throughout project process.

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Section III
Summary of Remarks by Session Chairs and Q & A

Technical Session I -Q and A

How is LR implemented in linear projects?

Mr. KBS Sidhu: In Chandigarh, where they acquired land for the airport, some additional land in the vicinity of the airport was acquired. The people who had land within the airport had the choice of either taking compensation in terms of money as per the law or be accommodated in terms of residential plots or small commercial sites. In case of highways, some enclaves along the highway were acquired. There too, people's option was sought. One has to distinguish between linear developments like roads where there is a natural accretion of value or a canal or a railway line for that matter which bifurcates, crosses the line and actually reduces the value. When huge chunks of land are required for cantonment like an airport, education institution etc. some extra land can be acquired for sharing with affected landowners.

In terms of the core city area where you have heritage structures, how would you really implement LR?

Prof. Hans Joachim Linke: LR in Germany is typically used for greenfield development. We use it sometimes for inner city redevelopment but only in very small cases. Typically, we don't have the practice of destroying of whole quarters. Many years ago, in the 1960s or 70s, we had such developments in the inner city where we destroyed everything and constructed new.

Prof. Rachelle Alterman: LR classically is not suited for the redevelopment. A close instrument is the transfer of development rights.

In the context of slum area where the squatters have informal right what percentage of the value of land should be given back?

Prof. Andre Sorensen: I think it will really depend on the individual case, I don't think you can prescribe a number that can work everywhere. In some places, those squatters have been there for generations in that case, they may feel that they have more rights. In some cases, they may have a very strong political voice, and people will have to pay attention to them and in other

cases that won't be the case and they may get less, I think it's hard to come with a number, it depends on the politics of the situation, the particular history of that place, and the nature of the claims that are being made, which can be so diverse.

Remarks by Session Chair, Mr. K.B.S Sidhu, IAS: While we are focusing on LP/LR, we have to place it in a broader context of urbanisation. Urbanisation is an inexorable process worldwide and has accelerated in the 20th century and 21st century. We have to only channelise it to reap the dividends thereof. From a broader economic perspective, cities are really the powerhouses, and I think the citizens deserve the good quality of living which is consistent to their contribution as the economy as a whole. How to expand an existing city and how to redevelop etc. are contentious issues open to debate. There are divergent perspectives on whether you want high rise/low rise, in what direction you want your city to expand, whether you are going to have state-led development or going to allow the private colonizers, etc. These debatable issues will lie at the epicenter of the discussions on LP/R.

When it comes to the urban planning process, there is no technically optimal plan. Planning is a political process and reconciliation of conflicting/divergent views of a wide range of stakeholders including the landowners, other residents of the city, the municipal administration who are going to ultimately maintain the city, the town planners, the environmental lobby, the land users, etc. The planning process has to reconcile all these conflicting demands and forces, and only then can it be practically implemented. If the plan is such which literally divides the public opinion 50-50, even if it is good from a technical perspective, it is doomed to be a failure. Thus, there is no ideal plan and there is no plan that contains a solution to all the problems. We can still can have an optimal plan for development of your town and city and something which is acceptable to majority of stakeholders, something which is seen as broadly equitable. Another important issue that should be recognized early on is that the landowners are not the only stakeholders in this process. The people who are actually going to buy those flats, the municipal administration that is going to maintain the facilities, the homeless people for whom the government has framed the policy of affordable housing, the elective representatives in any democracy are all part and parcel of the process and all these stakeholders have to be delicately involved at every stage of the planning process, in making these schemes take off and plan.

It is also important to recognise that irrespective of whether the implementation is carried out by a parastatal agency or private colonisers, the state cannot be a mute spectator with a hands-off approach. The role of the State is critical as a neutral referee with a regulatory role that ensures that the cake is divided equitably. The challenges are different in the case of greenfield projects or in the case of redevelopment of a town or a city. In Punjab, we have the Town Improvement Trust Act of 1942 which provides for rebuilding/redeveloping existing inner cities.

Experience reveals that while expanding a city/greenfield project has its share of challenges, they are nowhere near the challenges that emerge in brownfield projects. If we have to really built or unlock the value, we have to look at LP as well as land exchange. Ultimately, when we assess a particular LP/LR scheme, the context, countries, and type of project (greenfield/brownfield) would all be different. We always aim for the perfect, but in policy implementation, the perfect is the worst enemy of very good. If you can achieve something which is very good, it is much better than a perfect plan that never takes off.

One thing that emerges very clearly in different country context is that the involvement of the community, whether mandated by law, political imperative or democratic principle, is very important at every stage, particularly for the credibility of the promoter who could be the federal government, local municipal body, urban development authority, or landowner's association. The most important aspect which has emerged again is how to divide the cake which was the bane of the compulsory acquisition method that one stakeholder may reap disproportionate dividends. The other important question is to see how the non-titleholders are to be involved.

Session II – Q and A

Do you think, AP Capital City LP Model is a self-enhanced model?

Dr. Sreedhar Cherukuri: The project was defined to be self-financing. We raised about Rs. 2000 crores through bonds. After returning reconstituted plots to the landowners and other uses, the CRDA was left with 500-600 acres of prime land that would have fetched a significant amount.

What is the price at which you sold the developed land to the investors?

Dr. Sreedhar Cherukuri: Till date, we haven't sold any land. We have allotted some parcels of land to social institutions. The commercial selling of the land will be initiated only after the development of the infrastructure.

Could you please elaborate a little bit about the skill development program activities for affected people in the AP Capital City LP area?

Dr. Sreedhar Cherukuri: The concept of Amaravati LP is the LP plus concept. The project developed a comprehensive social security net for all the participants in the project. There are around 28,000 farm families (about a lakh population). We conducted an elaborate socio-economic survey of all the families as well as focus group discussions at the affected area. We have tried to assess their areas of interest and accordingly trained them. We have also tied them up with bankers, facilitated in forming their own small companies and tied up with front end and backend market. We have focused on the women' groups, giving them financial assistance as well as exposure to the markets. We

have placed more than 4000-5000 people directly in various jobs and another 4000 people have been trained in various fields.

Are there any bureaucratic or legal obstacles to operationally enable the transfer of property rights?

Mr. K.B.S Sidhu: The revenue department works in a very specific statutory framework in India. I do feel that there is a very strong case for better coordination between the municipal authorities and the district revenue administration. However, what is required is a kind of special statute in the urban areas which can confer proprietary rights to people who have been occupying small pieces of land for a very long time. While, there are a variety of such initiatives in the rural areas under the land reforms initiative, there is none in the urban areas.

Do you think that it is important to keep a proportional value of plots by and large the same to ensure equity in LP?

Dr. Sreedhar Cherukuri: I think it is a very valid and relevant question, especially from the AP LP, since the extent of the project is very large, covering about 54000 acres of land in 30 villages. From the productivity perspective, too, we had lands with vastly differential quality that fetched different values in the market. The villages which were close to an existing urban settlement had high market values. In the case of AP LPS, what was ensured was that the returnable plots were not far away from their village in 90-95 percent cases and there are different entitlements for dry and irrigated lands. Also, when we compare with the typical land acquisition compensation entitlements versus the lowest value of the returnable plot, it will still be 2-3 times higher.

Mr. K.B.S. Sidhu: In the Mohali LPS, the landowners are given an option to opt for cash compensation. Also, generally, the acquisition is done sector-wise, and within the particular sector, the quality of land would hardly matter. In Punjab, 99 percent of agricultural land is irrigated. Hence, as long as you are getting a plot within the same sector, you would be quite happy. In terms of value capture, there should be equitable distribution. Among the landowners, there is heartburn if someone is getting a plot with a higher returnable value. These are still work in progress and what we need is to fit in the concerns of various stakeholders and not have a straight jacket approach. However, there should not be frequent policy revisions, especially with the retrospective opening up of valuation claims. One has to have a balanced approach, and once the government is seen as a neutral stakeholder, things eventually balance out.

Mr. Vivek Porwal: The difference between land use in agriculture and residential/ commercial is the chunk of the pie that also has to finance the project. Beyond a point, we cannot bring such things into consideration. Finally,

it is regulatory arbitrage, if there is no regulatory arbitrage, there is no LP. There will be a value capture, and there will be a transfer of value from the public to government or implementing agency. That is the essence of a LP project.

Remarks by Session Chair, Mr. Takeo Ochi: Three aspects are important when we discuss the future of LP in India. First is the technical aspect relating to land value assessment method, right conversion method, etc. Second is the financial aspect relating to sources of project financing including value capture mechanism and balancing of cost/benefit. The third is the social aspect dealing with educational, health, and other benefits for affected people in the LP area like the Amaravati LP model. As in the case of the Punjab LP model, the farmers can select land pooling or land acquisition. It is however, important to recognise that when land prices change, it is a bit difficult to compare the option that may be the most effective for them, especially when land is supplied enough in specific areas where land prices are going down. We, therefore, need various kinds of options, including offering alternative land and resettlement.

Session III – Q and A

Is LP/LR only used as an urban planning tool or are there any other uses too?

Dr. Marta Lora: LR is used for infrastructure projects in Spain. Road, highways, etc., are also incorporated in LR plan. The post LR land use could be residential or industrial.

Dr. Maria Rojas: LR is a tool of urban planning in Columbia. It is a tool for implementing the master plan of the city and transportation projects within the plan are also implemented using LR.

Dr. Sence Turk: In Turkey, the implementation of the detailed local plans is done through LR. Big infrastructure projects like major highways, airport etc. are not provided by LR. This is because LR is defined within the local area plan. The big infrastructure is either implemented by expropriation or through private partnership.

Dr. Felipe De Souza: Historically, it has been used to upgrade agricultural land. Since the last time the law was enacted in 1954, LR has been used for different purposes in Japan.

Apart from residential benefits how do you ensure the protection of livelihoods, especially where you are considering pooling of land in the peri-urban area where their livelihood is actually dependent on a land?

Dr. Marta Lora: Livelihood is warranted through statutory regulation, where people are assured of minimum standards for livelihood.

Dr. Maria Rojas: The minimum livelihood standards are regulated nationally as also through the municipality. While these minimums can be increased in the municipalities willing to solve some of the special problems of the territory, there is no project specific interventions.

Mr. Vivek Porwal: LP/LR is a very voluntary process, every person has their perception for the future. The Land is an asset that people own, and they have the choice of trading it for better assets. In Madhya Pradesh, we have pooled land for an industrial purpose, and everyone came forward voluntarily because they see a better future by parting with their asset.

Dr. Reshmy Nair: Point well taken. However, the decision made by the landowners should be an informed one and not because of information asymmetry.

Are renters also included in beneficiaries in Turkey?

Dr. Sence Turk: Renters are not included in LR in Turkey. In urban renewal projects, informal settlers are allowed to stay in the area but renters are not included in LR system. This is problematic and, in my opinion, renters should be included.

There has been an increase in land contribution ratio across the world. For e.g., In Japan, the contribution ratio had increased from 15 percent in 1930 to 45 percent in 2018. It has been contested there has been opposition in Japan. What has been the experience of Turkey?

Dr. Sence Turk: In Turkey, the contribution ratio increased to 45 percent last year. Generally, landowners were even against the 35 percent ratio that existed earlier. There were some important legal cases relating to the contribution percentage. The people do not generally have much say as the administrative courts support the contribution percentage. Hence, in practice the contribution ratio is implemented as per the regulatory framework.

Remarks by Session Chair, Mr. Vivek Porwal, IAS: Land is a scarce resource and, in any country, there is competing demand over the land. I foresee the situation is going to continue in the developing country which are industrialising fast. Dr. Marta Lora has brought out a very critical issue about the financial sustainability of the LP/LR project and what happens when we assemble land and develop but there is no demand. Dr. María Cristina Rojas stressed upon the privately initiated LR projects. One issue with this priority initiative is that they can work only when there is homogeneity in the group, land titles are clear and people have the same perception about the future. To that extent, the scalability remains a question.

Session IV-Q and A

In the case of the Magarpatta model, what is the representation of the landowners in the management board? How are they elected, and how are the decisions taken in the company? What are the enabling legal systems which are required for replicating the Magarpatta Model? In your opinion, can this be suitably adopted for agriculture?

Mr. Satish Magar: The entire Board of Directors of the Magarpatta company is representatives of the landowners. All the landowners are shareholders, and there were no outside shareholders. The board is in the capacity of advisory. The company is totally run and managed by professionals but under the guidance of the Board. All the major decisions are taken by the 50-member board. I do not think there are any legal issues in replicating the model. It is not difficult to do, and the only question is that you should have the will to do it. It can be adopted in agro-processing, and we have an example in Nasik, Maharashtra. The farmers are members of the stockholding company, and they produce, supply, process, market, and get their dividends from the profit.

What are the risks associated with the Magarpatta project? How were the tenants/ agricultural laborers dealt with at the time of LP?

Mr. Satish Magar: There were risks were in the beginning. The market acceptability was a major risk because farmers coming together for such a large project was never done before. Regarding the agricultural labours, you have to see the way they have upgraded themselves. They have all been integrated in various jobs, and this was done consciously, as they were part of the whole ecosystem. We also included housing in the township, where 15 percent of the land was reserved and most families got houses.

One related question that comes in when you say they were benefited was there any survey in terms of how many such livelihood losers-people who did not have title to land were there?

Mr. Satish Magar: There were only farm labourers and no tenants. The farm labourers were first accommodated because when the construction started in 2000, the only people who believed that this could happen because they thought there is no other alternate were the labourer. I would not say 100 percent, but 99 percent of them were such people who started working in the project. Their second generation was more educated, and we have the track of all the people from the past 20 years.

When LP is not initiated by the government, then who takes care of the maintenance?

Mr. Satish Magar: A mechanism was worked out whereby the maintenance of the project is being done by the company. The company has asset, and interest,

and we get annuity income from that asset. We, therefore, see to it that the whole area is properly maintained and managed. Though it is not an obligation for us to manage. We continue to do it to value add and keep the asset value intact.

Given the height restrictions in Bali and the need to protect farmlands, is there any specific strategy being thought of for land consolidation and readjustment schemes?

Dr. Ngakan Ketut Acwin Dwijendra: The problem in Bali is that we cannot build more density structures because of the cultural restrictions, and hence there is more sprawl. Our government is therefore trying to build the infrastructure to connect within the city.

In cases where there is a lack of collaboration between the Central Government and infrastructure providing agencies, there is a poor layout plan as well as its implementation, limiting the benefits of LP projects to the landowners. How can these issues be addressed in future projects?

Dr. Kirti Kusum Joshi: I think the local governments should be at the forefront of implementing these LP projects. The new Constitution of Nepal also authorises local government/municipalities to take the lead but for some reasons we still have federal agencies dominating the scene. I think it is advisable to have the local government lead this process.

*Since the eligibility for facilitation for Delhi LP model is 2 hectares, what happens to those having less land holdings? Does it lead to lopsided development tilted towards the better off? W*hat happens to the 2013 Act which actually provides entitlement to the non-titleholders? How are the Indian LP models fairing in this regard?

Mr. Jacob Manohar: Lesser than the minimum threshold of two hectares, they will not be able to develop a smaller plot and hence the thresholds have been fixed after a lot of consultation.

Dr. Reshmy Nair: There are various alternative models of land assembly being implemented in India, land pooling, lease, purchase, etc. However, any executive instructions/policy that overrides the statutory right of the landowner (from 2013 Act) may not be legally tenable. In Andhra LPS, they give the non-titleholders broadly the same amount as pension as provided for in the 2013 Act. Even in Gujarat TPS, judicial pronouncements have upheld the rights of the tenants. In India, all due diligences have to be done especially in areas where there are a large number of livelihood losers.

How can speculative land hoarding of returned plots or readjusted plots be managed, especially when the original landholders/owners of the returned plots

of new landowners who buy from the returnable plots have motivation for contrived land prices. Is there any institutional or legal mechanism?

Ms. Tashi Wangmo: We do have problems of speculation in Bhutan after the LP has been done and the land has been adjusted. There are landowners, especially the big landowners who try to hoard the land to sell the land when the price increases. We are trying to deal with this by imposing a higher vacant land tax. While the vacant tax exists now, it is very small for people to feel the pinch. We are now in the process of reviewing the land taxation policy, and the government is trying to increase the vacant land tax.

Dr. Kirti Kusum Joshi: I think this is the biggest weakness of LP projects because the original objective of LP project is not to make some people richer.

How do the municipalities and local governments choose between the two tools whether to go for appropriation or for LP?

Ms. Tashi Wangmo: In the case of Bhutan, we have LP rules and regulation which has a criterion for selecting the LP tool. The main criterion is the area identified for that preparation of the plan and how much of that is developed. If the area is more than 25 percent developed, then LP cannot be applied. It actually depends on the local area. If development is scattered, then even with more than 25 percent development, LP can be applied. The site determines the land planning tool.

Dr. Kirti Kusum Joshi: I think land acquisition for housing projects is an outdated concept, and that's why we are considering LP. Even for projects where land acquisition was exercised like highway development, road broadening etc, LP is being considered in Nepal. LA is increasingly becoming an unpopular option.

Dr. Ngakan Ketut Acwin Dwijendra: It depends on the development projects. In Indonesia, in the case of road projects, generally, we acquire lands. In the case of housing/settlement projects, LP is used.

After pooling the land, what should be the best price to sell out the reserve lands?

Mr. Jacob Manohar: It depends on the area and forces of demand and supply.

Ms. Tashi Wangmo: In the case of Bhutan, we do keep reserve lands but have not sold any of the reserved plots so far. If we do sell these plots, we will auction and sell to the maximum price bidder.

Dr. Kirti Kusum Joshi: The minimum prices are fixed on the basis of amenities and infrastructure. For example, we have a certain minimum price for land plots which are next to 4m road, 6m road, etc. Ultimately, the land will be sold out through auction.

Dr. Ngakan Ketut Acwin Dwijendra: In our case, we already have set up the price based on zoning. The governments also balance between the local government set price and from the community perspective and arrive at the final price.

Remarks by Session Chair, Dr. Girija Vaidyanathan: It is very heartening to know that there some are success stories at least and equally heartening to know that nobody has stopped trying to improve be it Nepal, Bhutan, India or Indonesia, we are all still trying to find a way to balance the needs of the infrastructure development with the need of the landowner, and I think that is the challenge. Each case is special and separate, and we cannot have 'one size that fits all approach'. However, there are issues that were common and very interesting. Some of these include issues of involvement of the local government, issues that the landowner who stays back is not able to get the same benefit as the one who has the capacity to own the land and sell, etc.

Session V

In the case of the land lease/land trust approach, what would happen to the landowner in case land is taken away, and they wait for dividends which will take considerable time to be paid out?

Prof. Naoyuki Yoshino: The sources of revenue come from two sources; one is user charges for infrastructure, and the second is increased spillover tax revenues. In most of the cases, the user charges come in front, and in the worst case, the infrastructure company can borrow money from banks to pay them for the first two or three years. Many countries do not have trust banks, unlike Japan, where there are special trust banks and the central bank provides license to banks to function as a trust bank. The central bank monitors the trust functions of the new section of the bank so that they act as intermediates and are neutral between the landowners and users.

In the case of land trust banks, will all the children of the landowner get equal shares of dividend in the future in the trust document?

Prof. Naoyuki Yoshino: This depends on their parents/grandparents and how they want to share the assets with their children/grandchildren. The Trust bank will work as per the documents submitted.

Landowners may still refuse to participate, leasing their land. How will the land trust banks incentivize the participation of the landowner in the leasing scheme?

Prof. Naoyuki Yoshino: If the landowners lend their small piece of land to another individual, the rent will not be high. However, if there is a new highway/railway line and the land development goes really well, then their revenue will become much higher. The benefit for the landowner in land trust cases will be

the higher future rate of return from leasing the land. The Trust bank is a neutral body that can watch what the infrastructure operators are doing and can check if the rent is properly distributed to the owners. Trust bank will introduce transparency, and when there are many different landowners in the region, the trust bank can play the role of a neutral negotiator.

Dr. Reshmy Nair: If we look at land leasing in mining or other sectors, then the trust with the organisation is very important. When an intermediary comes in whose job is to ensure that the conditions that are agreed upon is met and the landowners are not taken for a ride, the trust in the process goes up.

Is land leasing the next alternative for land pooling in India?

Dr. Reshmy Nair: Incase of Pavagada, the average landholding was large, in the range of 4.6-5 acres. The lands were largely dry with limited productivity. It seemed working fine because of the limited return that the landowners could get from these lands. Given the largely dry, unproductive lands, the livelihood losers may have been limited even if they existed. This is one aspect that may have to be considered for possible replication. The other aspect that worked for the model was its ability to leave out lands where the landowners did not want to dispense with and these largely belonged to those small farmers who had irrigation facilities. When we go for greenfield projects, the holdouts issue is an acritical one that has to be taken care. All these alternatives are voluntary and the legal sanctity of the model depends on voluntary consent by the landowner. However, even when we have wide consultation and incentivize landowners to actually join, there may be some hard nuts to crack, for whom the traditional land acquisition process has to be resorted to get the land from those holdouts. The other very important part of the Pavagada model was that the people benefited from the social and economic infrastructure development in the area. Another important aspect that has to be considered for replication is the need for stringent and effective monitoring arrangement.

Remarks by Session Chair, Dr. Sanjay Kumar: Land is always an emotive issue in India. The pressure on the land is growing owing to the increasing population and meeting the rising infrastructural requirements. LP is a wonderful concept not only for building cities but also for rebuilding old ones. We have old cities like Jaipur and Hyderabad in India, and globally you have cities like Venice and Rome which have been ancient civilisations, where there is a need for redevelopment. LP/LR is also being used for the consolidation of farming land as well as cities ravaged by natural calamities. The issue of squatters is a universal phenomenon. Land swapping and leasing are interesting concepts with a lot of practical relevance. In the coal bearing acquisitions, we do not know what to do with the mined-out lands as there is no provision of returning them. The concept of land trust is excellent as it gives a kind of assurance to the stakeholders that their rights are going to be protected.

Session VI-Q and A

What are compensation calculation parameters in an LP scheme for linear projects, and how do they differ from non-linear projects?

Dr. Robert Lewis: Depending on the specifics of the case, we have to work out the details. There are some common elements between linear projects, and non-linear projects, and the basic one being the use of some kind of premium on property taxation or fees, some variation on that. Hence, within a certain range of the development area; a higher charge is arrived at for a fixed period of time in the inner core area and another charge for a fixed period of time in the outer core area so as to achieve the uplift in terms of calculating benefits. In non-linear projects, it depends upon the objectives of the project, whether it is in a high income/low income area, etc. and for the latter, there would be the need of subsidising through public funds. If it's a high-income area, then from the percentage value uplift in the properties, we can split the profit between cutting around some space for the landowners to contribute to the infrastructure/public good. However, each case will be different from the other if you dig deep into the details.

Do we need some legal tool to consider the persons other than having property rights in P/R Projects?

Mr. Robert Lewis: It is important to understand that by default, every country, because of their commitment to human rights, is required to respect the rights of the non-property owners. Though it does not mean that you cannot move anybody, it does mean that you have to engage with them and consider the adverse impacts that your actions are going to have on them.

Dr. Reshmy Nair: I think this question also relates to how we do it. In the Indian context, there is a mandatory Social Impact Assessment study prior to land acquisition, and entitlements exist for non-titleholders as well. However, when we adopt alternate land assembly tools like land purchase/lease/pooling, there is no such requirement. Unless we have a process of identifying such people, it would be difficult to accommodate their rights/interests.

Mr. Maninder Gill: If you cannot have a regulatory framework, given the huge variation in context and conditions of every situation, it is time to draw up some overarching principles of LP, including a systematic social assessment to identify people who maybe not have strict legal titles but may have other rights on the land.

Why the Multilateral banks are not so much interested in financing LP/LR projects?

Mr. Maninder Gill: I don't believe that's the case. Before we get involved in a LR project, the first question is whether the project is worthwhile with

development impacts. If yes, we would be very interested. We are also extremely interested in exploring LP/LR as a promising tool, and there are a few examples from across the world where we have been collaborating on such projects. However, we certainly want to do more.

Mr. R. Vishwanathan: I fully agree that the number of LP/LR projects may not be that significant, and there are several startups in many countries that have not been taken forward largely owing to certain issues that were not enabling. However, we are certainly keen on expanding/working on projects with alternative land procurement techniques, and Ulaanbaatar, Mongolia, is one such project.

Where will the landowners/squatters be temporally resettled while the construction is being carried out and will they be provided with rental allowance and livelihood assistance, insurance for their survival?

Dr. Reshmy Nair: In the AP capital city project, they tried to avoid/minimise displacement. For people who were displaced, there was an entitlement matrix including annuity provisions or sustenance allowance in a specific LP model in India. This was also because of the proposed World Bank funding. This differs from case to case.

Mr. Maninder Gill: I think this is more applicable to brownfield development because the landowners/ squatters are temporarily resettled while construction is carried out. In Japan, there are temporary allowances for two to three years while the whole area is being redeveloped. It would be safe to say that they should be provided with rental allowance and livelihood assistance because that's the only way they are going to participate in the process.

Mr. Vishwanathan: In the case of Ulaanbaatar, Mangolia project they had buildings funded, there were transitional housing which were developed as part of the previous project to house them temporarily, and this was in addition to rental allowances that were provided to all title holders and non-titleholders. And coming to the Indian context, in Mumbai slum redevelopment projects, several of the private developers have an arrangement for payment of rental allowances for the period between the surrender of the apartment to the date of the allotment of the apartment.

Mr. Maninder Gill: There was an excellent suggestion from Ms. Aparna Das that documentation of LP experiences by individuals in low income settlements in India is missing and that in India, only large projects pushed by public institutions get documented. She was referring to some models which may not be so structured and informal but might be working well for people living in these

informal settlements. Documentation of such practices is something which we all should consider in going forward.

Remarks by Session Chair, Mr. Maninder Gill: To make LP better, more sustainable, and to improve its scale, what are the institutional dimensions? Presently, what is the relative use of LP compared to land acquisition? How far are we to make it more mainstream, and what can we do to ensure a more mainstream approach to use LP? The voluntary nature is the one thing that distinguishes it from land acquisition. What do we need to make it truly voluntary is to enhance the participative processes and involvement of all the affected people, and when we do that, how does it interfere with the timeline? One of the strengths of LP is a shorter timeline, and it remains to be seen if the voluntary participatory process adversely impacts that advantage of LPs. Another point that is emphasised repeatedly in all the models is the need for transparency. Can we agree on some key principles of participation that can be codified as part of the LP process, just as the technical parts? Are there any key principles we need to further solidify and make more mainstream? Another fascinating issue in the Indian context is that of the third party and vulnerable groups who may not be landowners. How do we involve them so as to make sure that they don't lose out in the process? They too are key stakeholders, and as we build support for LP/LR, it will be important to address their issues and have some durable principles on how to make them beneficiaries in the process. Another question is the liquidity issues in the transition period.

The participants of the LP process may be struck for 2-3 years before drawing the benefits of the developed plot and we need to build on the existing practices to address issues faced by the participants during the transition period. What about making the affected people the permanent shareholders in the process? Can there be any regulatory bodies or any institutional entities that play a role in making sure that all LP practices in a country are adhering to the key principles of the LP process? As we discuss the technical aspects of LP, can we also keep our minds open to how do we take this forward and mainstream LP as part of the development process?

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Section IV
Conference Papers

Takeo Ochi*

A Global Perspective of Land Readjustment

Abstract

This paper covers the geographical spread of LP/LR worldwide, the progress in implementation, enactment of specific legislation in different countries, how LP/LR was disseminated in Asia and Latin America, and the key essence of LP/LR. The four essential principles are extracted from the international implementation experiences of LP/LR.

Global Expansion of LR

There are several countries that have LP covered in their legislation, including Columbia (1989), and Argentina (2012) in South America; Germany (1902), Turkey (1930), Israel (1936), France (1967), Greece (1979), Switzerland (1979), Finland (1995), Spain (1956), and Sweden (2012) in Europe; and India (1915), Japan (1919), Taiwan (1930), South Korea (1934), Indonesia (1985), Nepal (1988), China (2001), Thailand (2004), Bhutan (2007)[1] in Asia. There are other countries which have not enacted a legislation to facilitate LR but have some experiences implementing these projects. These include the United States of America, Brazil (South America), Angola (Africa) and Afghanistan, Philippines, and Vietnam (Asia). Many countries that used agricultural land consolidation methods applied the same principles to the urban areas. Figure 1 shows the global map reflecting the dissemination of Land Readjustment (LR)/Land Pooling (LP) across the continents.

* Senior Advisor, Japan International Cooperation Agency.
Email: ochi.takeo@gmail.com

[1] Figures in parenthesis reflect the year of origin of the legislation.

Figure 1: Global Spread of LP/LR Across Continents
(Souza, Ochi and Hosono 2018)

Germany has the oldest example of LR, institutionalised by law. The legal framework was established in 1902 by Franz Adickes, the then Mayor of Frankfurt. The German law influenced the law making in many countries. For instance, when Japan established the first urban planning law in 1990, the German method was referred to. The Turkish urban planning system is also greatly influenced by the German LR system. Among the European countries, the United Kingdom is the most prominent country, but UK itself didn't have LR incorporated in their law. Among others, the reason seems more political as the country's first urban planning law, the Housing and Town Planning Act, was enacted in 1909. It was just before the First World War, and the country may not have wanted to introduce a concept of the enemy country. Though the British did not apply LP to their country, they disseminated the concept through members of the Common Wealth Nations, including India. The concept did not appeal much to the African countries where the colonial Governments could acquire lands without paying compensation to the landowners.

LR in Spain and Latin American Countries

LR spread from Europe to South America; from Spain to Columbia. The Spanish LR originated from the Urban Expansion Plan of Barcelona made by Ildefons Cerda in 1859. The Spanish LR was legislated through the urban law in 1920. The Columbian social system was influenced by the Spanish system and so was LR.

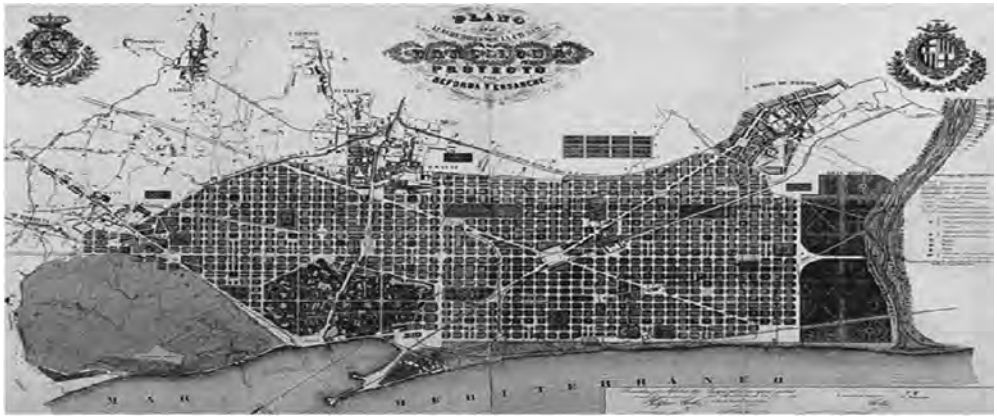

Figure 2: Barcelona Extension Plan by Ildefons Cerda (1859) (Behind Four Walls)

The concept was introduced in Columbia by Law 9, the Urban Reform Law in 1989, followed by Law No. 388, the Territorial Development Law in 1997, which is the basic law for the current Columbian urban planning. Though the law stipulated LR, the practical dimensions for its implementation was still unknown in the country. During the period from 1998 to 2003, the Columbians learned the nuances of implementation from the Japanese system. In the following years, they modified the Japanese LR method and established their own system. Columbia is presently disseminating its system to neighboring countries like Costa Rica and Brazil.

LR from Japan to Asian Countries

Japan has disseminated the concept and methodology of LR primarily to the Asian countries except for Korea and Taiwan (that were colonised by Japan before the Second World War). The export of LR to Asian countries started in the 1980s. The target countries included Indonesia, Thailand, Nepal, Mongolia, Vietnam, and Afghanistan. The Japanese type of LR was also studied in the Philippines and Malaysia. Presently, LR is at a learning stage in Vietnam, where experimental projects supported by the World Bank are being implemented. Bhutan first learned the concept from Nepal, and then, they incorporated the Japanese method to their system in the recent years.

LR in East Asian Developing Countries

The 1980s was the beginning of internationalisation of LR/LP. During the 1980s, the Asian countries, especially the South-East Asian countries, which experienced a sharp population increase in large cities in the 70s due to the migration from rural to urban, initiated an intensive study and research on LR. This was triggered by the International Conference on Land Consolidation in Taiwan, 1979, organised by the World Bank, Lincoln Institute of Land Policy, and the Taiwan Training Center of Land Reform. The base for the debate was the seminal research work of Professor

William Doebele from the Harvard University (1976) focusing on the financial structure of LR viz how the increased land value brought by the project can be used to cover the project cost. Countries that participated in this conference were Australia, China, then West Germany, Hongkong, India, Indonesia, Malaysia, Thailand, Philippines, Papua New Guinea, the US, South Korea, and Japan. After the Conference, the terminology of *'Land Readjustment'* became common. Since then, the Conference was conducted every two years, the last such conference held in 2002 in Osaka, Japan. With the urban expansion and increasing demand for housing and infrastructure, there are three focus areas for the developing countries; first, the value capture mechanism that is inbuilt in LR models viz landowners/ beneficiaries pay for the project cost; second, land necessary for infrastructure development can be secured by LR projects and third, as a countermeasure for squatter issues.

Japan and JICA's Contribution to the Expansion of LR in Asia

In the 1980s, as the South East Asian countries seriously studied the application of LR, Japan extended support by dispatching the experts to various countries for providing technical support for the implementation of the pilot projects. Since 1983, the Japan International Cooperation Agency (JICA) has been offering LR training program every year. 416 people from 66 countries have participated in this program from 1983 to 2019. The countries that established their own LR system as a result of this outreach include Indonesia, Nepal, Bhutan, Thailand, Mongolia and Columbia. LR in Indonesia was based on agricultural land consolidation. The first urban land consolidation project was implemented in 1979 in Denpasar city, Bali (the year in which the country participated in the International Conference on Land Consolidation in Taiwan). It can be pointed out that the current primary challenges of LP/LR in the developing countries are (1) application of LP/LR to the redevelopment of urban centers, (2) the participation of the private sector in projects, particularly as an investor and (3) the linkage with urban planning. Some country-wise experience following the JICA outreach programs and support are outlined below:

Nepal: The first land pooling project in Nepal was a road expansion project in Pokhara in 1976. In 1988, the LP was legislated by the Urban Development Act. Nepal introduced the Japanese type of LR in 1992 and joined JICA LR training programs for Nepal in 1995 and 1996. The participants in these training programs drove a dozen LP projects in Kathmandu Valley in the 90s, which led to the expansion of its implementation across the country in the 2000s. Until 2010, LP projects were implemented in 17 cities outside of Kathmandu. LR in Nepal is mainly implemented in urban fringes through the conversion of land from agricultural land to residential land. Figure 3 shows Bhaktapur, the World Heritage Old Capital, 12 km east of the center of Kathmandu. It can be recognized that the outside of the old capital has been developed mainly by LP. Nepal is now applying LP to 50 km^2 of large-scale new town development in a suburb of Kathmandu and outer ring road development.

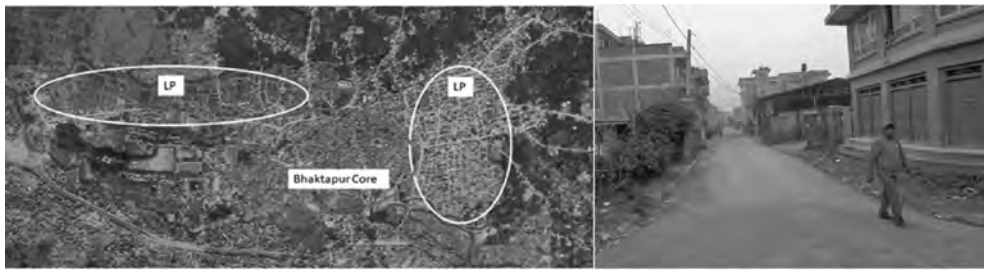

Figure 3: Bhaktapur LP Project, Nepal.

Thailand: In Thailand, the Government seriously studied LR in the 90s and enacted the LR Act in 2004. The primary urban issue in the country is that there are so many land parcels without road access. LR has therefore been used to improve the road network and access. Following 10 pilot LR projects in the 2000s, they have been implementing LR projects across the country. Thailand promotes LR projects under the 'One Province-One Project Policy.' i.e., at least one LR project is to be implemented in one province. Under the policy, the construction cost of trunk roads designated by a comprehensive urban plan is covered by the national subsidy. Besides, the central government (Department of Public Works and Town & Country Planning, Ministry of Interior) offers financial support (loan and subsidy) to projects through the LR fund. So far, 54 projects have been executed in 45 provinces. The project implementation entities are mainly governments except for one project in Bangkok implemented by a landowners' association with technical support from the Bangkok Metropolitan Administration (BMA). Like Nepal, LR in Thailand is mainly implemented in urban fringes. Figure 4 shows the Yala LR project located in the southern part of Thailand. The project was completed during the period 2008-12. It had a project area of 54 ha belonging to 101 landowners and a land contribution

Figure 4: Yala LR Project, Thailand (DPTC)

ratio of 19.8 percent (17.6 percent for infrastructure and 2.2 percent for reserve land). The department developed LR textbooks for its LR training programs for local government staff and brochures and videos for potential landowners to promote LR all over the country.

Bhutan: Influenced by the LP experiences in Nepal, Bhutan started implementing these projects in the early 2000s. LR was applied when Bhutan developed local area plans (LAPs) of the expanded city of Thimphu, the capital of Bhutan, when the city area increased from 8 km^2 to 26 km^2. The government enacted the LP legislation in 2007. However, it was not a smooth road. The reason why Bhutan employed LP as a tool to implement LAPs in Thimphu was the increasing difficulty associated with land expropriation for public works. It was because (1) the land purchase price (public price) was very cheap compared to the market value, (2) farmers were reluctant to give away their land, and (3) land speculation happened when the government tried to acquire land. When the government initiated to make LAPs in Thimphu city, they faced strong objections from landowners. In 2003, the supreme court ruled that LP was illegal, which means land contribution without compensation was illegal. After this, the government paid lots of effort to spread awareness among the people about LR. They held many consultation meetings with citizens and was finally successful. This took about five to six years. Since then, Thimphu municipal government has been implementing 14 LP projects, the average area size and land contribution ratio is 53 ha and 26.8 percent, respectively. These LP projects have been financially supported by the ADB and World Bank. In the past LP projects, the land contribution ratios of all the land parcels were the same and there were no projects that secured reserve land to recover the project costs. In order to make project implementation more sustainable, the government (Department of Housing and Human Settlement (DHS), Ministry of Works and Human Settlement) amended the LR Rule, 2007 in 2018 to abolish the 30 percent land contribution ratio ceiling. The amendment also provided that a LP project should secure land contribution from the project cost and a project financial plan should be clearly shown and local governments are eligible to dispose of the reserve land. Figure 5 shows the Taba LP project in Thimphu city with a project area of 89 ha and a land contribution ratio of 28.5 percent.

Mongolia: In Mongolia, LP was initiated as an urban redevelopment tool in the city of Ulaanbaatar. It was only seven years earlier that government initiated urban redevelopment works. People settle down in Ulaanbaatar city with traditional portable houses called Ger and they call this new settlement as Ger area, where about 60 percent of 1.45 million of the city population (2017) is living. The Ger areas have no utility supply except electricity, while the central areas are equipped with all utilities including hot water for heating for long and severe winter. People living in ger areas need to go buy drinking water at a kiosk, which is a tough job, especially in extremely cold winter for children. They dig a hole in their yards as a toilet and dig another hole when the previous one is full, which contaminates underground water. As a countermeasure, since 2013, the Ulaanbaatar city

government implemented urban redevelopment projects using the LR concept to convert Ger areas into apartment buildings called Ger-to-Apartment Projects (Figure 5). The urban redevelopment law was established in 2015 with Japan's technical support.

Japan's contribution to LR in Latin America: While Columbia introduced the LR concept from Spain, they learned the methodology of implementation from Japan, especially through JICA training programmes from 1998 to 2002. The Columbian learning focused on the mechanism of landowners' participation in LR projects, fair distribution of costs and benefits, and securing of land surface for infrastructure by landowners' land contribution. The key takeaways from the Japanese learnings included LR project implementation entities (landowners' association); the nature and conditions for landowners' agreement for project approval; the land appraisal method; the concept of reserve land, among others. The Columbians did not just copy the Japanese model but developed their own LR system suitable for their socio-economic system. In Columbia, after the Territorial Development Law was established, territorial master plans were developed in all the municipalities (1,069). The so-called partial plans, which are multiple block level detailed plans, are made under the municipal territorial master plans. Columbia uses LR as a tool to materialize those detailed plans. Between 2002 and 2016, 153 LR projects have been successfully completed. Besides, they apply LR as one of the tools for slum area upgrading projects. The Juan Bobo Project implemented in Medellin is a world-famous slum upgradation project. Presently, Colombia is disseminating its LR practices to the neighboring countries and also supporting pilot projects in Costa Rica.

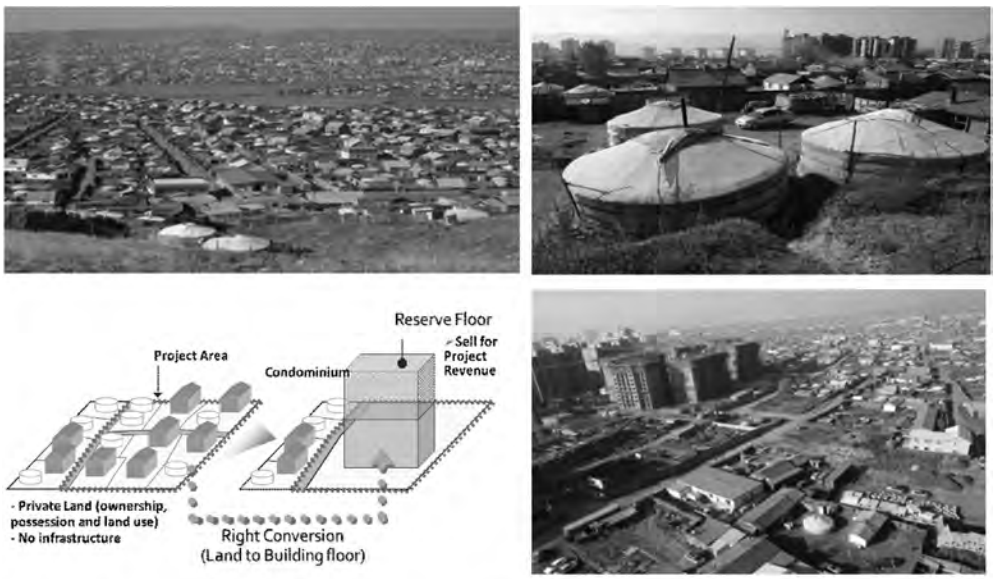

Figure 5: A Ger-to-Apartment Project in Ulaanbaatar, Mongolia

Figure 6: JICA Third Country Training Program 2010 conducted by Columbia

International Organisations

UN-Habitat initiated the concept of the Participatory and Inclusive Land Readjustment (PILaR) in 2013. While LP/LR treats only formal landowners in general, this concept involves informal landholders, informal residents, women, disadvantaged groups, among others. Some experimental projects have been executed. The World Bank added the LR course to its web-based training programme called Open Learning Campus in 2015.

Conclusion-Key Principles of LP/LR

From the international experiences of LP/LR, four essential principles for a sustainable and futuristic LP/LR can be extracted. First, LR/LP is a value conversion method that includes both lands to land and land to building floor conversion. Hence, it is important that the right conversion is practiced. Second, there should be a fair distribution of costs and benefits. Beneficiaries should pay the cost according to their gained benefits. Third, there should be sound capture of value, realized through land contribution or by monetary payment such as a betterment charge and tax. The fourth principle is to ensure participation. The project should recognise all the project affected people and provide them with enough participation opportunities in the planning and implementation process. The process should be inclusive to take into account the diverse nature of stakeholders and their interests at the project formulation and implementation stages.

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Linke, Hans-Joachim*; Bretscher, Raphael**

Land Readjustment in Germany - Special Aspects and Practical Experience

History of Land Readjustment in Germany

In the 19th century, as industrialisation progressed at a brisk pace, there was a rapid increase in the population of German cities. Accordingly, a lot of living space was needed in a short time, so private investors came forth to invest in urban expansions. This was essentially carried out in areas where they could acquire land and not where it would have made sense in terms of sustainable urban development. In fact, there was no structured urban development during this period. Also, the focus of the private investors was primarily on optimising profits and not in creating healthy living and working conditions. Many of the twenty-five former states of the German Empire started at first by passing laws against harmful building construction and then using laws to control urban development. In addition to the need for urban *land-use plans* for the development of building areas, there was also the need to develop a Land Readjustment (LR) instrument, which ensured that the plots of land were rearranged for appropriate building construction. Prior to this, the rearrangement of land plots were sometimes managed with the rural land consolidation law, which had existed and been applied since the beginning of the 19th century (Bonczek, 1978, p. 82). In other cases, LR was initially only carried out on a voluntary basis that often failed due to the unwillingness of a few landowners to cooperate. In 1902, a law for LR was passed in the state of Prussia, initially only for the city of Frankfurt, famously called "Lex Adickes" after the name of its architect, the then-mayor of Frankfurt. The law made it possible to carry out LR projects even against the will of the landowners. Other states of the former German empire followed that example and developed their own laws for LR. It was only in 1960 that LR was standardised in West Germany by the enactment of the Federal Building Act. With the exception of minor adjustments, these regulations are presently applied in practice in *building land development* in Germany.

LR Process

In the overall context of *building land development*, readjustment of land manifests the requirements of urban land use planning and enables the subsequent creation of public infrastructure and buildings. It is thus a major pillar in the process of *building land development*. Readjustment of land can be carried out either on a private-law basis using appropriate models, such as the finalisation of a notarised purchase, division or exchange contracts by the landowners or by sovereign

* Professor for Land Management, Technical University Darmstadt, Germany. E-mail: linke@geod.tu-darmstadt.de

** Research Associate, Department of Land Management, Technical University Darmstadt, Germany. E-mail: bretscher@geod.tu-darmstadt.de

procedures such as readjustment or expropriation. In Germany, experience has shown that landowners are only able to reach a private-law agreement in very simple cases. Usually, a sovereign LR process is preferred so that the mediation and management process happens smoothly.

Officially, the LR process starts with the direction of the municipality to the LR department to initiate the readjustment process. At the same time, the *binding land-use plan* will be prepared. In Germany, such a parallel procedure of preparing a new *binding land use plan* and performing LR is normal because of the possibility of influencing the framework of the new *binding land-use plan* according to the results of the negotiations between the LR institution and the landowner. After this, LR is initiated by a resolution adopted by the readjustment department. Before taking this step, the landowners have to be heard. This promotes the landowners' acceptance of land readjustment and gives the LR institution its first indications as to which further uses the individual landowners intend. By displaying the as-built map and the inventory of the parcels that registers all facts as per the land cadastre in the municipality for a period of one month, the LR adjustment department provides all parties with a comprehensive and applicable overview of the true and legal relationships, which is the basis for the readjustment. A discussion and hearing with all the affected parties follow, and efforts are made to reach an understanding of all their interests. Before the LR plan that indicates the new utilisation with the actual and legal changes of the subjected plots is set up, the binding land-use plan has to come into force. Also, there is a public announcement of the decisions in the LR plan, providing the landowners with another opportunity for legal recourse. If all legal recourses are eliminated, the LR plan comes into force with the public announcement of the indefeasibility.

Principles of LR

To be subsumed as a legal LR instrument, the following principles must be fulfilled, according to Seele (1982). In this context, the *rule of private use* is generally absolute, and the other rules must at least be fulfilled without discretionary error.

Rule of private use:

The readjustment is mainly in the interest of the landowner, and that person will be able to use the land according to the legally *binding land-use plan*. LR is not an expropriation, although it also serves public interests, such as the realisation of the urban development concept (e.g., *binding land-use plan*). It is predominantly and primarily aimed at balancing the private interests of the landowners. It is intended to enable them to use their land for building houses even in cases where they cannot themselves agree on the necessary readjustment. In simple terms, the LR can thus be understood as state help for self-help, since it pursues the well-understood, objective interests of an economically thinking landowner. The public

authority (e.g., municipality), which is the responsible body for the proceedings, thus merely replaces the lack of agreement between the landowners in a private-law agreement.

Rule of conformity

The legal status of the land will be adjusted according to the designations of the *binding land-use plan* or the built-up areas by changing the boundaries.The purpose of LR is to rearrange the existing plots of land in such a way that they are suitable for building houses or other uses. In doing so, the boundaries of the plots of land must be altered in terms of location, shape and/or size in such a way that they can be used according to the *binding land-use plan*. In the past, LR was mostly applied to developing *agricultural land* into *building land*. However, it can also be used for redeveloping *building land* areas (e.g., brownfield development) or to re-densify existing settlement areas.

Rule of solidarity

All landowners must contribute part of their land to the installation of local public infrastructure, in proportion to the advantage received from this infrastructure. Only after the necessary local public areas for roads, paths, etc. are designated is it possible to build houses on the private plots. Accordingly, the local public infrastructure gives the landowners an economic advantage. At the same time, these public uses are generally located on plots that were previously only used privately, according to earlier planning requirements. In order to compensate for these unequal advantages among the landowners, all the landowners benefiting from the areas for public use contribute them jointly, in proportion to the advantage they receive in the LR. In addition to local public infrastructure, landowners must also provide all other areas that are mainly intended to serve the needs of the future inhabitants of the LR (pre-deduction). The landowners usually provide the land free of charge, so that levying contributions for land acquisition after a LR procedure is unnecessary. Areas for other public uses, such as kindergartens and schools, can only be provided in the LR if the respective public authority (e.g., municipality) provides suitable alternative land within or outside the LR area.

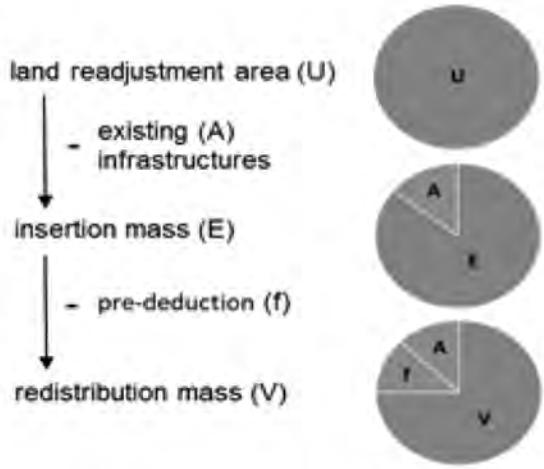

Figure 1: Schematic Illustration of the Rule of Solidarity (Authors' Illustration)

Rule of conservation

The substance of the ownership of land will not be reduced and will be conserved for each landowner. All landowners must receive at least a redistribution of equal value (market value at the time of LR decision). For this reason, the total value of all assignable plots of land (*redistribution mass*) must be equal to or greater than the total value of all plots included at the beginning of the LR (*insertion mass*). A deviation from this requirement is unlawful. In addition to the equal value compensation, the German Building Code provides that each landowner is entitled to a proportional redistribution of the total value of all allocable plots (*redistribution mass*), as was already the case before the LR (*insertion mass*). This means that each landowner is entitled to that share of the *redistribution mass* that corresponds to his/her share of the *insertion mass*.

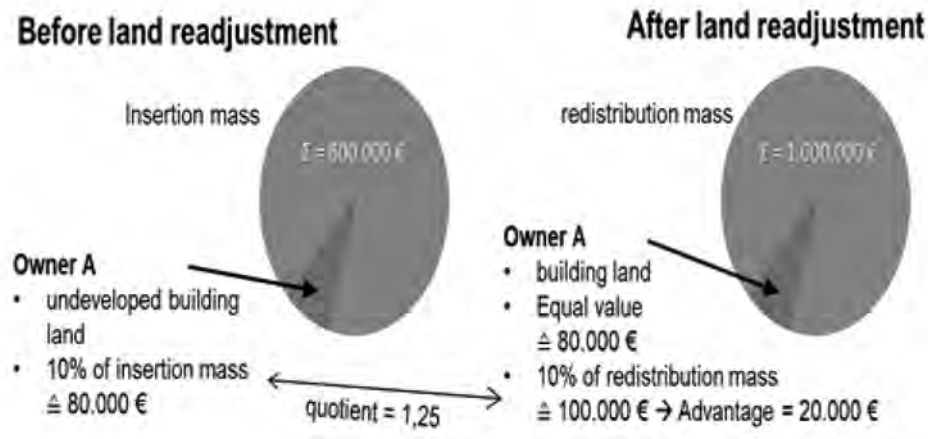

Figure 2: Rule of Conservation (Authors' Illustration)

Rule of surrogation

The rights relating to former parcels are transferred to the parcels newly allocated to the landowner unless they are locally bound. In many cases, rights and encumbrances (e.g., rights of way for third parties or mortgages) still rest on parcels. These property-related rights are transferred to the parcels newly assigned to the landowner unless these rights are locally bound (e.g., a right to draw water).

Value of Land at Different Levels of Building Land Development (qualities)

In Germany, parcels could have four separate development qualities in the building land process before the completion of buildings. Agricultural land is usable only for agricultural or forestry purposes. With the designation of construction areas in the preparatory land-use plan, agricultural land becomes land with building land expectations. The benefit of urban development will be shared between the landowner and the municipality. The landowner receives the increase in value by planning (value of undeveloped building land minus value of agricultural land. The undeveloped building land is defined as land that will be developed into building land in the future due to an existing binding land-use plan. Only the LR and the construction of the local public infrastructure (e.g., roads and other technical infrastructure) are left. The municipality receives the increase in value caused by LR itself (value of building land minus value of undeveloped building land – Figure 4?) as well as the increase in value caused by the cost of building public infrastructure, which the landowners pay directly (Figure 4?). The increase of value by LR is typically similar to the costs the landowners would have to pay if they developed the land by themselves. Then, they have to arrange sales contracts between all parties as well as construct the boundaries of the new building land parcels. This process normally needs more time than to get the same result by LR. Therefore, the landowners receive interest advantages by LR. Thus, landowners are often interested in obtaining new building land by LR.

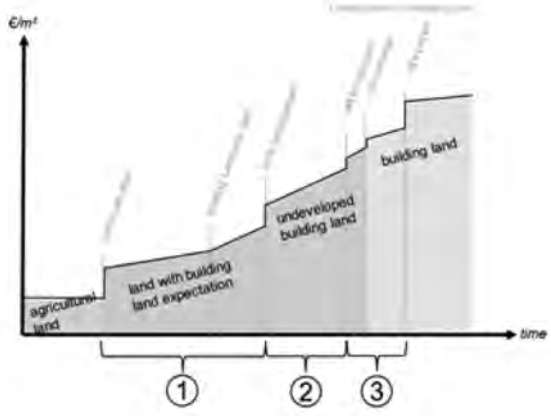

Figure 3: Value Increase through Several Development Qualities (Authors' Illustration)

Methodology of LR

Definition of Different Zones at a LR Area: First, the readjustment area must be defined in such a way that the LR can be carried out appropriately. This definition can be derived from the intersection of the existing land structure with the future planning law (e.g., binding land-use plan). Generally, there are different qualities of land before starting a land readjustment process. For example, parcels that could be used as building land before the new binding land-use plan has been implemented may be needed for local public infrastructure because of the new binding land-use plan. This land has a different value than land that has to be developed first into building land. Therefore, different insertion zones have to be defined with such land that will have the same advantage due to the LR. The quality of building land will define the redistribution zones which in turn will be determined by the binding land use plan. For example, general residential and purely residential areas are distinguished with respectively specific legal requirements which, affects the usability of the plots and therefore, also represents differences in land values.

Evaluation of the Land Value Before and After the LR: The redistribution of the new building areas or the absorption of the individual advantage can be done by two scales: first, according to the ratio of the values, or second, according to the ratio of the areas in which the plots of land stood in relation to each other before the LR. Both types of redistribution are market value-based and are characterised by full benefit compensation (Weber, 2015). The main difference is the form of the advantage levy. In the case of redistribution by area, the value advantage is implemented by the withdrawal of part of the land plot corresponding to the value advantage of the individual landowner. In the case of redistribution by value, the value advantage is implemented by a monetary payment from each landowner corresponding to the value advantage. The redistribution by value is the scale used nearly exclusively to redistribute building land to landowners in Germany. For this reason, this scale will be discussed below:

Two different values have to be calculated; the value of the land before performing LR (insertion value) and the value after performing LR (redistribution value) (Linke, 2008). The valuation date for both is the time of the resolution on LR. The quality of land after performing LR is normally building land. To calculate the redistribution value,prices paid for parcels of land that can be used similarly to the binding land-use plan framework and that have a similar local position are needed to define the value by comparison method. Defining the value of insertion value is much more complicated because normally there are no prices that have been paid for undeveloped building land, or the quality of the parcel that should be compared is unequal. In such a case, the deductive method of calculating the value of undeveloped building land will be used. Therefore, the costs of developing the undeveloped building land into building land by private methods will be calculated.

The price of *undeveloped building land* is determined by the price of the similar *building land*, the time needed to develop the land (waiting time), the costs for the land needed for local public infrastructure (site development costs), and the costs for the development into building land (development costs). During the waiting time, the interest of the capital bounded in the land (property yield) has to be taken into account as well.

Figure 4: Evaluation of the Land Value before and after Land Readjustment

Redistribution of New Parcels: The distribution quotient (q) is to be determined according to the determined insertion value (IV €/m²) and redistribution value (DV €/m²). This results from the ratio of the value of the total redistribution mass ($D_€$) to the value of the total insertion mass ($I_€$).

$$q = \frac{D_€}{I_€}$$

with: $I_€ = \sum (I_{m^2} * IV_{€/m^2})$

$D_€ = \sum (D_{m^2} * DV_{€/m^2})$

Such a uniform distribution quotient for all plots in the LR area presupposes that all plots receive a uniform redistribution-related advantage. In practice, such a simple case hardly ever exists. In cases of inhomogeneous insertion qualities, the readjusted area must be divided into different insertion zones (cf. Cape. 5.1) and may require the use of separate distribution quotas. In principle, when calculating the redistribution quotient, it has to be ensured that it is at least one or more in order to the rule of conservation (cf. Cape. 3.4).

In the case of redistribution by value, the individual entitlement of redistribution (E_i) of each landowner is calculated from the value of the land this individual landowner contributes (I_i) multiplied with the distribution quotient (q) (of the respective insertion zone).

$E_{i[€]} = I_{i[€]} * q$
with: $I_{i[€]} = I_{i[m^2]} * IV_{€/m^2}$

When considering the redistribution, the primary aim is to form plots of land on which houses can be built or otherwise used for urban development in accordance with the given planning and building regulations and in accordance with their location, form, and size (rule of conformity, cf. Cape. 3.2).In addition, the redistribution is to be made in the amount of the individual entitlement of redistribution and in the same or equivalent location of the old properties. If the redistribution (R_i) deviates from the individual *entitlement of redistribution* (E_i), a cash settlement (C_i) takes place. Against the will of the landowner, a deviation from the individual entitlement of redistribution (E_i) is only permissible if it is unavoidable and follows the regulations of a binding land-use plan or other regulations under public law.

$C_{i[€]} = R_{i[€]} - E_{i[€]}$

Compensation of Benefits: As already mentioned, the municipality initially bears the costs for the LR. However, the municipality can require the landowners to reimburse the costs. For this purpose, the increase in the value by LR arising for the landowners is skimmed off, regardless of the amount of the costs actually incurred by the LR. The increase in the value of the plots can be calculated as the difference between the value an individual landowner contributes (I_i) and the individual entitlement of redistribution (E_i) and is called the LR benefit (B_i).

$B_{i[€]} = E_{i[€]} I_{i[€]}$

Example of LR

Definition of Different Zones at a LR area: As plot no. 103 was already ready for building in terms of location, shape, and size before the binding land-use plan was drawn up and can be reached directly from the road (F-road) it already can be classified as building land. The plots adjoining to the west, previously used for agricultural purposes, can be classified as undeveloped building land due to the binding land-use plan. Due to the differences in the value of these two zones and the different benefits of the LR to these two zones, there are two insertion zones (IZ).

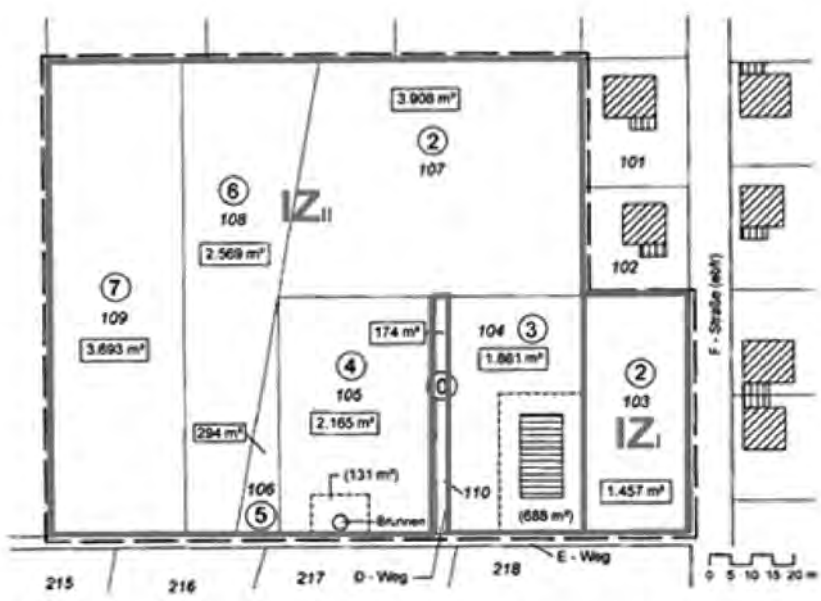

Figure 5: Determination of Insertion Zones (Author's Illustration)

In the example, two *redistribution zones* have to be formed. The first is the *redistribution zones* RZ_{I}, which comprises the two plots along the F-road that have been defined as a *general residential area*, and the second is the *redistribution zones* $RZ_{II,}$ which have been defined as a *purely residential area* in the *binding land-use plan*.

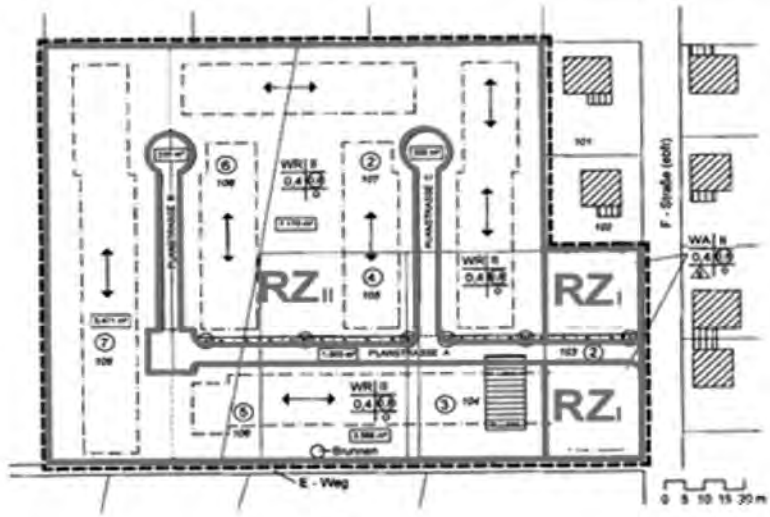

Figure 6: Determination of Redistribution Zones (Authors' Illustration)

Evaluation of the Land Value before and after the LR: Land values for plots in the readjustment area can be derived from purchase prices for plots in comparable areas using the comparative value method (V_{BL}). In general, the infrastructure construction costs (ICC) are deducted from the comparative values for the determination of the redistribution value so that no previously paid costs lead to increased land redistribution. This results in the redistribution value of both redistribution zones (V_{BL-ICC}). Since the insertion zone I already has the classification building land before LR, the insertion value is equal to the redistribution value. For the insertion value of insertion zone II, the development costs from the classification of undeveloped building land to the quality building land must be taken into account. This includes (side) development costs (SDC & DC) as well as the discounting with capital that is bounded in the land (property yield, p) of about 5,5% for undeveloped building land (q = 1+p) and a waiting time until readiness for building (n), shortened by the LR duration.

		Zone 1	Zone 2
Value of land with the quality of building land (form value by comparison method)	V_{BL}	130 €/m²	150 €/m²
Costs for the construction of local public infrastructure and nature compensation (**infrastructure construction costs**)	- ICC	30 €/m²	30 €/m²
Value of land with the quality of building land without costs for infrastructure construction	$=V_{BL-ICC}$	100 €/m²	120 €/m²
Costs for the land of local public infrastructure and associated nature compensation (**side development costs**)	- SDC		11,44 €/m²
Costs for the development to building land (**development costs**), such as: Surveying, project management, notary fees, correction of public books, etc.	- DC		16 €/m²
The **waiting time** (n) to develop undeveloped building land to building land and interest of the capital which is bounded in the land (**property yield**) during the waiting time.	* $1/q^n$		$1/1,055^3$
Value of land with the quality of undeveloped building land with waiting time (n)	= V_{UBL}		79 €/m²

Figure 7: Sample Calculation of the Land Value before and after LR

Redistribution of new parcels: At first, the existing infrastructure (A), as well as the pre-deduction(f) for local public infrastructure has to be determined, and the redistribution mass, as well as the insertion mass has to be calculated (cf. Cape. 3.3) to compute the redistribution quotient (q). To simplify the example, these values are given as:

$q_I = 1,00$
$q_{II} = 1,35$

Let's have a closer look at landowner no. 2 with the parcels number 107 (*insertion zone* II) and 103 (*insertion zone* I). At first, the *individual value of the contributed land* (I_2) has to be calculated to compute the individual *entitlement of redistribution* (E_2).

$I_2$103: 1.457m² * 100€/m² = 145.700€
$E_2$103:145.700€ * 1,00000 = 145.700,00€
$I_2$107: 3.908m² * 79€/m² = 308.732€
$E_2$107:308.732€ * 1,35106 = 417.114,51€

As a redistribution, landowner no. 2 receives the two plots in *redistribution zone* I. The *entitlement of redistribution* (E_2) that cannot be redistributed in *redistribution zone* I because of the loss of land due to the new road is redistributed in *redistribution zone* II together with the *entitlement of redistribution* of this zone. In general, the redistribution (R_2) shall take place in the same or an equivalent location as far as the provisions of the *binding land-use plan* permit.

$R_{2\ \text{redistribution zone I}}$: 581m² * 100€/m² = 58.100,00€
679m² * 100€/m² = 67.900,00€
$R_{2\ \text{redistribution zone II}}$: 3.650m² * 120€/m² = 438.000,00€ (parcel 3-13)

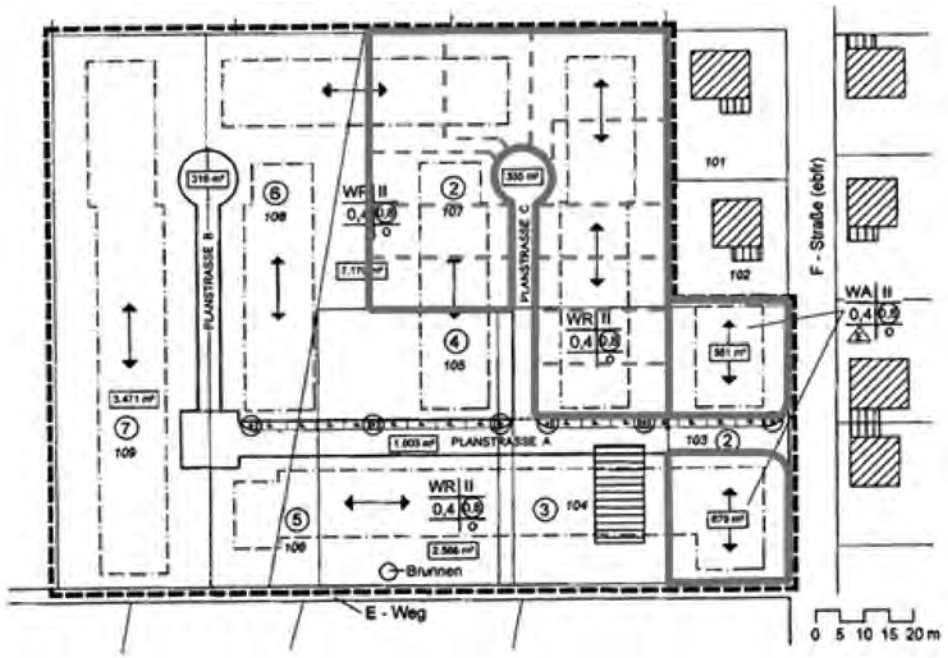

Figure 8: Redistribution Landowner No.2 (Authors' Illustration)

The overall redistribution (R_2) is slightly higher than the overall *entitlement of redistribution* (E_2). Therefore, landowner no. 2 has to pay the over-redistribution with a cash settlement (C_2).

C_2 = 564.000,00€ - 562.814,51€ = 1.185,49€ (Y" 0,21 %)

Compensation of Benefits: By carrying out the LR, landowner no.2 receives an economic advantage (LR benefit B_2), as it saves the costs of private LR. Accordingly, he has to pay compensation to the municipality in the amount of this benefit, which results from the difference between the values of the entitlement of redistribution (E_2) and the individual value of the contributed land (I_2).

B_2 = 562.814,51€ - 454.432,00€ = 108.382,51€

Current Use of LR in Germany

Surveys from the years 2006 (Linke, 2006) and 2009 (Voß & Weitkamp, 2009); (Voß & Weitkamp, 2010) shown that LR is not applied across the board in Germany. The instrument of LR is mostly used in municipalities that have a long experience of using land readjustment and have the support of project leaders (their own employees, freelancers, or other public organisations). Larger cities like Berlin, Bonn or Frankfurt am Main, for example, have their LR department. Smaller municipalities without their department use the cadastral administration to carry out their LR projects. Also, publicly appointed surveyors specialised in LR to support municipalities.

One of the biggest problems in the process of *building land development* is that developed plots are not used to construct buildings. From the historical model of urban land development with the steps of developing a binding land-use plan, LR, and constructing of local public infrastructure, there arises no obligation to do so. Especially in areas with large increases in land value due to the current economic situation, many plots of land are stockpiled as capital investments. For example, in a small city, 30 kilometers to the south of Frankfurt am Main, the land value increases by 5 to 10 percent per year. Due to that, there are still many unused plots for housing in an area that was readjusted 40 years ago.

To address this issue, the common model that is now advocated and implemented in big cities starts with the *urban-development contract,* in which the landowners receive part of the increasing land value through planning. This is in principle, due to the landowner. Only when the contract is concluded, do the classic steps of *building land development* follow. The part-retention of the increase in value by planning can be justified by the fact that these increases in value are not due to actions of the landowners, so these are unearned profits for them. Moreover, municipalities must pay the development costs of planning. The retained increases in value could be used for financing social infrastructure, land for social housing, and other beneficial purposes. For example, the City of Munich claims 2/3 of the planning-related increases in land value for those purposes (Stadt München, 2020). There are also approaches to using LR to increase the provision of land for social housing (Kötter & Rehorst, 2019). In connection with readjustment in the new process of *building land development,* many provisions of the *urban-development*

contract are implemented in the LR process. Therefore, the institutions responsible for LR must be involved at an early stage in the negotiations with the landowners and investors. Typically, interdisciplinary working groups are formed to define and to implement this new model of *building land development*. This includes at least the following disciplines:

- An urban planner for urban design and the urban land use planning regulations
- A lawyer for the legal design of urban development contracts
- Land managers for the land readjustment
- Real estate valuers for the determination of values
- A specialist planner for public infrastructure
- A project controller for internal project coordination and as a central contact person.

Smaller municipalities can consult such working groups to handle such complex services. With appropriate expertise, one person can also take over some disciplines. In practice, the land manager often assumes the role of real estate valuer and project controller at the same time, as that person enters into very early and intensive dialogue with the landowners and can thus act as a moderator for participants from other disciplines. The knowledge of a land manager should therefore cover a variety of topics, such as comprehensive knowledge of building, planning, and land law, fundamental knowledge of real estate valuation as well as the ability to negotiate with participants and creativity to find out the optimal most accepted solution.

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Kirti Kusum Joshi*

Land Pooling in Nepal: Promises and Pitfalls

Abstract

Land Readjustment has emerged as a powerful technique for urban land development across the world because of its comparative advantages over other methods. Most notably, LR makes the land acquisition and hence displacement of landowners needless. Landowners contribute part of their lands for the provision of infrastructure and amenities as well as to finance the projects internally through the sale of reserve plots. However, the perceived benefits of LR should be understood in the specific context of where such schemes are implemented. The experience of LR implementation in Nepal, where it is known as Land Pooling (LP), indicates several pitfalls. In this paper, we look at the impact of land pooling projects on the welfare of original landowners, including small landholders as well as their impact on urban spatial growth, and find that land pooling is yet to deliver on its promises. We recommend measures to address major pitfalls associated with the implementation of LP in Nepal.

Introduction

More than half of the world's population now live in cities, and the share of the urban population is expected to increase to 68 percent by 2050 (UN DESA, 2019). Although urbanisation is a global phenomenon, future urban growth will be mostly concentrated in the developing world. Nepal, for instance, is one of the least urbanized countries in the world with the level of urbanisation at 17.1 percent in 2011, but the rate of urban growth in the country is among the highest in Asia. Between 2001 and 2011, the urban population in Nepal (defined as the population living in the erstwhile 58 municipalities) increased by 40 percent, an annual average rate of 3.38 percent (see CBS, 2012). Presently, the number of municipalities stands at 293 with two-third of the national population estimated to be living in these municipalities. Although many municipalities in Nepal still portray rural characteristics, these are areas where urban growth is likely to occur sooner than later.

Rapid and haphazard urban growth across Nepal in recent decades has left cities and municipalities overwhelmed, outstripping their capacity to provide adequate services to the burgeoning urban population, including housing, drinking water, sanitation, transportation, and healthcare, among others. The quality and quantity of urban infrastructure and services remain abysmal in most urban and urbanising

* Urban specialist and a visiting faculty at Institute of Engineering, Nepal.
E-mail: kirtikusum.joshi@gmail.com

areas with the infrastructure deficit growing at an alarming rate. Most of these challenges are intrinsically linked with urban land use, and the land is a scarce resource, competition for which gets only fiercer with urbanisation. As a result, a landowner or user always tries to put their land to the best use for the optimal return in terms of monetary and/or non-monetary value. However, what is good for an individual may not be socially optimum, which is often the case in the urban areas of Nepal. It is common to see buildings mushrooming up even in areas where basic urban infrastructure such as roads and drainage are non-existent or severely inadequate. Likewise, poor land subdivisions with random shapes and sizes have resulted in haphazard networks of streets with uneven widths and frequent bends, making it difficult to drive and dangerous to walk.

In recent decades, Land Readjustment (LR), known as Land Pooling (LP) in Nepal, has been emerging as a de facto urban land development technique for planned urban growth. With its origin in Japan and Germany, LR has gained popularity across the world because of its comparative advantages over other methods. In a LR scheme, individual plots are combined into one large estate, which is subdivided rationally after planning a new road layout. Landowners contribute a certain portion of their land for the sake of open space, roads, and reserved plots. New road layout facilitates piped drinking water, drainage, and electricity, among others, along the right-of-way, because of which the price of plots increases significantly, thereby compensating landowners for their contribution. The cost of infrastructure is borne through the sale of reserved plots, which makes planned development possible without external funds. Besides such self-financing mechanism, LR is lauded for other perceived benefits. Most notably, there is no need to acquire land, and hence original landowners are not displaced. Likewise, although the original landowners lose part of their lands, the market price of their now-serviced plots is high enough to compensate them for the loss, thereby creating a win-win scenario for the landowners and project developers. Finally, the LR technique helps to control the premature conversion of farmlands and urban sprawl. However, in this paper, we argue that the perceived benefits of LR (hereafter called LP) should be understood in the specific context of where such schemes are implemented.

The objective of this paper is to look at the impact of LP projects on the welfare of original landowners including small landholders as well as their impact on urban spatial growth. Using the experience of LP in Nepal, we indicate several pitfalls, leading us to argue that the tool is yet to deliver on its promises. We recommend measures to address major pitfalls associated with the implementation of LP in Nepal so that the full potential of this powerful urban land development tool could be unlocked.

Land Pooling in Nepal

LP is one of the three forms of land development schemes implemented by the central government through Town Development Committees (TDCs) or by municipalities in coordination with the TDCs as authorised by Town Development Act, 1988 (amended in 1991, 1992, 1997, and most recently in 2019). The other two forms of land development, namely site and services scheme and guided land development, are almost out of practice now. Introduced in the late 1970s, under the site and services scheme, the government would acquire primarily cheap vacant plots through *eminent domain* or make available public land and then develop the acquired land by adding infrastructure and services. As land acquisition became increasingly costlier over the time, the site and services method lost relevance. On the other hand, the purpose of guided land development, introduced in the late 80's, was to increase accessibility by reorganising the road network, for which landowners would contribute part of their lands. Some of the features of guided land development have been inherited by the LP technique. LP was introduced in Nepal in 1975 with the initiation of the Chipledhunga Project (13.5 hectares) in Pokhara (Acharya, 1988). However, the country's first official LP project, the GongabuLP Project (14.3 hectares) in Kathmandu, was initiated a decade later in 1988 as a pilot given below.

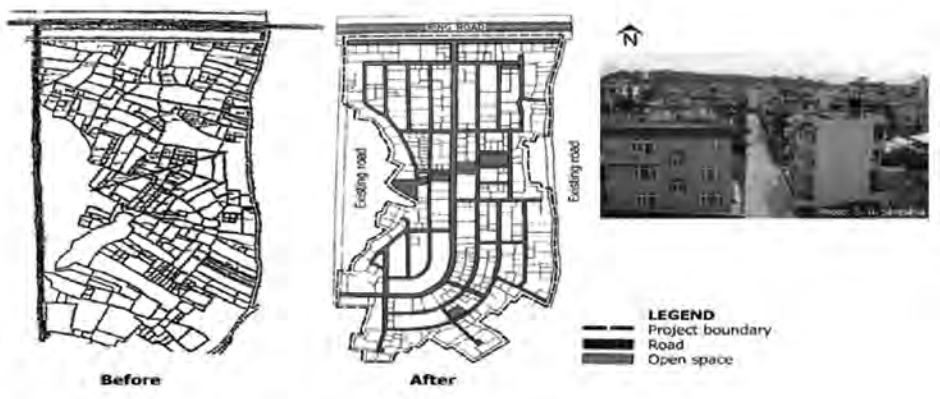

Figure 1: Plot division in Gongabu Land Pooling Project

Source: Singh (2002), Joshi and Shrestha (2018)

As of now, 14 LP projects (total area: 352.8 ha; developed plots: 15,960) have been completed or almost completed in the Kathmandu Valley (Faust, 2020), the largest urban region in Nepal, consisting of 18 municipalities, including, Kathmandu (Figure 2). Likewise, 8 projects (total area: 358.7 ha) are at different stages of implementation. The project area varies from as small as 5.4 ha to a maximum of 90.2 ha with an average of 31.5 ha. In global comparison, the scale of LP in the

Kathmandu Valley (or Nepal for that matter) remains small, both at the project level as well as in aggregate. LP projects have also been implemented in Nepal outside the Kathmandu Valley.

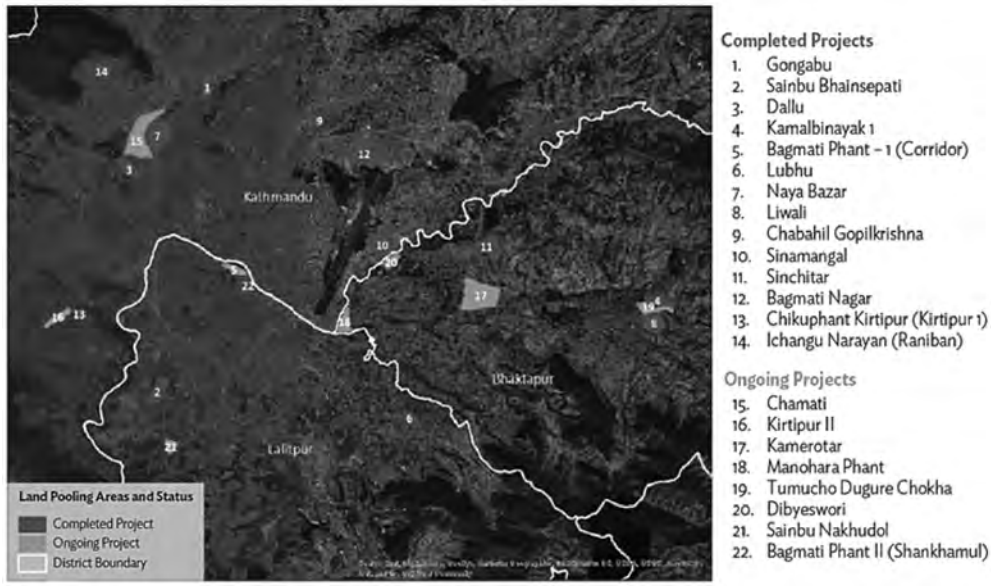

Figure 2: Completed and Ongoing LP projects in the Kathmandu Valley

Source: Faust et al. (2020)

Although the basic identity of LP as a technique to produce serviced residential plots has not changed, wider applications are now being explored in Nepal. Within the Kathmandu Valley, there are plans to develop Outer Ring Road (71.9 km in length) as well as new satellite towns through LP. Outside the Kathmandu Valley, ten new towns along Mid-Hill Highway with a minimum population of 100,000 are proposed to be developed through LP. Likewise, LP technique has been employed in the post-earthquake resettlement plans in several parts of the country. Many municipalities across the country are preparing to launch LP projects to accommodate the growing population.

Legal Provision

As per Sub-section 12.1.2 of Section 12 of the Town Development Act, 1988, LP can be carried out in any part of the town planning area with the agreement of at least 51 percent of the landowners or tenants. The process begins with an official decision for LP by the government, followed by the formation of a management sub-committee (Figure 3). Public notice is published, and land ownership certificates are then collected from the landowners. Topographical survey and re-cadastral surveys are conducted. Landowners' committee is formed, and alternative schemes

are designed, discussed, and finalised. The government gives its approval for the scheme, following which roads and plots are demarcated. The plots are then redistributed to the landowners.

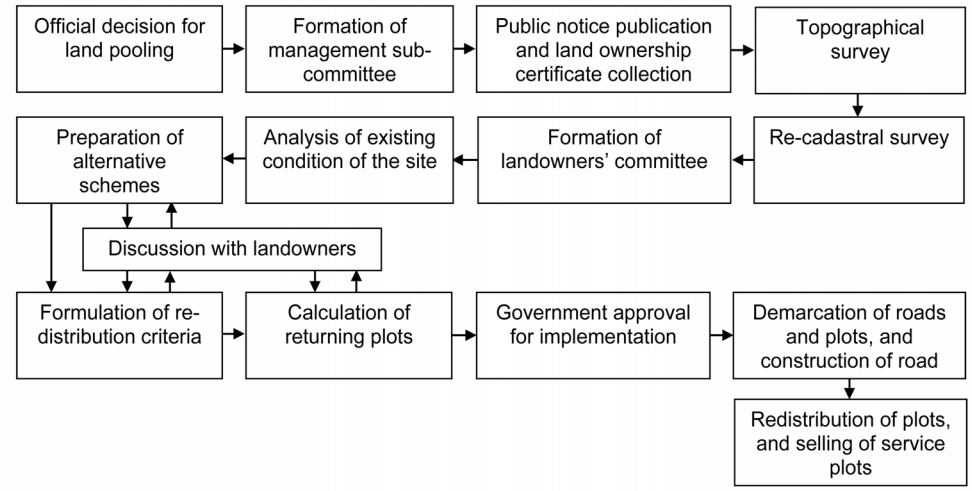

Figure 3: Official Process of LP in Nepal

Source: Joshi (1997)

The Department of Urban Development and Building Construction under the central (now federal) government provides management control in the LP projects whereas TDC (or municipal office in case of the municipality-led project), project management sub-committee, and users' committee provide regulatory control. After the eighth amendment in the Town Development Act, 1988, the TDC is now chaired by the head of the respective local government (e.g., mayor) instead of a political appointee as in the past. In the case of Kathmandu Valley, however, the Kathmandu Valley Development Authority (KVDA) formed through KVDA Act, 1988, continues to function as the much more powerful version of TDC despite the emergence of municipalities as local governments with the promulgation of the Constitution of Nepal in 2015. The KVDA Act, 1988 has similar legal provisions as those in the Town Development Act, 1988, regarding the implementation of land development schemes.

Promises of LP

LP enjoys global popularity as an effective tool to provide housing, infrastructure, and services in an efficient manner. Land value capture, self-financing scheme, and fair distribution of benefits are the commonly perceived advantages of land pooling, which are summarised below (see MoUD, 2016):

- There is no need to acquire land and hence no need to displace landowners. The landowners receive new plots which, although smaller in size, have higher use value as well as commodity value due to the provision of infrastructure and amenities such as roads, parks, sidewalks, and open spaces, among others.
- The cost of infrastructure is borne through the sale of reserve plots, which makes planned development possible without external funds.
- LP helps to reduce land speculation and enables landowners to act in favor of public interest.
- LP projects help control the premature conversion of farmlands and urban sprawl.

However, the so-called benefits of LP should be evaluated in the specific context of a country or an urban area where such schemes are implemented. Despite the hype over LP as a reliable land development tool, Nepal, however, has not seen a boom in these projects. Existing projects also continue to suffer from long delays. It is easier said than done to garner public support in favor of LP despite the touted benefits. It is, therefore, important to stop singing one-sided praises of LP and see the other side of the coin as well. To do so, we next examine the possible pitfalls of land pooling in Nepal's context.

Threat of *Eminent Domain*

Despite the popular notion, *eminent domain* is not completely out of the picture in a LP scheme in Nepal. As stated earlier, LP schemes require agreement from 51 percent (75 percent at one time) of the concerned landowners, which means that the remaining 49 percent of landowners could be made to participate in the process against their will. After all, if the government wants to acquire any private land for land development, it can do so through the TDC as per Section 16 of the Town Development Act, 1988. The Sword of Damocles thus hangs over the head of the landowners. It is not that the government would jump at any occasion to exercise its power to acquire land, but it can if needed. Moreover, there is also a legal provision for the government to acquire land if the land parcels are smaller than the pre-determined minimum lot size, after accounting for the land contribution. Small landholders have two options to choose from: either purchase extra land to meet the minimum lot size requirement (Part 12.1.4 of Subsection 12.1 of Section 12 of the Town Development Act) or sell their land parcels to the government at the prevailing market price (Part 12.1.5 of Subsection 12.1 of Section 12 of the Town Development Act). The popular notion that no landowners are displaced in a LP scheme is thus not necessarily true; small landholders who are unable to buy extra lands do get displaced from their land. Although they are entitled to receive compensation from the government, the compensation in valued at the prevailing market rate, which implies that they are refrained from enjoying the promised benefits of LP (e.g., high property value after the project completion) despite their contribution to the project.

Subtle Displacement of Original Landowners

An analysis of 11 land pooling projects in the Kathmandu Valley shows that the average contribution ratio at the project level ranged from 21.7 percent (slightly above one-fifth) to 56.0 percent with an average of 33.9 percent (standard deviation: 8.5 percent) (Table 1). Because landowners in the Kathmandu Valley general hold small chunks of land, the contribution ratio is high enough to discourage landowners from joining LP schemes.

Table 1: Details of Completed LP Projects in the Kathmandu Valley

S.N.	LP Project	Area (ha)	Road Length (km)	Road Density (km/ sq. km)	Share in Land Use (%)					No. of Developed Plots	Project Completion Period (Years)	Implementing Agency
					Road	Open Space	Sales Plot	Total Land Contributed	Developed Plots Returned			
1	Gongabu	14.3	5.94	41.54	17.5	5.2	6.9	29.6	70.4	700	8	KVTDC
2	Dallu	20.1	10.25	51.00	25.0	7.0	8.0	40.0	60.0	1120	11	KVTDC
3	Kamalbinayak I	7.4	3.20	43.24	21.5	4.2	6.8	32.5	67.5	400	5	KVTDC
4	Sainbu Bhainsepati	28.1	8.72	31.03	22.8	12.9	20.3	56.0	44.0	611	11	KVTDC
5	Bagmati Corridor	10.0	4.20	42.00	15.8	3.2	2.7	21.7	78.3	560	9	KVTDC
6	Naya Bazaar	42.7	12.40	29.04	22.0	4.0	4.0	30.0	70.0	2320	7	KMC
7	Lubhu	13.7	2.74	20.00	17.9	4.4	9.0	31.3	68.7	720	3	KVTDC
8	Liwali	34.1	8.85	25.95	23.6	2.8	7.1	33.5	66.5	1800	3	BM
9	Chabahil Gopikrishna	10.2	4.15	40.69	22.7	3.8	7.0	33.6	66.4	259	7	KVTDC
10	Sinamangal	45.8	11.72	25.59	20.3	5.3	7.0	32.6	67.4	1970	7	KVTDC
11	Sinchitar	26.70	8.85	33.15	18.8	3.4	10.0	32.2	67.8	1400	7	KVTDC
	Average	23.0	7.4	34.8	20.7	5.1	8.1	33.9	66.1	1078	7.1	
	Max	45.8	12.4	51.0	25.0	12.9	20.3	56.0	78.3	2320	11.0	
	Min	7.4	2.7	20.0	15.8	2.8	2.7	21.7	44.0	259	3.0	
	SD	13.5	3.5	9.5	2.9	2.8	4.5	8.5	8.5	697	2.7	

Source: Faust et al. (2020), CUPS (2017), and Gorkhaly (2003) with additional calculation.

The landowners not only have to sacrifice part of their valuable lands but are also restricted from using their assets for a prolonged period due to project delays. Out of the 11 LP projects considered, the project completion period varied from 3 years to 11 years with an average of 7.1 years (standard deviation: 2.7 years). It may be argued that despite the project delay, landowners are poised to reap benefits in the long run because, besides value addition due to added amenities, land prices would nevertheless increase significantly over time in response to ever increasing

demand for urban land. But then, the question arises over the motive of LP as to why residential plots are developed – is it because landowners get a better environment to live in or because they get better assets to sell off and live elsewhere?

Because of LP, the market value of land parcels, though reduced in size, can increase many folds by the end of the project. This could encourage the original landowners to sell their plots to new residents. Although such displacement of the original landowners is not 'forced' as such, LP does create a conducive environment for this to happen. As an example, in the Nayabazaar LP area, located near the center of Kathmandu Metropolitan City, the land contribution ratio at the project level was 30 percent (Shrestha, 2018). However, now only 36 percent of the residents are the original landowners, while the remaining 64 percent of the residents are new settlers. The displacement of original landowners could be a concern for the local political representatives who would want their voters to stay. This could have an impact on the political feasibility of LP projects, given that the local governments have a greater say on land development schemes after the recent amendment in the Town Development Act, 1988. However, more than the political implication, the displacement of the native population, particularly from the core areas of the Kathmandu Valley, has a negative consequence on the sustainability of local cultural practices which are an intrinsic part of the historical identity of the Valley and an important factor to promote tourism industry in the Valley.

Welfare of Resident Landowners

Price escalation does not benefit the landowners who choose to reside in the project area. In other words, the price escalation of a property does not matter if the property is not to be sold. In contrast, the original resident landowners may instead lose in terms of higher property tax than before. It may be argued that the resident landowners would nevertheless benefit from the amenities and services made possible by LP. But then, it is also possible that these landowners would have preferred a more moderate level of amenities and services (for e.g., 6 m road instead of 8 m) that would have required a lower land contribution ratio. Most of the amenities and services provided in a LP, such as roads and open spaces, are also available for consumption by the population living beyond the project area who could therefore be seen as free riders by the resident landowners.

Impact on Land Market and Urban Form

Despite the popular notion that LP controls land speculation, premature conversion of farmlands into urban use, and urban sprawl, Nepal's experience tells a different story. In Nepali society, the land is not only a valuable possession but also a dependable investment with a high return. Because land prices have been continuously increasing in the urban areas for the past several decades, landowners have a tendency to hold lands as long as possible in anticipation of further price

escalation. It is not different in the case of LP projects. The prolonged existence of vacant lots in several LP areas even after the completion of the projects and the significant proportion of new settlers in such areas together suggests an act of land speculation.

Figure 4: Gongabu Land Pooling Project Area (2003) and (2011) (right)

Source: Google Earth

Because LP areas are relatively small in Nepal, the effect of these projects on the broader urban form has been negligible. Observations show that pace of urban growth is no less rapid (sometimes even more rapid) outside land pooling areas than inside (see Figure 5 and 6). Therefore, without broader control over land use, LP alone cannot control urban sprawl.

Figure 5: Sinchitar LP Project Area in 2007 (left) and in 2020 (right)

Source: Google Earth

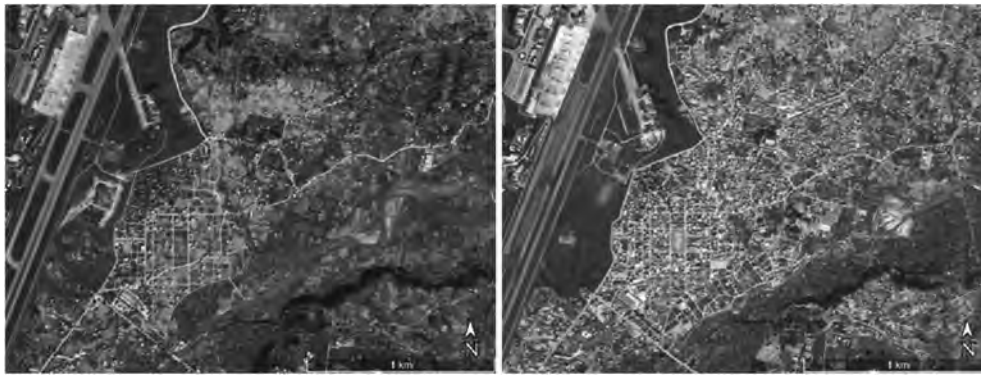

Figure 6: Sinamangal LP Project Area in 2003 (left) and in 2011 (right)

Source: Google Earth

Almost all of the LP projects in the Kathmandu Valley (or in Nepal) have been launched on farmlands. Proponents of LP claim that it is just a matter of time before farmlands are converted into residential plots by private developers. But to say that LP controls premature conversion of farmlands into urban use is an irony. In fact, in many cases, farmlands in use have also been destroyed to pave the way for LP projects. In some occasions, farmers have even clashed with project staff over the formers' attempt to farm on their previous lands now located inside a LP site. Likewise, in the four proposed LP sites in New Towns along the Mid-Hill Highway, the share of existing agricultural lands ranges from 75.0 percent (Basantapur) to 92.02 percent (Sanphe) (see Kanth, n.d.).

Role of Local Governments

As also stated earlier, the eighth amendment in the Town Development Act, 1988 has given local governments (e.g., municipalities) a greater role in implementing land development schemes in their jurisdictions whereby the TDCs are now chaired by the head of respective local governments. Earlier, municipalities had to seek approval from the concerned TDC to carry out any such scheme. However, in the Kathmandu Valley, land development schemes still fall under the jurisdiction of the Kathmandu Valley Development Authority (KVDA), a federal entity. When LP projects are overseen by local governments, local sensitivity and concerns get deserved attention. After all, local governments are supposed to maintain close contact with the general public. Potential pitfalls described in this paper would be better addressed by local governments rather than by a federal entity. However, with the presence of both KVDA and municipalities as powerful stakeholders in the land development sector, the future of LP projects in the Kathmandu Valley is anyone's guess.

Way Forward

In this paper, we have analysed the potential pitfalls of LP technique using the case of Nepal in general and Kathmandu Valley in particular. It is possible to address these pitfalls without compromising on the basic principles of LP. Small landholders face the threat of *eminent domain* if they are unable to purchase extra land from the project office in order to meet the minimum lot size criteria. In a such case, compensation is paid at the prevailing market rate. Had they been in possession of sufficient land, they would have been in a position to reap larger benefits at the end of the project. Being a small landholder should not be an excuse to write someone off. Small landholders can be better compensated by considering the present value of the future worth of their lands at the end of the project. Alternatively, soft loans could be provided to the small landholders to purchase extra land, making them eligible to stay. In order to discourage land speculation and consequent displacement of original landowners, a moratorium can be put on the sale of properties inside the LP area for certain years. This would also help support the real motive of LP, which is to produce planned residential plots for people to live, not to trade. With this said, the welfare of resident landowners needs to be addressed carefully because these are the people who are not into seeking financial gains by selling off their properties.

More often, project developers give high emphasis to wider roads, which take away a significant portion of lands that could have been used for residential purposes. The need of the hour is the walkable neighborhoods, not the car-centric development. The level or amount of infrastructure should be reviewed in consultation with the landowners so that the land contribution ratio remains within a reasonable limit. The government or local government can also contribute towards infrastructure such that there is no excessive pressure to produce more reserve plots just to recover the project cost. Minimising the necessity for reserve plots would contribute in enhancing the welfare of landowners. This would also help in gaining support for LP. The premature conversion of farmlands into urban use through LP is a matter of discussion. The point is to address the demand for residential plots, not deliberately create demand for housing. The government should invest in land development across the country so that the responsibility of supplying housing plots to the ever-increasing urban population is also shared. This would also create a conducive environment for the government or local government to introduce innovative models of LP by incorporating not only residential plots but also schools, hospitals, markets, and even farmlands. LP schemes should be a part of a broader city plan, unlike the current practice of treating them as standalone projects, and only then negative externalities such as urban sprawl could be addressed.

Public participation is perhaps the most important ingredient for the success of a LP project. LP also gives an opportunity to the people to act in a responsible way in favour of public interest. Because local governments have the closest connection

with the people as compared to the provincial or federal government, it makes sense to have local governments at the forefront in implementing LP projects. With the pitfalls addressed, LP can be a valuable tool for the local governments (in particular, municipalities) to not only address housing challenges but also to guide overall urban planning in their territories.

Conclusion

The Constitution of Nepal, 2015, has provided greater authority to local governments to manage development issues at local levels. LP can be a powerful tool for the local governments (in particular, municipalities) to guide urban growth in their jurisdictions, but if not used properly, LP can also backfire. As argued in this paper, the potential benefits of LP should be analysed in the specific context of the area where such projects are being implemented. Nepal's experience in LP indicates the existence of serious pitfalls, particularly regarding the welfare of landowners, including the issue of small landholders who are even susceptible to *eminent domain*. These pitfalls need to be addressed first in order to unlock the full potential of LP, and as this paper argues, it is possible to do so without compromising on the basic principles of land pooling.

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Sevkiye Sence TURK*

Land Readjustment Experience from Turkey's Perspective

Abstract

The experiences related to LR in the world demonstrate that the tool can be used for different purposes with varying outcomes. Therefore, the examination of different countries' LR experiences is significant. The aim of the article is to show the LR experience in Turkey. For this, the article covers the legal framework, characteristic features, and lessons learned from the Turkish LR experience. The Turkish experience of using of LR in different projects and highly differing land tenure contexts shows the adaptability of the tool, especially for developing countries.

Introduction

Although LR mechanism differs according to countries' models (Hong and Tierney, 2018; Hong and Needham, 2007; Turk, 2008), the main principles are similar. The main principles in LR models are the participation of landowners, removal of land assembly costs, and sharing of the cost and benefits. Compared to other alternative land development tools, this tool has the potentials that serve enabling strategies like land assembly (Home, 2007; Lin, 2005), self-financing (Mittal, 2014; Mattur, 2013), sharing of benefits and costs (Hoyos, 2019; Van Krabben and Needham, 2008), recovery of service and infrastructure costs (Munoz Gielen, 2014; Turk, 2005), protection of social capital (Turk, 2018; Soliman, 2017), and provision of the partnership or cooperation of all parties (Sorensen, 2000; Mukhija, 2006). LR can be used to achieve different project objectives in urban areas yielding differentiated outcomes. Therefore, the assessment of countries' experiences is significant to understand the capacity of LR.

This paper discusses the legal framework, characteristic features, and lessons learned from the Turkish LR experience. Turkey can be considered a good laboratory for studying LR. Firstly, Turkey has a long history in using LR (Çete, 2010; Turk, 2008; Turk, 2007; Turk, 2005). Secondly, local governments- municipalities, provincial administrations, and landowners have a significant amount of knowledge and experience with LR (Turk, 2018) because of the large number of LR projects implemented in the country. For example, in 2013, within only one year, 3,127 LR projects were implemented (General Directorate of Land Registry and Cadastre, 2013). Large municipalities are the main implementers of LR projects, with 60.7 percent of all projects implemented by municipalities with a population of over 300,000 (Turk, 2004). Thirdly, LR has been used in three different ways in Turkey,

* Professor, Land policy, Urban Law & Urban planning, Istanbul Technical University. E-mail: senceturk@gmail.com

as different from the other countries-in new development areas of the city, in upgrading existing illegal housing areas for regularisation of land tenure and in the renewal of irregular and informal settlements.

This paper is organised as follows: the second section gives the legal framework of LR in Turkey. The third section examines LR process. The fourth section covers the main features of LR in Turkey. The fifth section discusses some lessons from the Turkish LR experience as a conclusion.

Legal Framework for LR in Turkey

Legal Past: The past of LR in Turkey goes to the time of the Ottoman Period. The first legal source was regulations related to buildings dated 1848 prepared for Istanbul. This regulation contains the simplest form of the current LR. In this regulation, LR was only used in fire areas. At a later stage, in the Regulations related to Roadways and Buildings dated 1864, Code of Buildings dated 1882, and Law No. 625 dated 1925, similar provisions were included. In these legal sources, LR could only be used in fire areas (Tekeli,1994). Instead of fire areas, using LR in all urban areas was made possible by Law No.1663 dated 1930. After this, LR became applicable to all municipalities through the Buildings and Roads Law No. 2290 (1933), Reconstruction Law No. 6785 (1957), and Reconstruction Law No. 3194 (1985).

Table 1. Legal Sources related to LR in Turkey

	Date
Legal Sources related to using of LR in the formal market	
The Building Regulations of 1848	1848
Road and Building Regulations of 1864	1864
The Building Law of 1882	1882
Law No. 642	1925
Law No 1663	1930
Building and Roads Law No. 2290	1933
The Reconstruction Law No. 6785	1956
The Reconstruction Law No. 3194	1985
Law No. 5006	2003
Law No. 6704	2016
Legal sources related to lusing of LR in the informal market	
The Amnesty Law No. 2981	1983
The Amnesty Law No. 3290	1984
The Amnesty Law No. 3366	1986
Legal Sources related to using of LR for large scale housing projects in renewal areas where include irregular and informal settlements and in newly developing areas	
Law No. 5366	2005
Law No. 5393 (Article 73)	2005
Circular (General Directorate of Land Registry and Cadastre) No. 20	2008
Law No. 5998	2010
Decree Law No. 648	2011
Law No. 6306	2012

Sources: Turk, 2005; Turk 2007; Turk, 2013

The important difference between these laws was a change in the contribution percentage and the scope of public areas content. The percentage deduction was increased from 15 per cent (Buildings and Roads Law dated 1933) to 25 per cent (Reconstruction Law No. 6785, 1957). The concept of a contribution percentage was introduced by Law No. 1605 (1972). This law accepted the contribution percentage and prescribed what constituted public use areas such as roads, squares, parks, car parks, nurseries, and green areas needed in the LR area. The Reconstruction Law No. 3194 (1985) protected the LR concept but increased the contribution percentage to 35 per cent and also included religious facilities and police stations within the scope of public use areas. Law No. 5006 in 2003 further increased the contribution percentage to 40 per cent, and included elementary and secondary education within the scope for public areas (Turk and Turk, 2011, p. 693). Law No. 7181 in 2019 increased the contribution percentage to 45 percent. The scope of public areas was broadened, and the contribution percentage could then onwards be used for road, square, green area, car park, park, children's playground, religious place, police station, elementary and secondary schools, health facilities, market places, district sports areas, public transportation stops, the road where access control, waterway, municipal service areas, official service areas, cemetery areas, social and cultural facility areas.

Table 2. Land Contribution Percentage as per Turkish Law

Year	Law No.	Contribution %	Context
1933	Law No. 2290	15	Road, square, and green area
1956	Law No. 6785	25	Road, square, green area, and car park
1972	Law No. 1605	25	Road, square, green area, car park, park, and children's playground
1985	Law No. 3194	35	Road, square, green area, car park, park, children's playground, mosque, & police station
2003	Law No. 5006	40	Road, square, green area, car park, park, children's playground, religious place, police station, and elementary and secondary schools
2019	Law No. 7181	45	Road, square, green area, car park, park, children's playground, religious place, police station, and elementary and secondary schools, health facilities areas, market places, district sport areas, public transportation stops, the road where access control, waterway, municipal service areas, official service areas, cemetery areas, social & cultural facility areas.

Note: Some additions are made by the author on the relevant table of Çete (2010).

Legal Basis and Purpose for LR: The basic law related to LR is the Reconstruction Law No. 3194 that came into force in 1985 and its regulations, Title 18 is related to

LR. In the scope of this law, LR is used as an implementation tool for detailed local plans, especially in new development areas and partly built up areas. The second source is the Building Amnesty Law No: 2981/3290 which came into force in 1985 that includes provisions for legalising illegal settlements. The third source is the Urban Renewal Law that came into force in 2004, whereby LR can be used for urban renewal of irregular and informal settlements. The main aim of LR in this instance is to re-parcel land by taking into consideration *de facto* subdivisions and uses in the area and build local infrastructure. The use of LR in new development areas, especially for housing areas is of two types, first the production of serviced urban plots in small size, and second, the production of the serviced plots in large size for mass housing. In the former, the development process is by different landowners while in the latter type, the development process is undertaken by professional players by the mass housing Authority (TOKI), public-private partnerships, developers or cooperatives. During the legalisation of informal settlements, squatters received title allocation documents (tapu tahsis belgesi) after their land claims were found to be legitimate. Although these documents are not legally binding, they provide an official recognition of the use rights of informal settlers. To obtain a legal title, land occupants must come up with a development plan for improvement (or upgrading) (Turk, 2018; Uzun et al. 2010). A special LR method has been applied to upgrade existing illegal housing areas for both regularisation of land tenure and the provision of basic services in the areas. The implementation of development plans for improvement is provided by a special LR method.

The third source is related to large-scale housing projects in renewal areas that include informal settlements and newly developing areas. By 2003, significant powers were delegated to the Mass Housing Authority (TOKI) as a unit of the central government to manage large-scale housing projects (Turk and Korthals Altes, 2014). Similar powers were given to the Ministry of Environment and Urbanisation in 2011. These central government agencies could use LR for large-scale housing projects in the renewal areas or newly developing areas. The main aim of using LR is to produce serviced urban plots suitable for large-scale housing projects and to construct local public facilities and infrastructure (Turk, 2018). Among the aforementioned ways of using LR, it is mostly used for the implementation of detailed local plans in the formal market in Turkey. LR for legalising informal settlements was often used between 1980 and 1990 (Amnesty Laws No. 2981/3290/3366). However, this type of LR is no longer practiced in Turkey. A 2012 law—***Regeneration Law of Areas under Disaster Risk*** (Law No: 6306) abolished the Amnesty Laws.

LR Process in Turkey

The LR process in Turkey can be divided into four stages. These are initiation, calculations, distribution (reallocation), and approval.

Initiation: In Turkey, the LR project starts with the determination of the project area. LR project area is determined by the municipal committee in municipal areas and by the provincial committee outside those areas directly regardless of the landowners' consent. The landowners are informed after the public announcement. LR projects are implemented directly by the municipality or by private offices. In the preparation stage, land registry records, cadastre maps, existing maps, and geodetic control points, and detailed local plans are used for the provision of data. The data must conform with each other and be up-to-date. If land registry records and cadastre maps are defectively produced, these directly affect the accuracy of calculations in LR projects (Çete, 2010). Following this, the cadastral parcels in LR the project area are defined. The administration gives information to the Land Registry Office to initiate LR. Upon this notification, the Land Registry Office put an annotation on the parcel records to inform the relevant parties about the LR project. The precise areas of the cadastral parcels are supplied from the land registry office. By taking into consideration the protected buildings and the width of the roads, in accordance with the detailed local plan, the building blocks are drawn on the reallocation (distribution) map. They are resurveyed after boundaries of building blocks are applied to the area. After that, the reallocation (distribution) map that contains boundaries of the cadastral parcels and the resurveyed building blocks are developed (Çete, 2010).

Calculations: While some parcels are included in LR projects as a whole, some are partially included. Therefore, first of all, the parts of the cadastral that are included in the LR project parcels are calculated. After that, the areas calculated and areas taken from the land registry office are compared with each other and corrected. For this correction, the area taken from the land registry office is the base. In the project area, the included and excluded parts of each parcel are shown on a map. The title registration office revises the notifications in the land registry by taking into consideration the new situation. The area of each building block is computed, and the contribution percentage is determined. The contribution percentage is applied to all parcels in the project area to provide land for public service areas defined in Law no. 3194 and its regulation. If the contribution percentage is greater than 45 percent, the excess part is expropriated from all parcels included in the project (Çete, 2010).

Distribution (reallocation): In Turkey, distribution in LR is made based on the land area. However, the main principle in distribution is that the new plots are given, firstly, in its own original place, secondly close to the original place of the cadastral parcel, if not possible, third within the LR area. After fulfillment of the reallocation stages, parcel sizes of the new parcels and corner coordinates are computed and balanced.

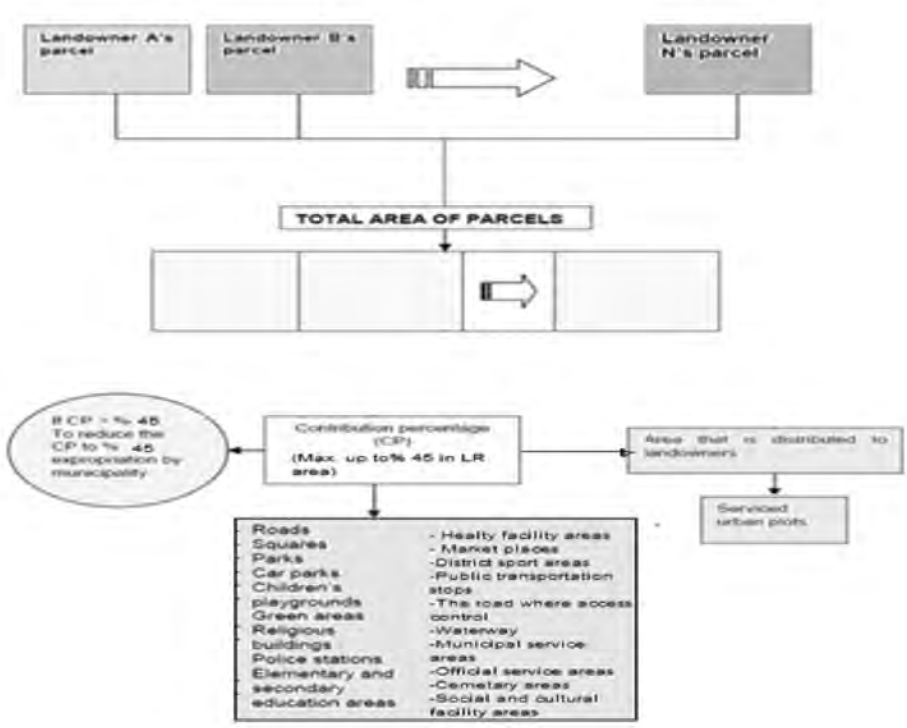

Figure 1: LR Model in Turkey

Approval: In a LR project, the parcellation map that shows new parcels is approved by the municipal committee or the provincial committee. Then the project is announced for one month. During the announcement period, the landowners can object to the LR project. After examination of the objections, the project is submitted to the cadastral office for providing technical control and then sent to the land registry office for registration. The LR process is concluded at this stage. Although the administrative processes carried out for LRs by using public force are applied on behalf of the public, they are open to judicial review. The landowners who fail to obtain the expected results from LR have the right to appeal in accordance with the provision of Article 125 of the Constitutional Law. The period for lawsuits to be filed regarding LR starts with written notification of the LR results to the concerned persons.

Main Features of LR in Turkey

Relation to Planning: The main aim of the LR process in Turkey is to provide the implementation of the detailed local plans. Therefore, LR is a legal administrative procedure. Municipalities determine LR project areas by taking into consideration the self-evaluated needs. For this reason, the municipalities have to prepare five-

year implementation programs within three months after the detailed local plans go into effect (Turk, 2007; Turk, 2005).

Within the implementation programs, municipalities have to determine LR areas. At the same time, the municipalities have to think of how LR projects are implemented in the whole of the urban area. At this point, the distribution of public service areas (both on-site and off-site areas) are to be known. The determination of LR project areas is closely related to the distribution of public service areas within the urban area. If the LR projects are distributed in a balanced way, municipalities can provide on-site areas free of charge. However, in Turkey, there is a lack of criteria regarding the determination of LR project areas and the designation of their sizes. According to the Reconstruction Law and relevant regulations, LR project areas cannot be designed smaller than the size of a single residential block. Municipalities generally prefer to implement LR projects in sizes equal to a single residential block. In this situation, the contribution percentage to be taken from landowners for public service areas will be limited. This might be considered very low when considering the infrastructural needs for the whole urban area. If each owner contributes a small contribution percentage in the whole of the urban area through LR projects, the needs of the social and technical infrastructure of the urban area cannot be solved (Turk, 2005).

Basis of Contribution Percentage: The contribution percentage and its usage purpose are defined in legal sources in Turkey. The maximum contribution percentage is determined as 45 percent. Each plot owners in all LR projects has to give this percentage as land. According to the law related to LR and related regulations, the contribution percentage within the project area is calculated based on dividing the amount of land utilised for public services by the total amount of cadastral parcels in the project area (Turk, 2005). Over time, there have been controversies involved in such a high contribution percentage, and this has been the subject of litigation. The Constitution Court's decision dated 22 November 1963 is quite important. The Court indicated that the contribution percentage was construed as an "expropriation action without compensation"; thus this article was annulled, and the use of LR was blocked until an amendment was made to Law No. 1605 in 1972, introducing the concept of "Contribution Percentage for Public Areas" (Turk and Turk, 2011). The contribution percentage is taken for an increase in value arising from LR, and this can only be used to provide social and technical infrastructure areas (defined in Law no.3194 and its regulation).

Principle of Distribution: Distribution in LR in Turkey is made based on the land area. However, the main principle in distribution is that the new plots are given in its own original place, close to the original place of the cadastral parcel or if not possible, within the LR area (Turk, 2018; Turk, 2007). Also, in case the area of the plot given to the landowner following the LR project is smaller than an urban plot, shared plots are formed by necessity. Until Law no 7181 that came into force in

2019, the shared plots before the project implementation could not be transformed into independent plots during the reallocation process. However, after this legal regulation, shared plots can turn into independent plots during the reallocation process.

Provision of Land for Public Service Areas and Construction: In Turkey, during the LR process, the provision of land for infrastructure and services and construction on the land are separated. The construction on the land that is provided through the contribution percentage is not included in LR process. Because, this is defined as the duties of the municipalities. The construction is realised by the muncipalities after LR project. According to Articles 86, 87, and 88 of the Municipality Revenues Act No. 2464, contributions obtained from landowners are used in road construction, expansion of existing roads in these areas, readjustment of existing roads, and services. The contribution includes the installation of sewerage, the revision of existing installations, the installation of new drinking water network facilities, or the renewal of existing network facilities. This contribution is obtained from owners of the land located on both sides of the roads where the infrastructure passes through (Turk, 2007).

Value Capture Capacity: The LR ensures a changeover from cadastral plot to urban plot. LR results in the production of new urban plots. The value capture mechanism of the method intends to be used for the setting aside of land for public use. The amount of deduction of land in return for the value increment in the LR projects in Turkey is clearly set in the legislative sources. The categories of urban infrastructure to be financed are also defined in the legal sources. The value capture in the implementation of LR is the value increment to occur in the changeover from cadastral plot to urban plot. However, the development rights on urban plots after LR may be frequently changed through new plan decisions or changes in such plans. Until Law no. 7181 came into force in 2019, there was no provision related to capturing the value increment arising from the change in the development rights of new urban plots. It is essential not to take more than one contribution percentage from a parcel. However, with this law, in case of an increase in the housing and population with any plan decision, an additional contribution percentage can be taken. The value capture attained from the LR is linked directly to the financing of the urban infrastructure. Again, LR can be applied within highly differing land tenure contexts where title and tenure is clear, or where there are informal owners.

Participatory and Inclusive Mechanisms: In the LR process, the participation of the public in the project has a critical significance. In LR mechanism, the public may have direct as well indirect participation (Turk, 2008). Generally, in the public-initiated LR projects, the landowners are informed about the project after the public announcement as these projects are decided directly by public institutions regardless of the landowners' consents (Turk, 2008). Mostly, the participation of the public into the LR projects are provided by the public announcements at different

stages of the process. Thus, landowners have indirect participation in the project. In Turkey, the court cases by the landowners have blocked the implementation of several LR projects (Turk, 2011).

Lessons from the Turkish Experience

In Turkey, the practice of using LR in three different ways demonstrates that the tool can be adapted for different purposes. LR can be applied within highly differing land tenure contexts where title and tenure is clear or where there are informal owners. This feature is important, especially for developing countries. Also, it is known that most developing countries do not have an institutional structure related to land valuation, and hence it may be advisable to use an area-based approach instead of a value-based approach.

Turkey has gained a great experience by implementing of LR by an area-based approach. Although LR by an area-based approach has important limitations, it offers ease of application, especially in newly developing areas of cities. In Turkey, there is lack of criteria regarding the determination of LR areas and designation of their size. This situation adversely affects the provision of land for public service areas in the whole city and the value capture capacity. On the other hand, there has been an important increase in the contribution percentage, and broadening in the scope of public areas' in LR applications of Turkey. This has increased the landowners' prejudices against LR projects and rising concerns regarding the issue of protecting property rights.

In Turkey, the LR process can be completed within a relatively shorter time compared to other developing countries. Though the duration of LR changes depending on the size of the project, the average length is about one year. This situation originates from three main factors. First, the construction of infrastructure is not included in the LR process. Second, the planning and LR processes are independent of, but at the same time following, each other. In other words, a detailed local plan has already been prepared at the commencement of the LR project. Third, a public announcement is made at the end of the LR process, which is the only opportunity that landowners can make use of to voice their objections. However, completion of LR process in a shorter timeframe implies that the participatory and inclusive mechanisms are compromised. In Turkey, although LR can be completed within a year, landowners are likely to litigate for the annulment of such projects (Turk, 2018; Turk and Turk, 2011). To improve efficiency of LR in Turkey, the following are required:

- Participatory and inclusive mechanisms must be included in the LR process.
- LR project areas and the contribution percentage should be calculated in the whole of local plans.

- Links between LR projects and a detailed local plan should be established.
- The contribution of LR to social housing should be defined, especially in large scale parcels.
- Municipalities must staff skilled and competent personnel and surveyors authorized to perform LR projects must have defined qualifications and competence.
- Common platforms should be institutionalised for the sharing of experiences in LR projects.

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Naoyuki Yoshino[*] & Saloni Lakhia[**]

Land Trust Method and the Evaluation of the Effect of Infrastructure Investment

Abstract

Infrastructure projects such as roads and railways bring businesses into the region and connect the rural area to cities. Infrastructure plays an essential role in mitigating income disparities by creating jobs. In the long run, growth dividends from infrastructure development and industrialization are likely to be materialised, and the acquisition of land to facilitate such a process remains one of the leading development challenges in many Asian countries. However, landowners do not want to sell their land, generally inherited from their ancestors. Combining the tools from the fields of law and economics, we propose the land trust or land lease for the development of infrastructure investment and industrialisation purposes. We argue that this is one of the best ways to increase the spillover effect and rate of return to invite private investors into infrastructure investment.

Introduction

The 'land question' has invigorated agrarian studies and economic history since Marx, and the early twentieth century writers on agrarian questions. Now more than ever amidst the global COVID19 pandemic, does the impact and effect of land use hold great value. Most countries around the world are grappling with economic re-structuring due to the ongoing crisis, and Asian countries have faced crippling breakdowns with countries relying on tourism and exports as large GDP drivers facing great challenges. Infrastructure investment will play an even more integral role in economic revival in the Asian countries, and as per the Asian Development Bank estimates, there already exists a huge need for infrastructure investment in the Asian region.

Many growing cities are congested due to a lack of planning and public transport, with water supply, electricity, and sanitation lacking in many parts of Asia. Further, the COVID-19 pandemic has led to a structural shift in various sectors, including education, wherein the schools have been transferred to virtual spaces and professional services are to continue working from home. This region now is also

[*] Professor Emeritus, Keio University, Tokyo, Japan, Visiting Professor GRIPS, and Former Dean & CEO, Asian Development Bank Institute (ADBI)). E-mail: yoshino@econ.keio.ac.jp

[**] Public Policy Consultant, Former Research Associate, Asian Development Bank Institute (ADBI). E-mail: salonilakhia25@gmail.com

facing a lack of digital infrastructure which this pandemic has highlighted to be equally important to its large-scale physical infrastructure. With compromised fiscal spending, there is an overall reluctance to spend on infrastructure investments when the majority of spending is being redirected to medical and vulnerable group funding. There is now a need for private sector financing, and though even earlier, public finance has not been enough to support these infrastructure needs in Asia and PPP (Public Private Partnerships) were proposed, they have not met with much success due to the low rate of return from infrastructure investments and high risks associated with infrastructure investment, especially land acquisition. These regions are looking for long-term investments due to the benefits of its long-term nature, with many developing Asian countries initiating pension system and life insurance. It is pertinent that the supply of finance and demand for long term investment by infrastructure should match each other by increasing the rate of returns and reducing risks.

In this paper, the land trust method and return on spillover tax revenues will be recommended to increase the rate of return from infrastructure investment. One of the risks associated in infrastructure investment is that of land acquisition. Purchasing price of land often goes up by bilateral negotiations and it takes a long time to purchase the land from owners which delay the operation of infrastructure. Further, in many Asian countries, the land mafia plays an important role in land transactions, and they raise the land price. How to secure maintenance costs is another issue associated with infrastructure.

Land Trust to Smooth Land Acquisition

Rationale: Acquisition of land for infrastructure investments and regional developments has been a major barrier in many Asian countries. Landowners are reluctant to give up their land for development projects. A land trust can be a solution to these barriers. According to the land trust practiced in Japan, the owners retain their ownership of the land while they lease it for a stipulated period, for instance, 99 years for infrastructure projects. In Japan, for instance, trust business can only be carried out by entities licensed under the Trust Business Act and financial institutions licensed under the Act for Financial Institutions' Trust Business.

Land Trust Method: There are three bodies in trust: entruster, entrustee, and beneficiary. When an entruster has an asset that he wishes to leave for the beneficiary, but he does not want to give it right away, he may entrust the entrustee with the asset with conditions for the beneficiary to receive the profit. This method can be used for trust by will (Yoshino, N., et al 2019).

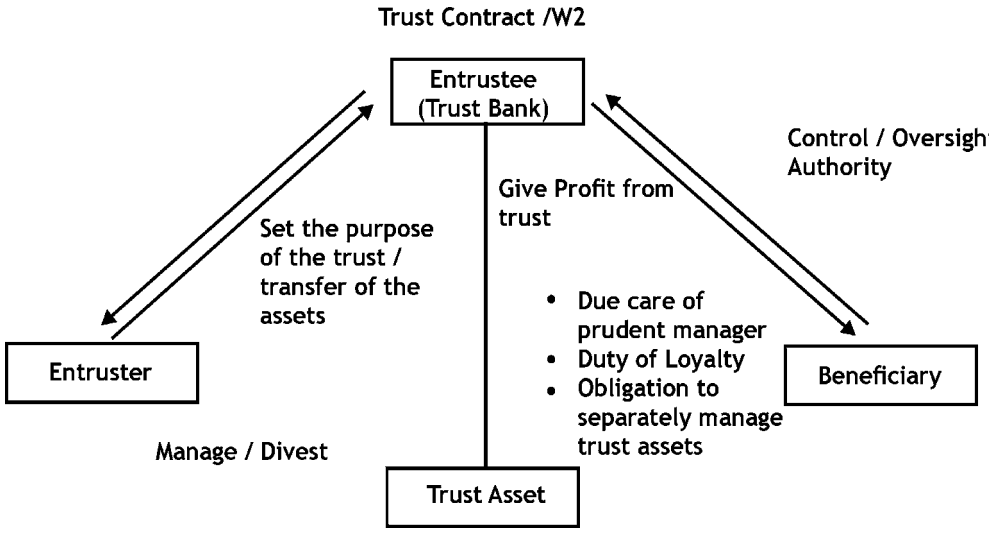


Figure 1: Land Trust Structure and the Three bodies of Trust

Source: *Authors*

The entrustee must manage the trust asset by adhering to the following three rules:

- Due care of a prudent manager: Entrustee must manage the trust asset with the due care of a prudent manager.
- Duty of loyalty: Entrustee must manage the trust asset for the beneficiary following the purpose of the trust. Entrustee must not use the trust asset for his or her own benefit or a third party.
- Obligation to separately manage trust assets: Entrustee must manage the trust asset apart from the beneficiary's property or any other properties (Yoshino, N. et al. 2018)

Under the land trust method, landowners entrust their land to trust banks, and the banks manage the land. For instance, Figure 2 shows that landowners, whilst retaining ownership, transfer the usage right to manage the land to the land trust, which further leases it to a railway company. The landowners will receive part of the profit as dividends. The proposed framework increases their profit by leasing land for infrastructure and development projects.

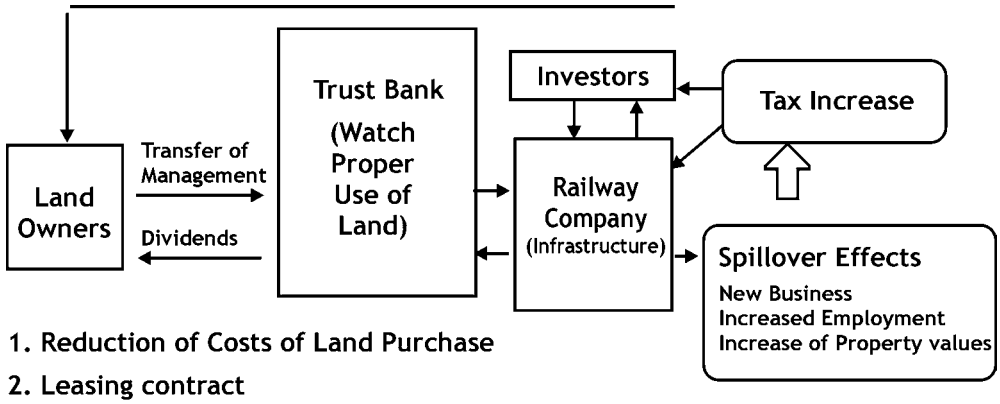


Figure 2: Land Trust for Infrastructure Investment

Source: *Yoshino, N., Abidhadjaev, U., & Hendriyetty, N. (2019).*

The method is to consolidate assets owned by individuals, entrust them to the trust bank, and make better use of the assets. It has a similar function to a trust of money. Consolidating money to operate more effectively is the same as consolidating assets owned by individuals who are not able to maximise the utility of their assets by themselves or do not have the knowhow; entrusting them to the trust bank can increase the utility of the assets. This is one of the most efficient ways to allow people to give usage rights to infrastructure companies and city planning. Further, the acquisition costs of land will significantly reduce, which thereby reduces the one-time costs of infrastructure developers. They can only pay for the rehabilitation costs of landowners and return an annual rent for 99 years to landowners. The continuing spillover tax revenues from the infrastructure project will be able to aid in financing these rental payments to landowners.

If land trust can be introduced, it will significantly shorten the time of negotiating landowners one by one. They can keep the land as they were today, and they can only lease their land without giving up their title. If the land were owned by community rather than individuals, the community can receive rent every year from infrastructure operators. However, the role of the land mafia and the possibility of misuse are also to be noted. Hence in regions where there is a prevalence of land grabbing, we propose that the laws legitimising land trust will make the transaction of land much more transparent and much smoother. Trust bank is standing between infrastructure operators, infrastructure investors, and landowners. In the past, land price was not transparent which allowed the land mafia to play an important role in negotiations. The land trust, together with transparency of land price, will challenge the role of the land mafia and aims to put an end to their

prevalence. To enable a more transparent and efficient method in the Asian regions, a national licensing method is also proposed for land evaluators. For instance, the Japanese government provides certificate of national license to evaluators of land. They are experienced land evaluators who passed the national examinations to assess the land price.

Land Trust in Japan

In cities like Tokyo, individuals who live in small houses may increase the utility of their land by consolidating the land and building apartments or office buildings on it. To do so, those individuals will need help from a trust bank or trust company. The landowners entrust their land to the trust bank, and the trust bank builds a large building on the land to realise the effective utilisation of the land. And those landowners can live in apartments within the building and receive part of the profit as dividends from the trust bank. Individual landowners can gain more profits by this method.

Based on the real estate trust, the idea of "Trust of agricultural land" was proposed. The landowners entrust their agricultural land to a trust bank, and the trust bank manages the land. In this case, the trust bank aids the young farmers who wish to farm the large consolidated land to use it and increase the utility. The landowners will receive part of the profit as dividends. The consolidation of land leads to higher profits for the landowners. Presently, the landowners are obligated to give the land to the trust bank. But in the future, giving only the usage right of the land to the trust bank can be an option, and in that case, registration of the land will be necessary. This way, the landowners can maintain the ownership of the land and increase the profit by lending the land to the younger farmers through a trust bank. Another instance where the same method can be employed is in the case of ship owners or cowmen to increase the utility of their ships or cows.

Land Trust in Thailand

In Thailand, too, if banking laws change, banks can change their role from being financer of infrastructure projects to becoming land trust managers. This can benefit landowners and developers and lead to an increase in successful infrastructure projects. The resulting expansion in economic activity will encourage the construction of commercial buildings, apartments, restaurants, and shopping malls and boost the revenue from property, corporate, income, and sales taxes. In the past, this tax revenue has been collected by central and local governments, but the increased tax revenue can be partly returned to those constructing or investing in the infrastructure projects, together with the user charges, to increase the rate of return and make the projects more attractive to both investors and developers.

Overall, the passing of the Right ver Property Act in Thailand has opened a new chapter for land use and land development in the country. Thailand will be able to utilise the land trusts set up by the new act to increase the rates of return on land and infrastructure development projects. This important change in legislation will facilitate the efforts of landowners, the government, banks, and infrastructure developers in the implementation of a variety of land development projects. Certain essential article from the Right Over Property Act are:

Table 1. Right Over Property Act, Essential Articles

ARTICLE 03	ARTICLE 04	ARTICLE 12
"Right over property" means Propertie which are collaterised by right to utilise the properties to property for utilise real property according to this Act	The owner of property/real property who wishes to establish a right over the property has to submit an application to the officers and has to present the registered land deed or condominium registration to the officers in each case	The right over property is transferable or becomes collateral for any mortgage according to the Thai Civil and Commercial Code
"Real property" means registered land deed, registered land with building and registered condominiums according to law on condominium	Right over property is not to exceed 30 years.	The right over property is inheritable
	A partial establishment of a right over property on the registered land deed or condominium registration is not permitted	Any juristic act on the right over property must be registered with the officers and when registration is complete, the officer will have to rapidly issue a notification letter to the owner of the real property according to the juristic act and ministerial regulations.

Source: Authors' own

Land Trust in India

Land ownership is broadly defined by access to a land title. A land title is a document that determines the ownership of land or immovable property. In India, land ownership is determined through various records such as sale deeds that are registered, property tax documents, government survey records, etc. The onus of verifying the validity of the land title is on the buyer and not the government, making the title vulnerable to challenges (Lakhia, S. 2019).

However, land titles in India are unclear due to various reasons such as legacy issues of the zamindari system, poor legal framework, and improper administration of land records. This has led to several legal disputes related to land ownership and affected the agriculture and real estate sectors. Further, the land administration is spread across various departments that work in silos making it an even more cumbersome process.

Table 2. State Departments Responsible for Land Administration

Department	Functions	Documents Maintained	Offers
Revenue	• Collection of land revenue • Updating & maintaining revenue records	• Record of Rights (RoR) • Mutation Register	• District – Collector • Block – Tehsildar • Village – Patari
Survey & Settlement	• Maintaining spatial land records	• Village Map • City Survey Maps	• District – Deputy Inspector • Block – Town Surveyor • Village – Village Administrative Officer
Registration & Stamp Revenue	• Registration of Property documents and deeds • Evaluation & Collection of Stamp Duty	• Encumbrance Certificate • Sale Deed	• District – Registrar • Block – Sub – Registrar

Source: *Mishra, P., & Suhag, R. (2017).*

There are positive steps being undertaken with the Department of Land Resources, under the Ministry of Rural Development to adopt a unified system of Unique Land Parcel Identification Number (ULPIN) so that it is easier for the State and Union Territories to adopt the same on the one hand and to extract or provide an interface to the other sectors/ other Central Departments/Ministries/State Governments on the other hand. There is also a proposed Amendment in the Registration Act, 1908, and drafting of Model Conclusive Land Titling under active consideration as per a Regional Review meeting held in February 2020. From the western region of the country, certain good practices like digitization of land records and integration in States like Gujarat, Maharashtra, Rajasthan, and Madhya Pradesh have been noted. There has also been significant preparedness in adopting software application, with even a mobile app for land records being developed in the State of Rajasthan. However, the process of surveying and re-surveying that would aid the updation of land records has been extremely slow, largely due to the quantum at hand.

For the implementation of the Land Trust Method, clarity on the land title and land ownership is paramount. By ensuring that only those with clear land titles are able to participate in the land trust method, we would be able to mitigate the possibility of further challenges. To aid land title holders, a one stop centre, which is presently missing in the existing framework will be run by the land trust bank which can have participation from the relevant state department authorities. Further, the land trust bank can also provide capacity building and training to facilitate a smooth transition to the land trust structure. By engaging the relevant government and legal authorities, we propose to bring in legitimacy to the overall process.

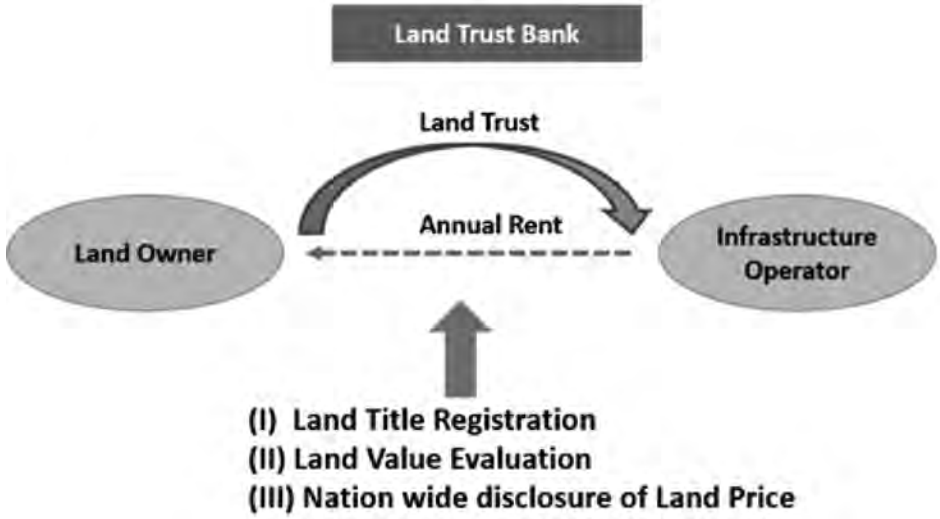


Figure 3: Land Trust Scheme

The land trust will benefit landowners if the spillover effects of infrastructure investments become larger. Landowners will give their usage rights to infrastructure providers and receive annual rent. If infrastructure will bring higher spillover effects in the region, all the businesses in the region will be benefitted. Their sales will rise, which will bring higher tax revenues to the government and infrastructure providers. Landowners can receive higher rental revenues due to the higher spillover effects of infrastructure investments. The ongoing pandemic has highlighted the need for a more robust digital interface which can enable efficient use of land utility. It has also laid bare the conundrum in the legal framework with an urgent need for a unifying land record management law. Infrastructure investments are integral for an economy that's rapidly shifting away from its agrarian identity. The spillover effects are large, and rent of land lease will become higher, benefiting the landowners who have leased land. It is important to create a high spill over by ensuring for instance, that railway station areas have options for shops, restaurants, vehicular parking sections, etc.

Examples of Spillover Tax created by Infrastructure Investments

Transport infrastructure and digital infrastructure such as railways, highways, and broadband internet will increase business opportunities in the region and create new residential areas (Yoshino, N., & Abidhadjaev, U. 2017). GDP in the region will rise, and various tax revenues in the region will rise compared with other regions which had no impact an infrastructure investment (Yoshino, N., &Pontines, V. 2018). Figure 4 shows the region along with the infrastructure which had a positive impact by water supply, electricity, road, etc. Increases in GDP will raise various tax revenues in the region. Higher property prices will increase property tax revenues. Increase

of sales of services sector along the railway, road, etc. will induce new businesses into the region which will increase corporate tax revenues. New employment will be created which raises individual income tax. An Increase in various taxes will be used to measure the performance of infrastructure investment compared to the tax revenues which were not affected by infrastructure investments.

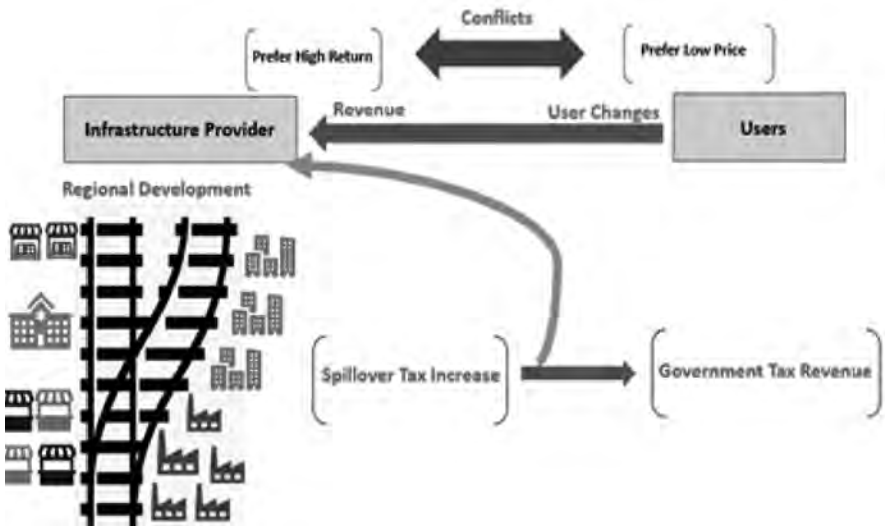


Figure 4: Spillover Tax Return to Infrastructure Provider

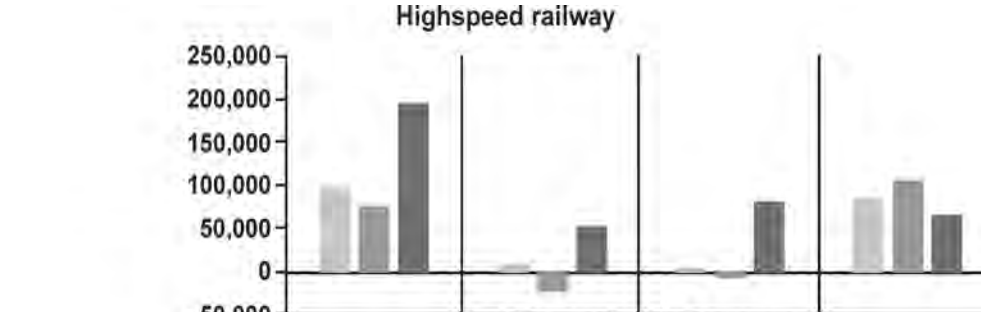
Figure: 3 shows how tax revenues increased after the completion of the highway in the Manila region. If the tax revenues are compared between t+4 (after 4 years' of the completion of the highway) and t-2 (just before the start of construction), each city gained about 3 times as much tax revenues as before.

Table 3. Calculated Increase in Business Tax Revenues for the Beneficiary Group Relative to Non-Beneficiary Group 4 (P million)

	t-2	t-1	t	t+1	t+2	t+3	t+4
Lipa City	134.36	173.50	249.70	184.47	191.81	257.35	371.93
Ibaan	5.84	7.04	7.97	6.80	5.46	10.05	12.94
Batangas City	490.90	622.65	652.83	637.89	599.49	742.28	1208.61

Source: *Yoshino, N., Abidhadjaev, U., &Nakahigashi, M. (2018).*

Figure 5 compares changes in various tax revenues, such as corporate tax, individual income tax and other tax revenues based on the estimates created by highspeed railways in Kyushu island of Japan.



	A Total Tax	A Personal Income Tax	A Corporate Tax	A Other Taxes
Construction (1991-2003)	94,896	7,447	3,435	84,012
Operation 1 (2004-2010)	75,131	–23,843	–6,883	105,858
Operation 2 (2011-2013)	194,790	49,860	80,998	65,102

Figure 5: Impact of Infrastructure on Tax Revenue

Source: *Yoshino, N., & Abidhadjaev, U. (2017b)*

Climate Change is another by product which has to be considered in the global call for sustainable and quality infrastructure investments. Construction of road and highways are sometimes criticised because they will increase pollution of the region by exhaustion gases. Yoshino, Taghizadeh-Hesary, and Otsuka (2020) show that taxation on pollution gases will lead investors to optimal portfolio allocation. Tax on gasoline will gradually push the shift from gasoline cars to electric cars which will reduce pollution gases along roads and highways. Infrastructure will bring new businesses and new residential areas into the region. New restaurants and new shops can be established which will create jobs and reduce poverty. Pollution and other dis-externalities should be solved by taxation rather than stopping the construction of new infrastructure investments. We propose charging a tax on CO2 emissions to mitigate the environmental issues.

How to Measure the Impact of Infrastructure Investment into the Regional Economy

The construction of infrastructure will bring large benefits to the surrounding regions. The provisioning for water supply and electricity supply will invite private companies and new residents. Restaurants and other services sector will come to the region after the completion of water and electricity supplies. Digital infrastructure will make companies and individuals have easy access to the internet which will add value for their business. These are called externality effects (or spillover effects)

created by infrastructure investment. It is believed that externality effects (or spillover effects) are not easy to measure (Yoshino, N., and Nakahigashi, M. 2004). Therefore, the evaluation of infrastructure was mainly concentrated on how much time would be reduced by new infrastructure investments. This paper shows the way to measure externality effects created by infrastructure investments by measuring how much GDP in the region had increased compared to other regions or how much tax revenues increased in the region along with infrastructure compared to other regions where no benefit is obtained by infrastructure investment. The existing infrastructure investments are struggling to maintain its infrastructure. Recent climate change affects weather conditions such as typhoons, floods, the rise of sea levels, higher temperature, etc. These phenomena damage infrastructure in many parts of Asia. Maintenance costs are difficult to raise. User charges of infrastructure such as highway tolls, water tariffs, electricity prices, internet user charges cannot easily be raised. If part of the spillover tax revenues were returned to infrastructure operating companies, maintenance costs can easily be covered. Without infrastructure, there would not have been any spillover tax revenues into the government. If the regions along existing infrastructure investments are growing, it is easy to return extra spillover tax revenues to infrastructure operators so as to cover its maintenance costs.

Increasing the Rate of Return from Infrastructure Investment

Traditionally, infrastructure investments relied on user charges such as water tariffs, electricity prices, highway tolls. Uses of water, electricity, and highways prefer low user charges. On the other hand, private investors in infrastructure prefer a higher rate of return. There are conflicts between users and investors in infrastructure. This will be the main causes of the difficulty in PPP. Not so many bankable projects exist.

The important part of infrastructure investment relies on how much each infrastructure would develop the region by bringing private businesses, increasing employment and tax revenues. In the past, all these tax revenues were absorbed by both local government and the central government even though they are coming from the externality effect created by infrastructure. If part of these increased tax revenues created by infrastructure were returned to the investors in infrastructure every year, the rate of return from infrastructure investments would be a dotted line which is much higher than the cases relying only on user charges. In this case, spillover tax revenues are shared by government and infrastructure investors, 50 percent each.

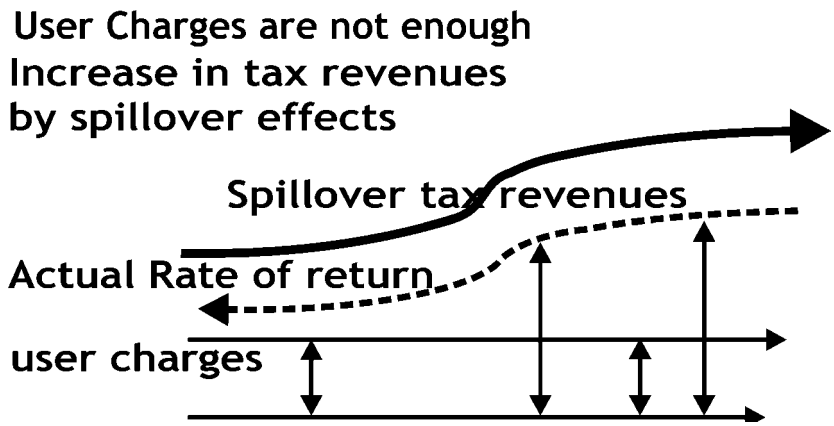


Figure 6: Increase in Tax Revenue by Spillover Tax

Source: *Yoshino, N., Abidhadjaev, U., &Nakahigashi, M. (2018)*

Disclosure of Land Prices in Japan

In order to assess the price of land, disclosure of transactions of land prices in each region will be important information for land value evaluation. There is a website provided by the Japanese government on which one can get the price of land by selecting the region. It shows the price of land in each area without identifying the name of the owner, etc. If similar data can be collected in each country and a disclosure system set up, everybody can access the data, not only land value evaluators but also landowners. This would make it difficult for landowners to ask very high prices for their land when they plan to sell. The collection of such data should be established in each country. Real estate evaluators would be asked to report the prices of each transaction, and this would become the basis of the big data set of land price values in the country. This data would facilitate land transactions without concealing their prices.

Measures for Secured Maintenance Costs of Infrastructure

Infrastructure operating companies have to spend some money for the maintenance of infrastructure. If they rely only on user charges, it is not enough to keep their maintenance costs. Without a good running of transport infrastructure, the regional economy does not work well. If a train stops due to lack of maintenance, businesses, and residents along the infrastructure have to face the large inconvenience. Because of good running conditions of infrastructure, regional tax revenues can be well maintained. Spillover tax revenues should be partly directed to maintain the existing transport infrastructure in good condition. In other words, the spillover tax revenues can only increase the rate of return for investors in transport infrastructure but also covering the maintenance costs.

Conclusion

Covid 19 is creating fiscal deficits which are only expected to grow larger in nature. Government spending capacity is reduced during the ongoing crisis. Infrastructure investment is a key element for economic recovery, and to maintain adequate financing, it is pertinent to ensure that the benefits of land are shared among all parties concerned, and due diligence and monitoring need to be in place to ensure fair and just means. The return of spillover tax and land trust are deemed to reduce the risks associated with infrastructure investments.

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Felipe Francisco De Souza*

Nakasu Land Readjustment Project In Nagoya, Japan: Analyzing Development Costs And Benefits In Replotting Design

Abstract

Land readjustment is a public-private instrument in which governments and landowners bear the urban development costs and benefits in places where existing land use patterns are inadequate and inefficient. The primary mechanism for the implementation of a land readjustment project is known as replotting. Replotting means the change of location, format, and area of several plots of land to achieve a project's final scenario. Often, the scenario expectations are that every piece of transformed private land will be smaller than the original one due to the significant increase in public spaces, and a higher land value due to the added facilities. However, such a transformation process needs to be conducted under clear procedures as any project-related intervention requires the commitment of existing rights holders, which affects their social, cultural, and economic realities. The present work analyzes replotting through the land readjustment project of Nakasu in Nagoya, Japan. The goal is to understand how the Japanese manage the replotting design and some of its related features, such as land contribution, appreciation proportional ratio, and reserve land. During any replotting design process, it will be necessary to calculate the government share through subsidies but also the burden over landowners through their contribution to cost recovery land. Known as R/Rmax, the analysis expresses if the landowners' share of the project costs will be heavy or if they will receive most of the development benefits. As a conclusion, the research praises the advantage of the Japanese replotting design: it is logical and scientific, and it emphasizes the acknowledgment of land prices before and after the project at the same time, which makes it easier to gain rights holders' understanding and acceptance. Therefore, the work clarifies the Japanese replotting design for countries aiming to adapt and implement land readjustment according to their own planning systems.

Introduction

Land readjustment can be defined as a public-private instrument in which governments and landowners bear the urban development costs and benefits in places where existing land use patterns are inadequate and inefficient. The primary mechanism for the implementation of a land readjustment project is known as 'replotting.' Replotting means the change of location, format, and area of several

* Senior Urban Specialist and Ph.D. Scholar, University of Tokyo. Email: felipefrancisco@gmail.com

plots of land to achieve a project's final scenario. Often, the scenario expectations are that every piece of transformed private land will be smaller than the original one due to the significant increase in public spaces. Also, it is expected that the value of the replotted land will be higher than the original land, due to the effective improvement in its use, and its proximity to new urban facilities, such as green areas and roads. The percentage difference in the private property area before and after replotting is called the 'contribution ratio.' Its value corresponds to the area of the reduced property after project implementation, and to the amount of benefits that a given area requires, shared among all rights holders. Replotting and contribution, therefore, serve two complementary purposes: (i) to adjust the demand for land required for proper urbanisation, and (ii) to create supply to – partially or fully finance project costs.

In Japan, the contribution of land also aims to amalgamate shares in 'reserve land,' or 'cost recovery land,' which are plots of land to be sold to finance land readjustment projects. The location, quantities, and dimensions of reserve land are determined according to (i) the economic criterion, which is the capacity to finance new public facilities; and (ii) the equity criterion, which is the ability to equitably balance the land value increase generated by the land readjustment project. Although the sale of reserve land is intended for the payment of the project costs, the government can provide subsidies for the implementation of related larger infrastructure projects. As explained by Sorensen (2000), in Japan, first, land readjustment has shown benefits due to the potential to be a self-financing technique for urban land and infrastructure development, as it is cheaper than to gather all project land into a single ownership, whether on the open market or by expropriation. Second, the pattern of property divisions is reformed and new infrastructure and public spaces are supplied. This feature is particularly important in locations where rural property divisions were irregular and fragmented into many small parcels with little or no road access as it is common in rice paddy areas. Third, the original landowners retain title to the majority of their land. This results in less landowner opposition to projects than in the case of large-scale land expropriation and development, and is less disruptive of the existing community.

Japanese Land Readjustment Act of 1964

After the Second World War (1939-1945), land readjustment became the target of a national legislation in Japan, the Land Readjustment Act No. 119 of 1954 (LRA). The purpose of the law is to facilitate the building of sound urban areas and to encourage public benefit by enacting necessary measures for implementing and allocating project expenses to land readjustment projects (LRA article 1). According to the law, the implementation agencies for land readjustment projects are divided into six categories (LRA articles 3 to 3.3), which the most important are prefectural or municipal governments, and associations of landowners and leaseholders. In the case of an implementation agency set up as an association, it is necessary to obtain

consensus from at least two-thirds of all landowners and leaseholders respectively within the project area. Moreover, the total sum of the areas of the landowners' and leaseholders' plots that consent to the project's implementation shall at least total two-thirds of the total land area of landownership and land lease rights (LRA article 18). Where the land readjustment project is carried by the public sector, this requirement is not necessary because the project shall be implemented as a city-planning project according to the city master plan.

The implementing agency shall formulate the replotting plan to enforce the replotting of the plots within the project area. According to the law, the replotting plan shall guarantee the maintenance of the characteristics corresponding to the original land "in terms of location, area, soil, water supply, land use, environment, and other conditions" (LRA article 89). This is known as the 'principle of correspondence' and in cases that a full correspondence is not possible, at least part of the transformed land must keep the original characteristics. The replotting plan comprises of (i) a replotting design, (ii) specifications of each replot, (iii) specifications for equity payment for each plot and each right, and (iv) specification of the lands with special arrangements, such as reserve land, among others (LRA article 87). Such plan shall consider the following measures to avoid excessively small plots of land, (i) the small land and the adjoining land may be consolidated to one replot and the landowners may get co-ownership of the replot, if they agree; (ii) the replot may not be applied to the small land and equity shall be paid by the landowner instead (LRA articles 91.4 and 94); or (iii) land plots that are big enough shall be able to be reduced, and used for additional allocation to the small land. In this case, the landowner shall be given or pay the equity respectively (LRA articles 91.5 and 94). Imbalances which may arise during replotting shall be corrected by means of equity payments, which shall be established in monetary terms (LRA article 94).

Problem being Addressed

After the Second World War and after the coming decades where colonialism and colonial processes came to an end, a whole new space for the diffusion of ideas and models emerged. International agencies, therefore, became the main drivers to support the developing world in turning ideas into reality and, consequently, scholars began to explore the outcomes of such processes. The process to introduce the idea of land readjustment for urban development to a number of Asian developing countries – mainly sponsored by the Japanese government – has been one of the most significant international collaborations in urban planning in the twentieth century. Land readjustment adaptation and implementation processes can replace old approaches and precede significant changes within planning cultures.The possibility that land readjustment was self-financing through the sale of land contribution was very appealing as one constraint on the development of facilities in developing countries is the chronic lack of funds. Also, the widespread desire to

find self-help, participatory techniques of urban development which could mobilise local actors and resources, and could clarify ambiguous and complex land tenure rights, were key arguments in favor of land readjustment.

Additionally, Japan was highly responsible for the portrayal of land readjustment as a consensus-based process initiated by the government and local landowners, especially by promoting the association type of project – mainly from particular cases in Nagoya city throughout international seminars promoting land readjustment. The Japanese association-led type of project highly differs from the government-led one, which government national interests and enforcement capacity is put aside and its nature seems similar to private and profitable development type. There are concerns with some of the Japanese literature on land readjustment, especially those published in English, because they constantly conceal the difficulties to conclude both types of project, and the vigorous opposition that commonly emerged in Japan (Sorensen 2000; 2007). However, such time-consuming processes need to be conducted under clear procedures as any project-related intervention requires the commitment of existing rights holders, which affects their social, cultural, and economic realities. The present work intends to analyze replotting through the land readjustment project of Nakasu in Nagoya, Japan. The goal is to understand how the Japanese manage the replotting design and some of its related features, such as land contribution, appreciation proportional ratio, and reserve land. Therefore, the work intends to clarify the Japanese replotting design for countries aiming to adapt and implement land readjustment according to their own planning systems.

Research Methodology

The research methodology will largely rely on the theory of replotting design as proposed by Yanase (1996). Replotting design intends to measure the transfer of ownership rights from the original plot to the new replot, and the amount and disposition of betterment contribution for the public facilities and for the reserve land (or the cost recovery land). This approach (or the absorption of costs and benefits development model) is a photograph – on average – of the exact moment of the project before it starts and the exact moment of the project after it finishes. So it has several limitations like it is not possible to tell what happens during the project (if affected by externalities like inflation, credit programs, etc.) and after the project in a short or long term (if affected by externalities like taxation and change in zoning regulation that might affect land prices, etc.). Also, replotting does not consider the 'spill-over effect' which the increase in land prices are absorbed by private properties outside the project area, but rights holders did not participate or contributed to the project.

Figure 1: illustrates briefly the replotting design that will be detailed in the coming parts of this work. Y-axis provides information related to the land price per square

meter before (a) and after (e) the project implementation – on average – and an intermediate price (if), which represents how much land price per square meter should be if the total private asset value before the project (A • a) equaled to the total private asset value after the project (A • a = E • e). Y-axis also provides a theoretical land price (b) which represents the maximum price before the distribution of the positive net benefit being captured as reserve land by the implementation agency. X-axis provides a total area of land (PRJ) before and after the project implementation divided into private areas and public areas (road system, green and parks, and other uses). Outside the rectangles on the right side, it has provided information related to the distribution of positive net benefit deriving from the project (R/Rmax). 'Rmax' is the acreage of the reserve land that could be secured theoretically at a maximum, which means that the total positive net benefit would be captured by the implementation agency (in which theoretically, landowners get no profit from the project), and "r" and "1–r" expresses how much landowners share the costs and the benefits of the project. Outside the rectangles, it has also provided the distribution of project expenses, or total project costs, and the representation of how much from the total cost was paid using government subsidies and how much was paid using the sale of reserve land. Finally, it was included 'Property Taxation after Urbanisation' which might capture valuation in land prices in the long-run.

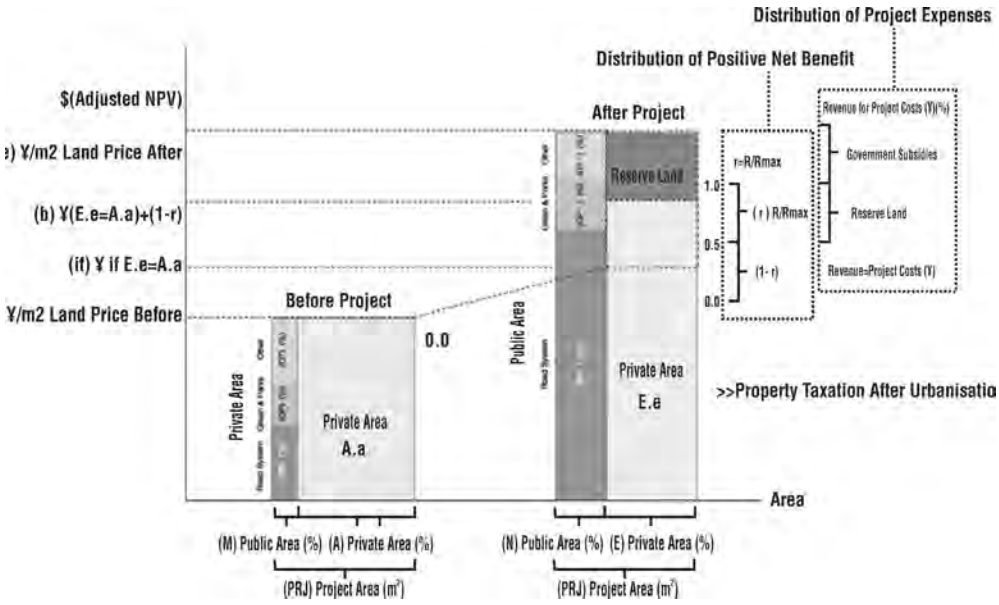

Figure 1: Replotting Design, Distribution of Positive Net Benefit, and Project Expenses

Source: *Author's consolidation of the framework proposed by Yanase (1996).*

Case Study: Nakasu Project in Nagoya

The city of Nagoya is located approximately at the center of Japan. Its urban area has expanded gradually to the present area of 326.45 square kilometers due to the consolidation of neighboring municipalities and land reclamation processes. Since 1955, the city of Nagoya has been implementing land readjustment projects through associations, focusing on the existing areas excluded from the 'War Rehabilitation Plan' and old areas requiring improvements of urban infrastructure. Areas in Nagoya improved by land readjustment projects (including arable land readjustment projects), implemented by both the government administration and associations, affected about 22,000 hectares. If the approximately 1,100 hectares currently under construction are included, the land readjustment implementation covers nearly 68% of the entire city area.

Among over 200 association-led projects already implemented in Nagoya since the enactment of the Land Readjustment Act No. 119 of 1954, the project of Nakasu is one of them.The area where this association was enforced is located in the west of Nagoya, east of Chuo Shônai River in Nakagawa Ward, and about 7.5 kilometers away from the city center. Before the project implementation, the area was composed of flat paddy fields (about 80% of the total area) and there was only one road with an average width of 1 to 2 meters running between some residential units and the farmlands. In the northern part of Nakasu, back 1972 when its association was established by its 82 rights holders, there was no facility other than water supply pipelines. The project took 5 years to be completed and to reorganise 217 plots of land in the enforcement area of 77,091 square meters. After completed, the average size of private parcels in the project decreased from 330.68 to 226.30 square meters and a sewage treatment plant was constructed.

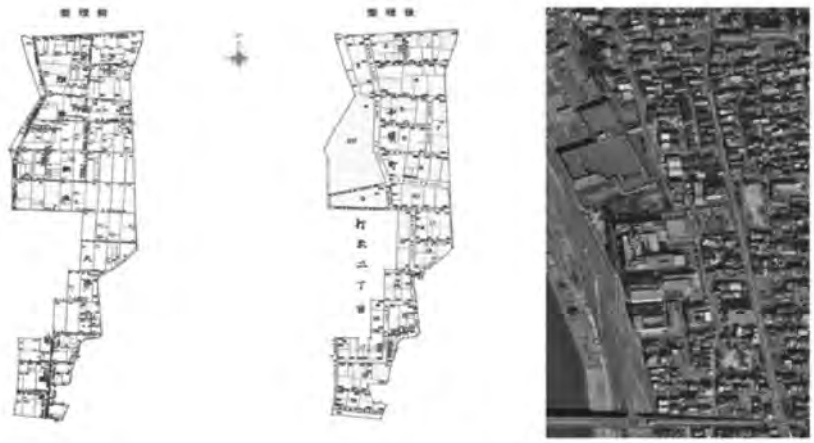

Figure 2: Land Readjustment Project of Nakasu (1972-1977)
(Maps before and after the Project implementation, and satellite image after project implementation)

Source: *Nagoya City Government (1983; 2009).*

Replotting, Proportional Ratio, and R/RMAX

Once again, replotting means the change of location, format, and area of several plots of land to achieve a project's final scenario. As an example to understand the Japanese replotting design, we will research the Nakasul and readjustment project by association in the city of Nagoya. First of all, every association-led project must have a budget to be approved by the government, considering the implementation expenditures and estimated revenues. Expenditure refers to all relevant costs related to (C1) construction, (C2) removal and relocation of facilities, (C3) soil preparation, (C4) research and project development, and (C5, C6) direct and indirect costs according to the specificities of the project. Revenues refer to all sources of funds for the project development: government subsidies – (NS) national, (PS) prefectural and/or (LS) local subsidies –, (R x e) gains from the sale of reserve lands, and (OS) other sources of revenues. Table 1 presents the final budget as established for Nakasu association-led project.

Table 1: Nakasu Project: Expenditure and Revenue

Expenditure (thousand JP¥)		Revenue (thousand JP¥)	
Construction Costs (C1)	111,888	National Subsidies (NS)	0
Relocation and Compensation Costs (C2)	7,782	Prefecture Subsidies (PS)	0
Infrastructure and Soil Preparation (C3)	0	Local Subsidies (LS)	7,535
Research and Project Costs (C4)	7,126	Revenue from the Sale of Reserve Lands (R x e)	307,623
Miscellaneous and Office Costs (C5)	70,820		
Indemnity and Interest (C6)	143,799	Other Revenues (OS)	26,257
Total (T)	341,415	Total (T)	341,415

Source: *Nagoya City Government(1983; 2009).*

After establishing the financial planning, it was necessary to establish a land evaluation system for all rights holders of the Nakasu project. Land evaluation has a significant purpose to judge contribution for reserve land, calculate compensation for loss in damage, calculate replotting area, and calculate equity collection and payment. Besides the conventional system based on market value for land evaluation and real estate appraisal, the Japanese land readjustment uses three additional calculation methods: experience-based, zone value, and street value evaluation methods. The street value is the most widely used today, which was first introduced in 1950 as 'The Standard for Calculation of Land Use Value,' which became later in 1978 'The Standard for Land Evaluation in Land Readjustment.'

In the street evaluation method, the price per unit area of a plot facing a street with standard frontage and shape is assumed as the street value for a street. Plots are then evaluated based on this street value, with modifications made correlating its location with the street, shape and use conditions. The street value is composed by the sum of index figures evaluated separately, consisting of street, accessibility, and land coefficients. The street coefficient gives a value according to the continuity, degree of systematicness, and condition of the road a plot faces, which are presented by a road rank, road width, existence of sidewalk, pavement, street trees, parking lanes, slope, and curves, among others. The accessibility coefficient gives value to the distance between the plot and public facilities, such as train stations, parks and schools; and also, conversely, gas tanks, sewage treatment plants, graveyards, and other unwelcome facilities that are considered minus factors. The land coefficient gives value to the plots features, such as scale, land use, public land ratio, street density, conditions of sunlight, ventilation, topography's security, and installed infrastructures, such as water, sewage, electricity, and gas supplies.

By using formulas and charts stating values for every coefficient mentioned previously, the street value is converted into a street value index to be multiplied individually by each plot size according to its individual features, such as located in the corner, sandwiched between two streets, flag-shaped, or being isolated. The evaluation of each plot must be adjusted according to land market prices in the area, and judged by sales or by indexes as the property-tax evaluation, national evaluation for succession tax, and publicly announced land prices. In short, you have a numerical evaluation for every land parcel, grading every property, before the execution, to be compared with the graded property after the execution of the land readjustment project.Then, the replotted plots will be adjusted according to the acquired benefits and legally required to obey the 'principle of correspondence,' in which the replotted land and the former land shall correspond as much as possible in terms of location, soil, water condition, land use, and environment, among other features. After the evaluation of every right according to the mentioned land evaluation method, it is necessary to establish an overall contribution ratio from the private ownership to increase the public area required for the project implementation. In the case of the Nakasu project, within its 7.7 hectares, it was stipulated a public area increase from 6.92% (M) to 21.12% (N), proportionally compared to the reduction of the private properties from 93.08% to 78.88%. Included in the 78.88% of private areas after the project implementation, 15.18% were earmarked for reserve lands, targeting the revenue of JP¥ 307 million to make the project financially feasible (see Table 1). Table 2 summarises land use classification before and after the project completion.

Table 2: Nakasu Project: Land Use Before and After the Project

Category	Before the project		After the project	
	Area (m^2)	(%)	Area (m^2)	(%)
Public areas				
Road system	3,332	4.32%	14,276	18.52%
Parks and green areas	2,002	2.60%	2,002	2.60%
Streams, rivers and water sources	0	0.00%	0	0.00%
Subtotal	5,334 (M)	6.92%	16,278 (N)	21.12%
Private areas				
Private properties	71,757 (A)	93.08%	49,108 (E)	63.70%
Reserve lands	-	0.0%	11,705 (R)	15.18%
Subtotal	71,757	93.08%	60,813	78.88%
Total (M + A) | (N + E + R)	77,091	100,0%	77,091	100,0%

Source: *Nagoya City Government (1983; 2009).*

Since a decrease in the private property area will take place for the improvement in public facilities and the establishment of reserve land to fund the project costs, the contribution ratio is the sum of land increase for public areas (P = N – M), plus the contribution for the establishment of reserve land (R), divided by the total area of private properties prior to the project implementation (A), multiplied by 100 (or percentage). The total contribution ratio for the Nakasu project was 31.56% (see Table 3). This ratio is an average contribution of all the land parcels, which will be equalised – may increase or decrease – when an individual land parcel evaluation is conducted according to the original asset relationship with the previous road, infrastructure, and public facilities conditions, and the posterior characteristic of the plot after the replotting plan according to the street evaluation method.

Table 3: Nakasu Project: Land Contribution Ratio Calculation

Private Properties		Contribution			Contribution Ratio		
Before the Project(A)	After the Project (E = A - P - R)	Increase in Public Areas (P = N - M)	Reserve Land(R)	Total (P + R)	Public Areas (P / A)	Reserve Land (R / A)	Total d = ((P + R) / A)
71,757 m^2	49,108 m^2	10,944 m^2	11,705 m^2	22,649 m^2	15.25%	16.31%	31.56%

Source: *Nagoya City Government (1983; 2009).*

After getting the average contribution ratio, analysis and valuation of the properties' net asset value need to be estimated. The proportional ratio is defined as the comparison between the previous and posterior land values, and the previous and posterior area of the private properties, excluding reserve land. For instance, if the contribution ratio (d) is 33.3%, the value per square meter is required to increase 50% (land value increase ratio (y) = 1.5) in order to maintain the equal balance of values between previous land plot value and posterior replot value (in this case the proportional ratio (Pr) is 1).

Equal balance: The proportional ratio Pr = (1 – d) • y = (1 – 33.3%) • 1.5 = 1

Table 4 illustrates that by dividing the estimated value after the project (e) by the value per square meter before the project (a) we will estimate the land value increase ratio (y = previous land price divided by posterior land price). In the case of the Nakasu project, JP¥ 14,942 per square meter was the average assessed land price before the project implementation; and estimated to rise to JP¥ 26,281 per square meter, an increase of 75.9% (y = 1.759) after the project completion. If we divide the total value of private properties after the project (V' = area of private land without reserve land (E) multiplied by the estimated unit value (e)) by the total value of private properties before the project (V = area of private land (A) multiplied by the unit value (a) before the project implementation) we will reach a relative appreciation of the value of private properties caused by the project, which is called appreciation proportional ratio (Pr). Pr is 1.204 in this case (calculated with private land without reserve land).

Pr = V' / V = E • e / A • a = (1 – d) • y = (1 – 31.56%) • 1.759 = 1.204

Table 4: Nakasu Project: Increase Ratio and Proportional Ratio Calculation

Private Properties Before the Project (A)	71,757 m²
Price per m² Before the Project (a)	¥ 14,942 / m
Total Value Before the Project (V = A • a)	¥ 1,072,215,567
Whole Replots After the Project (E)	49,108 m²
Price per m² After the Project (e)	¥ 26,281 / m²
Total Value After the Project Without Reserve Land (V = E • e)	¥ 1,598,246,689
Land Value Increase Ratio (y = e / a)	1.759
Proportional Ratio (Pr = V' / V)	1.204

Source: *Nagoya City Government (1983; 2009).*

The proportional ratio Pr is also used to calculate the area of each individual replotted lot, as Pr is a constant (common for all the land plots). The following formula determines the relationship between the value of an individual plot before the project and the value of its replot after the project,

Formula 1. Proportional Ratio Calculation

Pr • Ai • ai = Ei • ei (Pr is the same for all the land plots and replots)

When Pr is calculated, the area of an arbitrary individual replot (i) can be calculated as follows:

Ei = (Pr • Ai • ai) / ei

Pr: the proportional ratio of total private-plot value

Ai: area of an individual plot (i) before the project (m^2)

ai: unit value of an individual plot (i) before the project (¥/m^2)

Ei: area of an individual replotted plot (i) (m^2)

ei: unit value of an individual replotted plot (i) (¥/m^2)

Consequently, it was necessary to establish the project costs share through the contribution for reserve land for the Nakasu project. Reserve land is the resource for the project costs' recovery, and landowners share the project costs with the contribution of their land for reserve land. The weight of landowners' share of costs is expressed as r = R/Rmax. 'R' is the acreage of the reserve land that is actually secured in a project while 'Rmax' is the acreage of the reserve land that could be secured theoretically at a maximum, which means that the total value of all the replots is equal to the total value of all the private land before the project (in which theoretically landowners get no profit from his land). The "r", as calculated, shows how much landowners share the costs and the benefits of the project: if "r" is 100%, it means that all landowners' share of the project costs is quite heavy, and if the "r" is 0% (there is no reserve land), it indicates that landowners will receive most of the development benefits. In Japan, "r" (R/Rmax) is used as an indicator of the necessity of government financial support (subsidy). If R/Rmax calculated without subsidies is more than 1 (or 100%), the government recognizes the necessity of subsidy. If a project receives government subsidy, 'R' decreases, so, "r" also decreases. The condition of the provision of subsidy from the government is that R/Rmax calculated with subsidies needs to be more than 50% in principle. Table 5 illustrates that, in the case of the Nakasu project, the "r" was 58.48% considering an increase in land value, on average, from JP¥ 14,942 (in 1972) to JP¥ 26,281 (expected after 1975).

Table 5: Nakasu Project: Reserve Land and R/Rmax Calculation

Total Value Before the Project(V = A • a)	¥ 1,072,215,567
Total Value After the Project With Reserve Land (Ve = (E + R) • e)	¥ 1,598,246,689
Increase of Total Value ($\Delta V = Ve - V$)	¥ 526,031,121
Price per m² After the Project (e)	¥ 26,281 /m²
Reserve Land	
Maximum Acreage of Reserve Land ($R\ max = \Delta V / e$)	20,015 m²
Acreage of Reserve Land (R)	11,705 m²
r = R/Rmax	58.48%

Source: *Nagoya City Government (1983; 2009).*

Following the project plan and the financial plan, consensus building is performed in order to carry on the project. Then, the draft project plan with the financial plan of the Nakasu project was submitted to the government; such a plan included the draft of the implementation ordinance stipulating project costs, the land readjustment council, the land evaluation advisors, and the equity estimation, among others. The draft of the project plan and the implementation ordinance were presented for public inspection. According to the actual legislation, written complaints can be submitted within the two weeks period for the project's public inspection to the prefectural governor. The governor shall order the implementing agency to modify the implementation ordinance or the project plan if the objections are found to be valid, and shall notify the submitters that the objections were rejected if the objections are found to be invalid. In general, complaints in land readjustment projects are commonly related to equity issues, such as landowners will require that former land should receive better treatment in calculation than others' land. In the Nakasu project, no written complaints were submitted.

After the project plan and implementation ordinance were approved, in order to undertake construction works, the implementation agency designated the provisional replotting so that the landowners and leaseholders were required to stop utilising their original land, when necessary for construction works. For the provisional replotting, the implementation agency formulated a draft replotting plan listening to opinions of the land readjustment council and land evaluation advisors.Also, negotiated with rightholders with the draft through individual explanations about the relationship between the new and the old property locations, the new shape of replots, and the reasons why he/she needs to bear his/her particular contribution ratio. After the enforcement of replotting and end of the construction works, the new replots were registered and the association was dissolved on April 26, 1977.

Conclusions: Research Results and Limitations

Japan, a nation with a high likelihood for natural disasters, over the past decades, has spent considerable effort to achieve better technical results in its urban reality transformation. Throughout this entire process, methods for territorial planning were institutionalised across the country, including land readjustment aiming to implement infrastructure and land pattern changes, without the extensive use of expropriation. With the strong and centralised Japanese State lending its efforts, from time to time, to specific goals – such as the promotion of industrialisation – the city of Nagoya received less national investment than other large cities in Japan. This forced the city to develop urban areas at its own expense aiming to benefit from land readjustment. The present work analysed the replotting design – a primary mechanism for the implementation of a land readjustment project – through the project of Nakasu in Nagoya, Japan. The goal was to understand how the Japanese manage the replotting design and some of its related features, such as land contribution, appreciation proportional ratio, and reserve land. As a conclusion, the research praises the advantage of the Japanese replotting design: it is logical and scientific, and it emphasises the acknowledgment of land prices before and after the project at the same time, which makes it easier to gain rights holders' understanding.

After analysing the replotting design of the Nakasu project, it was possible to identify a land contribution ratio of 31.56%, including 16.31% just for reserve land; and the landowners' share of the project costs (R/Rmax) was 58.48% of the plus-value of increasing property values to be absorbed as reserve land. The rest of the project costs were subsidised with a local government subsidy. Therefore, R/Rmax can be understood as a metric to evaluate the share of cost and benefits in the implementation of land readjustment projects. As a photograph – on average – of the exact moment of the project before it starts and the exact moment of the project after it finishes, the presented replotting design has limitations because it is not possible to tell what happens during the project (if affected by externalities like inflation, credit programs, etc.) and after the project in short-run or after a long period of time (if affected by externalities like taxation and change in zoning regulation, etc.). Also, the benefits related to the increase in land prices are not completely absorbed by the rights holders as they will be absorbed by the government in the long-run through Municipal Property Tax levied from 1.4% to 2.1% (excluded one-third of the assessed value in case of residential areas), and through the City Planning Tax levied at a flat rate of 0.3%, both from the assessed value after the land readjustment project. So attention must be paid when replicating the Japanese replotting design to other countries and their different economic realities.

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Aparna Das[*], Kasinath Anbu[**], Arpan Mazumder[***]

Exploring feasibility of Land Pooling/Land Readjustment instruments in informal settlements –a Perspective from the Ground (India)

Abstract

The assembly of privately owned land parcels, having no clear titles, for comprehensive urban redevelopment is a vastly unexplored area with immense knowledge gaps. To a large extent, cities in India reflect this knowledge deficit, with most parts of the cities growing without conforming to the statutory plans. Many states have made efforts in strengthening the private property regime through land/property records modernisation, conferring land rights through land titling projects/programmes. However, these initiatives remain agnostic to the land use planning processes. Mechanisms for assembling land remain limited, especially in settlements with ambiguous or no land titles. In recent times, with the increased contestations over land, it has been near impossible to acquire land through voluntary exchange or using the instrument of 'eminent domain'. Taking the lead from countries like Germany, Japan, the Netherlands, explorations have been made to implement spatial tools like Land Pooling (LP)/Land Readjustment (LR) for assembling land in India. Public institutions mostly deploy these tools to execute large infrastructure projects. However, in its present state, LP/LR is not relevant in informal settlements having ambiguous/no legal titles. Further, these tools need to be implemented in close coordination with the revenue administration, which oversees the ownership aspects of the land parcels. At present, these two regimes- land use planning steered by the urban development authorities/urban local bodies, and land management under the revenue administration operate in silos.

This paper argues that, with adequate adjustments, the current LP/LR tools have the potential to be used in consolidating land, even for neighbourhoods with ambiguous land titles. Taking the case of Berhampur city in Odisha, India, this paper highlights the need to make better coordination between urban planning institutions and the revenue administration. It explores the gaps that limit the implementation of such tools in informal settlements, followed by a set of recommendations.

[*] Senior Advisor, GIZ India. E-mail: aparna.das@giz.de

[**] Technical Advisor, GIZ India. E-mail: kasinath.anbu@giz.de

[**] Technical Advisor, GIZ India. E-mail: arpan.mazumdar@giz.de

Introduction

Cities need to reconfigure themselves as the nature of their economies change. "Every now and again, cities have to recycle land for new uses. They do this to survive. For as technologies and markets change, cities must adjust –or stagnate and atrophy" (Correa, 2006). Cities are constantly transforming, demanding land reconfiguration to respond to new functions. These transitions are steered by the prevailing local political and macro-economic conditions. Like in numerous developing nations, in India, almost 80 percent of the urban population is employed in the informal sector(ILO, 2018). A large section of the population, especially the poor, access housing/land through informal markets, knowledge about which are not adequately documented.

"Great effort has been devoted to the precise delineation and assignment of the legal and physical boundaries of private property. Yet, issues of unifying or assembling private property rights for comprehensive urban redevelopment remain understudied." (Hong & Needham, 2007). In Indian cities, two disjointed regimes, functioning in silos, shape the land/housing markets. On one hand, land use planning (part of urban administration) allocates land for different functions, such as residential, commercial, etc. These agencies, usually the development authorities, operate more as a technocratic agency, and remain insulated from the prevailing local political economy. Hence, the statutory plans, like Master Plans/Comprehensive Development Plans (CDPs), tend to remain utopian and mostly non-implementable. The land ownership and management aspects, on the other hand, are steered by the revenue department (part of rural administration). Its authoritarian nature is etched in the way businesses are conducted and in its engagement with the local populace. The processes are cumbersome, convoluted, and beyond the reach of the common citizens, especially the poor.

Against this backdrop, it is not surprising that the Indian cities are growing outside the formal planning processes. As of 2014, only 24 percent of the cities have statutory plans (Shirsagar & Srinivas, 2014). On an average, 30-40 percent of a city's population live in slums/informal settlements, without access to adequate housing and basic services. Most often, urban dwellers, especially those living in slums/informal settlements, claim their stake on the city's land through political negotiations/ social contracts and not through de jure route (Payne, Lasserve, & Rakodi, The Limits of Land Titling and Home Ownership, 2009). This ground reality does not reflect coherently in the public policy domain. States continue to focus on urban land titling programmes, which advocate for individual private property rights. Succumbing to the persuasive arguments by de Soto (Soto, 2000), there has been an impetus among the public institutions to define the private property rights and delineate land ownership. The underlying assumption is that, once the urban poor has the de jure property rights, they will be able to mortgage their property. However, studies have established that, even after receiving the de-jure rights,

urban poor may still be unable to access the institutional credits (Cockburn & Quispe, 2013) (Das & Mukherjee, 2018). Scholars have established the existence of tenure continuum in cities (Payne, Lasserve, & Rakodi, Urban Land Titling Programmes. Legal Empowerment – A Way Out of Poverty, 2007) (Fernandes, 2011). Further, urban land ownership is fragmented, with almost 45 percent of the urban population owning land less than 0.005 ha. (Ministry of Statistics & Programme Implementation, 2018). Regularising such large-scale informal areas via individual property rights is a Herculean task. Almost 66 percent of all civil cases in India are mostly related to land/property disputes (Wahi, 2019). Acknowledging that the capacity of the revenue administration, both in terms of finances and human resources, are limited, an alternative solution needs to be explored. Integrating the informal settlements within the scheme of the city-wide planning processes is critical in creating inclusive and sustainable cities.

In urban areas, Land Pooling (LP)/Land Readjustment (LR) tools are not implemented in informal settlements having ambiguous/no land titles. Given that a large proportion of the urban population lives in such settlements, it is indeed a challenge to assemble these areas for the purposes of upgrading/improving infrastructure and housing conditions. In this paper, the authors present a conceptual framework to explore possibilities to accommodate these informal settlements within the ambit of land use planning so as to facilitate upgrading/improvement projects.

In doing so, this paper adopts a theoretical framework approach to explore the applicability of the LP/LR instruments in the context of urban renewal, especially for the urban poor settlements without de jure tenure. The Pradhan Mantri Awas Yojana (PMAY) - a centrally-sponsored mission mode programme aiming at providing housing for all, mandates the states and cities to prepare Housing for All Plan of Action (HfAPoA). The central ministry envisaged HfAPoA to be only a comprehensive list of housing deficits with no spatial component. However, under the Inclusive Cities Partnership Programme (ICPP) project, the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH India supported the preparation of HfAPoA for Berhampur city in Odisha, by incorporating spatial dimension to the housing deficits. The spatial maps revealed that the city core is characterised by thin strips of plots, referred to as ‘narrow plots;, pointing to the need for reviewing current development patterns. These areas have ambiguous/no land titles. Even the statutory documents, i.e., the Master Plan and CDP, remain silent on these aspects. This paper builds on to the experience of preparing the Berhampur HfAPoA (Das, Anbu, Panda, & Mazumder, 2018) and the recommendations therein. It also draws on critical tenurial aspects from an urban land tenure study (Das & Mukherjee, 2018), learnings from Beneficiary-led Individual House Construction (BLC) implementation in Odisha (GIZ India & CPR, 2020), and a detailed literature review.

One of the limitations arising of this approach and methodology is that the proposed conceptual framework is yet to be tested for its economic and social viability aspects.

The paper is divided into four sections. The first section provides a description of the issues at hand and the adopted methodology. The second section discusses the LP/LR practices globally, with a focus on informal settlements, to understand the prevailing legal and governance systems, social cultural context, and land use planning. The third section highlights the experiences and learnings from the Berhampur case study. The concluding section articulates the recommendations and the possible way ahead.

Implementation of Land Pooling/Land Readjustment -Literature Overview

A literature review on the implementation of LP/LR tools in countries like Germany, Japan, the Netherlands, and Israel articulates that, for implementing such tools, an ecosystem that hinges on a robust legal regime is a prerequisite. Other necessary conditions, such as functional land administration and management, urban planning, effective conflict resolution mechanisms supported by participatory local governance, are imperative (Dieterich, Dransfield, & Voss, 1993) (Sorensen, 2007). It is crucial to establish and sustain trust between the administration and the landowners since these processes are long-drawn, requiring dedicated efforts.

In India, usually, the public institutions lead the LP/LR initiatives. There are very few examples that have been led by the private sector, one of the successful ones being the Magarpatta LP model. This initiative was led by a group of farmers who do not qualify as 'distressed.' About 120 farmers pooled in 174 ha. of land to form a township called 'Magarpatta Township Development and Construction Company Limited' (MTDCCL). As opposed to the situation where farmers usually lose their land to real estate developments, in Magarpatta, the farmers became equity holders in proportion to their holdings. Does this model offer solution to informal settlements that have no clear land titles?

The land assembly options with minor variations that are explored in various other countries are as follows:

1. **Land development techniques** where a group of separate land parcels is assembled for unified planning, servicing, and subdivision as a single estate, with the sale of some of the new building plots to recover the costs and the redistribution of the other plots back to the landowners.
2. **Land pooling** is differentiated as where land is legally consolidated ('pooled') by transferring ownership of the separate parcels of land to the agency handling the transaction and redesign. A new replotting plan with infrastructure upgrading is mutually agreed upon between the agency and the plot owners. The agency transfers the new building plots, usually smaller than the original plot size, to the landowners.

3. **Land readjustment** is where the land parcels are only notionally consolidated, with the agency having the right to design services and subdivide the land on a unified basis. Landowners then exchange their rural land parcels for their building plots.
4. **Plot reconstitution** - another variation - is a regulatory arrangement imposed on landowners designed to facilitate the development of land, which requires the owners to contribute land and cash. Land remains in separate ownership, and partial cost recovery is achieved through the betterment tax.

In their current forms, the above options are not relevant for the informal settlements. Various studies establish that plot owners in informal settlements are concerned with plots' use value rather than its transactional value. In India, the formal land/housing market is extremely skewed, leaving few options for the poor to access land/housing through the formal markets. As these informal settlements get consolidated organically, there may be situations to carry out plot reconfiguration or consolidation for upgrading the utility infrastructure. However, the statutory urban planning instruments fall short of including such measures. In the absence of necessary enabling conditions, small plot holders, especially those with ambiguous legal land titles and lacking familiarity with the administrative processes, experience trust deficit and refrain from engaging in LP/LR processes. In addition, statutory documents such as the Development Control Regulations often do not include provisions for the implementation of LP/LR for small plot holders.

Global literature informs that there have been attempts to develop tools for intervening in informal settlements. Massachusetts Institute of Technology (MIT) has a rich repository[1]of case studies mainly from Latin America and Africa, where plots in the informal areas are reconstituted. In 2001, Brazil adopted the 'City Statute,' an innovative national legal framework to provide low-income families with housing in mainstream city areas. It incorporated 'Special Zones of Social Interest' (ZEIS) as a land regularisation tool (Santoro P. F., 2015). The statute required municipalities with over 20,000 inhabitants to draw up or review their master plan to include ZEIS, which advocated land having a 'social function.' It contested the real estate market induced 'highest and best use' of land parcels by proposing the use of well-located and more central areas for social housing. These zones are intended to integrate low-income groups within the mainstream city by promoting urban and land regularisation in informal settlements; enforcing the mandatory development of idle or underused buildings, including potential expropriations; and making real estate owners build a certain proportion of social housing units in developments located within ZEIS perimeters (Hirata & Samora, 2013).

[1] http://web.mit.edu/urbanupgrading/upgrading/whatis/what-is.html

Building on instruments like ZEIS, Latin American countries have reshaped/conceived their normative frameworks in the last two decades. In 2016, Ecuador adopted an instrument called the 'Organic Law of Territory Organisation and Land Use and Management' (LOOTUS). It emphasises on urban, non-tax mechanisms to capture land value to achieve infrastructure financing. With this, Ecuador became part of the multiple processes of urban reforms taking place in the region (Rossbach & Montandon, 2017).

A host of the literature suggests that urban planning and land tenure linkages need to be explored further. Such discussion in the Indian context is in a nascent stage. The current political economy is focused on individual interests and not responsive to the urban planning-based approach.

Against this background, this paper highlights the possibility of implementing urban planning instruments, such as zoning and subsequently LP/LR, which enable the urban poor to access serviced land/housing in cities. This paper describes how smaller plots, especially the narrow plots having a width as little as 1.5-2.0 m, pose significant challenges in improving housing conditions and, in particular, implementing the BLC vertical of PMAY.

Potential for using LP/LR tools in Informal Settlements – Berhampur, Odisha

Berhampur city profile

Berhampur, also known as the 'Silk city,' is located along the eastern coastline of India, in the Ganjam district of Odisha, and is about 160 km south of the state capital, Bhubaneswar. Berhampur is one of the oldest and most prominent places between Bhubaneswar-Cuttack and northern Andhra Pradesh. During the colonial era, the region formed a part of the Madras Presidency. Its prominence can be gauged from the fact that a court existed here during the British rule. The Berhampur Municipality, oldest in the state, was formed in 1867, and only in 2008 it was upgraded to the status of a Municipal Corporation. The culture of

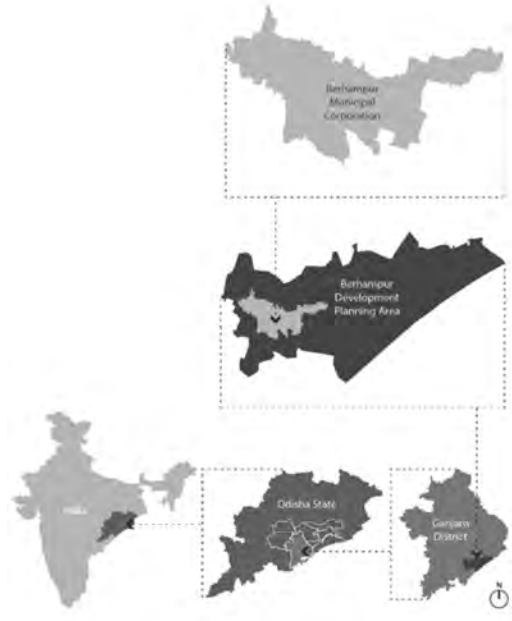

Figure 1: Regional setting of Berhampur city

the city, including its cuisine, is unique with a blend of Odia and Andhra cultures.

Institutional Structure

The Berhampur Municipal Corporation (BMC) (jurisdiction over an area of 80 sq.km.) caters to activities, such as preparing city plans, planning for economic and social development, maintaining public health and sanitation services, provisioning of public amenities (streetlights, bus stops, etc.). BMC is also responsible for implementing the slum improvement programmes such as Rajiv Awas Yojana and PMAY. Under PMAY, it is mandated to prepare HfAPoA and detailed project reports (DPRs) for upgrading/redevelopment/resettlement of slums in the city.

The Berhampur Development Authority (BDA), constituted under the Orissa Development Authorities Act (ODA Act) 1982, has jurisdiction over an area of 320 sq. km. As per Section 9 of the ODA Act 1982, the CDP shall:

a. Define the various zones into which the land covered by the CDP may be divided for the purpose of the development and indicate the manner in which the land in each zone is proposed to be used (whether by carrying out thereon of development or otherwise) and the stages by which any such development shall be carried out and
b. Serve as a basic pattern of the framework within which the zonal development plans (ZDPs) of various zones may be prepared

The CDP may provide for any other matter which is necessary for the proper development of the area covered by such plan and for the health, comfort, convenience, and general betterment of the present and future inhabitants of the development area. Some of its key responsibilities include preparation of interim, comprehensive, and ZDPs, enforcement of provisions under these statutory plans (including building approvals), creation of housing stock (public housing) and commercial complexes, and improvement of city level infrastructure and environment.

The State Revenue Department is the custodian of the land, concerned with matters of land reforms, land tenure, land records, land acquisition, and any other matters related to land. Its key functions include the creation and maintenance of land records/cadastre, management of land tenure, and registration of land and property transactions.

Housing Scenario

Predominantly, the houses are built either by individuals or private developers. Public agencies broadly cater to the housing supply in urban poor areas and these areas are spread across the city. Housing supply in the form of apartments and

gated communities is still a budding concept. While apartments are predominantly developing towards the eastern part of the city, plotted housing and gated communities are coming up beyond the urban local body (ULB) limits. Urban poor settlements are spread across the city (core, developing, and undeveloped areas).

As of 2016, the city had a total housing stock of around 75,000. The number was derived from various data sources, primarily the Census. An attempt was made to further understand the housing stock by types and affordability through limited surveys and the mapping of housing typologies.

The city is challenged with the prevalence of narrow plots in its core, which happens to be the commercial hub of the city, covering around 25 per cent of the total land area (around 20 sq. km). However, the exact number of such plots is not available. This phenomenon is more of a property-sharing method (retaining the frontage of the property) than a compulsion due to poverty. Such built forms are observed in many settlements along the coasts of southern Odisha and the neighbouring state of Andhra Pradesh. Over generations, these plots have been divided and further sub-divided into irrational sizes. It was observed that the transaction of such linear plots is an acceptable common practice in the local land market. Such plots are inhabited by both the poor and the affluent, with some of these settlements being categorised as slums.

Figure 2: A typical house on a narrow plot

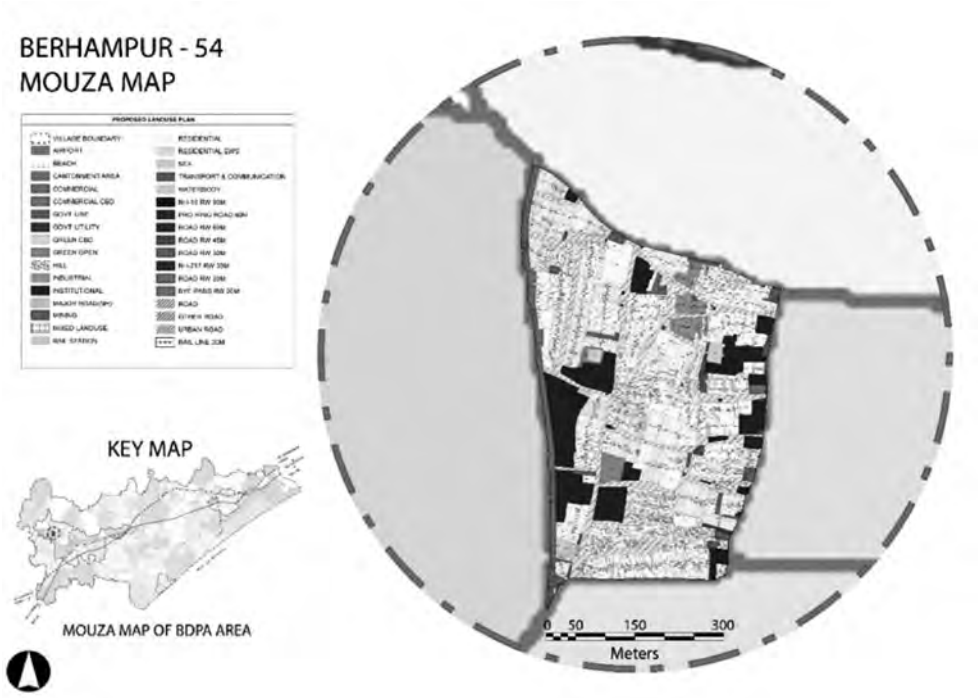

Figure 3: Sample Mouza (Division) map of Berhampur, CDP

Urban Poor Settlements

As per BMC (2016), the total number of slums in Berhampur is 254, having 23,973 households. Among these, 158 are recognised by BMC. Slums are predominantly located in the city core (around commercial land uses and waterbodies).40 slums have already been selected for upgrading/redevelopment under various government schemes. Out of the remaining 214, 146 slums (refer Table 1), comprising about 5,700 households, are located on tenable private land, having clear land titles.

These 214 slums occupy about 3 per cent of the city area (2.3 sq. km), and house about 33 per cent of the city population. Out of the 214 slums, only 7 are larger than 5 ha. and are located on private land. 188 of these slums have area varying between 0.5 ha and 3.0 ha.

Figure 4: Locations of slums and areas with linear plots

Table 1: Distribution of Slums Based on Land Ownership and Tenability

Tenability / Land ownership	Tenable	Untenable	Semi-tenable	Partly untenable	No data	Total
Govt. land	23	5	6	-	-	**34**
Private land	146	2	12	2	3	**165**
Private and Govt. land	5	-	-	1	-	**6**
Temple land	1	-	-	-	-	**1**
No data	2	-	-	-	6	**8**
Total	**177**	**7**	**18**	**3**	**9**	**214**

Slums with Narrow Plot Division

There are 72 slums (about 11,000 households) with narrow plot division, having more than 3,000 semi-pucca and kutcha houses (refer Table 2). Out of these, 2,261 non-pucca households are located on tenable private land (refer Table 3). These households have clear land titles, making them eligible for BLC subsidy.

Table 2: Categorisation of Slums with Linear Plots Based on Tenability

Category	No. of slums	Total dwelling units (DUs)	DU pucca[2]	DU semi-pucca[3] (SP)	DU kutcha[4] (K)	% SP+K to total DUs
Tenable slums on private land	50	7,867	5,606	1,711	550	29%
Tenable slums on govt. land	7	694	319	188	187	54%
Tenable slums on other ownership land	4	259	154	102	3	41%
Semi-tenable slums on govt. land	1	185	180	4	1	3%
Semi-tenable slums on private land	5	1,335	1,090	114	131	18%
Partly untenable slums on private and mixed ownership land	3	360	333	14	13	8%
Untenable slums on private land	2	189	134	53	2	29%
Total	**72**	**10,889**	**7,816**	**2,186**	**887**	**28%**

[2] Pucca house: A house that has walls and roof made of the following material: Wall material: Burnt bricks, stones (packed with lime/cement), cement concrete, timber, etc. Roof material: Tiles, GCI (Galvanised Corrugated Iron) sheets, asbestos cement sheet, RBC(Reinforced Brick Concrete), RCC (Reinforced Cement Concrete), timber, etc.

[3] Semi-pucca house: A house that has fixed walls made up of pucca material, but the roof is made up of the material other than those used for the pucca house.

[4] Kutcha house: The walls and/or roof are made of a material other than those mentioned above, such as unburnt bricks, bamboos, mud, grass, reeds, thatch, loosely packed stones, etc.

Table 3: Distribution of non-pucca houses in slums with linear plots

Tenability / Land ownership	Tenable	Untenable tenable	Semi-untenable	Partly	Total
Government land	375	-	5	-	**380**
Private land	2,261	55	245	18	**2,579**
Private and Govt. land	39	-	-	9	**48**
Temple land	66	-	-	-	**66**
Total	**2,741**	**55**	**250**	**27**	**3,073**

Challenges in implementing PMAY in Berhampur

Planning oversight

The statutory CDP of Berhampur acknowledges the issue of plots with narrow frontages as one of the weaknesses while formulating the broad goals and strategies for the next 20 years(2011-2031). It primarily focuses on greenfield development with the expectation that businesses and residences would relocate to the newly developed peripheries, thereby reducing congestion in the city core. Hence, it provides no strategies to address the topic of narrow plots in the city core. Rather, the emphasis is on the overall improvement of the old parts of the city through upgrading/augmentation of roads, water supply networks, sanitation, and organised open spaces.

Narrow plots

The width of the narrow plots is usually lower than the prescribed 'old settlement plot[5]' (having a width ranging between 4.0 m and 6.3 m, plot depth being more than three times the width, and located in an old settlement area). These plots cannot even accommodate a room that conforms to the prescribed minimum width for habitable rooms[6] (2.4 m). These narrow plot divisions give rise to several issues, including physical inconvenience and lack of privacy; limited ventilation and lighting, leading to higher energy consumption and health risks (respiratory diseases);

[5] Odisha Development Authorities (Planning & Building Standards) Rules 2020 (ODA Rules 2020)

[6] As per ODA Rules 2020, a 'habitable room' means a room having an area of not less than 9.0 sq. m, width 2.4 m (min.), height 2.75 m (min.) occupied or designed for occupancy by one or more persons for study, living, sleeping, eating, cooking if it is used as a living room, but does not include bathrooms, water closet compartments, laundries, serving and storage pantries, corridors, cellars, attics and spaces that are not used frequently or during extended periods.

difficulty in provisioning of basic services; heavy damage during natural/man-made disasters due to the high population and built densities; restricted scope for future development/upgrading, reduction in the commercial value of properties, etc.

Lack of 'right legal papers'

One of the pre-requisites to avail BLC subsidy is the possession of ownership documents of the land parcel occupied by a household. Initially, the Government of Odisha recognised the Record of Rights (RoR) in the name of the applicant as the only admissible document. However, this stringent provision pushed most indigent households outside the ambit of the subsidy. In the city core area, it was found that although many beneficiaries in the slums rightfully owned their plot, they did not have the right legal papers to access the subsidy (Das & Mukherjee, 2018).

The absence of clear and/or updated land records arises out of the dual land record-keeping system (deed registration system and the land revenue system of RoR) followed in Odisha, like in other parts of India. The deed registration system places land/property related transactions on public record but fails to spatially identify the land parcel. The revenue system provides information related to land rights and spatial extent. However, this is not definitive, coupled with a weak and/or archaic spatial framework. This dual land record-keeping system leaves the updating of RoR in the land revenue system to the discretion of the buyer. In addition, the process of mutation, which puts the RoR in the owner's name as well as updates the cadastre maps, is lengthy, costly, and cumbersome. There is often no incentive for the poor to get their land records updated, as they rarely use it for the exchange value. The revenue department, despite being custodian of the land, is not involved enough in the implementation of PMAY. This function is anchored with the ULBs, which do not have a mandate for land record management.

Summary

In the absence of strategies and instruments through which the narrow plots could be pooled in and redistributed, residents are unable to improve their housing conditions and continue to upgrade the housing stock without conforming to the building standards. In the case of urban poor settlements, potential beneficiaries under PMAY miss out on accessing the subsidies due to the non-conformity with the building standards as well as unavailability of the 'right legal papers.'

Possible way ahead

It is evident from the literature review that there is not enough knowledge on the topic of land assembly by private owners within or outside the institutional framework. The much talked about the case of Magarpatta points out to the fact that the topic is yet to be explored. However, considering the scale of India,

experiences such as Magarpatta are too few and far in between. Moreover, learnings from such examples are not applicable while dealing with landowners without de jure rights, such as in Berhampur. The landowners in both cases have distinct power equations with the revenue administration. The Berhampur case study explicitly establishes that a common interface between land use planning and land administration is missing.

The following recommendations are proposed:

Improved coordination between agencies

The colonial legacy of an authoritarian revenue administration in charge of maintaining the land records continues to influence the perceptions of common citizens. Most mission-mode urban development programmes, including PMAY, are anchored with the ULBs with limited participation of the revenue department. The latter continues to play the role of a regulatory entity, detached from the local needs and realities. There is a need for institutional reform to synergise the activities of the land administration with the statutory land use planning processes. An institutional mechanism is needed to recognise and negotiate the claims of landowners without de-jure rights. Land needs to be recognised for having 'social function' and not always for its 'best use value.'

Alternative tenurial arrangements

The informal settlements with narrow plots in Berhampur may be legally categorised in the CDP as a "special zone of social interest" that supply housing for the poor. Synergies between the two regimes (land use planning and land administration) will need a paradigm shift in the urban planning processes. Instead of giving individual property rights, tenurial rights may be conferred at a collective community level, by drawing learnings from established models from across the globe.

LP/LR are effective tools to develop an area/settlement and improve living conditions. Such interventions may be jointly executed through collaboration between the resident's welfare association and the local administration. As a pilot, a group of plot owners, willing to pool in their land parcels to access the subsidy under PMAY, may be encouraged to reorganise the plots with reasonable proportions.

Statutory provisions

The Berhampur case establishes that private landowners continue to sub-divide their plots, even when the quality of life is compromised. The housing consolidation over the narrow plots are varied, with the majority having already invested in pucca structures. Considering the complexity and the scale of narrow plots, there is enough evidence for the local authorities to intervene under the purview of

public health concern. Taking this route, BDA may prepare a town planning scheme[7] (TPS) for the improvement of areas with bad layout/obsolete development and slum areas under a ZDP. Further, BDA has the authority to undertake development in any area under its jurisdiction by framing and executing improvement and clearance of slum areas, among others. Despite the availability of legal provisions to address the issue of narrow plots, lack of capacities at the local level restricts the planning and execution of such interventions.

Capacity enhancement of stakeholders

The proposed interventions will require a robust participatory mechanism between the beneficiaries, local, and state administration. The capacities at the local level (Das & Mukherjee, 2018) need to be built up to initiate such processes. To implement LP/LR projects, it is proposed to constitute an interface, which includes land revenue officials and urban planners, to resolve issues associated with ambiguous titles. Urban planning instruments, such as zoning, local area plans, land-based financing tools, need to be oriented towards carrying out such interventions.

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Prof. (Dr.) Bhuvaneswari Raman
Professor & Dean (Academic Affairs)
Jindal School of Government and Public Policy, Haryana, India

Prof. (Dr.) Bhuvaneswari is trained in architecture, urban planning and social sciences. She was educated at the School of Planning and Architecture, Chennai, Asian Institute of Technology, Bangkok, and the London School of Economics, UK. She completed her doctoral degree in urban social policy at the London School of Economics, UK. Her research interests are in the areas of transformation of urban

[7] ODA Act 1982

land, urban politics, economic geography governance, research methodology, gender and urban poverty.

Anindita Mukherjee

Senior Researcher, Centre for Policy Research (CPR), New Delhi, India

Ms. Mukherjee is a Senior Researcher at the Centre for Policy Research working in the project, Scaling City Institutions for India (SCI-FI): Sanitation. Before joining CPR, Anindita worked with GIZ India in the ICPP project. Her key sectors of experience are urban economics, slum upgradation, inclusion, housing and urban basic services (water and sanitation) for the poor and other marginalised section of the society, issues pertaining to land and land tenure in urban areas, mainstreaming gender concerns in policy formulation and associated research work. Anindita is an economist by training and has specialisation in Statistics and Econometrics.

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