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SLUDGE & DEAD CAPITAL

Edited by Nadeem Ul Haque & Faheem Jehangir Khan

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TABLE OF CONTENTS

PART I - SLUDGE & DEAD CAPITAL: *Research Papers*

PART II - SLUDGE & DEAD CAPITAL: *Policy Briefs*

PART I

SLUDGE & DEAD CAPITAL

Research Papers

A CRITICAL APPRAISAL OF LEGAL-INSTITUTIONAL STRUCTURE OF REVENUE COURTS IN PAKISTAN: MINIMIZING SLUDGE IN AGRICULTURAL PROPERTY CASES

Saad S. Khan, Ambreen Ashfaq, and Mahrukh Imtiaz

ABSTRACT

This study was undertaken to analyse the revenue court system of Pakistan, which is arguably a neglected segment of the country's justice system. As opposed to the civil courts, which deal with civil disputes involving (mostly urban) property, the revenue courts, although the term is a misnomer, deal with rural and agricultural property-related cases. Using Cass R. Sunstein's concept of "sludge", the research focussed on the economic impact of the debilitating legal and institutional structure of these courts at the individual as well as the collective levels. At the individual level, the focus was on the economic costs of litigation to the individual litigant such as the direct expenses like court fees, indirect costs such as travelling, and, finally, the psychological costs to them due to the stress and strain of prolonged litigation. At the macro level, the collective costs of the sludge in revenue courts were calculated to ascertain how much of a drag it is on the national gross domestic product (GDP). This entailed quantifying all those issues that make it difficult for litigants, possessing agricultural property, to achieve their desired outcome of an early adjudication and secure property rights. "Sludge" is any excessive friction that makes it harder for people to do what they want to do. In economic terms, sludge was calculated by measuring avoidable costs that the litigants had to endure. The current study has built upon the pioneering study on sludge audits in Pakistan undertaken by the Pakistan Institute of Development Economics (PIDE) by Haque et al. (2022) by focussing on sludge audits of another sector, i.e., the revenue courts. The study found that if a person gets involved in litigation related to agricultural property, it may cost up to four-fifths of their annual income in litigation-related costs, at least in the year the case was instituted. The value of disputed land held up in litigation comes to nearly one-fifth of the rural GDP. Much of this sludge is avoidable through smart governance, such as digitisation initiatives. Deriving from best practices across Asia, the study concluded with making recommendations for sludge minimisation in revenue case adjudication by proposing integrated solutions through enhanced digitisation and simplified procedures, incentivisation of judicial work for administrative officers and institution of mandatory training for officers working in the subordinate judiciary.

1. INTRODUCTION

Background and Context of the Study

Land is probably the most expensive and most important asset for the people, especially in the rural areas of Pakistan. This is depicted by the fact that not only 60%-70% of the civil litigation in the country pertains to landed property but also 40%-50% of criminal litigation is invariably due to land-related matters (Siddique, 2020). The latter fact was further substantiated by our interviews with various police officers in the Central Police Office as well as in the field formations.[1] A former senior police officer in Sargodha stated that in rural areas, around 90 per cent of murder and violent crimes could be attributed to land and water disputes. These agricultural land and irrigation water disputes are the preserve of revenue courts in Pakistan. It is a sad fact that it ordinarily takes decades to get a ruling on a property case. A testament to this fact is that in 2018, the Supreme Court of Pakistan announced its verdict in a property dispute case that was instituted a century back circa 1920 (The News, 2018).

Revenue courts, though the name may be a misnomer, are, in simple terms, specialised courts that specifically deal with disputes and issues of agricultural land matters as opposed to civil courts that deal with disputes involving urban property, family matters, or monetary issues. The revenue courts have been defined in section 5(2) of the Code of Civil Procedure (1908) as "[a] *Court having jurisdiction under any local law to entertain suits or other proceedings relating to the rent, revenue or profits of land used for agricultural purposes.*" These courts and their procedures are governed by the West Pakistan Land Revenue Act, 1967 which excludes from their jurisdiction any dispute arising out of a land *"which is occupied as the site of a town or village [because that] will not be deemed as agricultural land."*

In short, the revenue courts have exclusive jurisdiction on matters of mutation, partition, inheritance, delimitation, eviction, and cases related to agricultural produce. These courts are presided upon by civil servants from administrative services, unlike the civil courts which are manned by members of the judicial cadre. Starting from Tehsildar to Assistant Collector, the route in a revenue court goes up to the Commissioner and then to the Board of Revenue. Collectively, these officers are known as Revenue Officers (ROs) under Section 7 of the West Pakistan Land Revenue Act, 1967.[2]

Property-related cases in Pakistan, both urban and rural, take decades to resolve. Lack of understanding of law and procedures, both by revenue and civil courts, lawyers, and litigants alike, is often a reason behind inordinate delays in property-related cases. Ineffectual processes are another contributing factor to what the contemporary literature refers to as sludge. Coined by Cass R. Sunstein in his book, sludge has been explained as all those factors that act as impediments to rightful gains and even constitutional rights. He says that sludge is pervasive because it is found everywhere, be it a private entity, a public institute, or a court. The officers, lawyers, and doctors, inter ali, all seemed to be imposing sludge in one manner or another. Hence, at some point, people give up on the desired outcome due to the various hurdles they face (Sunstein, 2021).

[1] Calculating the number of violent crimes committed as a result of agricultural property disputes is difficult and time taking. Although the data of FIRs has been digitised in Punjab, it is not segregated on the basis of wajh e anaad (i.e., the cause of enmity). Rather, the data can be fetched and segregated on the basis of geographical location (like districts or subdivisions) or on the sections of law applied, like Section 302 of Pakistan Penal Code for murder. As to why the murder was committed, one has to go through the whole text of the FIR to find the wajh e anaad (cause of enmity). On the basis of samples, the team was able to establish that not less than half of all violent crimes in Punjab had been committed due to disputes related to agricultural property and water.

[2] It is precisely due to the above-named 1967 Act that governs these courts that they are called Land Revenue Courts, or simply, Revenue Courts. In other words, these Revenue Officers are deemed Revenue Courts, when they exercise their judicial functions under the Act. It might have been expedient to change their nomenclature to "Agricultural Courts", which they actually are.

Sludge also entails a cost known as "sludge cost" that can be in the form of economic cost, i.e., the actual cost plus the opportunity cost (the cost of the next best alternative forgone), the social cost (for example, loss of reputation) or even the psychological cost (due to mental distress caused by lack of final adjudication). In other words, sludge cost becomes a menace that needs to be confronted. He further states that this menace needs to be reduced and that can be done through a sludge audit, i.e., by measuring "how much sludge is out there" (Sunstein, 2021, p. 95), and then to have an environment that is conducive to getting things done (sludge reduction). A pioneering study on sludge audits in Pakistan was undertaken by the Pakistan Institute of Development Economics (PIDE) (Haque et al., 2022) which formed the foundation upon which the present project has been built.

Applying the concept of sludge to revenue courts, the present study undertook a sludge audit to examine how the litigants of revenue courts become unable to achieve the desired outcomes, namely, secure property rights attainment and early adjudication.[3] The study estimated sludge costs to (a) individuals and (b) the national economy in terms of GDP. The study also explored the value of the disputed property, locked in litigation, as a fraction of the GDP of Pakistan.

The very fact that cases usually get dragged for decades encourages frivolous litigation. The erring party has every incentive to use these institutional and legal lacunae to its advantage and the disadvantage of the aggrieved party. More often than not, both parties might not be able to use their land to productive use due to it being a subject of litigation. Not only will they face issues in the marketability of their land (tertiary sector) but will also not be able to produce agricultural output (primary sector). Such an effect on the primary and tertiary sectors might inhibit productivity thereby resulting in a loss of GDP and economic growth for the country.

Prolonged litigation also becomes a burden as much on state resources as on private resources. The Revenue Officers are engaged in so many judicial duties that their administrative functions are affected. Thus, poor service delivery becomes a common complaint against government departments. Poor governance takes a toll on the economic sustainability of a country.

Such a negative correlation between judicial delays and economic growth has been established by various studies. Amirapu (2021) explained this by stating that court delays lead to an inevitable trust deficit due to which businesses lose their confidence and, hence, are reluctant to invest. By taking the case study of India, he established how delayed justice led to growth denied due to specific industries not being able to have their contracts enforced (Amirapu, 2021). Similarly, Rizos & Kapopoulos (2021) studied the nexus between the judicial complexities on growth in the European context. They showed that such inefficiencies in dispute resolution inhibited economic growth in some member countries of the European Union compared to others.

Purpose and Scope of the Study

In a developing country like Pakistan, productivity and efficiency are the major growth catalysts. Land administration needs a coherent strategy to ensure that the rights of owners, tenants, or transferees of agricultural land are not encroached upon. Despite the pervasive inefficiencies in the revenue courts system, it was surprising that no study, at least to the knowledge of the authors, has been done to reliably calculate the extent to which the rights of litigants are being violated, or to measure the state resources being wasted due to these inefficiencies, or to find out the negative impact of these judicial inefficiencies on the overall productivity of the economy.

By following the approach undertaken by Haque et al. (2022), this pioneering study discerned how sludge in the revenue courts leads to a potential loss of agricultural output underlining the potential estimated loss of GDP for

[3] The two "desired outcomes" have come from the findings of an earlier study, commissioned by the National Institute of Public Policy (NIPP), Lahore, by a member of the present research team (Ashfaq, 2021).

the country. It also calculated monetary and opportunity costs (both in terms of time and money) that a litigant incurs during his case. The study also tried to put forward an integrated solution based on contextual appraisal by identifying areas of improvement in the steps involved in the litigation process.

Field survey teams were sent to revenue courts to collect data with the following fundamental research aims in view:

1) To catalogue and quantify sludge in revenue courts.

2) To identify any pecuniary and non-pecuniary sludge costs on litigants.

3) To identify at which point sludge can be reduced and what role digitisation can play in sludge reduction.

4) To evaluate the impact of sludge in revenue courts by measuring the cost of sludge in terms of GDP, thereby, highlighting the potential for improved efficiency.

5) To recommend an integrated policy reform or to suggest changes in the existing law.

Research Questions: The study devised four research questions and focussed on them to arrive at purposeful conclusions.

1) What is the extent of sludge in the revenue courts?

2) To what extent digitisation has impacted sludge or mitigated other negative externalities such as speed money?

3) How does sludge in revenue hinder GDP growth in Pakistan and how can sludge identification lead to speedy adjudication and thereby improved GDP?

4) What are the policy reforms and suggestions that can be recommended while taking into account the socio-political and bureaucratic realities of Pakistan?

Relevance to Public Policy

According to the Pakistan Economic Survey (GOP, 2023), agriculture contributed to about 22.9 per cent of the GDP but employed nearly 37.4 per cent of the labour force. However, if the specialised courts that cater to disputes on agricultural land matters are inundated with sludge costs, this potentially means that these lands cannot contribute their full potential to the overall GDP of the country.

Hence, this study aims to bridge a policy gap existing in the current institutional and legal framework of revenue courts by assessing the impact of sludge within these courts on agricultural property rights attainment as well as its impact on the service delivery by revenue officers. The study also calculated the cumulative effect of sludge costs in revenue courts on the GDP. Most importantly, the study made comparisons with four Asian nations whose GDP per capita is higher than that of Pakistan. The system of land revenue administration in those countries was analysed, best practices identified, and policy lessons for Pakistan derived. This study, hence, provides a road map for policymakers to improve their service delivery mechanism within the existing legal framework. It also analyses where sludge can be effectively reduced, thereby reducing the economic cost of litigation for the litigants.

Last but not least, the present paper also highlights that it is not all doom and gloom in Pakistan's land revenue administration. On the contrary, many outstanding civil servants have made meaningful contributions to the reform and improvement of rural land administration. The imperative need is to have a political will to stand behind those laudable initiatives.

2. LITERATURE REVIEW

There is a paucity of literature on the reforms that can be undertaken to improve the performance of revenue courts. As compared to what has been written and published on civil and criminal courts, both by academics and the practitioners of law, the research on the revenue courts system of Pakistan is conspicuous by its dearth, nay, near-absence.

The literature review is divided into two parts, i.e., research and studies done on revenue courts in Pakistan, and international policy discourse on land administration and land revenue matters.

Literature Review in Pakistan's Context

A report by the committee established by the Government of Pakistan on land revenue reforms in the 1970s, titled 'Report on the Committee on Revitalization of Revenue Administration' lamented that revenue court machinery in Pakistan is in shambles with revenue officers being overworked (GOP, 1978). It also considered taking revenue adjudication away from the revenue officers, but despite laying down the pitfalls of revenue officers adjudicating, the committee recommended maintaining the status quo, not the least because the civil courts were equally overworked and the civil judges had no training in land revenue administration.

A more recent and independent study by Ali & Nasir (2010) elaborated upon the complexities of the land administration system as a whole and stated that the participants in the study said that their issues had been compounded due to uncooperative revenue staff. The revenue staff on the other hand complained of work overload. Both the clients and the revenue staff of the study agreed that clients lacked procedural knowledge concerning appeals, etc. However, the study focused on the land administration system and the adoption of technology as a crucial requirement and did not focus on the dispute resolution forum, i.e., the revenue courts.

A Report by USAID (2016) further added that the parallel court structure for land dispute adjudication had exacerbated the plight of the litigants. Khuhro (2021) claimed that even though Civil Courts had their set of inefficiencies, their efficacy in the timely disposal of cases as compared to revenue courts was still better. He also stated that the concurrent jurisdiction of civil courts and revenue courts on land dispute matters was a source of problems for the litigants.

Faraz & Qasim (2021) explained that sludge raises transaction costs of individuals leading to lower productivity in the economy owing to resource wastage in the form of time and money spent on achieving outcomes. They used a difference-in-difference model to show that digitisation and partial removal of unnecessary documents decrease time and opportunity costs in different sectors of the economy. However, as noted above, the pioneering study on the topic of sludge audit in Pakistan is by Haque et al. (2022), which provides an in-depth sludge audit of activities in different sectors like the real estate and the health sector and then calculates sludge cost as a percentage of GDP. Our present study, adds the sludge audit of the rural court system to the available knowledge on sludge in state structures of Pakistan.

Literature Review on Land Revenue Adjudication in General

Ubink & Quan (2008), by analysing the Land Management System of Ghana, emphasised an effective monitoring system for those directly responsible for allocating use and rights over lands. He stated that new reform initiatives integrating traditional and modern aspects of land management will be futile in the absence of an effective monitoring mechanism. Remy et al. (2013) has produced a manual to deal with land conflicts. It states that formal adjudication should always be the last resort and special land courts can take the role of arbitration [emphasis added]. The manual also states that the linkages and hierarchies between different land dispute resolution forums impact the outcome of the case. In case there is a formal and specialised land tribunal in a

country, an appeal to the High Court should always be the last resort. This is also applicable to the context of Pakistan where apart from writ jurisdiction, which is invoked by High Courts to take cognisance of matters decided in the BoR, there is also a serious problem at the lower rungs of the court hierarchy, where both civil and revenue courts either exercise concurrent jurisdiction or refuse to exercise jurisdiction at all, referring the matter to a parallel court. This is something that the present report deals with in Section 4 below.

Herman et. al (2017), in their analysis of the dualism of authority between general courts and administrative courts in Indonesia, stated that such a dualistic approach is an issue for the litigants because it leads to legal uncertainty and disrupts public justice. The dualistic approach, according to the study, is attributed to a lack of legislative clarity. The study further goes on to state that an ideal model is needed to resolve land disputes. The models proposed by them of alternative dispute resolution are in the form of mediation and complete separation of general courts and administrative courts on land revenue matters. (Mequanent, 2016) emphasised thinking about out-of-the-box solutions grounded in contextual appraisal rather than a 'one size fits all' solution to resolve land disputes in Ethiopia.

3. METHODOLOGY

In this study, a three-tier approach was formulated that entailed (i) conducting a sludge audit of the revenue courts of Pakistan through surveys of the litigants; (ii) conducting specific interviews of officials regarding the functioning of the revenue courts and the impact of digitisation on the revenue court system; and (iii) proposing fresh legal reforms or supporting existing ones to help simplify the procedures.

Due to financial and human resource constraints as well as time limitations, the study identified two provinces, Punjab and Khyber Pakhtunkhwa (KP), for conducting field research. In each province, two districts were identified, i.e., Kasur and Toba Tek Singh in Punjab and Mardan and Dera Ismail Khan in KP. The districts were selected based on their proximity or connectivity with the provincial metropolises of Lahore and Peshawar, respectively, as well as the quantum of revenue cases pending in their courts.

Before the full survey, a pilot survey for around two months was conducted in Lahore. Based on the lessons learnt from the pilot study, two districts each were identified in the two provinces. Then, using a survey administered via SurveyCTO in the districts of Punjab and manual (paper-based) surveys in KP, this study quantified sludge faced by litigants of revenue courts. That was measured in terms of time lost or wasted due to documentation, travel costs, opportunity costs for attending the hearings, and, finally, the monetary and psychological costs incurred due to litigation as a whole.

The study used a mixed method approach where both quantitative and qualitative data were collected, collated, and analysed. A survey was developed for the litigants asking them about the nature of their cases in revenue courts, the duration since the case was first instituted, the direct costs they had to pay from official stamp duties to under-the-table speed money (if any), as well as qualitative questions such as the stress caused at each step which was then used for our analysis.

Moreover, the survey also analysed the impact of digitisation on the costs incurred by litigants and any sludge reduction achieved. The results of this study are expected to be a source of input for policymakers in terms of enhancing agricultural property rights attainment and improving the functioning of revenue courts by minimising sludge, the cumulative impact of which will be lower economic costs borne by citizens of Pakistan in efforts to secure property titles.

Data Sources & Sample Locations

The data for the study were collected from multiple sources, namely, from surveys of the litigants of the revenue courts and interviews with the revenue officers (ROs) and other relevant officials. The sample population of the study consisted of the revenue courts of selected districts from both Punjab and KP. It should be noted that there are three tiers of revenue courts in each tehsil (the courts of Naib Tehsildar, Tehsildar, and the assistant commissioner). The three officers are also known as the assistant collectors of Grade III, Grade II, and Grade I, respectively. Then there is one district-level revenue court of the deputy commissioner, who under the Land Revenue Act of 1967 is the district collector. The appellate authority against the decision of the collector is the commissioner who sits at the divisional level. Usually, the DCs delegate their judicial work to the Additional Deputy Commissioner of Revenue (ADCR), while the additional commissioners are tasked to entertain appeals on behalf of the commissioner who is busy with administrative work. The overall supervision of the revenue courts and the powers of revision rest with the Board of Revenue (BoR) of each province, headed by the Senior Member Board of Revenue (SMBR).

Sludge Identification Approach

Following the sludge identification approach adopted by Haque et al. (2022), the present study viewed sludge cost in terms of time wasted (hours and days) in unnecessary tasks during the litigation process and the costs involved in executing it. Thus, the sludge cost was measured in terms of monetary costs, opportunity costs and psychological costs incurred by the litigants.

The opportunity cost was calculated in terms of revenue foregone due to the delay in the process. Thus, any income that could have resulted from the disputed land in question had the issue been resolved quicker was estimated. The foregone income could have come from investment, rental income, agricultural produce, or proceeds from the sale of land. For this study, we calculated income foregone from possible agricultural produce since our respondents identified growing crops for sale as one of the main uses for the disputed land. A person's time cost was also measured in terms of wages foregone for the time that was wasted in attempts to solve administrative issues related to the legal dispute, for example, personal visits to revenue officers. Any monetary costs that were incurred on these avoidable steps were also included in our calculations.

Litigants were also asked to identify any stress or stigma that they endured during the litigation process. This was on a scale of 1 to 5, ranging from low to severe, and allowed us to identify the psychological costs involved. Stress across all steps involved in the litigation process was identified and then multiplied by the total process time of each step following the model developed by Haque et al. (2022). This was used to make a percentage representation of the stress distribution.

Evaluating the Impact of Land Record Digitisation

A special focus was placed on the Arazi Record Centers (ARC) – the innovation of the Government of Punjab, through the Punjab Land Records Authority (PLRA) – established at the Tehsil level in all 151 subdivisions of Punjab. Based on responses by surveyed litigants, we evaluated whether the ARCs, as the digitised land record centres, have resulted in reduced time spent and reduced monetary cost for the litigant during the document-gathering process for their cases. We distinguished between the time and money spent during document collection done by Patwaris, who do it manually, with those by the ARC, where the same is supposed to be done digitally. Our survey also included a section asking litigants about the effects of digitisation. This was done by comparing the time taken to get documents before the development of the ARCs.

It is pertinent to mention that questions on corruption were added as well to see if the litigants had to incur any additional costs like speed money for their litigation process and, if so, whether digitisation was helpful in this regard.

Cataloguing Steps in a Revenue Court Case

The steps a litigant may follow during their case have been catalogued under seven main headings mentioned below. These are not in any particular order as a litigant could go through some of these steps at different points in their case and sometimes multiple times.

- **Step 1:** Gathering information phase
- **Step 2:** Hiring the lawyer
- **Step 3:** Document gathering
- **Step 4:** Document correction (if applicable)
- **Step 5:** Hearings (includes questions on both scheduled hearings and delayed hearings as well as case filing duration)
- **Step 6:** Meetings with revenue officers and other personnel related to the Revenue Court System, namely the Patwari, Girdawar Qanungo, Naib Tehsildar, Tehsildar, DC, AC, ADCR, commissioner, and, finally, the BoR of each province.
- **Step 7:** Clerk costs or money spent on revenue personnel (for gratification)

Calculating Sludge as a Percentage of GDP

Once we had all the costs, we also calculated sludge cost as a percentage of GDP as in Haque et al. (2022). This included identifying (i) the average cost of sludge in litigation surrounding agricultural land disputes; (ii) the average secured property rights attained via the revenue courts; and (iii) the number of cases in revenue courts in the identified districts. We also looked at sludge as a percentage of the agricultural GDP and the value of disputed property as a percentage of real estate activities' GDP.

The calculation of sludge in revenue courts of a province was made as a percentage of the agricultural GDP, which is the closest proxy for the rural GDP of a province or district because the present study was only concerned with the rural/agricultural property and the disputes ending up in the revenue (i.e., agricultural) courts. Taking it as a fraction of the total GDP (urban plus rural) of a province would not have made any academic sense and could have led to distorted or skewed results.

Interviews of the Revenue Officers and PLRA High-ups

The PI/co-PIs conducted interviews with all the officials in the revenue hierarchy to holistically gauge the effects of digitisation and to highlight areas of improvement. These concerned officials included Patwaris, Girdawars, Naib Tehsildars, Tehsildars, and even some ACs at the field level. We also had the opportunity to interview some present and past SMBRs in both Punjab and KP, at least two Members of the BoR, at least one Registrar BoR, and one Secretary BoR during this research.[4]

A special focus was also given to digitisation during the interviews. The revenue courts of Pakistan have

[4] These interviews were important for the research team in understanding the social dynamics of the litigations in the land revenue courts. The ROs who were interviewed narrated several incidents in which the parties concerned declined efforts at reconciliation because contesting the case was considered a matter of family honour. Thus, many times, the families ended up spending more money on litigation over the life cycle of the case, which may be lengthier than a human life span, than the value of the landed property under dispute.

undergone digitisation at different points in time and while an impact evaluation is not possible due to the lack of pre-digitisation data on sludge in the revenue courts, we have still been able to look at the current digitisation's effects on sludge via our audit and highlight the areas for improvement. For this purpose, we asked pointed questions to various revenue officers in the revenue hierarchy to see both the positive and negative effects of digitisation on the disposal of the case and thereby suggest the areas for improvement. These interviews were also essential to analyse if and how a dispute resolution mechanism along the lines of the Pakistan Information Commission (that has majorly eliminated unnecessary processes through online portals and digitisation) can be introduced.

The research team led by the PI spent a whole day in the head office of the PLRA where the director general and her team of officers spent time with us to give us presentations, share data and statistics, and give us a round of facilities available for citizens. In short, we were able, by and large, to catalogue steps involved in the litigation process and highlight where steps can be eliminated, digitised, reduced, or improved, to speed up the adjudication process.

4. SYSTEM OF LAND REVENUE ADMINISTRATION AND ADJUDICATION IN PAKISTAN

The system of governance and administration in South Asia, dating back at least to the first half of the nineteenth century, is based on the division between urban and rural areas. The local government, judicial streams, policing mechanisms, the development paradigm, and the taxation system, to name a few, have a clear urban-rural distinction. The idea is that rural society is so different from urban settlements that one-size-fits-both policies may not work. For instance, the urban development paradigm incorporates dealing with traffic management, white-collar crime, high-rise architecture, city housing, and so on, as its essential pillars. These features do not have any linkage with the features of rural development, which is concerned with the needs of agro-economy, such as seeds and fertilisers, poultry farming, capacity building for rural traits, agro-based cottage industry (for example, pottery), community management of villages through village councils, etc. Hence, the local government system in urban areas, like the office of mayors, municipal corporations, and town councils, has little in common with the rural-based district councils in Pakistan. It is therefore unsurprising that the judicial streams for urban and rural civil disputes are distinct and separate.

Urban property, including houses, shops, flats, and plots disputes, are civil disputes cognisable by the hierarchy of civil judges, senior civil judges, and additional and district judges, as per the jurisdiction assigned by the law to each of these courts. The applicable law is the Code of Civil Procedure 1908. All these civil courts are under the administrative and supervisory control of the High Court in each province.

On the other hand, the agriculture or agricultural land-related disputes, which are primarily rural area disputes, are cognisable by the courts of the Tehsildar, assistant commissioner, and deputy commissioner with the appellate authority for the preceding resting with the divisional commissioners. These courts are called land revenue courts or simply revenue courts. The competence of each level in this hierarchy is defined by the applicable law, i.e., the West Pakistan Land Revenue Act of 1967. The revenue courts in each province are under the overall administrative and supervisory control of the BoR of that province.

In this respect, the Chief Justice (CJ) of a High Court and the SMBR of each province hold co-equal status with respect to their judicial role. However, certain powers, like the writ jurisdiction under Article 199 of the constitution, are available to the High Courts but not to the BoRs. This has complicated the legal landscape of Pakistan, much to the detriment of the ordinary litigants, even their next generations, who pay the price for systemic gridlocks impeding the dispensation of justice. Inefficiency in the twin court systems is a drag on the

national economy, so Pakistan ends up being poorer than it would have been if it had the security of land titles. In other words, a clear delineation of judicial functions between civil and revenue courts and an expeditious disposal mechanism might well have placed Pakistan amongst the upper-middle-income countries.[5]

This is not to say that Pakistan's weaker economic indicators are only due to a lack of security of titles. However, there is enough literature available to show that secure property rights and efficient judicial systems are significant contributing factors to higher GDP. Before discussing the causes of sludge in the revenue courts later, the following section outlines the difference between civil courts and revenue courts. Since the latter are run by administrative civil servants, Section 4.2 clarifies when a revenue officer acts as a revenue court.

Difference Between Civil and Revenue Court Systems

The basic difference between civil and revenue courts is that the former are "courts of evidence" while the latter are "courts of documents." Since a land revenue officer is a custodian of the state land and land records under private ownership, the framer of the law had quick and cheap disposal of agricultural land matters in mind while designating revenue officers as *ex officio* revenue courts. Let us assume that there is a dispute in the title of a land, say, the name of one of the siblings was left out, whether deliberately or inadvertently, from the list of heirs of a deceased parent. All that the revenue officer has to do is to call for the *shajra-e-nasb* (i.e., family tree) – which is one of the statutory documents that the revenue official called *Patwari* is custodian of in his *Mauza* (revenue circle) – and order the record to be corrected. Insofar as the correction of the name was a disputed fact, the order of the revenue officer will be a judicial not an administrative order. This is what is meant by "court of documents." Such services cost only a nominal court fee to the applicant or litigant.

Now let us presume that the document (*shajra-e-nasb* in our example) itself becomes disputed. For example, it transpired that the deceased had a secret second marriage in town that was never declared or disclosed in his village during his lifetime. The offspring from that second marriage were not likely to have been registered in the *shajra-e-nasb*, so the question of correction based on record does not arise. The newly discovered spouse or children of the deceased came up with claims to be registered in the *shajra-e-nasb* as rightful heirs, which is challenged by the known heirs who dispute the very fact that they had any existing siblings outside their village. In this case, the whole issue would become a matter for the civil court, which is a "court of evidence," to decide. Both sides would submit their evidence before the civil court for adjudication. It is only when the list of heirs is settled by the civil court that the revenue court would take up the matters of inheritance or partition, as the case may be.

Here one has to underline a caveat that there is no bar whatsoever in a revenue court ordering the production of evidence or, for that matter, a civil court asking to see a document. However, the loophole is Section 142 of the Land Revenue Act of 1967, which permits the revenue court to refer the matter of a title to the civil court and stay its judicial proceedings, pending such determination by the civil court. Although the law does not force the revenue court to do so, it merely gives an option of doing so. The overworked revenue courts invoke this provision to refer the matter to civil courts which may take another few years to decide the matter. In some cases, a civil court independently entertains applications to determine titles due to a lack of awareness of the law, which they cannot do so on their own without a reference from the revenue court. Thus, the inter-referral ping pong continues to the disadvantage of the citizens.[6]

[5] A comparison with land ownership systems in four Asian nations in Section 5 of this Chapter illustrates the point.

[6] Another pertinent example is that the revenue courts, likewise, avoid settling the cases of *Istaqrar-e-Haq* (declaration of rights) on the transfer of land through verbal agreements, which is a norm in rural areas. Though revenue officers enjoy all the powers of a civil court, the revenue officers leave the evaluation of evidence in such cases to the civil courts to avoid having to oversee time-consuming cross-examinations of witnesses in their courts.

Difference between Revenue Officers and Revenue Courts

As noted, the revenue courts are manned by the district administration to which the law has entrusted with judicial and quasi-judicial powers in specific circumstances. Otherwise, an order made by the revenue officer based on undisputed facts is an administrative order. However, when more than one party have different viewpoints on a matter, the determination of facts becomes a judicial function.

An example would be "partition," which is one of the matters that the revenue officers'/revenue courts deal with the most. Once a person dies, it is understood that their heirs get property according to the shares apportioned in the Quran and the *Shariah* law, which, in turn, is enshrined in the country's Family Law. However, the dispute is likely to arise when each of the siblings would like their parcel in the inherited land closer to the metalled road (due to higher price) or closer to the water course (due to higher productivity). The principle of justice would dictate that each heir gets a Vanda (parcel of land) which has an equal amount of high-value and low-value parts of the inherited estate.

Ordinarily, according to a senior member of the BoR (Ranjha, 2023), it should not take the Patwari more than a week to determine. However, it takes more than two years, on average, at the level of Patwari. Then it takes another year for the revenue officer not below the rank of assistant collector to approve the partition by making it part of his award. If the partition is disputed by one or more of the heirs, then it becomes a judicial proceeding that may take decades for a final settlement. That duration usually outlasts the lives of the heirs/original claimants, continuing to the next generation.

If the partition is settled amicably amongst family members, called "*khangi taqseem*," the order based thereupon is a mere administrative order made by the civil servant in his capacity as a revenue officer. However, the moment the partition becomes contested, it becomes a judicial matter. Most of the issues related to partition and ejectment and over half of the mutation become judicial matters, wherein the revenue officer has to exercise their judicial functions as revenue court to determine the award. As if the preceding was not complicated enough, each type of dispute has a different forum. For example, anyone aggrieved by a determination made by a *Patwari* can agitate in the court of the Tehsildar. However, the initial forum for agitating against the assessment made by *Lambardar* (village headman) is the court of the collector, i.e., the deputy commissioner of the district concerned.

While the better part of the training curriculum of the PAS and PMS officers, who act as revenue officers in the field, is tilted towards the study of law, more than nine-tenths of their workload as district executive officers deal with routine administrative matters. Their professional interface with the law deals mostly with their law-enforcement duties rather than adjudication functions. Thus, their professional experience in the legal arena is overshadowed by that of the administrative domain.

Another side effect of the overburdened executive is to delegate the revenue functions to junior-level revenue officials such as *Patwari* (BS-5), *Girdawar* (BS-9), *Qanungo* (BS-11), *Naib Tehsildar* (BS-14), and *Tehsildar* (BS-16). Most of the junior-level revenue officials have little formal education, usually matriculation (Grade 10) or equivalent, and no formal training at the time of joining service whatsoever. The study conducted by NIPP on revenue courts also concluded that these junior-most revenue officials often find themselves in a conundrum when they are presented with difficult questions of law and facts (Ashfaq, 2021). This inability to comprehend legal nuances and procedures is often misused by the parties' lawyers to their advantage.

Although the controlling officers, i.e., the deputy commissioners and assistant commissioners are those who attain top positions in annual CCS examinations and are adequately trained in revenue laws at the Civil Services Academy, their primary job of administration keeps them so preoccupied that they seldom find time to properly supervise subordinate revenue courts of Tehsildars and below, who are even unable to interpret the stay orders of the civil courts.[7]

[7] For example, a stay order is usually for one party to stop them from acting in an adverse manner towards another and not on the proceedings of the revenue officers. However, the revenue officers, by incorrectly interpreting the stay order, become reluctant to proceed further.

Reasons for Delay in Case Disposal at the Revenue Courts

Since most of the sludge costs are accrued owing to these delays, we need to explore the causes of prolonged litigation. Based on expert interviews, field visits, and litigant surveys, the study concluded that there are multiple reasons for that

First and foremost is that revenue courts are not full-time courts. The revenue officers are administrative officers who wear a twin hat of acting as a judicial officer in certain situations. The commissioners, deputy commissioners, and assistant commissioners are so overburdened with administrative duties[8] that their functions as revenue courts are relegated to a lower priority. Moreover, there is no weight for revenue court case disposal in the annual performance evaluation reports (PERs) of the revenue officers. It means that there is little or no career incentive for quick disposal of the cases.

Most of the time, the litigants have to wait a whole day till the evening for the DC or the AC to return from their field duties. Even if they hear the cases, they do it hurriedly. This results in the high opportunity cost of meeting the revenue officers, the time cost of waiting for them, and the stress cost of the repeated adjournment of hearings, all of which contribute to sludge.

The second challenge is the abysmal state of affairs in the legal education system of Pakistan. Unlike the CSS officers, there is no comparable or equivalent legal training paradigm for the lower rungs of the civil judiciary at each level of career growth.[9] Lack of regular classes in many law colleges, lax attendance requirements, issues with the quality of the examination process, and the quality of law practitioners and the civil judiciary leave a lot to be desired. While there is an absolute bar on a civil judge to take cognisance of matters exclusively within the domain of the revenue courts, under Section 172 of the Land Revenue Act of 1967, the civil courts continue to interfere in the matters of revenue courts by admitting plaints on questions which, by law, should be settled exclusively by the revenue courts, thereby delaying the final disposal of cases by years.

High courts often entertain appeals against orders of the respective BoRs under the writ jurisdiction although, qua courts, the High Courts and BoRs have co-equal status. Appeal against a final order by either forum can only be filed before the Supreme Court through CPLAs and not to each other. Although many times, high courts after taking cognisance of a BoR-decided case remand it back to the BoR concerned for adjudication, but mere opening up of two parallel forums causes delays.

The third problem is the over-accountability of civil officers and the under-accountability of the lower judiciary. Although the Civil Servants Act of 1973 gives indemnity to all public officers for acts done in good faith in the exercise of their duties, the threat of NAB, FIA, and other agencies to harass officers for their past judgments in land revenue matters acts as a disincentive to make any decision at all. It may be underlined that the judiciary is immune from the NAB cognisance under the NAB Ordinance. On the other hand, there is no external check on the civil judiciary, either from the executive or from the legislative communities, for overstepping their powers and interfering in the lawful jurisdiction of the other channels of courts, such as revenue courts. Thus, unscrupulous lawyers end up forcing the civil courts to act contrary to the law with impunity. The sufferer of the violation of the law is none other than the ordinary citizen of Pakistan.

The fourth delaying cause is that many of the civil cases and even more of the revenue cases end up becoming

[8] These administrative duties usually include price control, Ramadan bazaars, laptop distribution, law enforcement, traffic management, development projects, postings and transfers, sports galas, and several other duties.

[9] Judicial training at the induction level has lately been introduced in most provinces but it lasts from a few weeks to a few months in various provinces, compared to almost two-year-long training for the PAS officers across the spectrum. However, very few members of the superior judiciary were ever inducted as civil judges. The higher judiciary is mostly selected from lawyers. At the higher level of judicial induction, the concept of formal training in academies is completely alien.

criminal cases due to the introduction of criminal elements in the dispute like threats of violence and wilful damage to each other's property, forgery of deeds or documents, and most seriously, physical brawls causing injuries or even deaths. Such cases need evaluation of evidence under Qanoon e Shahadat Order 1984. These matters perforce get referred to regular judiciary, to judicial magistrates, for instance. While the revenue courts are slow in passing judgments, the regular judiciary is even slower. Hence, the litigants end up paying the price for justice delayed.

The fifth and final issue causing delay in adjudication is resource constraints in the BoRs and their subordinate revenue court formations. Gone are the days when land revenue used to be the major source of revenue for the state. From a high of 85 per cent of all state revenues in 1908, the figure was slightly below one per cent of the state revenues in 2022. It means that the primary focus of the Government of Pakistan is towards the Federal Board of Revenue (FBR), which collects income and wealth taxes, excise duties, and custom levies, which form the bulk of federal government revenues. On their part, the provincial governments look towards the provincial revenue authorities such as the Punjab Revenue Authority (PRA) and the Directorate General of Excise and Taxation (E&T) that collects service taxes, professional taxes, and all other provincial taxes for a lion's share of provincial income.

This leaves the BoR of each province, collecting meagre agricultural and irrigation water-related levies, with the least government focus and attention. Unlike the FBR, PRA, and E&T, the BoRs are not merely (agricultural) taxation bodies but are also the custodians of state lands, state interests, protectors of property rights, and are at the apex of the (revenue) court system in the province. Unlike the high courts, the BoRs have a lot of executive functions too. Despite these multifarious functions, the BoRs do not get sufficient budget allocation from the governments. Their officers get almost a third of the remunerations of their counterparts in the regular judiciary or half of that of their peers in other taxation bodies. Thus, the BoRs remain financially handicapped in improving their capacity, attracting capable human resources, or reforming their processes.

Causes of Sludge in Revenue Courts

Although the delay in adjudication is itself a cause for sludge, the NIPP study sheds light on other related causes. These can also be seen as examples of sludge in revenue courts according to Sunstein's definition as they hinder the litigants from achieving the preferred outcomes (Ashfaq, 2021). A brief overview of those factors is also in order.

(A) Excessive Paperwork and Extensive Procedures in Revenue Case Matters: For a simple partition case in revenue courts the parties need to obtain numerous documents. These documents include Fard-Patwar, Fard Sarkar, Khasra Gardwari, Naqsh-e-Alif, Aks Shajra, Jamabandi, Shajra Nasb, etc. Some of these documents have also been identified in the PIDE Sludge Series on Agriculture Credit as major sources of sludge (Haque et al., 2022). The survey results of the present study, discussed in Section 6 of this report, also validate that finding that excessive documentation has significant sludge costs for the litigants.

The utility of these documents in resolving a disputed land case cannot be undermined. However, the above-mentioned PIDE study on agriculture credit as well as the NIPP Study revealed that obtaining such documents is a major challenge for the litigants as most of the time *Patwaris* do not give the requisite documents unless they are given speed money.

(B) Long Route of Appeal: The study also found that there are multiple appeal and review forums in revenue courts. Depending on the nature of the dispute and the court of first instance, the appeal route may go through the AC, collector, or commissioner. The BoR can be approached for revision against the decisions in appellate jurisdiction by the commissioners, which is, by law, the ultimate forum on revenue matters against which no appeal lies.

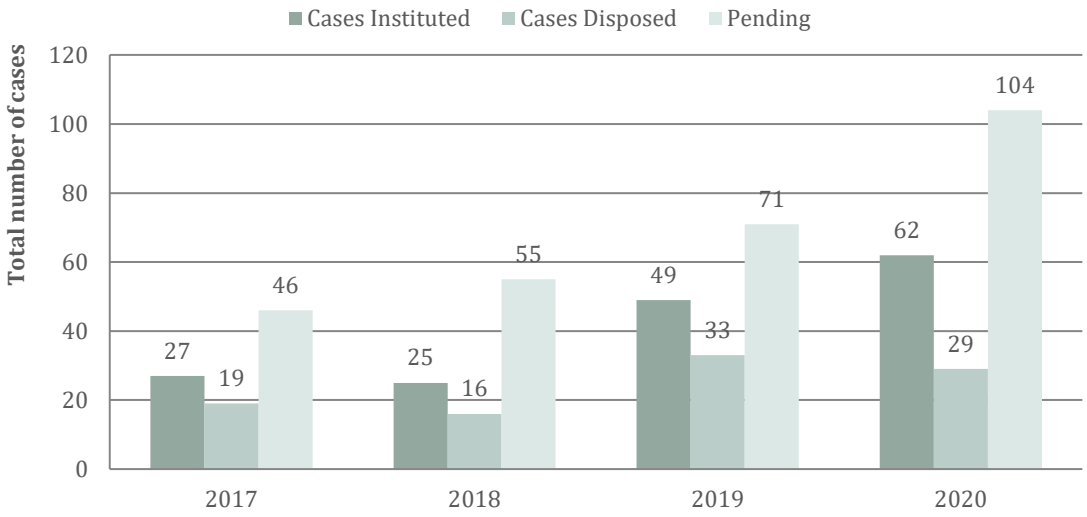
Unscrupulous lawyers contest the final decisions of the BoR in the High Court in the form of writ jurisdiction. The High Courts either remand back the case to the BoR for deciding afresh or if they decide it themselves, the aggrieved party has the option to go to the Supreme Court through the Constitutional Petition for Leave to Appeal (CPLA). In either case, the final adjudication may be delayed by years or even decades.

(C) Parallel Court Structure: As discussed above, even though the law delineates the powers of revenue officers and revenue courts to oust civil courts' jurisdiction in revenue court matters, some loopholes compromise the effectiveness of the exclusion provisions. One such example is Section 141(2) of the West Pakistan Land Revenue Act, 1967 which gives the power to civil courts to adjudicate upon the question of title. The lawyers exploit the loophole by converting a simple case of mutation or eviction by challenging the very title of the property. This makes the case, to the extent of the question of title, a civil matter. This has led to dualism and parallel court structure.

To further compound the problem, the national-level problems of tussles between the executive, judiciary, and legislature are more pronounced at the unit level such as districts and tehsils. Due to this friction between the district-level judiciary (civil judges and district judges) and the executive (deputy commissioners and the commissioners), the former may pronounce such legal interpretations to revenue laws that the powers of revenue officers are undermined. One such example is a recent judgement by the Peshawar High Court, which raised the question of the existence of revenue courts as an infringement of Article 175 of the Constitution (Peshawar High Court, 2019).

Hence, the study concluded that the above-mentioned issues in the revenue courts might be the contributory factors to protracted litigation and insecure property rights (Ashfaq, 2021). The figure below shows sample cases from three districts of Sindh from 2017 to 2020. The cases instituted in revenue courts have increased by about 129 per cent, while the number of pending cases has increased by 126 per cent. As compared to pending and instituted cases, the disposal rate increased by only 52 per cent pointing towards delayed litigation.

Figure 1 Total Cases from Revenue Courts in Sindh (From Districts of Dadu, Nausheroferoz, and Larkana)



Source: Khuhro (2021).

5. COMPARATIVE ANALYSIS OF LAND MANAGEMENT SYSTEM IN ASIA

It is worthwhile to compare the rural and agricultural land management system of Pakistan with other regional systems. As the land management systems in the developed Western world are different from Pakistan's, a comparison with those systems is not insightful. Hence, Pakistan's system was compared with four Asian countries, two from developing economies, India and Bangladesh, and two from developed ones, Singapore and South Korea. The Indian and Bangladeshi revenue court systems are similar to Pakistan because India inherited its legal foundations from British India, while Bangladesh's revenue court system has its roots in the Pakistani legal ecosystem. When the British-era Land Revenue Act of 1887 was replaced by Pakistan's own Act of 1967, Bangladesh was East Pakistan.

India: Revenue Courts and Effects of Digitisation

The Report by the Committee of State Agrarian Relations titled 'The Unfinished Task in Land Reforms,' observed that due to an inefficient land management system, land revenue courts in India are flooded with litigation, "Presently the Revenue Courts are choked. Thousands of cases pertaining to land issues are pending in revenue courts…In Hyderabad [,] 8,000-10,000 cases are pending in [the] CCLA and the revenue courts. With passing time, the number of cases is only increasing" (GOI, 2009).

The primary reason for this litigation has been linked to a lack of time allocated by revenue officers to adjudicating revenue cases because of their excessive engagement in other administrative tasks, followed by a lack of proper training of ROs on dispute resolution (GOI, 2009). The scenario is so similar to that of Pakistan that if the word India is replaced with Pakistan, it could easily pass as a comment on the Pakistani revenue courts system. To reduce the burden on revenue courts, some states of India including Kerala, Andhra Pradesh, Tamil Nadu, Karnataka, Gujarat, and Maharashtra, have adopted the model of land tribunals for disposing of land ceiling cases in contrast to remaining Indian states where the normal legal route is followed (GOI, 2009).

Singh et al. (2019) also highlighted the lack of dispute resolution by revenue courts and showcased that by adopting e-governance modules, some states of India have become relatively more efficient in the disposal of revenue cases. One of the major hurdles faced by litigants in revenue courts of India is a lack of a database of revenue court cases, "Unlike the National Judicial Data Grid that gives real and exact details about the number of inclined and pending cases from the level of District Courts to Supreme Court, there is no such base for revenue cases" (Singh et al., 2019; p. 876).

This makes it difficult for the litigant to follow their case and it becomes a waiting game for them. Second, due to a high number of cases and lack of resolution, there are delays in obtaining a hearing date which has a high economic cost for farmers if their source of income is derived from the agricultural land under dispute. To resolve these issues, the revenue courts in the Indian states of Uttar Pradesh, Himachal Pradesh, and Karnataka have introduced online court management systems (Singh et al., 2019). Their e-governance initiatives include the Revenue Case Management System (RCMS) in Madhya Pradesh, RCCMS in Karnataka, 'Digital Land' model in Uttar Pradesh (UP), Digitization Revenue court system in Haryana and Punjab, VAAD in UP, and the Digital India Land Records Modernization Programme (DILRMP) in Himachal Pradesh and Maharashtra (Singh et al., 2019). The Government of Punjab in Pakistan, through its BoR, has taken the lead in introducing the Revenue Court Case Management System, which has eased the tracking of cases in real-time. Thus, a comparison of Punjab's system with a similar system in Karnataka, India, is in order:

Karnataka-Bhoomi Project of Digitization of Land Records: The Bhoomi project launched in 2001 in the Indian state of Karnataka is hailed as a success story in computerising land records. It computerised around 20 million manual land records of all 177 talukas (subdivisions) of Karnataka to ensure more transparency and less reliance on ROs, specifically patwaris, in obtaining a computerised record of rights tenancy and crops (RTC) by farmers

(CommonFloor.com, 2012). The RTC obtained under Bhoomi allows farmers to obtain bank loans as well, "Electronic integration of Bhoomi with Banks was started in 2012…[that are used] to raise [a] request for creating or removing charge and also calculating liability on farmers availing farm credit" (PricewaterhouseCoopers, 2014). Moreover, the facility of e-kiosks has been enabled in each main taluka wherein the data of each villager is kept in the form of ownership of land holding, etc. These e-kiosks allow access to RTC and mutations as well (Singh et al., 2016).

In a similar vein, the Punjab province of Pakistan adopted the e-governance model of land record management through the creation of 151 Arazi Record Centres (ARCs), one at the level of each Tehsil (subdivision). Although e-kiosks have not been established by the Punjab Land Record Authority, a simpler solution of making the land records downloadable on your smartphone through a simple and freely accessible mobile app has made it easy for the citizens to get their documents like ownership deed (*Fard*) or mutation (*Intiqal*) through a click.

Bangladesh: Introducing Online Hearings in Land Revenue Courts

Following the spirit of the Digital Bangladesh election manifesto of 2008, Bangladesh began an online hearing system in 2021 to promote greater transparency, reduce hurdles in the shape of unnecessary hearing delays, and build a people-oriented land revenue management system (The Land Portal, 2021).

All 61 districts of Bangladesh have an online hearing system in the quasi-judicial courts conducted by the revenue officers, namely, the assistant commissioner (land), additional deputy commissioner (revenue), and additional divisional commissioner (revenue). The settlement (i.e., land survey) related court is conducted by the assistant settlement officer and settlement officer. The appellate court for all the above is administered by the Land Appeal Board, which is almost similar to the BoRs in each province of Pakistan The online hearing module entertains revenue court cases of mutation, settlement, record correction, and objections as well as for appeals. However, the data was not available to ascertain the proportion of cases being heard through the e-hearing system (The Land Portal, 2021).

Like Bangladesh, the Board of Revenue Punjab in Pakistan has also showcased the introduction of tele-hearing of cases from far away districts. However, the data showed less than 60 cases out of over 113,000 cases that had used digital technology for distant hearing. This figure is far from impressive.

Singapore: Property Disputes in Courts of Law

Singapore, being a former British colony, follows a common law jurisdiction. Being a high-income state with Asian traditions, Singapore is unique in its judicial developments concerning property rights. Yip (2021) identified that due to different family dynamics, the decisions of Singaporean and English courts vary on beneficial ownership cases of family property;

"The English landmark cases are based on the *unmarried* cohabitants paradigm…the legal rules that have emerged from these cases are aimed at, whether successfully or not, ensuring a fair division of the family home upon the breakdown of these relationships. In contrast, the Singapore seminal judgments go on determining beneficial ownership rights where [usually] the cohabitants were legally *married* or are underlaid by disputes due to vertical family relationships like contests between children over their parents' property" (Yip, 2021; p. 475)

Unlike Pakistan, the concept of revenue courts is alien to Singapore because less than one per cent of the total land is for agricultural use and three-quarters of the island nation's land is owned by the Government (Diehl, et al., 2020). The state-owned land is leased out by the Urban Redevelopment Authority (URA) under the Government Land Sales Programme for a term of 20 years for commercial or residential development; acquiring

it on an individual level is highly unlikely (Vaerhn et al., 2021). Thus, because of greater urbanisation, unlike in South Asia, property disputes in Singapore are predominantly in urban areas.

South Korea: Korean Land Information System

The Korean Land Information System, or KLIS, was established keeping in mind a three-pronged objective of cadastral administration, land use, and property rights. Its success in South Korea can be seen by the rise in efficiency of the civil administration apparatus. Due to the KLIS, the common man was able to access land-related documents at the relevant offices or they could use e-kiosks to do the same. It reduced the burden on civil services and led to a more informed usage of land as citizens now had access to up-to-date information on the state of the land, its zoning, restrictions, and publicly announced land prices (Korean Finance Ministry, 2014).

The objective of computerising land registers was to build a system of property ownership, have uniform land prices, and mitigate price fluctuations because of speculative practices in the real estate sector (Korean Finance Ministry, 2014; p. 46). Thus, South Korea's KLIS is a step in the future of cadastral mapping and geo-spatial canvassing both of which are documented to improve land management systems by adopting a scientific approach. "With the systematic land administration system…it is possible to collect data promptly and accurately and comprehensively…across the country. Therefore, land policies are made in a prompt and streamlined manner with national land developed and managed more efficiently" (Korean Finance Ministry, 2014; p. 68). The digitisation of land records has lessened the potential for disputes and eased the burden of the courts.

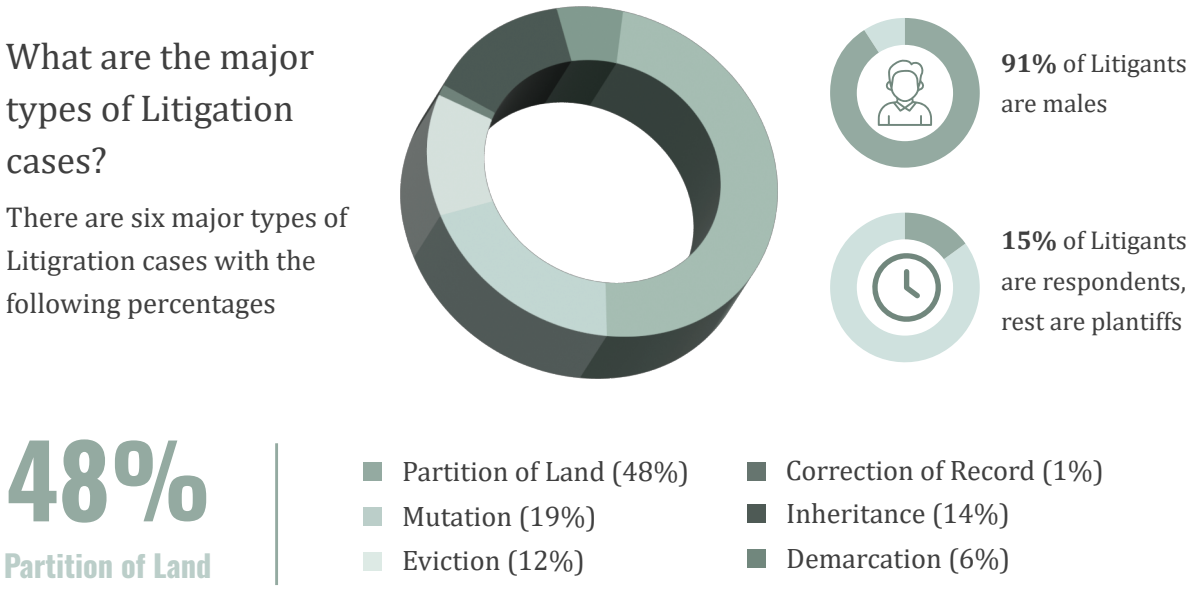
6. FINDINGS & DISCUSSIONS

Summary Statistics

Tables 1 and 30 in the appendix give an overview of summary statistics for Punjab and KP, respectively. It needs to be underscored that when our survey teams visited the courts, there was a general overall reluctance on the part of most litigants to answer our questions. On average, less than a fourth of litigants present on the premises showed the willingness to respond to our surveys, many of them reluctantly. Hence, our sample size was smaller than we would have liked. However, it is good enough to draw some general conclusions.

For Punjab, we can see in Table 1 that the land revenue cases mainly fall into six categories. The bulk of our cases are related to the partition of land (48%), followed by mutation (19%), inheritance (14%), eviction (12%), demarcation (6%), and correction of records (1%). The average litigant belonged to the lower-middle class with a reported average monthly income of PKR 38,000, but there were quite a few outliers with income as high as PKR 6 million per annum or as low as dependence on state assistance such as the Benazir Income Support Programme as well. Litigants were largely male (91%) and usually semi-literate with 6.7 average years of formal education. Five-sixth of the litigants (almost 85%) found in the courts were plaintiffs and only around 15 per cent were respondents. That highlights the fact that the person being wronged has to knock on the doors of the court while the respondent can easily use delaying tactics by not showing up in the courts of law.

Figure 2 Major Types of Litigation Cases



Source: Authors' computations.

While the prescribed period for disposal of a case in the revenue court is six months, according to the instructions of the Punjab BoR, the cases in our survey lingered on for 4.64 years on average in Punjab. There is a high variance in the data as seen by the high standard deviation, but that is to be expected since about 12.20 per cent of our respondents had cases over 10 years old with the maximum age being 50 years old. On the other extreme, some of the people interviewed had filed the case that very day when they were contacted by our field team. Since we had no way of guessing from the responses how long the case instituted on the day of the interview would last till the formal disposal, it was thus -nigh impossible to calculate the total time duration of a revenue case from the institution of the case till its final disposal.[10] In other words, 4.64 years is the average period since the filing of the case. For KP, this figure is 6.29 years (Table 30). The total duration till case disposal can last many decades.

Given that in Punjab, the disputed land size is about 45.80 kanals on average with an average claimed value of PKR 15 million (comparative average figures for KP are 49.70 kanals per case and PKR 17.60 million (see Table 31)), it makes perfect economic sense for the litigants to carry on pursuing the litigation throughout their lifetime, given their economic status. They hope that if not they, their progeny will reap the benefits if they win the title of the property in question. Over these decades, they bear enormous direct costs (stamp fees, lawyer fees, unavoidable bribes) and indirect costs (opportunity costs, time costs, income forgone, stress costs, etc.), which are discussed in the sections below.

Sludge during Gathering Information

One of the first steps that a litigant goes through in their revenue court case is gathering information. On average, a litigant spent about 2.38 months gathering information about their case in Punjab. Based on our estimates of the reasonable time required to gather information, i.e., the ideal time (Table 12), a person should not have to spend more than 7 days in this phase and anything above this is an indication of sludge. Accounting for 7 days that are required to gather the required information, sludge in Punjab (Table 9) turned out to be on average 2.14

[10] All litigants surveyed had cases which were on-going in the revenue courts.

months or approximately 65 days and 4.73 months in KP (Table 24). Approximately 57 per cent of the litigants stated that they spent most time gathering documents. Out of these 57 per cent, 38.80 per cent stated that they spent their time trying to get a copy of the title deed, known as Fard, for the property in dispute.

Sludge during Document Collection

Tables 2A – 2E show summary statistics for Punjab for documents that litigants may need during their cases. The statistics for KP are presented in Tables 17A – 17E. These figures have not been adjusted for the ideal time from Table 12 but rather show an overall picture of the time document collection can take for a litigant. Table 2E shows that a litigant, on average, spent about 8 months just gathering documents. Removing some of the very old cases brought this figure down to about 4 months but it is still higher than our ideal estimations that show that it should not take more than 15 days to collect a document. Adjusted figures in Table 3A show that in Punjab all documents, even after accounting for the 15-day margin, take on average about 7 months more to obtain a settlement record, called *Jamabandi*, incurring the least amount of sludge at 1.40 months. Adjusted figures (Table 18A) for KP, however, show that in KP, sludge in document collection is 2.48 months.

Table 3B gives an overview of sludge in terms of monetary and opportunity costs incurred in Punjab.[11] These have been adjusted for inflation using World Bank Consumer Price Index (CPI) data for the years 1960–2022 (World Bank, 2022). The CPI data for 2023 was taken from the Pakistan Bureau of Statistics (2023) press release since our last survey was conducted in March 2023.[12] Opportunity cost was calculated by multiplying the total number of visits with the travel and wait time of each visit and the hourly income of the respondent. Overall, for Punjab, the one-time opportunity cost at the documentation stage comes out to be on average about PKR. 22,008. Sludge in monetary terms due to document collection was about PKR 34,223. The total sludge a litigant may incur on average during the documentation stage came to around PKR. 44,581 on average.[13] In comparison, for KP, the overall sludge from document collection was PKR 113,087 (Table 18B). This is much higher than the Punjab figures as it seems litigants in KP incurred much higher monetary costs when collecting documents. These document collection costs occur before the formal institution of the case in the revenue court.

Sludge Cost of Court Hearings

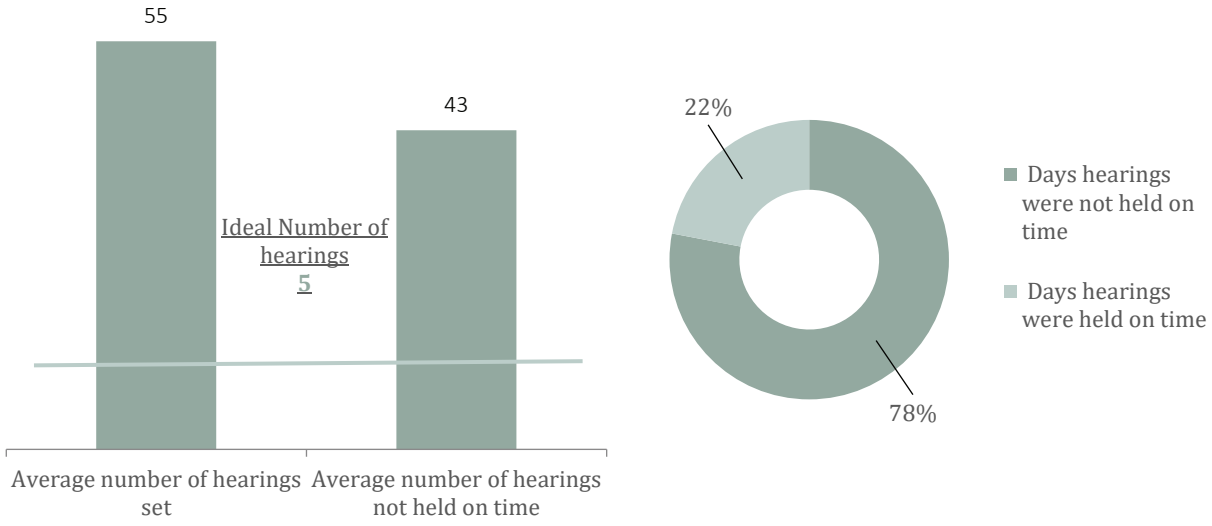
With regards to hearings, Table 4 shows adjusted figures for sludge in Punjab. Unlike document collection, which is a one-time task, hearings and adjournments can happen all year round. Therefore, we calculated an annual figure for sludge due to hearings, which came out to be about PKR 71,195. Furthermore, litigants wasted, on average, 23.30 hours a month on hearings and incurred about PRK 4,657 per month on travel to the courts on the dates of hearing. The results show that, on average, 50 hearings took place, which is very high compared to the estimated ideal number of 5 hearings during the entire case. Out of these 50 hearings, about 7 were held on the set date, while the rest of the 43 hearings did not take place on the set date because of the revenue officer being on leave or away from the office, lawyers' strikes, and other such issues. Moreover, after adjustment for the 30-day ideal time, it took about 43 days more on average for the first hearing to even be scheduled.

[11] The negative figures in the sludge tables are due to people that fell below our ideals from Table 12.

[12] All monetary figures in our findings have been adjusted for inflation and are in 2023 prices.

[13] The number of people incurring opportunity costs vs monetary costs is lower (see Table 3B) hence the total sludge figure from document collection is lower.

Figure 3 Average Number of Hearings Set Vs Hearings Held



Source: Authors' computations.

For KP, Table 19 gives adjusted figures for sludge incurred during hearings and adjournments. In KP as well, 50 hearings were set, on average, against the ideal figure of 5 hearings, and the hearings were held only 6 times on average. The first hearing took about 101 days to even be set, even after adjusting for the 30-day ideal figure. Lastly, yearly sludge in KP due to hearings was about PKR 67,863, on average.

Sludge cost of meeting the Revenue Officer (RO)

Ideally, a litigant should only have to meet the RO once but, as can be seen in Table 5A, this is not the case. For Punjab, even after adjustment, people met ROs at least 16 times a year with the most meetings being with the DC/ADCR. The average waiting time for these meetings was 2.86 hours after the deduction of the 2-hour reasonable waiting time, which means a litigant spent 5 hours a day waiting for all RO meetings. This, coupled with an average travel time of about 6 hours for all RO meetings, means sludge in terms of total time wasted on RO meetings was around 258 hours in the past year (Table 5D). Sludge in terms of monetary cost in the past year was about PKR 53,328 with an opportunity cost of about PKR 21,583 a year (Table 5E). The total yearly sludge[14] was about PKR 58,000[15] (Table 5G) in Punjab.

In comparison, in KP, the total yearly sludge was about PKR 170,000 (Table 20G) owing mostly to the fact that litigants met with the ROs, on average, about 35 times in the past year (Table 20A), which is more than double the meetings in Punjab. Thus, litigants in KP spent 935.15 hours (Table 20D) on meetings with ROs in the past year.

Sludge Costs Reflected in Other Expenses

Table 6 and Table 21 highlight typical expenses a litigant may go through during their cases in Punjab and the KP, respectively. We did not include stamp duty/government fee in the sludge category, but it has still been documented. On a per-year basis, a litigant can end up spending about PKR 144,000 in Punjab and PKR 111,000 in KP on other expenses. We categorised these expenses as sludge. These figures include money spent on lawyers, revenue court staff (speed money), and food but the bulk of it, unexpectedly, is on lawyer fees.

[14] It is assumed that the past year's figure applies to the entire case period.

[15] n=130 for total opportunity cost when meeting with the ROs, while n=194 for total monetary cost from meeting the RO, which is why the sum of their means is lower.

Sludge comparison of Document Collection from Arazi Record Center vs Patwari

We wanted to make a distinction between document collection from the Patwari versus document collection from the Arazi Record Centers. Tables 7 and 8 show the sludge associated with each in Punjab. It should be noted that we applied more strict ideals on the Arazi Record Center concerning document collection time. The reason is that since the Arazi Record Centers are digitised, they should not take more than a day to give the litigant their document. On the other hand, it was assumed that since a Patwari needs more time, so patwaris were given 15 days. Thus, the total time taken (after adjustment for ideal time) to collect documents from Patwari was about 16-17 days on average and about 30 days on average for the Arazi Record Center in Punjab. If the Arazi Record Center was given the same time as the patwaris (i.e., 15 days), then this average would be 16 days. This means they are roughly the same in terms of time taken. Total opportunity cost, however, was lower for the Arazi Record Center (PKR 14,191 vs. PKR 18,122 on average).

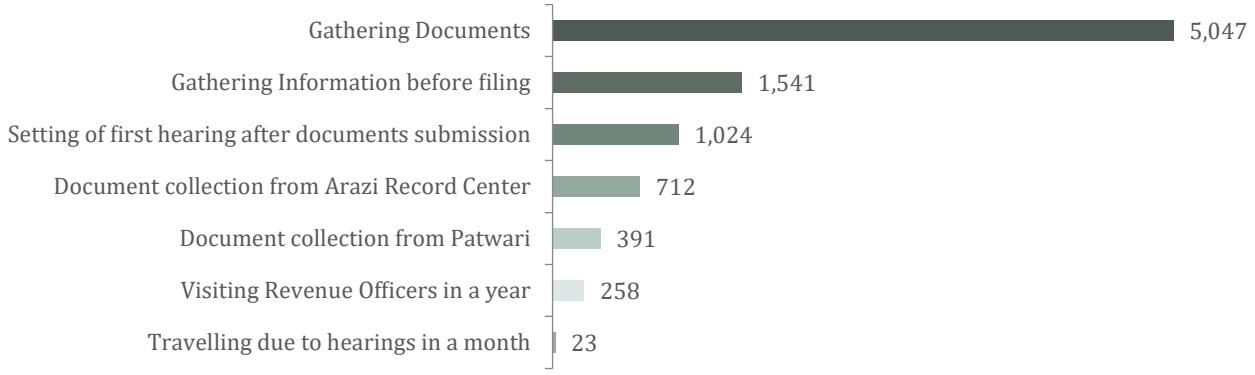
When the respondents were asked which of the two, i.e., the Patwari Centre or the Arazi Record Center, was more accessible, 62 per cent of litigants said they thought the Arazi Record Center was more accessible, while 26.40 per cent were neutral (in Punjab). There was also a sizable difference in the amount of money which was spent on Patwaris (PKR 20,124 on average) and the Arazi Record Center (PKR 5,463 on average). There is, therefore, merit to the idea of phasing out the role of the Patwari. We also asked the respondents the time it took, on average, to get documents before the establishment of the Arazi Record Centers. According to the responses, it took about 18 days, on average, before the establishment of Arazi Record Centers in Punjab (Table 8).

Tables 22 and 23 highlight the findings for KP. Money spent on the Patwari was still higher in KP (PKR 10,883 vs. PKR 2,344). In KP as well, the time spent to get documents from the Arazi Record Centers was also lower than on the Patwari. After adjustment of the 15-day ideal, the results show that the Patwari in KP took 5.70 days to give the documents. In comparison, the Arazi Record Centers took about 9 days on average, after adjusting for the one-day ideal. This means that if the Patwari was afforded one day and not 15 days, sludge in document collection from the Patwari would be 19.70 or 20 days on average. This is 11 days above the Arazi Record Centers document provision time.

Overall Findings from Each Step

Tables 9 and 10 show figures for overall sludge in the various steps involved in the litigation process in Punjab, while Tables 24 and 25 show overall sludge figures for KP. It clearly shows that there is room to make improvements in each step, particularly in the document collection process. The time it takes to get the first hearing should be reduced as well. Currently, in Punjab, the time it takes to get the first hearing is 43 days above our ideal figure and 101 days above in KP. Significant reforms are required in this area considering hearings end up costing the litigant almost PKR 71,196 per year in Punjab and PKR 67,963 in KP. Table 11 shows that litigants found the hearing process to be the most stressful step in Punjab and the second most stressful step in KP (Table 28).

Figure 4 Sludge in Hours at Each Step in Punjab



Source: Authors' computations.

The Arazi Record Centers need to improve document provision time since the purpose of digitisation was to remove long waits for document collection. This will help reduce sludge in time during this process as well as reduce the reliance upon the Patwari who, as seen in Table 11 and Table 28 (for Punjab and KP, respectively), is more stressful for the litigant than going to the Arazi Record Center (3.54 vs. 2.86 on a Likert Scale in Punjab and 3 vs. 2.21 on a Likert Scale in KP).

On a per-year basis, sludge, after excluding the one-time costs of document collection and gathering information, was about PKR 198,498. Including these one-time costs increased the figure to PKR 250,487 for Punjab (Table 13). For KP, these figures are higher with yearly sludge being PKR 306,834 on average for all steps and PKR 263,067 if one-time costs are excluded (Table 26). We also looked at sludge as a percentage of people's income and it turns out that if a person has to go through all steps in a year, it takes up about 84 per cent of their income in Punjab and about 79 per cent of their income in KP, which is unreasonable (Tables 13 & 26). If one-time costs are removed, this percentage falls to 67 per cent in Punjab and 66 per cent in KP, which, though lower, is still a figure that needs to be addressed and lowered.

Figure 5 Sludge as a Percentage of Income in Punjab

Source: Authors' computations.

Tables A1 and A2 below show an overview of these findings for sludge in terms of time and money spent on each step in Punjab:

Table A1: Sludge in Terms of Time Taken for Punjab

No.	Step	Description	Average Number of Visits	Average Travel Time Per Two-Way Visit (Hours)	Average Wait Time Per Visit (Hours)	Average Agency/Collection Time (Hours)	Average Total Sludge Time (Months)
1	Gathering Information	Sludge in time taken to gather information					2.14
2	Document Collection	Sludge in the collection of Fard Malkiat	3.66	9.29	2.77	1,733.63	2.44
		Sludge in the collection of Jamabandi	4.98	5.86	2.69	999.60	1.41
		Sludge in the collection of Khasra Girdwari	5.78	3.89	1.09	4,715.77	6.38

		Sludge in the collection of Shajra Nasb	6.15	3.76	0.94	5,199.41	7.13
		Sludge in the collection of all documents	10.61	12.65	4.01	4,994.03	7.01
3	Document Collection from Patwari	Sludge in document collection from Patwari	6.68	3.49	2.08	430.21	0.54
4	Document Collection from Arazi Record Center	Sludge in document Collection from Arazi Record Center	6.36	5.18	1.58	660.48	0.99
5	Hearings	Sludge in hearings in a month	2.17	7.72			0.03
6	RO Meetings	Visits to Patwari in the past year	6.68	2.96	2.03		0.06
		Visits to Girdawar Qanungo in the past year	5.78	1.64	0.13		0.02
		Visits to Naib Tehsildar in the past year	10.06	2.09	1.69		0.07
		Visits to Tehsildar in the past year	7.61	3.43	1.49		0.05
		Visits to AC in the past year	12.18	5.54	0.73		0.10
		Visits to DC/ADCR in the past year	12.57	3.73	1.85		0.13
		Visits to all revenue officers in the past year	16.02	6.16	2.86		0.36
7	Overall Total Sludge Per Year						9.40

Note: Average total sludge time is calculated by summing up travel cost, wait time, and agency/collection time per respondent and then averaging these costs over all observations. It is not a sum of the individual averages of components as there were respondents who might not have incurred costs on one or two of the components. This means that the number of observations for the average total sludge time column is different from its components' number of observations.

Source: Authors' computations.

Table A2: Sludge in terms of Rupees for Punjab

No.	Step	Description	Average Monetary Cost (PKR)	Average Travel Cost per visit (PKR)	Average Opportunity Cost (PKR)	Average Total Sludge Cost (PKR)
1	Gathering Information	Total Sludge in Rupees			81,099.26	81,099.26
2	Document Collection	Cost Borne by litigant for Jamabandi	18,822.26		8,891.88	
		Cost Borne by a litigant for Fard Malkiat	17,969.37		8,973.11	
		Cost Borne by litigant for Khasra Girdawari	22,294.36		9,324.10	
		Cost Borne by litigant for Shajra Nasb	25,419.69		12,273.33	
		Total cost borne by a litigant for all documents	34,222.98		22,007.50	44,581.32
3a	Document Collection from Patwari	Sludge in money spent on Patwari for document collection			18,121.82	
3b	Document Collection from Arazi Record Center	Sludge in money spent on Arazi Record Center for document collection		3,559.76	14,191.39	
4	Hearings	Cost borne by a litigant on hearings per year		1,634.86	55,879.85	71,195.91
5	RO Meetings	Money spent on the Patwari in a year	20,123.61		6,456.08	
		Money spent on the Girdawar Qanungo in the past year	7,007.81		3,135.85	
		Money spent on the Naib Tehsildar in the past year	21,104.53		9,402.05	
		Money spent on the Tehsildar in the past year	12,865.63		5,646.83	
		Money spent on the AC in the past year	21,921.15		19,507.78	
		Money spent on the DC/ADCR in the past year	69,164.43		18,529.28	

		Money spent on all revenue officers in the past year	53,327.68		21,583.11	58,000
6	Expenses	Lawyer fees, revenue court staff and food per year	144,000			144,000
7	Overall Total Sludge Per Year					250,486.96

The average total sludge cost is calculated by summing up travel cost, monetary cost, and opportunity cost per respondent and then taking an average of these costs over all observations. It is not a sum of the individual averages of components as there were respondents who might not have incurred one or two of the components. This means that the number of observations for the average total sludge cost column is different from its components' number of observations.

Source: Authors' computations.

Opportunity Cost of Land under Dispute

We also looked at the potential foregone agricultural output that could have been produced had the land not been in dispute. In the survey in Punjab, litigants were asked how they planned to use the land if it had not been in dispute. According to the responses, 12.59 per cent of respondents said they wanted to build a house for their personal use, 69.58 per cent said they would have grown crops for their personal use, and 35.66 per cent said they would have grown crops for sale.[16] To calculate the opportunity cost of land from agricultural income foregone for Punjab, responses of 35.66 per cent of respondents who said that they would have grown crops for sale were used.

The data reported by the Crop Reporting Service of the Punjab Government (Crop Reporting Service, 2020; Crop Reporting Service, 2021; Crop Reporting Service, 2023a) show that sugarcane is the main agricultural crop in Kasur and Toba Tek Singh where the survey was conducted in Punjab. We, therefore, assumed that had the land not been under dispute our litigants would have used the land to produce sugarcane. For KP, we assumed a rice-wheat rotation as these two crops are often grown together in KP as shown by the 28-year historical data published by the Pakistan Bureau of Statistics (Pakistan Bureau of Statistics, 2009) and the crop statistics published by the Crop Reporting Service for KP (Directorate General Crop Reporting Service, 2023).

Since sugarcane is a yearly crop (takes a year to sow and harvest), we calculated the total yearly output foregone. We assumed that the total output per acre was equal to the average output per acre per location as reported by the Crop Reporting Service of Punjab (Crop Reporting Service, 2021; Crop Reporting Service, 2023a). For rice and wheat in KP, we took the average output per acre from the Agriculture Marketing Information Service (AMIS) (Agriculture Marketing Information Service, 2022a; Agriculture Marketing Information Service, 2022b).

We then converted this foregone output to a monetary value by using the minimum support price (MSP) for sugarcane and wheat, which is announced by the Punjab Government every year. Data for the minimum support price for wheat and sugarcane was taken from AMIS (2023a), AMIS (2023b), and the Crop Reporting Service (2023b). For rice, we used indicative price, the data for which was taken from the Crop Reporting Service (2023b). Lastly, we also accounted for the cost of production of all crops, the data for which was also been taken from the Crop Reporting Service (2023b). Lastly, we assumed that the rice grown in KP was basmati rice.

Table 14 shows the total output of sugar cane lost on average (by location) and the monetary value associated

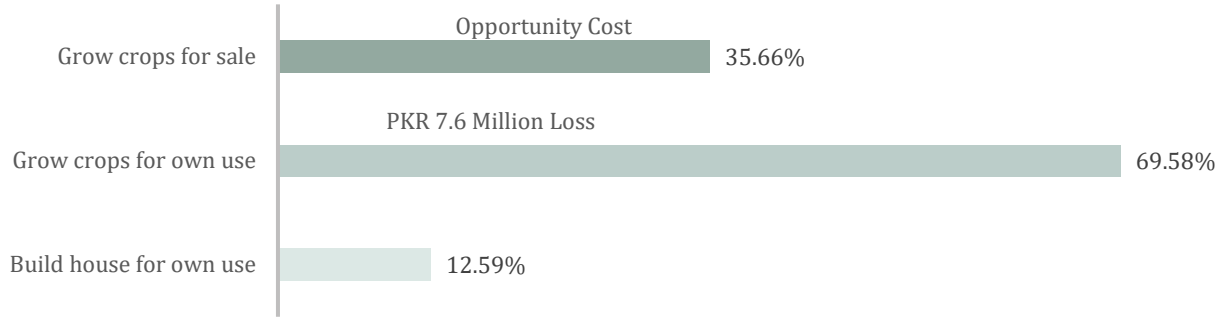
[16] Respondents were allowed to give multiple reasons which is why the percentages do not sum to 100.

with this loss. We found that, on average, total sugar cane production lost due to court cases was about 22,113 maunds,[17] which in monetary terms was about PKR 7.67 million, on average. To calculate the potential profit that could have been made from the sale of sugar cane, we used the cost of production data[18] and found that the potential profit could have been about PKR 2.09 million, on average.

The longer a case goes on, the more agricultural income is forgone, thus, we also calculated yearly lost production, which was about 4,703 maunds per case with a monetary sale value of about PKR 1.62 million. The yearly profit from the sale of sugarcane was about PKR 0.46 million, on average.

For KP, Table 27 shows that the total output loss of rice and wheat was 7,564.24 maunds on average, which, in monetary terms, was PKR 2.17 million. Average rice and wheat production lost was about 435.40 maunds per year and the average yearly profit lost due to land disputes in KP was about PKR 319,000. Owing to a lack of data availability, the monetary values of the opportunity cost of rice and wheat production foregone for KP were calculated only for the years 2001–2021.

Figure 6 Usage If the Land Were Not Disputed in Punjab



Source: Authors' computations.

Sludge as a Percentage of Gross Domestic Product (GDP)

Lastly, we calculated sludge as a percentage of GDP. To do so, we first calculated the average sludge incurred by a litigant per year. This includes sludge incurred from each step a litigant may go through during a case, namely:

(1) gathering information (one-time cost);

(2) document collection (one-time cost);

(3) hearings or adjournment;

(4) expenses (lawyer fees or speed money);

(5) meeting with the RO; and

(6) the potential profit lost due to agricultural income foregone.

Adding all these together shows that the average cost of sludge per litigant per year was about PKR 0.71 million

[17] 1 maund = 40 kg

[18] The cost of production data is only from 2001 onwards but this does not affect our calculations much as only one case started before 2001. There is another case which started in 1971 but we removed it from the land opportunity cost calculations since we could not find historical data on agricultural output before 1981. As such profit figures are, therefore, from cases which started from 2001 onwards.

(Table 15) in Punjab and PKR 0.626 million in KP (Table 29). We also calculated sludge to account for years when the litigant did not incur the one-time costs associated with document collection and gathering information. The average sludge, excluding steps 1 and 2, i.e., for steps 3 to 6, came to about PKR 0.658 million per year for Punjab and PKR 0.582 million per year for KP.

To scale this figure up for comparison with overall GDP we assumed that these two figures represent the average sludge any litigant in any district of Punjab may face per year. Thus, to measure the yearly sludge cost in Punjab, we collected information about the total number of revenue court cases in Punjab from the Punjab Board of Revenue. We multiplied this average yearly sludge figure by the number of cases that have been in the revenue court system for more than 12 months from 1st January 2022 to 31st December 2022 (a total of 65,396 cases for the year ended 2022). If litigants went through all the steps in a year, then the total yearly sludge in Punjab was PKR 46,437.68 million in 2022. If they only went through the yearly steps (excluding one-time costs), then the total yearly sludge for Punjab was PKR 43,037.55 million in 2022. As a percentage of GDP this came to about 0.092 per cent and 0.085 per cent, respectively (Table 15), which means that regardless of whether the litigants went through the one-time costs or not, the impact of delaying timely adjudication of agricultural land cases was approximately 0.10 per cent of GDP per year.[19]

However, since our study deals with agricultural land, looking at sludge as a percentage of agricultural GDP makes more sense. The Agriculture, Forestry, & Fishing sector had a share of 22.91 per cent share of GDP in 2022-23, while crops' share was 7.72 per cent of GDP (Pakistan Bureau of Statistics, 2022b). We used this information to calculate sludge as a percentage of Agriculture, Forestry, & Fishing GDP, which came to 0.40 per cent per year if a litigant went through all the steps, and 0.37 per cent if one-time costs were excluded. If the share of crops in GDP is considered, then the percentages are 1.19 and 1.11, respectively. As our data was from Punjab, we also calculated this percentage in terms of Punjab's agricultural GDP. The estimated share of Punjab in national GDP was 54.20 per cent in 2017-18 (Planning and Development Board Punjab, 2023).[20] Using this information, we estimated sludge as a percentage of Punjab's agricultural GDP, which came to be 0.74 per cent (if a litigant went through all steps in a year) and 0.69 per cent (if the litigant went through only the yearly steps).

We also calculated sludge as a percentage of KP's agricultural GDP (Table 29), which was 0.57 per cent (all steps) and 0.53 per cent (excluding one-time steps). Sludge as a percentage of crop GDP for KP was 3.77 per cent (all steps) and 3.51 per cent (excluding one-time steps). Data for KP's agricultural and crop GDP were taken from the report published by the Bureau of Statistics, Khyber Pakhtunkhwa (2021).

Table A3 below summarises the findings for Punjab.

Table A3 Sludge as a Percentage of Agricultural GDP for Punjab

Steps in a Revenue Court Case	Total Number of Cases in Punjab (12 Months or More)	Cost of Sludge (million rupees) for 2022	Percentage of Crop GDP of Pakistan in 2022	Percentage of Agriculture, Forestry & Fishing GDP of Pakistan in 2022	Percentage of Punjab's Agricultural GDP in 2022
All steps: Steps (1) –(6)	65,396	46,437.68	1.19	0.40	0.74
Excluding one-time cost: Steps (3) –(6)	65,396	43,037.55	1.11	0.37	0.69

Source: Authors' computations.

[19] When we added the agricultural income foregone, we only considered the direct effect of sugarcane production on the foregone profit of the litigant, but there are bound to be indirect effects of increased sugarcane production in the economy, especially on sugar production and its exports. This could also potentially impact GDP.

[20] More recent figures were not available.

Similarly, we also looked at the value of the disputed land as a percentage of GDP. We assumed that the average value of disputed land in Punjab for all revenue court cases was about PKR 15.022 million (Table 1). The total number of cases in the revenue courts of Punjab that were in courts for 12 months or more was 65,396 as mentioned earlier. Thus, the value of disputed land as a percentage of Pakistan's GDP came to 1.95 per cent and 3.59 per cent of Punjab's total GDP, which means 15.68 per cent, or nearly one-sixth, of Punjab's rural (i.e., agricultural GDP). If we use real estate activities in GDP, which is also taken from the Pakistan Bureau of Statistics (2022b) National Tables, we see that the disputed land's value as a percentage of real estate GDP for Punjab was 33.85 per cent, which is quite high.

Table A4 below summarises these findings for Punjab.

Table A4 Value of Disputed Land as a Percentage of GDP for Punjab

Total Number of Cases in Punjab (12 Months or More)	Value of Disputed Land in Million Rupees	Percentage of Real Estate Activities GDP	Percentage of Punjab's total GDP in 2022	Percentage of Punjab Agricultural GDP in 2022
65,396	15.022	33.85	3.59	15.68%

Source: Authors' computations.

The data for GDP 2022-23 was taken from Pakistan Bureau of Statistics National Accounts tables (Paksitan Bureau of Statistics, 2022a and 2022b). Table 16 in the annexure lists the districts of Punjab that were included in the analysis.

Overall, for KP and Punjab, Table A5 below and Table 32 in the appendix show sludge as a percentage of GDP as well as the value of disputed land as a percentage of Real Estate Activities GDP per year. Sludge as a percentage of Crop GDP was 1.40 per cent (all steps) and 1.30 per cent (excluding one-time steps), while disputed land as a percentage of Real Estate Activities GDP was 47.46 per cent.

Table A5 Sludge as a Percentage of GDP for KP and Punjab

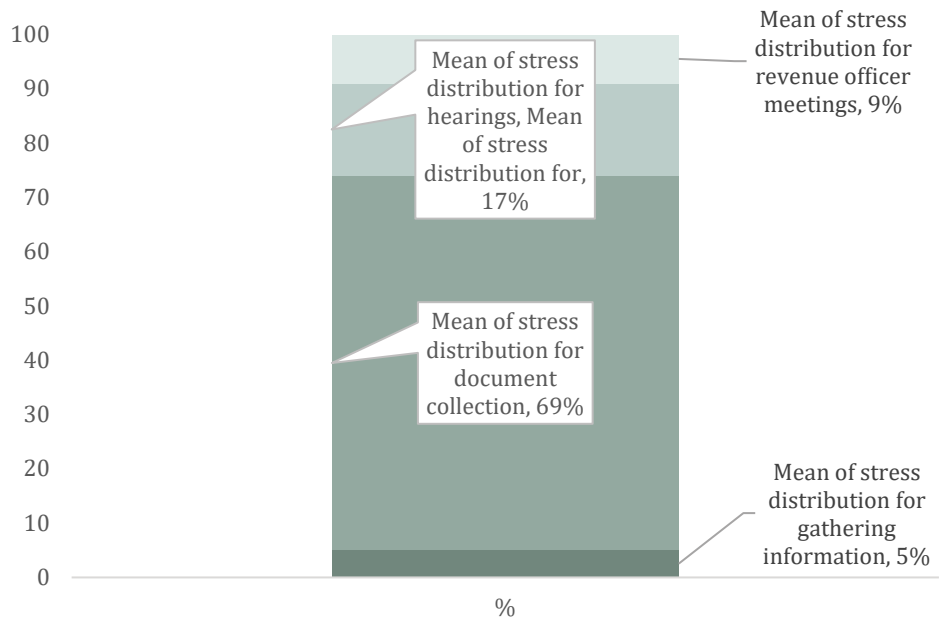
Steps in a Revenue Court Case	Total Number of Cases in Punjab & KP (12 Months or More)	Cost of Sludge (Million Rupees) in 2022	Percentage of Crop GDP of Pakistan in 2022	Percentage of Agriculture, Forestry & Fishing GDP of Pakistan in 2022	Value of Disputed Land in Punjab & KP as a Percentage of Real Estate Activities GDP Per Year
All steps: Steps (1) – (6)	78,248	54,482.76	1.40	0.47	47.46
Excluding one-time cost: Steps (3) –(6)	78,248	50,520.16	1.30	0.44	47.46

Source: Authors' computations.

Stress Distribution

In Figures 7 and 8 below, calculations of the stress distribution for Punjab following the methodology of Haque et al. (2022), i.e., by multiplying the total process time by the stress level (represented in percentage form) are presented. We considered the gathering information phase and the document collection phase to be a one-time activity which the litigant would go through at the beginning of their case. As such, Figure 7 represents the stress distribution for the beginning phase (first year) of the case. It shows that the document collection process is the most stressful process for litigants, taking up 69 per cent of the stress distribution. This is to be expected since the document collection phase takes up the most time out of these steps (almost 7 months of sludge).

Figure 7 Yearly Stress Distribution Including One-Time Activity

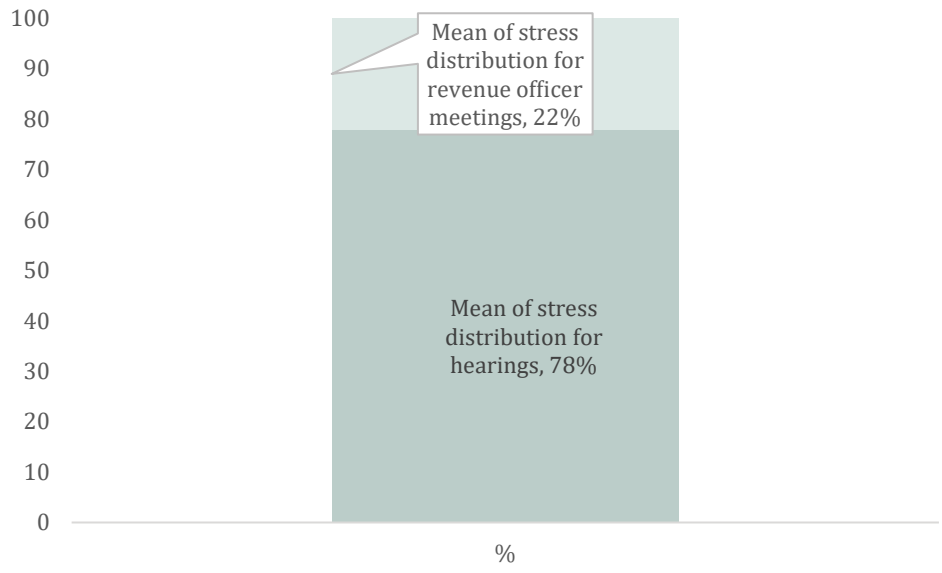


Source: Authors' computations.

In comparison, calculations for KP, given in Figure 9 in the appendix, show that the gathering information phase was the most stressful for the respondents (45%) followed by the document collection phase (33%), which can be attributed to the fact that people spend more time in the gathering information phase in KP than in Punjab.

We, then, removed these two activities from the distribution to see the stress in a year when the litigant was simply engaged in hearings and meetings with the ROs. This is shown in Figure 8 for Punjab and in Figure 10 (appendix) for KP. In this case, we see that hearings constituted 78 per cent of the stress distribution in Punjab. This is understandable since the hearings phase costs the litigant the second most (annually) in terms of sludge (almost PKR 71,000). Table 4 shows that hearings were only held, on average, about 7 times out of the 50 times they were scheduled. Thus, not only do they cost a lot, but such a high number of adjournments is bound to cause stress. Hearings also constituted 83 per cent of the total stress for litigants in KP (Figure 10).

Figure 8 Yearly Stress Distribution Excluding One-Time Activity



Source: Authors' computations.

7. CONCLUSIONS

There are many important conclusions to be drawn from this study about the slow delivery of justice and the economic fallout arising therefrom. Fundamentally, there is a serious crisis regarding the security of property titles in Pakistan. Since our study was focussed on the revenue court system, the scope of our analysis is restricted to rural and agricultural property only. This is not to say that the titles of urban property, whose disputes are dealt with by civil courts, give a better picture. Given that urban property is much more expensive than rural property, the study about the economic impact of delayed justice may give more startling figures.

Our analysis of sludge costs of agricultural property disputes is a whopping PKR 46,438 million for just over 65,000 litigations in revenue courts in Punjab alone. These are the avoidable costs that should not have occurred in the first place, had land revenue management been efficient. Since our average litigant was from a rural, mostly poor background, this sludge cost could on average consume 84 per cent of their income in the first year and up to two-thirds of their annual income in the subsequent years. The cases may last twenty years or more and can be carried on by the next generation. In some cases, the total costs to the parties involved over the lifetime of a case exceed the value of the disputed property.

The average stated value of disputed property in land revenue cases is approximately PKR 15 million in Punjab and PKR 17 million in KP, while the average annual income of the plaintiffs is in the vicinity of half a million rupees in both provinces. It means that a litigant fights for a property whose worth is equal to the thirty years of their income. In other words, the value of the disputed property exceeds the total lifetime income of their productive life. Even if a case lasts for 15-20 years, it makes perfect economic sense for them to fight the legal battles tooth and nail in the hopes of winning the title of the land one day. That is, even if the value of property remains stagnant in those decades, which is unlikely given Pakistan's explosive population growth rate.

The sludge cost of agricultural property disputes in Punjab alone is nearly 4 per cent of its agricultural (i.e., rural) GDP. The price of disputed land under litigation in the revenue courts comes to about 3.59 per cent of the total

GDP of Punjab. Given that only 22.91 per cent of the GDP of the province comes from the rural areas as agricultural GDP, the value of the disputed property calculated as a fraction of the rural economy comes to nearly one-fifth (i.e., 15.68%) of the total economic output from rural areas. And this is without taking into account the economic costs of violence and crime that the land disputes beget.

It makes strong moral, legal, and economic sense for a state to ensure that property titles are secure; any disputes arising out of land are settled expeditiously; and proper legal and technical infrastructure is in place to achieve the preceding two ends.

8. POLICY RECOMMENDATIONS

Sunstein (2021) defines sludge reduction as anything that simplifies the system for people to attain their desired tasks. It can be through changes in policy design, simplification of procedures, or any change at the implementation level. It is pertinent to note here that Sunstein explicitly states that the "worst kind of sludge might not be paperwork at all" (Sunstein, 2021; p. 98). Applying this concept to the issue at hand, this study tried to find ways to reduce sludge in the Revenue Courts as elaborated in the Recommendations below. Moreover, these recommendations are also informed by the lessons that were derived from the international best practices that we discussed in Section 5 above.

The study finds that the most time-consuming (usually around 7-8 months) and stressful process in land revenue litigation is the initial process of document collection. Hence, it entails the highest sludge cost. certain documents may be required by the Court in subsequent hearings, leading the litigants to go to the revenue officials to obtain those documents. Hence, the digitisation of all land revenue documents is the most important policy intervention that the government can undertake. Punjab has taken the lead in this regard and in the seventeen years since the digitisation process was launched in 2006, the government has been able to digitise 91 per cent of rural land records.

This is a step in the right direction, completely in line with international best practices outlined earlier in this study. The political will, financial backing, and administrative attention of the government are recommended to zero in on the target of a hundred per cent digitisation of land records. The Punjab model can easily be replicated in the other three provinces and the Azad Jammu and Kashmir (AJK) at the earliest with a target for completion of digitisation by 2030.

The litigants surveyed during our study overwhelmingly agreed that it costs much less money and significantly lower levels of stress to get a document from the digital services, called Arazi Record Centers (ARCs) in Punjab than from the revenue officials called Patwaris. Yet, there was a general lack of awareness about the available digital services. Less than one per cent of the people confirmed knowledge of the existence of the PLRA App through which some, though not all, of the documents, could be downloaded on their smartphones, dispensing with the need to visit the Arazi Record Centers. Hence, our second recommendation is to make the digital services wide publicity through sustained electronic, print and social media campaigns.

The third recommendation that comes out of this study is a longer, at least a year-long, pre-service training for the lower judiciary followed by regular in-service training for the civil judges at each level of career progression on the pattern of training for the officers of the central superior services. The proper training of the lower judiciary coupled with a strong institutionalised reward-and-punishment system against errant behaviour, such as taking up cases falling under the jurisdiction of another stream of courts, is also a required legal reform.

The fourth recommendation is about the timeline for the disposal of a case. The promotion and career progression of the revenue and administration officers should also depend on benchmarking related to case

disposal in land revenue matters. The guidelines issued by the Board of Revenue, Punjab, about the disposal of cases within six months, can only be complied with if every divisional commissioner ensures that a certain number of the additional commissioners and additional deputy commissioners under their command are spared full-time from administrative work to concentrate on court work only.

The final recommendation revolves around the incentivisation for the disposal of land revenue cases by the revenue officers. The percentage of cases disposed of should be reflected in the annual Performance Evaluation Reports (PERs) of the civil officers. Quick disposal should be rewarded by out-of-turn progression, while lack of interest in their judicial functions or poor draftsmanship in the judgments needs to be reprimanded.

One can hope that the recommendations of this study help in influencing the policymakers in reforming the revenue court and civil court systems. The security of land titles, digitisation of land records and expeditious disposal of land revenue cases, within six months at the most, are the essential requirements for a progressive and prosperous Pakistan.

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APPENDICES

PUNJAB TABLES

Table 1: Summary Statistics - Punjab

Variable	Obs.	Mean	Std. Dev.	Min	Max
Male	286	.91	.28	0	1
Age	276	48.45	13.81	20	90
Monthly income (PKR)	192	38,036.47	45,516.5	0	500,000
Formal Education (years)	285	6.7	4.89	0	18
Litigant is a plaintiff	286	.85	.36	0	1
Years since the case was filed	283	4.64	7.23	.01	50
The size of the disputed land (Kanals)	283	45.77	66.8	.15	436
The total value of the disputed land (PKR '00,000)	275	150.22	291.97	0	2,500
Land use: to grow crops for sale	286	.36	.48	0	1
Land use: to grow crops for personal use	286	.70	.46	0	1
Land use: I would use it to build a house or houses for my personal use	286	.13	.33	0	1
Case type: Demarcation	286	.06	.24	0	1
Case type: Partition	286	.48	.50	0	1
Case type: Mutation	286	.19	.39	0	1
Case type: Inheritance	286	.14	.35	0	1
Case type: Eviction	286	.12	.32	0	1
Case type: Correction of Record	286	.01	.08	0	1
Months taken to gather information before filing the case	244	2.38	3.23	0	15

Table 2A: Document Collection Summary Statistics: Visits - Punjab

Variable	Obs.	Mean	Std. Dev.	Min	Max
Total visits to the office for Jamabandi	102	5.98	15.33	0	120
Total visits to the office for Fard Malkiat	137	4.66	9.21	0	100
Total visits to the office for Khasra Girdawari	88	6.78	12.86	1	100
Total visits to the office for Shajra Nasb	52	7.15	15.26	1	100
Total visits to offices get all documents	177	12.86	33.88	0	402

Table 2B: Document Collection Summary Statistics: Agency Time - Punjab (Months)

Variable	Obs.	Mean	Std. Dev.	Min	Max
Time taken to collect Jamabandi	113	1.89	10.20	0	96
Time taken to collect Fard Malkiat	182	2.91	12.92	0	120
Time taken to collect Khasra Girdawari	90	7.05	37.41	0	300
Time taken to collect Shajra Nasb	58	7.72	34.99	0	240
Total time taken to collect all documents	233	7.91	47.48	0	540

Table 2C: Document Collection Summary Statistics: Waiting Time - Punjab (Hours)

Variable	Obs.	Mean	Std. Dev.	Min	Max
Waiting time in the office for Jamabandi	95	4.69	6.81	0	24
WaitingtTime in the office for Fard Malkiat	160	4.77	6.61	0	24
Waiting time in the office for Khasra Girdawari	86	3.09	3.96	0	24
Waiting time in the office for Shajra Nasb	54	2.94	1.98	.50	12
Total waiting time in the office for all documents	212	7.92	9.70	0	48

Table 2D: Document Collection Summary Statistics: Travel Time - Punjab (Hours)

Variable	Obs.	Mean	Std. Dev.	Min	Max
Time taken to travel to the office for Jamabandi	96	5.86	12.20	0	72
Time taken to travel to the office for Fard Malkiat	153	9.29	23.59	0	240
Time taken to travel to the office for Khasra Girdawari	85	3.89	8.47	0	48
Time taken to travel to the office visit for Shajra Nasb	53	3.76	9.94	.25	72
Total travel time to visit the office for documents (two-way)	202	12.65	24.74	0	246

Table 2E: Document Collection Summary Statistics: Total Time: Waiting Time + Travel Time + Agency Time - Punjab (Months)

Variable	Obs.	Mean	Std. Dev.	Min	Max
Total time spent by a litigant on gathering documents	233	7.99	47.57	0	540
Total time for Jamabandi (agency time + wait time + travel time)	114	1.91	10.19	0	96.42
Total time for Fard Malkiat (agency time + wait time + travel time)	182	2.94	12.93	0	120
Total time for Khasra Girdawari (agency time + wait time + travel time)	93	6.88	36.84	0	300
Total time for Shajra Nasb (agency time + wait time + travel time)	59	7.63	34.75	.01	240

Table 3A: Sudge Due to Document Collection in Terms of Time - Punjab (Months)

Variable	Obs.	Mean	Std. Dev.	Min	Max
Total sludge due to Fard Malkiat	182	2.44	12.93	-.50	119.50
Total sludge due to Jamabandi	114	1.41	10.19	-.50	95.92
Total sludge due to Khasra Girdawari	93	6.38	36.84	-.50	299.50
Total sludge due to Shajra Nasb	59	7.13	34.75	-.49	239.50
Total sludge due to gathering documents	233	7.01	47.51	-1.86	539

Table 3B: Sudge Due to Document Collection in Monetary Terms - Punjab (PKR)

Variable	Obs	Mean	Std. Dev.	Min	Max
Total opportunity cost to the litigant of Jamabandi	76	8,891.88	29,572.73	-625	231,250
Total opportunity cost to the litigant of Fard Malkiat	99	8,973.11	32,365.11	-1,666.67	309,375
Total opportunity cost to the litigant of Khasra Girdawari	72	9,324.10	24,785.12	-109.38	159,062.50
Total opportunity cost to the litigant of Shajra Nasb	45	12,273.33	44,684.21	-312.50	270,312.50
Total money spent on Jamabandi	92	18,822.26	54,369.84	-500	309,159.13
Total money Spent on Fard Malkiat	165	17,969.37	82,414.61	-500	928,477.38
Total money spent on Khasra Girdawri	71	22,294.36	75,331.65	-500	578,781.69
Total money spent on Shajra Nasb	36	25,419.69	48,079.42	-500	185,295.47
Total opportunity cost to the litigant of document collection	128	22,007.50	78,529.38	-1,666.67	810,937.50
Total monetary cost spent on documents	216	34,222.98	139,302.40	-1,000	1,700,625.10
Total sludge from document collection	229	44,581.32	166,232.16	-1,000	1,860,625.10

Table 4: Sludge due to Hearings - Punjab

Variable	Obs.	Mean	Std. Dev.	Min	Max
Travel time to court per visit (two-way) (hours)	253	7.72	9.71	0	72
Average travel cost per visit to court or office (PKR)	227	1,634.86	1,752.47	0	12,000
Sludge in total cost of travelling to court/offices (PKR)	181	88,966.44	203,688.82	-10,000	1,494,000
Sludge in number of days taken to set first hearing after submitting case document submission	233	42.65	266.69	-30	3,570

Opportunity cost of travelling per month due to hearings or office visits (PKR)	147	4,656.65	16,190.86	-750	135,000
Sludge due to the total number of times hearings set for the case	193	49.96	87	-4	495
Sludge due to the total number of times hearings were held on the date they were set	197	7.28	23.04	-5	203
Sludge due to the total number of visits to court or offices due to this case	201	64.44	120.81	-2	898
Sludge due to the total time spent travelling due to hearings over the entire case (hours)	192	624.54	1,661.04	-6	11,952
Sludge due to the total time spent travelling due to hearings in a month (hours)	192	23.34	79.48	-10.14	816
Total opportunity cost to the litigant due to hearings or office visits (PKR)	147	123,562.55	325,582.71	-937.50	2,988,000
Yearly sludge due to hearings (PKR)	196	71,195.91	191,745.44	-60,833.33	1,728,000
Total Sludge (PKR) incurred due to hearings	196	174,829.70	399,999.64	-10,937.50	3,984,000

Table 5A: Sludge due to Revenue Officers: Visits - Punjab

Variable	Obs.	Mean	Std. Dev.	Min	Max
Number of times revenue officers met in the past year	262	1.74	1.37	0	6
Visits to Patwari in the past year	109	6.68	11.81	-1	99
Visits to Girdawar Qanungo in the past year	60	5.78	13.26	-1	99
Visits to Naib Tehsildar in the past year	36	10.06	16.32	-1	99
Visits to Tehsildar in the past year	64	7.61	12.55	-1	99
Visits to AC in the past year	17	12.18	14.22	1	59
Visits to DC/ADCR in the past year	87	12.57	11.04	-1	79
Visits to Commissioner in the past year	2	7	2.83	5	9
Visits to BoR in the past year	0	.	.	.	.
Total visits to Revenue Officers in the past year	201	16.02	35.14	-4	412

Table 5B: Sludge due to Revenue Officers: Waiting Time - Punjab (Hours)

Variable	Obs.	Mean	Std. Dev.	Min	Max
Waiting time in the office of Patwari in the past year	126	2.03	5.26	-2	22
Waiting time in the office of Girdawar Qanungo in the past year	62	.13	1.57	-2	4
Waiting time in the office of Naib Tehsildar in the past year	39	1.69	2.97	-1.25	18
Waiting time in the office of Tehsildar in the past year	65	1.49	2.98	-2	22
Waiting time in the office of the AC in the past year	22	.73	2.11	-1.83	6
Waiting time in the office of the DC/ADCR	105	1.85	2.49	-2	18
Waiting time in the office of the commissioner in the past year	3	1.67	1.53	0	3
Waiting time in the office of the BoR in the past year	0	.	.	.	.
Total waiting time in the past year to meet with revenue officers	218	2.86	5.26	-6	22

Table 5C: Sludge due to Revenue Officers: Travel Time - Punjab (Hours)

Variable	Obs.	Mean	Std. Dev.	Min	Max
Travel time to visit Patwari in the past year (two-way)	123	2.96	4.29	0	24
Travel time to visit Girdawar Qanungo in the past year (two-way)	62	1.64	1.33	0	8
Travel time to visit Naib Tehsildar in the past year (two-way)	38	2.09	1.26	.08	6
Travel time to visit Tehsildar in the past year (two-way)	65	3.43	6.48	0	48

Travel time to visit the AC in the past year (two-way)	22	5.54	10.15	0	40
Travel time to visit the DC/ADCR (two-way)	100	3.73	5.96	0	45
Travel time to visit the commissioner in the past year (two-way)	3	3.67	.58	3	4
Travel time to visit BoR in the past year (two-way)	0	.	.	.	.
Total travelling time in the past year to meet with revenue officers (two-way)	207	6.16	7.53	0	48

Table 5D: Sludge due to Revenue Officers: Wait Time & Travel Time - Punjab (Hours)

Variable	Obs.	Mean	Std. Dev.	Min	Max
Total sludge per visit to Patwari in the past year	128	4.84	8.37	-2	46
Total sludge per visit to Girdawar Qanungo in the past year	63	1.74	2.43	-2	9
Total sludge per visit to Naib Tehsildar in the past year	41	3.54	3.23	-1	18.08
Total sludge per visit to Tehsildar in the past year	69	4.63	6.89	-2	48
Total sludge per visit to AC in the past year	24	5.74	10.5	-1.83	40
Total sludge spent per visit to DC/ADCR in the past year	108	5.25	6.33	-2	46
Total sludge per visit to Commissioner in the past year	3	5.33	1.53	4	7
Total sludge per visit to BoR in the past year	0	.	.	.	.
Sludge in total time spent visiting revenue officers in the past year	174	257.75	816.99	-48	9476
Sludge in total time spent visiting revenue officers over the entire case	174	1616.72	5781.33	-448	43152

Table 5E: Sludge in Terms of Monetary Cost: Revenue Officers - Punjab (PKR)

Variable	Obs.	Mean	Std. Dev.	Min	Max
Money spent in the past year on Patwari	99	20,123.61	47,840.69	-3,750	362,689.81
Money spent in the past year on Girdawar Qanungo	36	7,007.81	18,056.90	-2,500	71,487.96
Money spent in the past year on Naib Tehsildar	22	21,104.53	24,363.08	-1,750	95,733.95
Money spent in the past year on Tehsildar	33	12,865.63	24,516.29	-2,500	96,983.95
Money spent in the past year on the AC	20	21,921.15	67,563.95	-3,000	302,324.84
Money spent in the past year on the DC/ADCR	80	69,164.43	346,042.55	-2,500	3,029,748.50
Money spent in the past year on the commissioner	2	620,303.43	835,440.93	29,557.48	1,211,049.40
Money spent in the past year on the BoR	0	.	.	.	.
Total sludge due to meeting revenue officers in the past year	194	53,327.68	264,697.18	-7,000	3,289,817.50

Table 5F: Sludge in Terms of Opportunity Cost: Revenue Officers - Punjab (PKR)

Variable	Obs.	Mean	Std. Dev.	Min	Max
Opportunity cost to the litigant of meeting with Patwari in the past year	82	6,456.08	19,529.39	-7,000	166,750
Opportunity cost to the litigant of meeting with Girdawar Qanungo in the past year	53	3,135.85	6,867.10	-4,848.96	35,625
Opportunity cost to the litigant of meeting with Naib Tehsildar in the past year	31	9,402.05	13,260.73	312.50	55,380.21
Opportunity cost to the litigant of meeting with Tehsildar in the past year	49	5,646.83	6,848.40	-1,731.77	37,125
Opportunity cost to the litigant of meeting with the AC in the past year	15	19,507.78	40,287.07	-375	150,000.02
Opportunity cost to the litigant of meeting with the DC/ADCR in the past year	67	18,529.28	30,128.94	-750	170,625
Opportunity cost to the litigant of meeting with the commissioner in the past year	2	3,984.38	2,320.19	2,343.75	5,625

Opportunity cost to the litigant of meeting with the BoR in the past year	0	.	.	.	.
Total opportunity cost of meeting with revenue officers in the past year	130	21,583.11	34,447.33	-4,050	170,625

Table 5G: Sludge in Terms of Total Rupees Spent: Revenue Officers - Punjab (PKR '00,000)

Variable	Obs.	Mean	Std. Dev.	Min	Max
Total opportunity cost of meetings with Patwari over the entire case	82	.22	.93	-1.26	7.77
Total opportunity cost of meetings with Girdawar Qanungo over the entire case	53	.21	1.18	-.87	8.55
Total opportunity cost of meetings with Naib Tehsildar over the entire case	31	.68	2.06	0	9.97
Total opportunity cost of meetings with Tehsildar over the entire case	49	.31	.71	-.31	3.38
Total opportunity cost of meetings with the AC over the entire case	15	.53	.99	-.02	3
Total opportunity cost of meetings with the DC/ADCR over the entire case	67	2.36	9.26	-.04	71.66
Total opportunity cost of meetings with the commissioner over the entire case	2	.92	1.24	.05	1.80
Total opportunity cost of meetings with BoR over the entire case	0	.	.	.	.
Total opportunity cost of meetings with revenue officers over the entire case	130	1.80	7.18	-.12	71.66
Total sludge due to meeting with revenue officers over the entire	194	4.74	36.28	-.79	408.64
Yearly total sludge due to meetings with revenue officers	227	.58	2.56	-.07	34.06
Total Sludge (Lakhs) from meeting Revenue Officers over the entire case	227	5.08	34.61	-.50	413.14

Table 5H: Sludge in Terms of Total Time: Revenue Officers – Punjab (Days)

Variable	Obs	Mean	Std. Dev.	Min	Max
Total sludge in terms of time spent on Patwari in the past year	104	1.68	5.79	-1.33	55.58
Total sludge in terms of time spent on Girdawar Qanungo in the past year	60	.65	1.75	-.92	12.38
Total sludge in terms of time spent on Naib Tehsildar in the past year	36	2.04	3.87	0	20.63
Total sludge in terms of time spent on Tehsildar in the past year	63	1.37	2.46	-.33	16.50
Total sludge in terms of time spent on AC in the past year	17	3.08	4.88	-.06	16.67
Total sludge in terms of time spent on DC/ADCR in the past year	86	4	8.59	-.13	67.08
Total sludge in terms of time spent on Commissioner in the past year	2	1.27	.32	1.04	1.50
Total sludge in terms of time spent on BoR in the past year	0	.	.	.	.
Sludge in terms of total time spent visiting revenue officers in the past year	174	257.75	816.99	-48	9,476

Table 6: Sludge in Monetary Terms - Punjab

Variable	Obs.	Mean	Std. Dev.	Min	Max
Total expenses on stamp duty/government fee (PKR)	40	157,714.18	355,494.38	1,453.23	1,672,135.50
Total expenses on revenue court staff/clerks (PKR)	23	58,890.47	61,158.62	3,000	186,782.80
Monthly lawyer's fee (PKR)	192	12,461.03	25,247.61	0	165,922.45
Total expenses on lawyer's fee (PKR '00,000)	192	3.57	19.22	0	254.59
Total expenses on stamp duty, revenue court staff/clerks & food (PKR '00,000)	63	1.26	2.93	0	16.72
Yearly expenses on stamp duty, revenue court staff/clerks & food (PKR '00,000)	63	.49	2.05	0	16.16
Total sludge due to expenses on lawyer's fee, revenue court staff & food (PKR '00,000)	202	3.48	18.76	0	254.59
Yearly sludge due to expenses on lawyer's fee, revenue court staff & food (PKR '00,000)	202	1.44	2.97	0	19.91

Table 7: Sludge due to Document Collection from Patwari - Punjab

Variable	Obs.	Mean	Std. Dev.	Min	Max
Money spent on Patwari in the past year (PKR)	99	20,123.61	47,840.69	-3,750	362,689.81
Sludge in visits to Patwari for document collection in the past year	81	6.68	10.75	-1	86
Travel time per visit to meet with Patwari for documents (two-way) (hours)	93	3.49	6	0	48
Sludge due to waiting time per visit for document collection from Patwari (hours)	91	2.08	4.74	-2	22
Opportunity cost of document collection from Patwari in the past year	68	8,987.15	28,600.21	-29,687.5	172,000
Sludge due to total visits to Patwari for document collection over the entire case	73	14.89	17.04	0	89
Sludge due to time spent to get documents from Patwari after application submission (hours)	57	430.21	2,688.58	-359	17,784
Sludge due to total travelling & waiting time for document collection from Patwari (hours)	68	76.19	113.96	-4	534
Sludge due to the total time spent on document collection from Patwari over the entire case (days)	76	16.28	96.75	-14.92	741
Sludge in terms of total opportunity cost due to document collection from Patwari over the entire case	61	18,121.82	34,146.28	-875	184,375

Table 8: Summary Statistics: Document Collection from the Arazi Record Center - Punjab

Variable	Obs	Mean	Std. Dev.	Min	Max
Fees paid to get documents from the Arazi Record Center	81	5,463.02	22,845.50	0	200,000
Average travel cost per visit to Arazi Record Center (two-way)	103	3,559.76	5,247.44	0	25,000
Sludge due to visits to the Arazi Record Center for document collection in the past year	96	6.36	14.54	-1	129
Sludge in terms of time taken to get documents from the Arazi Record Center after application submission (days)	120	27.52	190.85	-1	1,799
Sludge in terms of time taken to get documents before the Arazi Record Center existed (days)	57	17.93	112.02	-14.96	741
Sludge due to waiting time per visit for collecting documents from the Arazi Record Center (hours)	116	1.58	3.55	-2	22
Travel time per visit to go to the Arazi Record Center (two-way) (hours)	112	5.18	11.90	0	72
Sludge in terms of the opportunity cost of document collection from the Arazi Record Center in the past year	76	7,803.87	23,299.16	-1406.25	170,625
Sludge due to total visits to the Arazi Record Center for document collection over the entire case	90	15.12	26.52	0	149
Sludge in terms of total wait and travel time spent on the Arazi Record Center for document collection (hours)	85	80.86	147.48	-6	695
Sludge in terms of total time on the Arazi Record Center for document collection	121	29.66	189.84	-1	1,799
Sludge in terms of the total opportunity cost of document collection from the Arazi Record Center over the entire case (PKR)	72	14,191.39	30,668.66	-1687.50	170,625

Table 9: Total Sludge in Terms of Time Taken - Punjab

Variable	Obs	Mean	Std. Dev.	Min	Max
Sludge due to time taken to gather information before filing the case (months)	244	2.14	3.23	-.23	14.77
Total sludge when gathering documents (months)	233	7.01	47.51	-1.86	539
Sludge due to the time taken to set the first hearing after submitting case documents (days)	233	42.65	266.69	-30	3,570

Sludge due to total time spent travelling due to hearings in a month (hours)	192	23.34	79.48	-10.14	816
Sludge due to total time spent visiting revenue officers in the past year (hours)	174	257.75	816.99	-48	9,476
Sludge due to the total time spent on document collection from Patwari over the entire case (days)	76	16.28	96.75	-14.92	741
Sludge due to total time spent at the Arazi Record Center for document collection (days)	121	29.66	189.84	-1	1,799

Table 10: Total Sludge in Monetary Terms - Punjab

Variable	Obs	Mean	Std. Dev.	Min	Max
Opportunity cost of gathering information (PKR)	166	81,099.26	148,789.12	-112,500	1,130,000
Total sludge due to document collection (PKR)	229	44,581.32	166,232.16	-1,000	1,860,625.10
Yearly sludge due to incurred due to hearings (PKR)	196	71,195.91	191,745.44	-60,833.33	1,728,000
Yearly total sludge due to meeting with revenue officers (PKR '00,000)	227	.58	2.56	-.07	34.06
Yearly sludge due to expenses: lawyer's fees, revenue court staff & food (PKR '00,000)	202	1.44	2.97	0	19.91
Sludge in terms of the total opportunity cost of document collection from Patwari over the entire case	61	18,121.82	34,146.28	-875	184,375
Sludge in terms of the total opportunity cost of document collection from the Arazi Record Center over the entire case (PKR)	72	14,191.39	30,668.66	-1,687.50	170,625

Table 11: Summary Statistics: Stress - Punjab

Variable	Obs	Mean	Std. Dev.	Min	Max
Was it easy to get your documents?	242	3.61	1.12	1	5
How satisfied are you with your documents?	255	2.09	.65	1	5
Are you stressed due to your hearings or due to your hearings being adjourned?	240	4.15	.78	1	5
How stressed are you due to this case?	279	4.09	.90	1	5
Documents/paperwork required in case: are they reasonable or just a waste of time & money?	249	2.46	1.54	1	5
How stressful was it to visit or go to the Arazi Record Center?	123	2.86	1.33	1	5
How stressful was it to meet Patwari	135	3.54	1.08	1	5
How stressful was it to meet Girdawar Qanungo	63	3.79	.92	2	5
How stressful was it to meet Naib Tehsildar	41	3.93	.88	1	5
How stressful was it to meet Tehsildar	70	3.29	1.18	1	5
How stressful was it to meet AC	24	2.58	1.02	1	4
How stressful was it to meet DC/ADCR	111	3.31	1.35	1	5
How stressful was it to meet Commissioner	3	4.33	.58	4	5
How stressful was it to meet BoR	0	.	.	.	.

Note: The higher the values the more stressed/dissatisfied a person. The Likert scale for the stress questions is as follows: 1 "No stress" 2 "A little stress" 3 "Neither stressful nor unstressful" 4 "High Stress" 5 "Extreme Stress"

Table 12: Ideal Outcomes

	Value
Step 1: Gathering Information	
Ideal time to gather information before filing the case (hours)	168
Step 2: Document Collection	E
Ideal time spent to get domicile, CNIC, & FIR each (hours)	168
Ideal time spent to get Fard Malkiat, Jamabandi, Khasra Girdawri, & Shajra Nasb each (hours)	360
Ideal waiting time per visit in the office for documents (hours)	2
Ideal money spent on domicile, CNIC, Fard Malkiat, Jamabandi, Khasra Girdawri each (PKR)	500
Ideal money spent on FIR (PKR)	0
The ideal number of visits to offices for each document	1
Step 3: Hearings	
Ideal time after which the first hearing should be held (days)	30
Ideal number of times a hearing set	5
Ideal number of times hearings heard	5
Ideal number of visits to court by the litigant in the past year	2
Ideal total visits to court by the litigant over the entire case	2
Step 4: Expenses	
Ideal money spent on lawyer fees, travel, or revenue court staff/clerks, etc. (PKR)	0
Step 5A: Arazi Record Center: Document Collection	
Ideal time taken to get documents from the Arazi Record Center after application submission (hours)	24
Ideal time taken to get documents before the Arazi Record Center existed (hours)	360
Ideal fees paid to the Arazi Record Center clerks/staff (PKR)	0
Ideal number of visits to the Arazi Record Center for document collection in the past year	1
Ideal total visits to Arazi Record Center for document collection	1
Ideal waiting time per visit in the Arazi Record Center for document collection (hours)	2
Step 5B: Patwari: Document Collection	
The ideal number of visits to Patwari for document collection	1
Ideal total visits to Patwari for document collection	1
Ideal waiting time per visit to Patwari for document collection (hours)	2
Step 6: Revenue Officers Meetings	
Ideal number of visits to revenue officers in the past year	1
Ideal total visits to revenue officers over the entire case	1
Ideal money spent on meetings with revenue officers (PKR)	1-day income
Ideal waiting time spent waiting for revenue officers in their office (hours)	2

Table 13: Sludge as a Percentage of Income - Punjab

Variable	Obs	Mean	Std. Dev.	Min	Max
Opportunity cost of gathering information (PKR)	166	81,099.26	148,789.12	-112,500	1,130,000
Total sludge due to document collection (PKR)	229	44,581.32	166,232.16	-1,000	1,860,625.10
Yearly sludge due to hearings (PKR)	196	71,195.91	191,745.44	-60,833.33	1,728,000
Yearly sludge due to expenses: Lawyer's fees, revenue court staff & food (PKR)	202	143,901.28	296,516.27	0	1,991,069.40

Yearly sludge due to meeting with revenue officers (PKR)	227	57,935.56	255,553.09	-6,750	3,405,755.30
Total yearly sludge due to all steps (PKR)	279	250,486.96	422,667.16	-60,833.33	3,412,748.30
Yearly sludge - excluding one-time costs (PKR)	283	198,494.10	383,729.61	-60,833.33	3,405,755.30
Total sludge due to all steps over the entire case so far (PKR)	279	872,487.47	3,804,809.30	-1,6750	4,171,7832
Total yearly Income (PKR)	191	427,413.81	370,557.70	0	3,600,000
Per cent of income: Opportunity cost of gathering information	165	.19	.29	-.02	1.23
Per cent of income: Total sludge from document collection	160	.11	.35	0	3.10
Per cent of income:: Yearly sludge incurred due to hearings	147	.21	.45	-.14	2.88
Per cent of income: Yearly sludge from expenses: Lawyer's fees, revenue court staff, & food	128	.44	1.27	0	10.56
Per cent of income: Yearly Sludge (Rs.) from meeting with revenue officers	164	.24	1.21	-.02	14.19
Total sludge as per cent of income - including one-time costs	189	.84	1.73	-.06	14.22
Yearly sludge as per cent of income - excluding one-time costs	189	.67	1.63	0	14.19
Monthly income (PKR)	192	38,036.47	45,516.50	0	500,000

Table 14: Opportunity Cost of Disputed Land - Punjab

Variable	Obs	Mean	Std. Dev.	Min	Max
Total sugarcane production lost in Kasur due to case (maunds)	40	22,092.82	47,145.51	28.64	206,782.84
Total sugarcane production lost in Toba Tek Singh due to case (maunds)	55	22,127.46	33,338.36	262.50	157,101.23
Total sugarcane production lost in Kasur & Toba Tek Singh due to case (maunds)	95	22,112.87	39,505.37	28.64	206,782.84
Total Sugarcane output lost in Kasur due to case (PKR '00,000)	40	77.68	170.45	.10	772.05
Total sugarcane output lost in Toba Tek Singh due to case (PKR '00,000)	55	75.92	114.88	.95	550.24
Total sugarcane production lost in Kasur & Toba Tek Singh due to case (PKR '00,000)	95	76.66	140.13	.10	772.05
Total sugarcane production cost in Kasur (2001 onwards) (PKR '00,000)	40	56.79	127.91	.07	570.01
Total sugarcane production cost in Toba Tek Singh (2001 onwards) (PKR '00,000)	55	56.46	88.94	.61	436.34
Total sugarcane production cost in Kasur & Toba Tek Singh (2001 onwards) (PKR '00,000)	95	56.60	106.45	.07	570.01
Total profit from sugarcane in Kasur (2001 onwards) (PKR '00,000)	40	20.89	43.32	.04	202.04
Total profit from sugarcane in Toba Tek Singh (2001 onwards) (PKR '00,000)	55	19.46	26.35	.34	113.91
Total profit from sugarcane in Kasur & Toba Tek Singh (2001 onwards) (PKR '00,000)	95	20.06	34.32	.04	202.04
Yearly total sugarcane production lost in Kasur due to case (maunds)	40	3,596.05	5,302.76	28.64	18,418.79
Yearly total sugarcane production lost in Toba Tek Singh due to case (maunds)	55	5,507.89	6,060.99	158.25	26,066.36
Yearly total sugarcane production lost in Kasur & Toba Tek Singh due to case (maunds)	95	4,702.91	5,802.62	28.64	26,066.36
Yearly total sugarcane output lost in Kasur due to case (PKR '00,000)	40	12.61	18.61	.10	64.34

Yearly total sugarcane output lost in Toba Tek Singh due to case (PKR '00,000)	55	18.89	20.48	.53	87.34
Yearly total sugarcane production lost in Kasur & Toba Tek Singh due to case (PKR '00,000)	95	16.24	19.86	.10	87.34
Yearly total profit from sugarcane in Kasur (2001 onwards) (PKR '00,000)	40	3.62	5.19	.04	18.75
Yearly total profit from Sugarcane in Toba Tek Singh (2001 onwards) (PKR '00,000)	55	5.31	5.58	.14	23.12
Yearly total profit from Sugarcane in Kasur & Toba Tek Singh (2001 onwards) (PKR '00,000)	95	4.60	5.46	.04	23.12

Table 15: Sludge as a Percentage of GDP - Punjab

Variable	Obs	Mean	Std. Dev.	Min	Max
Average cost of sludge per litigant in a year (all steps)	36	710,099.69	0	710,099.69	710,099.69
Average cost of sludge per litigant in a year (excluding one-time costs)	36	658,106.81	0	658,106.81	658,106.81
Total cases in Punjab that are more than 12 months old (1 Jan 2022 - 31 Dec2022)	36	65,396	0	65,396	65,396
Cost of sludge in Punjab (all steps) (PKR million)	36	4,6437.68	0	46,437.68	46,437.68
Cost of sludge in Punjab (excluding one-time costs) (PKR million)	36	4,3037.55	0	43,037.55	43,037.55
Sludge as a percentage of GDP per year in Punjab (all steps)	36	.092	0	.092	.092
Sludge as a percentage of GDP per year in Punjab (excluding one-time costs)	36	.085	0	.085	.085
Sludge as a percentage of Pakistan's agricultural GDP per year in Punjab (all steps)	36	.40	0	.40	.40
Sludge as a percentage of Pakistan's agricultural GDP per year in Punjab (excluding one-time costs)	36	.37	0	.37	.37
Sludge as a percentage of crop GDP per year in Punjab (all steps)	36	1.19	0	1.19	1.19
Sludge as a percentage of crop GDP per year in Punjab (excluding one-time costs)	36	1.11	0	1.11	1.11
Value of disputed land in Punjab as a percentage of GDP per year	36	1.95	0	1.95	1.95
Value of disputed land in Punjab as a percentage of real estate activities GDP per year	36	33.85	0	33.85	33.85
Value of disputed land in Punjab as a percentage of Punjab's GDP per year	36	3.59	0	3.59	3.59
Sludge as a percentage of Punjab's agricultural GDP per year (all steps)	36	.74	0	.74	.74
Sludge as a percentage of Punjab's agricultural GDP per year (excluding one-time costs)	36	.69	0	.69	.69

Table 16: List of Districts of Punjab Used for Sludge as a Percentage of GDP Calculation

1. Bahawalnagar	10. Bahawalpur	19. Mandi Bahauddin	28. Khanewal
2. Dera Ghazi Khan	11. Rahim Yar Khan	20. Gujrat	29. Chakwal
3. Toba Tek Singh	12. Rajanpur	21. Sialkot	30. Attock
4. Gujranwala	13. Layyah	22. Narowal	31. Rawalpindi
5. Nankana Sahib	14. Muzaffargarh	23. Kasur	32. Okara
6. Multan	15. Chiniot	24. Lahore	33. Pakpattan
7. Jehlum	16. Jhang	25. Sheikhupura	34. Bhakkar
8. Sahiwal	17. Faisalabad	26. Vehari	35. Khushab
9. Sargodha	18. Hafizabad	27. Lodhran	36. Mianwali

KP TABLES

Table 17A: Document Collection Summary Statistics: Visits - KP

Variable	Obs	Mean	Std. Dev.	Min	Max
Total Visits to the office for Jamabandi	9	2.11	1.27	1	4
Total Visits to the office for Fard Malkiat	22	15.86	43.91	1	200
Total Visits to the office for Khasra Girdawari	11	18.64	51.92	1	175
Total Visits to the office for Shajra Nasb	2	3	1.41	2	4
Total Visits to offices get all documents	23	25.17	77.67	2	375

Table 17B: Document Collection Summary Statistics: Agency Time - KP (Months)

Variable	Obs.	Mean	Std. Dev.	Min	Max
Time taken to collect Jamabandi	18	2.25	5.59	.03	24
Time taken to collect Fard Malkiat	33	1.53	4.26	0	24
Time taken to collect Khasra Girdawari	17	.93	1.44	.03	5
Time taken to collect Shajra Nasb	7	.36	.45	0	1
Total time taken to collect all documents	33	3.31	8.60	0	48

Table 17C: Document Collection Summary Statistics: Waiting Time – KP (Hours)

Variable	Obs.	Mean	Std. Dev.	Min	Max
Waiting time in the office for Jamabandi	15	2.40	1.76	1	6
Waiting time in the office for Fard Malkiat	27	2.50	1.74	.08	6
Waiting time in the office for Khasra Girdawar	15	2.52	2.01	.67	6
Waiting time in the office for Shajra Nasb	5	3	2	1	6
Total waiting time in the office for all documents	28	5.59	5.17	.08	24

Table 17D: Document Collection Summary Statistics: Travel Time - KP (Hours)

Variable	Obs.	Mean	Std. Dev.	Min	Max
Time taken to travel to the office for Jamabandi	15	1.97	1.32	0	6
Time taken to travel to the office for Fard Malkiat	27	4.94	11.85	.67	60
Time taken to travel to the office for Khasra Girdawari	14	2.03	1.35	.83	6
Time taken in the office visit for Shajra Nasb	4	2.75	2.22	1	6
Total travel time to visit the office for documents (two-way)	29	6.97	11.66	0	60

Table 17E: Document Collection Summary Statistics: Total Time: Waiting Time + Travel Time + Agency Time - KP (Months)

Variable	Obs.	Mean	Std. Dev.	Min	Max
Total time spent by a litigant on gathering documents	33	3.61	8.71	0	48
Total time for Jamabandi (agency time + waiting time + travel time)	18	2.25	5.59	.04	24
Total time for Fard Malkiat (agency time + waiting time + travel time)	33	1.78	4.44	0	24
Total time for Khasra Girdawari (agency time + waiting time + travel time)	17	1.02	1.67	.03	6.26
Total time for Shajra Nasb (agency time + waiting time + travel time)	7	.37	.45	0	1

Table 18A: Sludge due to Document Collection in Terms of Time – KP (Months)

Variable	Obs.	Mean	Std. Dev.	Min	Max
Total sludge due to Fard Malkiat	33	1.28	4.44	-.50	23.50
Total sludge due to Jamabandi	18	1.75	5.59	-.46	23.50
Total sludge due to Khasra Girdawari	17	.52	1.67	-.47	5.76
Total sludge due to Shajra Nasb	7	-.13	.45	-.50	.50
Total sludge due to gathering documents	33	2.48	8.72	-1.81	47

Table 18B: Sludge Due to Document Collection (PKR)

Variable	Obs.	Mean	Std. Dev.	Min	Max
Total opportunity cost to the litigant of Jamabandi	6	6,473.96	14,458.81	0	35,937.50
Total opportunity cost to the litigant of Fard Malkiat	16	39,421.22	141,518.90	0	569,125
Total opportunity cost to the litigant of Khasra Girdawari	8	5,989.06	12,511.35	0	35,937.50
Total opportunity cost borne to the litigant for Shajra Nasb	1	450	.	450	450
Total money spent on Jamabandi	8	184,677.28	421,987.09	373.11	1,225,415.50
Total money spent on Fard Malkiat	24	25,007.77	40,795.02	-500	141,529.52
Total money spent on Khasra Girdawri	10	30,419.26	34,243.75	373.11	85,543.20
Total money spent on Shajra Nasb	5	35,954.86	40,669.80	-500	85,543.20
Total opportunity cost to the litigant of document collection	17	42,232.11	138,182.90	0	5,69125
Total monetary cost of documents	25	102,462.86	251,066.48	-500	1,225,415.50
Total sludge due to document collection	29	113,086.80	260,651.73	-253.78	1,225,415.50

Table 19: Sludge due to Hearings - KP

Variable	Obs.	Mean	Std. Dev.	Min	Max
Travel time to court per visit (two-way) (hours)	30	12.02	12.13	.25	36
Average travel cost per visit to court or office (PKR)	34	1,989.71	3,480.11	0	20,000
Sludge due to travelling to court/offices (PKR)	17	191,664.71	400,043.52	0	1,490,000
Sludge in terms of the time taken to set the first hearing after submitting case documents (days)	26	100.85	249.74	-24	1,050
The opportunity cost of travelling per month due to hearings or office visits (PKR)	11	1,526.43	2,611.76	35.72	9,114.58
Sludge in terms of the total number of times hearings set for the case	18	49.50	109.77	-3	475
Sludge in terms of the total number of times hearings were held on the date they were set	18	5.61	23.09	-5	95
Sludge in terms of the total number of visits to court or offices due to this case	17	81.76	151.23	1	598
Sludge in terms of total time spent travelling due to hearings over the entire case (hours)	15	171.37	368.76	.83	1,392
Sludge in terms of the total time spent travelling due to hearings in a month (hours)	14	4.43	5.51	.29	22
Total opportunity cost for the litigant due to hearings or office visits (PKR)	12	56,656.25	129,367.50	208.33	437,500
Yearly sludge due to hearings (PKR)	16	67,862.86	96,567.33	428.69	384,848.97
Total Sludge due to incurred on hearings (PKR)	17	231,657.35	401,674.82	875	1,490,000

Table 20A: Revenue Officers: Sludge due to Visits - KP

Variable	Obs.	Mean	Std. Dev.	Min	Max
Number of revenue officers met in the past year	35	2.03	2.09	0	6
Visits to Patwari in the past year	20	15.90	23.30	-1	99
Visits to Girdawar Qanungo in the past year	14	6.43	11.81	-1	34
Visits to Naib Tehsildar in the past year	11	14.18	27.46	-1	89
Visits to Tehsildar in the past year	12	10	14.85	-1	49
Visits to the AC in the past year	12	9.42	9.25	-1	29
Visits to the DC/ADCR in the past year	1	1	.	1	1
Visits to the commissioner in the past year	0	.	.	.	.
Visits to BoR in the past year	1	2	.	2	2
Total visits to revenue officers in the past year	23	34.78	49.75	-5	221

Table 20B: Revenue Officers: Sludge due to Waiting Time – KP (Hours)

Variable	Obs.	Mean	Std. Dev.	Min	Max
Waiting time in the office when visiting Patwari in the past year	16	2.41	5.54	-1.67	22
Waiting time in the office when visiting Girdawar Qanungo in the past year	10	2.23	7.12	-1.33	22
Waiting time in the office when visiting Naib Tehsildar in the past year	7	5.88	11.04	-1.50	22
Waiting time in the office when visiting Tehsildar in the past year	9	-.63	.85	-1.83	1
Waiting time in the office when visiting AC in the past year	10	2.82	6.97	-1.67	22
Waiting time in the office when visiting DC/ADCR in the past year	2	1	2.83	-1	3
Waiting time in the office when visiting the commissioner in the past year	0	.	.	.	.
Waiting time in the office when visiting BoR in the past year	1	3	.	3	3
Total waiting time to meet revenue officers in the past year	20	6.17	15.79	-6.67	67

Table 20C: Revenue Officers: Travel Time - KP (Hours)

Variable	Obs.	Mean	Std. Dev.	Min	Max
Travel time spent per visit to meet Patwari in the past year (two-way)	17	4.66	7.76	.13	25.50
Travel time spent per visit to meet Girdawar Qanungo in the past year (two-way)	11	3.58	7.30	.75	25.50
Travel time spent per visit to meet Naib Tehsildar in the past year (two-way)	7	1.37	.88	.67	3.12
Travel time spent per visit to meet Tehsildar in the past year (two-way)	11	3.51	7.33	.33	25.50
Travel time spent per visit to meet AC in the past year (two-way)	11	1.46	.71	.83	3.05
Travel time to visit DC/ADCR in the past year (two-way)	2	1.50	.71	1	2
Travel time spent per visit to meet the commissioner in the past year (two-way)	0	.	.	.	.
Travel time spent per visit to meet BoR in the past year (two-way)	1	2	.	2	2
Total travelling time in the past year to meet revenue officers (two-way)	19	9.89	17.10	.13	76.50

Table 20D: Revenue Officers: Sludge in Terms of Total Time - Waiting Time & Travel Time – KP (Hours)

Variable	Obs.	Mean	Std. Dev.	Min	Max
Total sludge due to the time spent per visit to Patwari in the past year	17	6.92	9.50	-1.53	28.50
Total sludge due to the time spent per visit to Girdawar Qanungo in the past year	11	5.62	9.43	-.58	25.50
Total sludge due to the time spent per visit to Naib Tehsildar in the past year	8	6.35	10.05	-.67	23
Total sludge due to the time spent per visit to Tehsildar in the past year	11	2.99	7.26	-1.50	24.50
Total sludge due to the time spent per visit to AC in the past year	11	4.02	7.26	-.67	25.05

Total sludge due to the time spent per visit to DC/ADCR in the past year	2	2.50	2.12	1	4
Total sludge due to the time spent per visit to the commissioner in the past year	0	.	.	.	.
Total sludge due to the time spent per visit to BoR in the past year	1	5	.	5	5
Total sludge due to the time spent visiting revenue officers in the past year	17	935.15	2,024.20	-150	8,269.08
Total sludge due to the time spent visiting revenue officers over the entire case	16	3,347.80	7,541.66	-15.33	29,370

Table 20E: Revenue Officers: Sludge in Monetary Terms - KP (PKR)

Variable	Obs	Mean	Std. Dev.	Min	Max
Total money spent on Patwari in the past year	18	10,882.75	15,255.54	-18,938.50	47,741.98
Total money spent on Girdawar Qanungo in the past year	9	6,274.28	8,721.51	-1,363.10	23,120.99
Total money spent on Naib Tehsildar in the past year	7	25,886.57	43,676.75	-787.70	120,229.94
Total money spent on Tehsildar in the past year	11	17,164.95	35,993.53	-5,000	120,479.94
Total money spent on the AC in the past year	9	5,399.57	8,179.06	-2,000	22,745.99
Total money spent in the past year on the DC/ADCR	2	23,795.99	33,652.61	0	47,591.98
Total money spent on the commissioner in the past year	1	0	.	0	0
Total money spent on the BoR in the past year	1	0	.	0	0
Total sludge monetary terms due to meeting with revenue officers in the past year	21	34,217.45	49,212.17	-18,938.50	179,594.91

Table 20F: Revenue Officers: Sludge in Terms of Opportunity Cost - KP (PKR)

Variable	Obs	Mean	Std. Dev.	Min	Max
Opportunity cost to the litigant of meeting with Patwari in the past year	11	242,763.45	776,249.35	-3,750	2,582,812.50
Opportunity cost to the litigant of meeting with Girdawar Qanungo in the past year	7	11,565.77	30,086.81	-1,822.92	79,687.50
Opportunity cost to the litigant of meeting with the Naib Tehsildar in the past year	4	60,649.74	122,739.76	-2,083.33	24,4750
Opportunity cost to the litigant of meeting with the Tehsildar in the past year	5	-926.56	2,037.19	-4,500	416.67
Opportunity cost to the litigant of meeting with the AC in the past year	8	4,422.53	6,488.20	-1,041.67	18,125
Opportunity cost to the litigant of meeting with the DC/ADCR in the past year	1	218.75	.	218.75	218.75
Opportunity cost to the litigant of meeting the commissioner in the past year	0	.	.	.	.
Opportunity cost to the litigant of meeting with the BoR in the past year	1	2,187.50	.	2,187.50	2,187.50
Total Opportunity cost of meeting with revenue officers in the past year	13	232,854.69	733,106.46	-9,114.58	2,662,500

Table 20G: Revenue Officers: Sludge in Terms of Total Rupees Spent – KP (PKR '00,000)

Variable	Obs.	Mean	Std. Dev.	Min	Max
Total opportunity cost of meetings with Patwari over the entire case	11	9.61	31.08	-.07	103.31
Total opportunity cost of meetings with Girdawar Qanungo over the entire case	7	.46	1.20	0	3.19
Total opportunity cost of from meetings with Naib Tehsildar over the entire case	4	9.18	18.36	0	36.71
Total opportunity cost of meetings with Tehsildar over the entire case	5	-.02	.04	-.09	.01
Total opportunity cost of meetings with AC over the entire case	8	.08	.13	0	.36
Total opportunity cost of meetings with DC/ADCR over the entire case	1	0	.	0	0
Total opportunity cost of from meetings with the commissioner over the entire case	0	.	.	.	.

Total opportunity cost of meetings with BoR over the entire case	1	.01	.	.01	.01
Total opportunity cost of meetings with revenue officers over the entire case	13	11.25	30.34	-.07	106.50
Total sludge in monetary terms of meetings with revenue officers over the entire	21	2.54	7.92	-3.50	32.33
Yearly total sludge due to meetings with revenue officers	22	1.70	5.59	-.10	26.44
Total sludge due to meetings with revenue officers over the entire case	22	9.07	25.30	-3.50	105.74

Table 20H: Revenue Officers: Sludge in Terms of Total Time - KP

Variable	Obs.	Mean	Std. Dev.	Min	Max
Total sludge in terms of time spent on Patwari in the past year (days)	15	5.04	9.19	-.32	34.44
Total sludge in terms of time spent on Girdawar Qanungo in the past year (days)	11	.55	1.35	-.40	4.39
Total sludge in terms of time spent on Naib Tehsildar in the past year (days)	8	10.85	28.64	-.29	81.58
Total sludge in terms of time spent on Tehsildar in the past year (days)	10	.51	2.08	-1.50	6.26
Total sludge in terms of time spent on AC in the past year (days)	11	.70	.96	-.25	2.50
Total sludge in terms of time spent on DC/ADCR in the past year (days)	1	.04	.	.04	.04
Total sludge in terms of time spent on Commissioner in the past year (days)	0	.	.	.	.
Total sludge in terms of time spent on BoR in the past year (days)	1	.42	.	.42	.42
Sludge in terms of total time spent visiting revenue officers in the past year (hours)	17	935.15	2,024.20	-150	8,269.08

Table 21: Sludge in Terms of Expenses - KP

Variable	Obs.	Mean	Std. Dev.	Min	Max
Total expenses on stamp duty/government fee (PKR)	9	120,716.93	340,096.55	0	1,027,402.30
Total expense on revenue court staff/clerks (PKR)	3	42,684	58,390.71	5,256.76	109,965.88
Monthly Lawyer Fee (PKR)	29	9,214.64	15,720.19	0	77,430.48
Total Spent on Lawyer Fee (PKR 00,000)	29	1.62	2.27	0	12.08
Total expenses: stamp duty 7 revenue court staff/clerks (PKR '00,000)	11	1.10	3.06	0	10.27
Yearly expenses: stamp duty & revenue court staff/clerks (PKR '00,000)	9	.20	.38	0	1.08
Total sludge due to expenses on lawyer's fees & revenue court staff (PKR '00,000)	30	1.61	2.28	0	12.08
Yearly sludge due to expenses on lawyer's fees & revenue court staff (PKR '00,000)	30	1.11	1.91	0	9.29

Table 22: Sludge due to Document Collection from Patwari - KP

Variable	Obs.	Mean	Std. Dev.	Min	Max
Total money spent on Patwari in the past year (PKR)	18	10,882.75	15,255.54	-18,938.50	47,741.98
Sludge in visits to Patwari for document collection in the past year	7	12.86	17.19	1	49
Travel time per visit to meet Patwari for documents (two-way) (hours)	8	14.06	33.15	1	96
Sludge in terms of waiting time per visit for document collection from Patwari (hours)	7	1.29	2.21	-1	4
Sludge in opportunity cost due to document collection from Patwari in the past year	3	7,379.17	12,553.77	112.50	21,875
Sludge in total visits to Patwari for document collection over the entire case	2	7.50	9.19	1	14
Sludge in collection time to get documents from Patwari after application submission (hours)	17	141.41	663.34	-359	1,800
Sludge in total travel & waiting time spent on document collection from Patwari (hours)	2	28.50	38.89	1	56
Sludge in total time spent on document collection from Patwari (days)	18	5.70	26.83	-14.96	75
Sludge in total opportunity cost due to document collection from Patwari over the entire case	1	150	.	150	150

Table 23: Sludge due to Document Collection from the Arazi Record Center - KP

Variable	Obs.	Mean	Std. Dev.	Min	Max
Fees paid to get documents from the Arazi Record Center (PKR)	9	2,344.44	2,150.06	200	6,000
Average travel cost per visit to the Arazi Record Center (two-way)	18	2,175	2,393.27	150	10,000
Sludge in visits to the Arazi Record Center for document collection in the past year	12	13.83	17.39	1	59
Sludge in time taken to get documents from the Arazi Record Center after application submission (days)	21	8.46	20.88	-.96	89
Sludge in time taken to get documents before the Arazi Record Center existed (days)	17	5.89	27.64	-14.96	75
Sludge in waiting time per visit on document collection from the Arazi Record Center (hours)	15	2.57	5.69	-1	22
Travel time per visit to go to Arazi Record Center (two-way) (hours)	13	3.90	6.16	1	24
Sludge in the opportunity cost of document collection from the Arazi Record Center in the past year (PKR)	6	5,001.56	10,418.77	125	26,250
Sludge in total visits to the Arazi Record Center for document collection over the entire case	7	3.86	2.97	1	9
Sludge in total wait & travel time spent on the Arazi Record Center for documents (hours)	7	18.39	29.35	1.75	84
Sludge in total time (days) spent on the Arazi Record Center for document collection	21	8.72	20.91	-.96	89.63
Sludge in total opportunity cost of document collection from the Arazi Record Center over the entire case (PKR)	6	5,101.56	10,377.78	125	26,250

Table 24: Total Sludge in Terms of Time Taken - KP

Variable	Obs.	Mean	Std. Dev.	Min	Max
Sludge in time taken to gather information before filing the case (months)	29	4.73	7.68	-.10	35.77
Total sludge when gathering documents (months)	33	2.48	8.72	-1.81	47
Sludge taken to set first hearing after submitting case documents (days)	26	100.85	249.74	-24	1,050
Sludge in total time spent travelling due to hearings in a month (hours)	14	4.43	5.51	.29	22
Sludge in total time spent visiting revenue officers in the past year (hours)	17	935.15	2,024.20	-150	8,269.08
Sludge in total time spent on document collection from Patwari over the entire case (days)	18	5.70	26.83	-14.96	75
Sludge in total time spent on the Arazi Record Center for document collection (days)	21	8.72	20.91	-.96	89.63

Table 25: Total Sludge in Monetary Terms - KP

Variable	Obs.	Mean	Std. Dev.	Min	Max
Opportunity cost of gathering information (PKR)	21	238,050.80	522,885.08	-1,000	2,376,666.80
Total sludge from document collection (PKR)	29	113,086.80	260,651.73	-253.78	1,225,415.50
Yearly sludge incurred due to hearings	16	67,862.86	96,567.33	428.69	384,848.97
Yearly total sludge due to meeting with revenue officers (PKR '00,000)	22	1.70	5.59	-.10	26.44
Yearly sludge due to expenses: lawyer fees & revenue court staff (PKR '00,000)	30	1.11	1.91	0	9.29
Sludge due to total opportunity cost due to document collection from Patwari over the entire case (PKR)	1	150	.	150	150
Sludge due to the total opportunity cost of document collection from the Arazi Record Center over the entire case (PKR)	6	5,101.56	10,377.78	125	26,250

Table 26: Sludge as a Percentage of Income – KP

Variable	Obs.	Mean	Std. Dev.	Min	Max
Opportunity cost of gathering information (PKR)	21	238,050.80	522,885.08	-1,000	2,376,666.80
Total sludge) from document collection (PKR)	29	113,086.80	260,651.73	-253.78	1,225,415.50
Yearly sludge incurred due to hearings (PKR)	16	67,862.86	96,567.33	428.69	384,848.97
Yearly sludge from expenses: Lawyer's fee & revenue court staff (PKR)	30	110,786.05	190,566.30	0	929,165.63
Yearly sludge from meeting with revenue officers (PKR)	22	170,258.07	558,553.68	-10,000	2,643,561.50
Total yearly sludge from all steps (PKR)	31	306,834.14	540,242.91	12,412.48	2,851,491.50
Yearly sludge - excluding one-time costs (PKR)	31	263,066.60	527,161.07	-10,000	2,803,705
Total sludge from all steps over the entire case so far (PKR)	34	1,088,511.80	2,357,191.40	13,892.99	11,405,966
Total yearly income (PKR.)	24	510,750	351,621.25	120,000	1,200,000
Per cent of income: opportunity cost of gathering information	20	.42	.75	-.01	2.98
Per cent of income: total sludge from document collection	19	.23	.68	0	2.96
Per cent of income: yearly sludge incurred due to hearings	12	.20	.24	0	.75
Per cent of income: yearly sludge from expenses – lawyer's fee & revenue court staff	21	.40	.92	0	4.30
Per cent of income: yearly sludge due to meeting with revenue officers	18	.22	.40	-.01	1.52
Total sludge as per cent of income including one-time costs	22	.79	1.32	.04	6.11
Yearly sludge as per cent of income excluding one-time costs	22	.66	1.17	-.01	5.27
Total income earned in a month (PKR)	25	60,860	95,878.99	10,000	500,000

Table 27: Opportunity Cost of Disputed Land - KP

Variable	Obs.	Mean	Std. Dev.	Min	Max
Total rice production lost in maunds due to cases	24	4,347.76	12,640.88	12.38	61,986.75
Total wheat production lost due to court cases (maunds)	24	3,216.48	9,235.04	9.11	45,225.25
Total wheat production lost due to court cases (maunds)	24	7,564.24	21,875.5	21.49	107,212
Total rice output lost due to court cases (PKR '00,000)	24	130.82	329.32	.36	1,584.05
Total wheat output lost due to court cases (PKR '00,000)	24	85.80	233.69	.28	1,138.40
Total rice & wheat product lost due to court cases(PKR '00,000)	24	216.62	562.73	.64	2,722.44
Total rice production cost - 2001-2021 (PKR '00,000)	24	102.51	257.83	.29	1,240.19
Total wheat production cost - 2001-2021 (PKR '00,000)	24	57.18	139.50	.21	667.28

Table 28: Summary Statistics: Stress - KP

Variable	Obs.	Mean	Std. Dev.	Min	Max
Was it easy to get your documents?	35	3.97	1.22	1	5
How satisfied are you with your documents?	32	1.75	1.16	1	5
Are you stressed due to your hearings or due to your hearings being adjourned?	34	3.82	1.36	1	5
How stressed are you due to this case?	32	4.03	1.26	1	5
Do you think the documentation and paperwork required in a lawsuit is reasonable?	34	2.85	1.60	1	5
How stressful was it to visit or go to the Arazi Record Center?	14	2.21	1.48	1	5
How stressful was it to meet with the Patwari?	34	3	1.69	1	5
How stressful was it to meet with the Girdawar Qanungo?	28	2.89	1.37	1	5
How stressful was it to meet with the Naib Tehsildar?	24	2.58	1.35	1	5
How stressful was it to meet with the Tehsildar?	28	3.07	1.46	1	5

How stressful was it to meet with the AC?	30	2.57	1.48	1	5
How stressful was it to meet with the DC/ADCR?	14	2.43	1.79	1	5
How stressful was it to meet with the commissioner?	12	2.17	1.75	1	5
How stressful was it to meet with the BoR?	12	1.92	1.38	1	4

Note: The higher the values, the more stressed/dissatisfied a person is. The Likert scale for the stress questions is as follows: 1 "No stress" 2 "A little stress" 3 "Neither stressful nor unstressful" 4 "High Stress" 5 "Extreme Stress"

Table 29: Sludge as a Percentage of GDP - KP

Variable	Obs.	Mean	Std. Dev.	Min	Max
Average cost of sludge per litigant in a year (all steps)	35	625,977.50	0	625,977.50	625,977.50
Average cost of sludge per litigant in a year (excluding one-time costs)	35	582,210	0	582,210	582,210
Total cases that are more than 12 months old (1 Jan 2022 - 31 Dec2022)	35	12,852	0	12,852	12,852
Sludge (all steps) (PKR million)	35	8,045.06	0	8,045.06	8,045.06
Sludge (excluding one-time costs) (PKR million)	35	7,482.56	0	7,482.56	7,482.56
Sludge as a percentage of crop GDP per year (all steps)	31	3.77	0	3.77	3.77
Sludge as a percentage of crop GDP per year (excluding one-time costs)	31	3.51	0	3.51	3.51
Sludge as a percentage of KP's agricultural GDP per year (all steps)	31	.57	0	.57	.57
Sludge as a percentage of KP's agricultural GDP per year (excluding one-time cost)	31	.53	0	.53	.53
Value of disputed land as a percentage of KP's real estate GDP per year	31	216.58	0	216.58	216.58

Table 30: Summary Statistics - KP

Variable	Obs.	Mean	Std. Dev.	Min	Max
Male	31	1	0	1	1
Age	35	51.14	15.73	25	76
Total income earned in a month (PKR)	25	60,860	95,878.99	10,000	500,000
Plaintiff	32	.69	.47	0	1
Years since the case was filed	31	6.29	8.08	.05	35
The size of disputed land in Kanals	35	81.40	154.16	2	700
Total disputed land Value (PKR '00,000)	28	429.29	672.89	4	2,500
Case type: Demarcation	35	0	0	0	0
Case type: Partition	35	.71	.46	0	1
Case type: Mutation	35	0	0	0	0
Case type: Inheritance	35	.06	.24	0	1
Case type: Eviction	35	.14	.36	0	1
Months taken to gather information before filing the case	29	4.96	7.68	.13	36

Overall Results for Punjab & KP

Table 31: Sludge as a Percentage of Income for Punjab & KP

Variable	Obs.	Mean	Std. Dev.	Min	Max
Monthly income (PKR)	217	40,665.91	53,914.10	0	500,000
The size of disputed land in Kanals	318	49.69	81.51	.15	700
Disputed land in PKR million	321	17.60	0	17.60	17.60
Total cases in Punjab that are more than 12 months old (1 Jan 2022 - 31 Dec2022)	286	65,396	0	65,396	65,396

Total cases in KP that are more than 12 months old (1 Jan 2022 - 31 Dec2022)	35	12,852	0	12,852	12,852
Total cases in KP & Punjab older than 12 months (1 Jan 2022 - 31 Dec 2022)	321	78,248	0	78,248	78,248
The opportunity cost of gathering information (PKR)	187	98,724.83	226,950.27	-112,500	2,376,666.80
Total sludge due to document collection (PKR)	258	52,281.55	179,963.83	-1,000	1,860,625.10
Yearly sludge due to hearings (PKR)	212	70,944.36	186,123.77	-60,833.33	1,728,000
Yearly sludge due to expenses: lawyer fees, revenue court staff & food	232	139,619.14	284,932.55	0	1,991,069.40
Yearly sludge due to meeting revenue officers (PKR)	249	67,859.64	294,876.49	-10,000	3,405,755.30
Total yearly sludge from all steps (PKR)	310	256,121.68	435,141.12	-60,833.33	3,412,748.30
Yearly sludge - excluding one-time costs (PKR)	314	204,869.10	399,590.49	-60,833.33	3,405,755.30
Total sludge from all steps over the entire case so far (PKR)	313	895,953.38	3,673,039.90	-16,750	4,171,7832
Per cent of income: opportunity cost of gathering information	185	.22	.37	-.02	2.98
Per cent of income: total sludge due to document collection	179	.13	.40	0	3.10
Per cent of income: yearly sludge incurred due to hearings	159	.21	.44	-.14	2.88
Per cent of income: yearly sludge due to expenses: lawyer's fees, revenue court staff & food	149	.43	1.22	0	10.56
Per cent of income: yearly sludge due to meeting with revenue officers	182	.24	1.15	-.02	14.19
Total sludge as per cent of income - including one-time costs	211	.83	1.69	-.06	14.22
Yearly sludge as per cent of income - excluding one-time costs	211	.67	1.58	-.01	14.19
Average sludge per litigant in a year (all steps)	321	700,927.49	26,260.32	625,977.50	710,099.69
Average sludge per litigant in a year (excluding one-time costs)	321	649,831.46	23,692.62	582,210	658,106.81

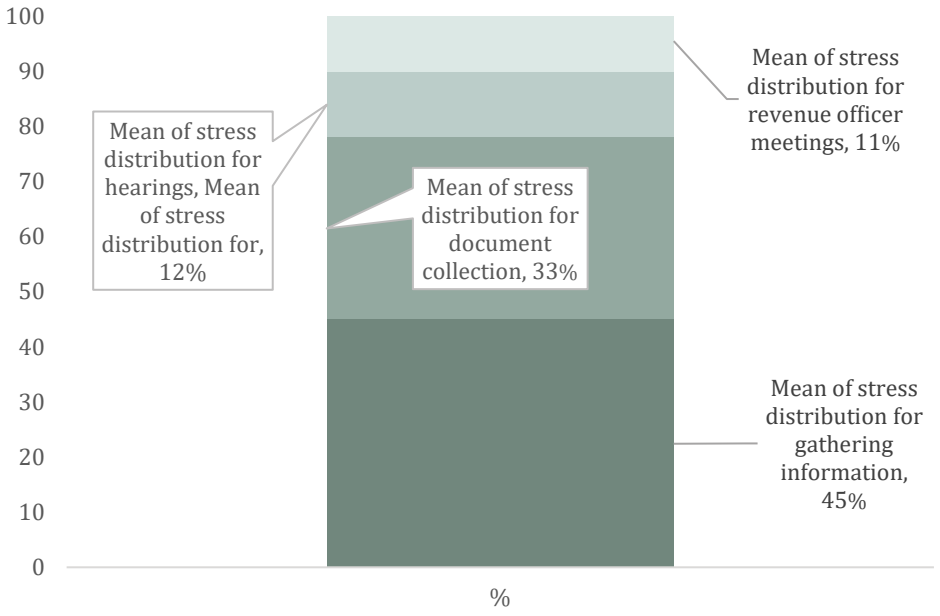
Table 32: Sludge as a Percentage of GDP for Punjab & KP

Variable	Obs	Mean	Std. Dev.	Min	Max
Total cases in Punjab that are more than 12 months old (1 Jan 2022 - 31 Dec2022)	286	65,396	0	65,396	65,396
Total cases in KP that are more than 12 months old (1 Jan 2022 - 31 Dec2022)	35	12,852	0	12,852	12,852
Total cases in KP & Punjab older than 12 months (1 Jan 2022 - 31 Dec 2022)	321	78,248	0	78,248	78,248
Sludge in Punjab (all steps) (PKR million)	286	46,437.70	0	46,437.70	46,437.70
Sludge in in KP (all steps) (PKR million)	35	80,45.06	0	8,045.06	8,045.06
Sludge in KP & Punjab (all steps) (PKR million)	321	54,482.76	0	54,482.76	54,482.76
Sludge on Punjab (excluding one-time costs) (PKR million)	286	43,037.60	0	43,037.60	43,037.60
Sludge in KP (excluding one-time costs) (PKR million)	35	7,482.56	0	7,482.56	7,482.56
Sludge in KP & Punjab (excluding one-time costs) (PKR million)	321	50,520.16	0	50,520.16	50,520.16
Sludge as a percentage of GDP per year for Punjab & KP (all steps)	321	.11	0	.11	.11
Sludge as a percentage of GDP per year for Punjab & KP (excluding one-time costs)	321	.10	0	.10	.10
Sludge as a percentage of agricultural GDP per year for Punjab & KP (all steps)	321	.47	0	.47	.47
Sludge as a percentage of agricultural GDP per year for Punjab & KP (excluding one-time cost)	321	.44	0	.44	.44

Sludge as a percentage of crop GDP per year for Punjab & KP (all steps)	321	1.40	0	1.40	1.40
Sludge as a percentage of crop GDP per year for Punjab & KP (excluding one-time cost)	321	1.30	0	1.30	1.30
Value of disputed land in Punjab & KP as a percentage of real estate activities GDP per year	321	47.46	0	47.46	47.46

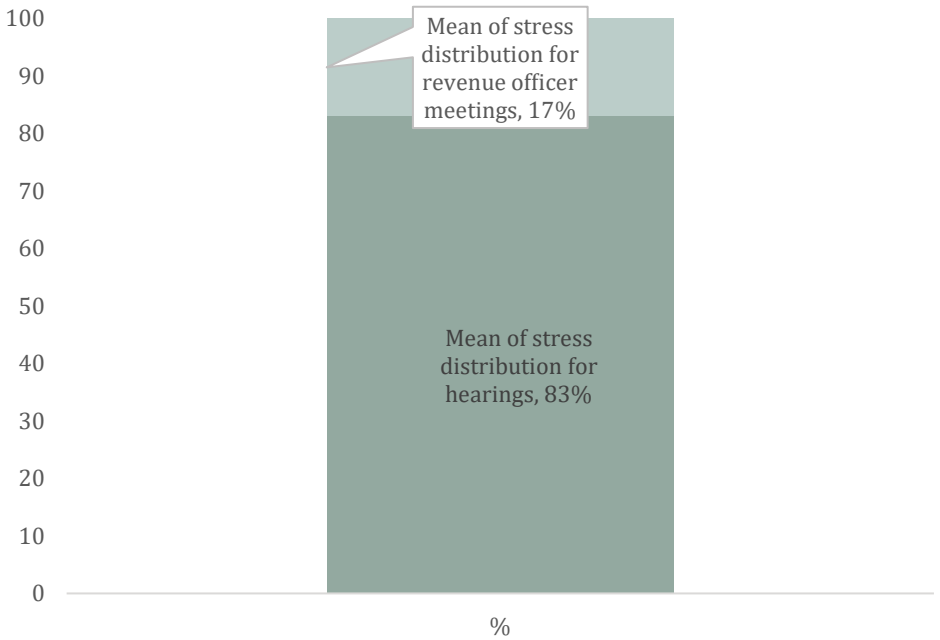
Figures for KP

Figure 9 Yearly Stress Distribution Including One-Time Activity (KP)



Source: Authors' computations.

Figure 10 Yearly stress distribution excluding one-time activity (KP)



Source: Authors' computations.

ALTERNATE USE OF PUBLIC ASSETS: A CASE STUDY OF AIOU

Moazzam Ali

ABSTRACT

This case study investigated the economic potential of the under-utilised assets at the regional campuses of Allama Iqbal Open University. As the operational and academic activities of the AIOU are now being digitalised, the physical infrastructure developed in the different regional offices across Pakistan is now less utilised. This case study aimed to document the underutilised physical assets of the AIOU in selected regional campuses and to suggest the alternate usage of these assets. This study surveyed the underutilised assets at the regional campuses and documented the installed facilities. In the next step, the study developed a market valuation of the land and building of the regional campuses and found that, based on various proxies, the minimum value of land and building of selected regional campuses was around Rs. 2 billion. Next, to find alternate uses, this study considered the location of the regional campuses, the population of the area, nearby industry clusters, and stakeholders' responses. Based on these factors, we developed three revenue generation models (campus-based model, rental model, and pay-as-you-go model) to enhance the utilisation rate of the regional campuses. In the end, we discussed the legal and operational challenges that might arise in case of implementation of these working models to enhance the utilisation of installed facilities in the regional campuses.

1. INTRODUCTION

Background

Allama Iqbal Open University (AIOU) was established in 1974 through an Act of Parliament to adopt distance learning as a tool for mass education. It was the first open university in Asia and the second one in the world established under the theme of distance education. The philosophy of distance learning was gaining momentum at that time with the establishment of the UK Open University in the 1960s. The idea of distance education was to design and offer educational programmes to those who were unable to join the existing educational institutions for a variety of reasons, such as age, disability, poverty, and job nature among other things.

The AIOU has four academic faculties, namely, natural sciences, social sciences, Arabic, and Islamic Studies and Education, which are further divided into 46 academic departments. It offers academic programmes and courses from matriculation to PhD in different disciplines through open and distance Learning (ODL) and on-campus modes across Pakistan. Presently, the AIOU offers around 50 academic programmes starting from matric, intermediate, ADC, BS, PGDs, M. Phil and PhD. Its enrolment in the Autumn 2022 semester was approximately 1,027,000. The AIOU has a printing press and has published more than 1,000 textbooks for students of different levels. The present faculty at its main campus is around 250 of which more than 90 per cent are PhDs.

The objectives of the AIOU as described in The AIOU Act 1974 (GOP, 1974) are the following:

i. To provide educational facilities to people who cannot leave their homes and jobs.

ii. To provide facilities to the masses for their educational uplift as it may determine.

iii. To facilitate training of teachers as per new trends and technologies.

iv. To utilise the latest technology for the advancement and dissemination of knowledge.

To achieve these objectives, the AIOU established regional campuses/offices in 42 different cities across Pakistan to facilitate the students. The traditional strategy of distance-based education was to establish regional campuses across Pakistan that were used for educational activities as per the academic and administrative directions from the main campus in Islamabad. The main campus in Islamabad was used to plan and organise educational programmes and courses with the help of the regional centres to facilitate students. Accordingly, the role of the regional offices was to deliver education through organising workshops, tutorial meetings, examinations, and corresponding with the students.

However, as new technologies have emerged with time, in 2018, the digitalisation of the AIOU started to streamline the various operational and academic activities. A modern AAGHI Learning Management System (LMS) was developed to offer educational instructions and class activities virtually. The LMS was also designed to conduct online classes, e-submission of students' assignments, and offer online tutorial guidance to the students. At the AIOU, Islamabad, two major departments are working to deliver the educational content in online mode, namely, The Institute of Educational Technology and The Institute of Computer Technology (ICT). Both institutes are working to convert the existing manual operations into digital mode. These digital activities include the development of e-books, e-classrooms, lecture recordings, and databases of resource persons, inter alia.

With increased digitalisation, the traditional role of regional campuses has been minimised as the allocation of tutors and appointment of resource persons (class teachers) is being conducted through the online system at the main campus, Islamabad. Along with this, classes are now held in online mode and course assignments can be submitted through the online portal. Additionally, admissions forms, course books, course assignments, fee

collection, and related activities have now been digitalised. Since 1974, the AIOU has made huge investments in the physical infrastructure across Pakistan with regional centres in 42 different cities. These regional centres/campuses have classrooms, seminar halls, offices, computer labs, spaces for parking, and gardens. A large majority of these regional campuses are in the small cities across the four provinces and the GB/AJK.

With the development of digital tools, the efficiency and effectiveness of existing brown assets of the AIOU have decreased and there is a dire need to reassess the true potential of these regional centres. Since the ownership and management of these regional campuses rests with the AIOU, the operational and maintenance expenditures of buildings are being borne by the AIOU. This case study deals with assessing the future of these regional campus buildings of the AIOU that have been established under the old version of the distance education philosophy. This research study attempted to survey the existing facilities at these regional campuses and identify the underutilised assets. Once identified, the financial valuation of these underutilised resources was conducted, and the alternate utilisation strategy was developed. The suggested alternate strategy observed the existing legal and administrative structure of the AIOU to optimise the use of the AIOU's assets.

Research Questions

This case study has the following major research questions:

i. What is the capacity utilisation of the regional offices of the AIOU?

ii. What is the economic potential of the regional assets of the AIOU?

iii. How financial inflows can be generated through the optimal use of regional assets of AIOU?

Research Objectives

This study has the following objectives:

i. Identification of the underutilised assets at the regional campuses of the AIOU.

ii. Valuation of these underutilised assets at the regional campuses of the AIOU.

iii. Analysis of different scenarios for the alternate use of underutilised assets.

2. LITERATURE REVIEW

This study is based on the asset monetisation theory as elaborated by Hull (2010), which involves attaching a monetised value to the various classes of assets. The objective of monetisation of assets is to increase the efficiency of the assets and stabilise the revenue streams associated with these assets. In contrast to the idea of privatisation, the asset monetisation approach attempts to optimally manage the revenue streams of the public sector assets efficiently without changing the ownership status. Kurtz (2016), for example, has suggested to use of the asset monetisation approach for controlling the local government's deficit and ensuring revenue streams. Another study by Grubišić et al. (2009) has stressed using the appropriate asset valuation approach for managing public sector assets. A similar theme was suggested by Detter & Folster (2008) for unleashing the hidden wealth of cities by reassessment of existing physical resources.

This case study is developed within the academic framework of dead capital as elaborated by Soto (2000). The phrase dead capital refers to a class of physical capital which is underutilised in an economy and remains

unproductive. Soto (2000) argued for the identification of dead capital within the government and private sector and called for developing legal, institutional, and financial strategies to enhance the utilisation of dead capital with the active participation of stakeholders and the private sector. In most cases of dead capital, the major underutilised assets are land and buildings in developing countries, which remain unproductive due to the weak regulatory and institutional framework.

This study applies the field study approach as suggested by Udry (2003) for surveying and documenting the underutilised assets at the regional centres of the AIOU. Many researchers like Bond & Dent (1998), Andrew & Pitt (2000), and White (2011) have called for using the mixture of traditional and modern techniques for valuing public sector assets. This practice of fair market valuation of public sector assets is gaining momentum as various researchers have used it to measure asset monetisation gains. For the present study, we use the replacement cost methodology for valuing the fixed assets of the regional campuses. The replacement cost methodology, as advocated by Wyatt (2009), is widely used in valuing fixed assets.

For determining the alternate economic usage, the widely-used income approach is employed which involves the use of cash flows. These cash flows were estimated based on the alternate usage of these assets as per the demand of local communities and businesses. Recently, Hentschke (2021) has called for exploring multiple avenues for creating new sources of revenues for better financial management of the assets of the higher education institutes (HEIs). Similarly, Setiawan et al. (2019) have called for developing a better information management system for managing the assets of HEIs. Based on these studies, this case study explores the underutilised assets of the AIOU at the regional offices, valuing these assets based on market prices and suggesting new approaches for the optimal usage of these assets.

There are several regional and global examples where governments have tried to unleash the potential of existing physical assets and generate financial inflows with the help of the private sector. Under the theme of revising the dead capital, the National Monetization Plan of the Indian Government announced in 2021 applied the philosophy of creation through monetisation where it aims to monetise the government assets, including roads, power grids, airports, seaports, and railways networks, among others to the interested investors through a competitive bidding process. The investors agree to pay a certain sum of money to the government for operating these government assets. Unlike privatisation, monetisation retains the ownership of assets with the government and only the right to use or operate is handed over to the investors for a long period of time. Practically, monetisation is a long-term lease of a government asset to the investors for efficiently managing the asset. The objective of the asset monetisation scheme is to obtain lump sum funds for building new government assets and enhance the operating efficiency of the existing assets by transferring the control of these assets to private parties. In this way, the problem of funds shortage for building new infrastructure may be resolved and the operational efficiency of the monetised assets enhanced.

A similar step was taken in 2014 by the Australian Government under the Asset Recycling Initiative (ARI) in which different government assets like ports, electricity transmission lines, roads, and buildings were leased on a long-term basis and investors paid around $17 billion to the government for obtaining the right to use of these assets. The ARI scheme's success was based on three closely linked factors, i.e., consensus of federal and state governments on the recycling of assets, incentives to the private investors and state governments, and a clear strategy for investing the funds obtained from ARI in new infrastructure projects. The whole scheme of ARI was designed with strong regulatory and contractual obligations for the investors to operate, maintain, and develop the government assets.

Another such initiative was the Limited Concession Scheme (LCS) of the Indonesian Government which offered government infrastructure assets on a long-term lease to the interested investors. This scheme was designed on the model of operating, maintaining, and expanding the government infrastructure assets. The investors were compensated through concessions in fees for using the assets and a share in revenues for operating the assets. In this way, the government was able to engage the private sector parties to enhance the operational efficiency of the

infrastructure-related assets and significant funds were generated for building the new assets.

Another useful method to enhance the utilisation of existing infrastructure is the adoption of the public-private partnership (PPP or P3) model. The literature includes success stories of the adoption of the PPP model in the education sector. For example, Farah & Rizvi (2007) checked the operational aspects of the PPP in primary school education and found that, apart from providing access to education, the stakeholders have different approaches to managing the assets. Generally, government departments in Pakistan use the PPP model as a transition tool for privatisation that affects the working of agreed-upon rules. Similarly, Barrera-Osorio et al. (2011) observed that the PPP model works well in terms of increasing enrolment in schools, teacher attendance, quality education, and reducing gender disparities. In another study by Afridi (2018) on PPPs in the education sector, the author observed that such models enhance access to education, but there is a need to restructure the terms and conditions of PPP agreements to enhance their effectiveness.

3. RESEARCH METHODOLOGY

This study is based on a combination of desk study and field study methods. In the first step, we took a sample of six regional campuses of the AIOU (Peshawar, Faisalabad, Multan, Quetta, Sukkur and Mirpur) out of 32 regional campuses (self-constructed) across Pakistan to document the installed capacity in terms of classrooms, lecture halls, computer labs, and offices. The reason for selecting these regional campuses out of around 32 regional campuses/centres of the AIOU was to give a broader representation for each area/province. In the next step, we documented the existing utilisation of the existing physical infrastructure in these regional campuses. We observed the utilisation rates of classrooms, lecture halls, seminar rooms, offices, and other facilities. After the completion of the utilisation survey of installed facilities at the regional campuses, the market-based valuation of these underutilised assets was conducted using the replacement cost methodology.

The market-based valuation of assets uses the present cost of constructing a similar class of assets as a proxy to determine the market value of regional campuses. Once the valuation of these underutilised assets was completed, the alternate revenue generation models were developed based on the local factors, i.e., the population of a given area, nearby industrial clusters, the capacity of the regional offices, and the skills deficiency in each area. These alternate revenue generation models were based on the inputs received from the regional campuses, nearby industrial clusters, SMEDA, chambers of commerce, and officials from the AIOU main campus, Islamabad. Along with suggesting working models, we also listed the challenges that may arise while implementing these models. In the end, suitable policy recommendations are made to develop long-term strategies (course offerings, industry partnerships, etc.) to optimise the use of these assets at the regional campuses.

4. SURVEY OF BUILDINGS OF REGIONAL CAMPUSES OF AIOU

The existing state of assets being used in the regional centres of the AIOU was assessed through field visits and questionnaires from the regional campuses.

Regional Campus Peshawar

Regional Campus Peshawar was established in 1977. It started its operations in a newly constructed state-of-the-art campus building in Hayatabad Phase-5 Peshawar in 2004. Surrounded by industrial, commercial, and government offices, this RC is ideally located for engaging industry and commercial partners for conducting

seminars, workshops, training and customised courses. The new campus building is equipped with digital lecture rooms, computer labs, a library, examination halls, an auditorium, video conference rooms, and a student facilitation desk. AIOU Peshawar Region serves five districts, namely, Peshawar, Nowshera, Charsadda, Khyber, and Mohmand. Student enrolment in different ODL programs from matric to master's level was around 13,817 in Autumn 2022.

Table 1: Details of Assets at RC Peshawar

Nature	Quantity	Facilities (Assets)
Offices	5	With the necessary furniture
Classrooms	4	Equipped with multimedia, whiteboard, and chairs
Lecture Halls	3	Two small and one large with a seating capacity of 300 people
Computer Lab	1	Equipped with 20 functional PCs
Library	1	Small-sized library with around 1,000 books
E-Conference Room	1	For online meetings with the head office
Guest Room	2	For visiting officers from the main campus.
Vehicles	1	Used by the officers for official tasks

Source: Author's computations.

Regional Campus Mirpur

The Regional Campus Mirpur was established in May 1977 and shifted to its state-of-the-art building in 2001. The campus is located at the heart of the main city and comprises an area measuring 4 kanal and 12 marlas. The enrolment for the Spring 2022 semester was 13,117 and 669 tutors are associated with Regional Campus. Facilities provided in the building of the regional campus include computer labs, a helpdesk, an auditorium, a library, an e-class room, a conference hall, lecture rooms, and offices for staff.

Table 2: Details of Assets at RC Mirpur

Nature	Quantity	Facilities (Assets)
Offices	8	Equipped with the necessary furniture
Classrooms	6	Equipped with multimedia, whiteboards, and chairs
Lecture Halls	3	Two small and one large hall for a total of 300-400 students
Computer Lab	1	Equipped with 20 functional PCs
Seminar Room	1	For 30 participants
Video Conference Room	1	For online meetings
Guest Room	1	Equipped with two beds
Library	1	Small-sized with around 1,000 books.
Servant Quarters	2	For campus staff
Record Room	2	For storing records/extra equipment, etc.

Source: Author's computations.

Regional Campus Quetta

The Regional Campus Quetta was established in 976 and is situated in a well-equipped building on the Eastern Bypass. The facilities provided in the regional campus building are a helpdesk, e-classrooms, lecture halls, video conferencing, a computer lab, and a library for local students. Overall, the enrolment of students in the Spring 2022 semester was 5,397 of which 57 per cent were females.

Table 3: Details of Buildings

Nature	Quantity	Facilities (Assets)
Offices	7	Equipped with necessary furniture and equipment
Classrooms	4	Equipped with multimedia, whiteboards, and chairs
Examination Halls	3	Two small and one large halls for a total of 300-400 students
Computer Lab	1	Equipped with 20 functional PCs
Seminar Room	1	For 20-30 participants
Video Conference Room	1	For online meetings
Committee Room	1	Used for conducting meetings with tutors/staff
Reading Room	1	Used for multipurpose activities, etc.
Guest Room	1	Equipped with two beds
Library	1	Small-sized with around 1,000 books
Cafeteria	1	Small-sized for students and staff
Record Room	1	For storing records/extra equipment, etc.

Source: Author's computations.

Regional Campus Sukkur

The Regional Campus Sukkur was established in August 1984 and was shifted to a state-of-the-art building on 31st March 2022 located at National Highway opposite Begum Nusrat Bhutto Women University, Rohri, Sukkur. The Sukkur Regional Campus serves four districts, i.e., Sukkur, Ghotki, Khairpur Mirs, and Kashmore. Facilities provided by the regional campus include computer labs, a helpdesk, an auditorium, a library, e-classrooms, a conference hall, and lecture rooms. The enrolment for the Spring 2022 semester was 2,818.

Table 4: Details of Building at RC Sukkur

Nature	Quantity	Facilities (Assets)
Offices	8	Equipped with necessary furniture and equipment
Classrooms	2	Equipped with multimedia, whiteboards, and chairs
Multipurpose Halls	2	For a total of 200-300 students
Kitchen	4	Used for making tea for officers/staff
Seminar Room	1	For 20-30 participants
Video Conference Room	2	For online meetings
Committee Room	1	Used for conducting meetings with tutors/staff
Green Room	1	Used for multipurpose activities, etc.
Guest Room	5	For visiting officers
Digital Library	1	Equipped with computers for student use
Cafeteria	1	Small-sized for students and staff
Store	2	For storing records/extra equipment, etc.

Source: Author's computations.

Regional Campus Faisalabad

The Regional Campus Faisalabad was established in 1979. It was shifted to its state-of-the-art building in 2007 in Millat Town. The regional campus serves five tehsils: Jaranwala, Tandlianwala, Samundri, Chak Jhumra, and Faisalabad. There are 8,891 registered tutors associated with the regional campus. The Spring 2022 semester enrolment was 20,056. The building of the regional campus has a computer lab, a library, a video conferencing room, and an e-classroom.

Table 5: : Details of Building

Nature	Quantity	Facilities (Assets)
Offices	4	Equipped with necessary furniture and equipment
Classrooms	4	Equipped with multimedia and chairs
Examination Halls	3	Two small and one large halls for a total of 300-400 students
Computer Lab	1	Equipped with 20 functional PCs
Staff Hall	3	For tutor/staff meetings
Video Conference Room	1	For online meetings
Committee Room	1	Used for conducting meetings with tutors/staff
Multipurpose Room	1	Used for multipurpose activities
Guest Room	2	For visiting officers.
Library	1	Small-sized with around 1,000 books
Store	2	Two rooms for storing records/extra equipment, etc.

Source: Author's computations.

Regional Campus Multan

The AIOU started its services in the city of shrines in November 1976. It was the first regional campus established soon after the establishment of the university. The regional campus is situated in two buildings comprising 14 kanals and serves two districts of Multan and Khanewal. This regional campus is equipped with 19 classrooms, a library, a video conferencing facility for online classes and RD conferences, training sessions / online meetings of tutors, a spacious auditorium, two computer labs, and a girls' hostel facility for students from far-flung areas. The Spring 2022 semester enrolment was 13,465 students.

Table 6: Details of Buildings

Nature	Quantity	Facilities (Assets)
Offices	9	Equipped with necessary furniture and equipment
Classrooms	19	Equipped with multimedia and chairs
Examination Halls	3	Two small and one large halls for a total of 300-400 students
Computer Lab	2	Equipped with 20 functional PCs
Staff Hall	3	For tutor/staff meetings
Video Conference Room	1	For online meetings
Committee Room	2	Used for conducting meetings with tutors/staff
Meeting Room	1	Used for multipurpose activities
Kitchen	1	Used for making tea for officers/staff
Library	1	With around 2,000 books
Store	2	Two rooms for storing records/extra equipment, etc.
Girls Hostel	1	For 20-30 female students

Source: Author's computations.

Operational Expenditures of Regional Campuses 2022-23

Table 7 reflects the present non-development budget allocation to the above-mentioned regional campuses of the AIOU. The budget is used for, for example, tutor payments, staff salaries, utility payments, and conducting examinations.

Table 7: Operational Expenditures of Regional Campuses 2022-23

Sr. No.	Regional Campus	Allocated Non-Developmental Budget (PKR Million)	Major heads for budget utilisation
1	Peshawar	24	Staff salaries, tutor payments, utility charges, fuel charges, advertisements, etc.
2	Mirpur	20.2	Salaries, tutor payments, utility charges, fuel charges, advertisements, etc.
3	Faisalabad	50.4	Advertisements, staff salaries, tutor payments, utility charges, fuel charges, advertisements, etc.
4	Multan	30.2	Tutor payments, utility charges, fuel charges, advertisements, staff salaries, etc.
5	Sukkur	9.8	Utility charges, fuel charges, advertisement, staff salaries, etc.
6	Quetta	9.4	Staff salaries, tutor payments, utility charges, fuel charges, advertisements, etc.
Total		144	…

Source: Author's computations.

5. KEY FINDINGS FROM THE SURVEY OF THE REGIONAL CAMPUSES

Following is a summarised version of the survey conducted to know the available facilities in the buildings of the regional campuses and their utilisation. It also explored the possibility of connecting with nearby industrial clusters and starting demand-driven practical courses on regional campuses.

The Impact of Digitalisation: Digitalisation has created spare space in the constructed buildings of the regional campuses that might be remodelled for alternate uses. The conduct of online classes and workshops has decreased the utility of brick-and-mortar structures at the regional campus level. In this way, spare capacity is abundant in the regional campuses for starting new short courses, and training programmes.

Well-Equipped Campuses: The survey highlighted the fact that each building of regional campuses has modern facilities, i.e., video conference rooms, seminar rooms, computer labs, auditoriums, and small libraries. In terms of installed facilities, each campus has modern classrooms equipped with furniture, multimedia, and air conditioners. However, the utilisation of these facilities remains low as the majority of academic work is now being done in online mode.

Lack of Public-Private Collaboration: These regional campuses were operated earlier to conduct physical classes and workshops for graduate-level students. There was no active mechanism for collaborating with the private sector and industry to develop demand-driven local courses and educational programmes. There is an active need for collaboration between the private sector and the regional campuses to enhance the utilisation rate of installed facilities.

Ideal Locations: These regional campuses are ideally located in each city mostly close to industrial hubs and commercial centres. The locations are connected through public transport networks and easily accessible by people from surrounding areas. The ideal locations are suitable for starting educational programmes and short courses for students from different sectors and industrial backgrounds.

Presence of Local Staff: Another positive aspect of the regional campuses is that each one has local staff for administrative and operational matters. There is a complete set-up for arranging local seminars, workshops, classes, examinations, and admission-related activities. Based on our proposed working models, we considered the active role of local staff in enhancing the utilisation of installed facilities and assets.

6. MARKET VALUATION OF BUILDING OF REGIONAL OFFICES/CAMPUSES

After the completion of the survey of the utility of existing assets at the regional offices, market-based valuations were conducted to estimate the present value of these assets. Once the market-based valuation was completed, the next step of developing alternate usage models for these assets was explored.

As Table 8 depicts, the market valuation of land was PKR 733 million for all these six regional campuses and the market price of buildings in these regional campuses was around PKR 1,325 million. Accordingly, our estimates show that the market price of all these six regional campuses' land and buildings was PKR 2,002 million.

Table 8: Market Valuation of Assets of Regional Campuses (PKR Million)

Regional Campuses	Total Area (Square Feet)	Market Price of Land (A)	Covered Area (Square Feet)	Cost of Construction	Market Value of Building* (B)	Total market value A+B
Peshawar	22,100	72	21,900	17.47	175.2	247
Mirpur	25,500	56	24,700	12.79	197	253
Faisalabad	69,103	203	29,800	29.44	238	441
Sukkur	43,560	96	23,500	202.33	255	351
Multan	76,230	196	32,600	92.24	260	400
Quetta	54,450	110	27,500	18.74	200	310
Total	290,943	733	160,000	373	1,325	2002

Source: Author's computations.

Table 9 shows the valuation of land on which the regional campuses of the AIOU are built. The valuation is based on the market price of the land per kanal.

Table 9: Land Valuation of Regional Campuses

City	Area (Kanal)	Market price Per Kanal (PKR Million)	Estimated Market Price (PKR Million)
Peshawar	4	18	72
Mirpur	4.5	12.5	56.25
Multan	14	14	196
Faisalabad	12.7	12	152.4
Sukkur	8	12	96
Quetta	10	11	110
Total	...	...	733

Source: Author's computations.

It must be noted that these estimates were based on the average price of land per kanal in the vicinity of the regional campuses. Moreover, these are minimum per-kanal price estimates.

7. SUGGESTIONS FOR ALTERNATE USAGE OF ASSETS AT REGIONAL CAMPUSES OF AIOU

To determine the possible optimum usage of these assets, we conducted interviews with the relevant officers at these regional offices, representatives of the chamber of commerce in the concerned city, heads of academic departments within the AIOU, and the senior management at the main campus of the AIOU for soliciting multiple options for optimally using these assets. Some responses were obtained through a questionnaire via email.

Regional Campus Peshawar

i. A detailed discussion was held with the Regional Director (RD) of the AIOU Peshawar Campus on the existing situation of the building along with the issues and opportunities.

ii. The RD highlighted that due to the shifting of workshops and tutorial meetings to online mode, most existing classrooms and halls in the building were underutilised and only admissions and exam-related activities were planned here.

iii. He also urged that the main campus should create skills-oriented courses that may facilitate the surrounding Hayatabad Industrial Area.

iv. A key point was that effective linkages should be developed with the private sector for internship opportunities, job placements, and commercial training.

v. The following courses and programmes may be started on the regional campus:

    a. Diplomas in import-export management, logistics, mineral development, etc.

    b. Diplomas in logistics management, IT, HRM, languages, etc.

    c. Short courses on e-commerce, office management, health care, etc.

    d. BS Program in English, accounting and finance, BBA, mathematics, etc.

    e. Short-training programmes in collaboration with SMEDA, and the KPK Government.

Along with the regional campus, a visit was made to the Sarhad Chamber of Commerce, Peshawar, KPK, to explore the possibility of building linkages with the Peshawar Regional Campus. The interviews conducted there are summarised here.

i. The officials at the Chamber highlighted the potential of the gem industry, border trade with Afghanistan, SMEs in Peshawar city, IT industry, etc.

ii. A key point raised by the officials at the Chamber of Commerce was the lack of trained professionals in import and export management as the majority of trade with Afghanistan is conducted through Peshawar.

iii. A representative of the SMEDA in the chamber's office also highlighted the issue of the lack of training facilities for the traders and businesses of Peshawar and urged that AIOU should develop coordination in this area.

iv. Another possible option was the creation of the Pakistan Product Display through AIOU's regional offices across the country for the promotion of indigenous products and services.

Regional Campus Mirpur

i. The Mirpur Campus RD briefed on the existing state of affairs of the assets within the building and stated that due to the shifting of workshops and tutorial meetings to online mode, the majority of existing classrooms and halls in the building were underutilised and only exam-related activities were conducted on the campus.

ii. She also urged that the AIOU main campus should create skills-oriented courses that may facilitate the surrounding industrial workers. These courses may be tailored as per the industrial and commercial needs of the AJK and Mirpur.

iii. A key point was that effective linkages should be developed with the private sector for internship opportunities, job placements, and commercial training. Since Mirpur has a high rate of labour migration to Europe, special courses could be started to train the youth to gain professional jobs in the international market.

iv. The RD informed that close collaboration among the regional campus, local industry, and the faculty members from the AIOU main campus could create an attractive set of diplomas, short courses, and training programmes.

    a. Language-related diploma programmes (TEFL, IELTS, etc.).

    b. BBA, BS Accounting & Finance, BS English, BS Computer Sciences

    c. Short courses on hospitality management, office management, health care, etc.

Along with the regional campus, a visit was made to the Mirpur Chamber of Commerce, AJK, Mirpur to explore the possibility of building linkages with the Mirpur Regional Campus. The interviews conducted are summarised below.

i. The Chamber of Commerce seeks to build a positive and constructive educational relationship with the AIOU Mirpur Campus. Since Mirpur is a small city with most of the SMEs working in the retail, tourism, pharmaceutical, and foam industries, there is a strong demand for trained manpower in these industries.

ii. The Chamber official highlighted the potential of the foam industry, tourism, SMEs, foreign travel, etc. in Mirpur.

iii. After the development of the dry port in Mirpur, there has been a strong demand for import-export professionals in both the goods and service industries.

iv. A representative of the Chamber also highlighted the issue of the lack of training facilities for the traders and businesses of Mirpur. In this regard, the AIOU regional campus can play a constructive role.

v. Another emerging area is the tourism sector in AJK which requires a trained workforce in the areas of tour guides, travelling, hospitality, logistics, food, accommodation, adventure sports, tourism marketing, etc.

Regional Campus Sukkur

i. A detailed response was provided by the RD for the AIOU Sukkur Campus on the existing situation of the facilities in the regional campus building by examining the capacity of classrooms, halls, offices, and the auditorium.

ii. The regional campus is ideally located close to the small and medium industry area along with some big names in nearby surroundings, such as Olper's, Continental Biscuits, Oxford Knitwear, Fauji Fertilizers, OGDCL, etc.

iii. The RD urged that the AIOU main campus should develop skills-oriented courses related to entrepreneurship, agri-business, e-commerce, logistics, healthcare, IT, etc. that may facilitate the surrounding industrial workforce. These courses may be customised as per the needs of Sukkur, Khairpur, Ghotki, Kashmore, and surrounding SMEs and agricultural businesses.

iv. The management of the regional campus also stressed that effective linkages should be developed with the private sector for internship opportunities, job placements, and commercial training. Since Sukkur is a predominately agricultural area, special courses should be started to train the youth in marketing agricultural products including rice, wheat, fruits, dates, etc.

v. The most desired courses to be offered at the regional Campus in Sukkur may include:

    a. Diploma in agri products marketing and sales

    b. Short courses on IT, logistics, office management, etc.

    c. BBA, BS English, BS Accounting and Finance

    d. Industrial training with the collaboration of the Sindh Government and SMEDA.

vi. A similar response was provided by the officials at the Sukkur Chamber of Commerce to explore the possibility of building links with the Sukkur Regional Campus.

vii. The chamber of commerce seeks to build a positive and constructive educational relationship with the AIOU Sukkur Campus as there exists a significant skills deficiency in the workforce of Sukkur and nearby areas.

viii. Two major industrial areas, SITE Sukkur and Special Economic Zone Khairpur, exist in the vicinity of Sukkur. The regional campus may play its role in the development of a skilled industrial workforce.

ix. They also highlighted the issue of the lack of industrial training facilities for the traders and businesses of Sukkur and the AIOU regional campus can play its role in this regard.

Regional Campus Faisalabad

i. A detailed response was provided by the RD of AIOU Faisalabad on the existing situation of the building and the capacity of classrooms, halls, offices, meeting rooms, labs, and the auditorium.

ii. The RD briefed that the digitalisation of tutor appointments, workshops, and other affairs had greatly reduced the student footprint in the regional campus building as most of the tasks are performed online.

iii. According to the RD, the Faisalabad Regional Campus was fully equipped in terms of resources, such as

classrooms, lecture halls, a computer lab, a meeting room, etc. for starting any academic programme with the collaboration of the main campus in Islamabad.

iv. He emphasised that since Faisalabad was an industrial city with the largest concentration of textile factories, the AIOU main campus could develop skills-oriented courses that may enhance the skills deficiency, especially in textile designing, marketing, exports, IT, e-commerce, agricultural products, etc.

v. A key point was that effective linkages should be developed with the private sector for internship opportunities, job placements, and commercial training. As Faisalabad is a major export hub of Pakistan, special courses related to import-export, logistics, marketing, and e-commerce may be started to train the youth for industrial jobs.

vi. The RD informed that close collaboration among the regional campus, local industry, and the faculty members from the AIOU main campus could accurately assess the needs for local courses and diplomas which could be developed to minimise the post-degree unemployment situation.

vii. The suitable academic programmes for the Faisalabad Regional Campus may include:

    a. Diploma in import and export management, e-commerce, logistics, etc.

    b. Short courses on textile designing, office management, health care, etc.

    c. BBA, BS English, BS Accounting and Finance, mathematics, etc.

    d. Commercial training with the collaboration of the textile industry and SMEDA.

viii. Similar responses were provided by the officials at the Faisalabad Chamber of Commerce and Industries to explore the possibility of building linkages with the Faisalabad Regional Campus.

ix. The Chamber of Commerce seeks to build a positive and constructive educational relationship with the AIOU Faisalabad Campus. As Faisalabad is the textile hub that plays a major role in the textile exports of USD 20 billion, there exists a greater need for launching export, marketing, logistics and designing-related courses.

x. The officials also liked the idea of collaborating with the AIOU regional campus to conduct short training, courses and workshops for export-related certifications and standardisations.

xi. Along with that, agriculture-related SMEs also exist in the surroundings of Faisalabad and special courses on product development, marketing, exports, logistics, etc. may be developed and conducted in the regional campus building.

xii. Another possible area is the provision of extra space for small-scale IT entrepreneurs for short courses against a predefined fee for enhancing building utilisation.

Regional Campus Quetta

i. A constructive response was provided by the RD of the AIOU Quetta Campus on the facilities available in the building of the regional campus. The facilities include classrooms, halls, offices, a computer lab, a meeting room, and an auditorium.

ii. The RD briefed on the impact of the digitalisation of workshops and the creation of sufficient space for accommodating industrial training, short courses, and other academic programmes to efficiently utilise

the resources at the regional campus.

iii. He stressed that since Quetta was the largest city in Balochistan, there existed an abundance of opportunities for introducing job-specific short courses, diplomas, and academic degrees for enhancing the skills of the local population.

iv. There was a consensus on building effective linkages with the private sector for internship opportunities, job placements, and commercial training. Since Quetta is a huge trade hub for import to and export from Afghanistan and Iran, the courses related to international trade, exports, logistics, safety management, etc. may help the local trading community.

v. Since a key factor in Balochistan is the low level of literacy among the public, the technical courses may be created in the local language or Urdu for easy understanding and course fees should be affordable for a wider large section of the community.

vi. The ideal courses to be started at the Quetta Regional Campus Quetta could be:

   a. Diploma in logistics, import and export, office management, health care, etc.

   b. Short courses in the local language or Urdu on mineral development, agri-products, etc.

   c. BS English, BBA, BS Accounting and Finance, and BS Computer Sciences

vii. vii. Another response was received from the Quetta Chamber of Commerce for building a close relationship with the AIOU regional campus for industrial and commercial training.

viii. The Chamber officials highlighted the potential for trained manpower to develop and market the traditional products of Balochistan, i.e., shawls, shoes, clothes, fruits, dates, etc.

ix. Similarly, there exists a lot of potential in the development of trained manpower for managing import and export businesses in Quetta as Afghanistan and Iran are in proximity.

x. In the same way, Balochistan lacks trained manpower for exploring minerals and metals as the province has abundant natural resources. The regional campus AIOU may play its role in arranging specific courses and programmes in this regard.

Regional Campus Multan

i. The regional campus Multan is the largest regional campus of the AIOU in terms of facilities, classrooms, lecture halls, offices, meeting rooms, computer labs, hostel and other facilities.

ii. There exists an enormous potential for developing job-specific courses and industry-oriented academic programmes for enhancing the utilisation of resources at the regional campus.

iii. Multan is the largest city in Southern Punjab and a significant industry has developed around the city, especially in rice processing, flour mills, fruit packing, textiles, pharmaceuticals, etc.

iv. The buildings at the regional campus Multan are equipped with all the necessary facilities to offer academic programmes and short courses for the industrial and commercial workforce.

v. In a public-private partnership model or through any other mechanism, a close collaboration among the regional campus, local industry, and the faculty members from the AIOU main campus can create a

suitable set of diplomas, short courses, and training programmes.

vi. The most suitable academic programmes for the Multan Regional Campus are:

   a. BBA, BS English, BS Computer Science, BS Accounting and Finance, BS Economics, BS Chemistry, etc.

   b. Diploma programmes in logistics management, import and export, e-commerce, logistics, hospitality management, etc.

   c. Short courses on office management, IT, business laws, marketing, health care, product design, etc.

   d. Commercial training with the collaboration of SMEDA and the Government of Punjab.

vii. The response received from the Multan Chamber of Commerce & Industries was also positive as they seek to build a constructive educational relationship with the AIOU Multan Campus.

viii. The chamber highlighted the skills deficiency in the growing population and stressed the need for launching job-specific courses to generate maximum employment.

ix. There is an acute shortage of healthcare workers, agri-business workers, IT workers, logistics professionals, and real estate-related experts.

x. A special request was made by the Chamber officials to offer space for conducting training and offer courses on certification and standardisations that would be beneficial for the local industry.

Box 1 A Comparative Analysis of Open Universities in Other Developing Countries

National Open University of Nigeria: The National Open University of Nigeria (NOUN) was established in 1983 and was the first of its kind in West Africa. This university was mandated to launch educational programmes in the ODL mode across the country. The NOUN has also developed e-courseware, audio/video support, and e-classrooms for students. The course material and assignments are developed to help students easily facilitate self-learning. The university is adopting digital methods to enhance the quality of courses and access to remote areas.

Indra Gandhi National Open University: The Indra Gandhi National Open University (IGNOU) was established in 1985 and presently has almost 7.1 million students making it the largest university in the world. The IGNOU has developed market-oriented courses and continues to provide ODL courses across India. The IGNOU has developed an online learning portal and has also developed a network of 67 study centres across India. The IGNOU has started its decentralisation process by dividing the operations into five major regions of India for efficient management. At present, India has almost 17 open universities offering courses and programmes to a wide set of population.

Anadolu University Turkey: Anadolu University Turkey was granted the status of a national ODL-providing university in 1982. The Anadolu University has developed faculties in arts, sciences, business, and humanities and offers courses across Turkey and the Turkish-speaking diaspora. The university was created with a mandate to provide access to students in rural areas to enable them to study the latest courses. The Anadolu University has also adopted digitalisation methods to enhance access to courses and programmes across Turkey.

8. WORKING MODELS FOR ALTERNATE USAGE OF REGIONAL CAMPUSES

Based on the field visits to the regional centres of the AIOU and the discussions with the staff, management, and other stakeholders, we developed the following proposals for the optimal use of the spare capacity of the regional campuses.

Campus-Based Model

This model is based on the assumption that AIOU decentralises its academic activities to the regional centres for starting the academic activities based on local demand for different certificates, diplomas, and degrees. For this purpose, each regional campus may start BS-level programmes and PGD diplomas to meet the needs of the local economy and industry. Such academic programmes may conduct evening or weekend classes within the ODL framework of learning. Another possibility is to start face-to-face classes of BS-level programmes in science subjects. However, it will require the development of labs and approval from the HEC.

Table 10: Estimated Revenues from Campus-Based Model

City	Programmes	Estimated Enrolment	Fees Per Semester (PKR)	Total Revenues (PKR Million)
Peshawar	5	1,000	24,000	24
Mirpur	5	1,000	30,000	30
Multan	8	1,600	32,000	51.2
Faisalabad	7	1,400	31,000	43.4
Sukkur	5	1,000	25,000	25
Quetta	6	1,200	22,000	26.4
Total				200

Source: Author's computations.

As Table 10 shows, the starting of academic programs in the regional campuses may generate PKR 200 million per semester. The estimations are based on starting a very limited number of BS-level programs with an affordable fee structure. These programmes may help the regional campuses to utilise their spare space for conducting classes. This model requires decentralisation of admissions, examination, teaching, and student support at the regional level for the smooth flow of academic activities. However, the necessary academic support from the main campus may be sought for books, teaching methodology, course assignments, and final examinations.

Assumptions of the Campus-Based Model

i. The educational programmes and courses to be offered at the regional campuses are approved by the AIOU academic bodies.

ii. There are active marketing efforts from the staff at the regional campus for enrolment in the educational programs and courses.

Rental Model

This model sought to estimate the rental income from the spare capacity of various facilities developed within the regional campus. Within the framework of the public-private partnership (PPP), the rental model assumed that qualified private sector entities may use the extra capacity of the regional campus for their academic activities. For rental income purposes, private schools, colleges, and sub-campuses of major universities may be invited to use the spare capacity of the regional campus against a fair market rent.

Table 11: Estimated Revenues from Rental Model

Regional Campus	Area (Kanal)	Market Rent Per Kanal (PKR)	Estimated Rent (PKR Million)
Peshawar	4	120,000	5.76
Mirpur	4.5	50,000	2.7
Multan	10	110000	13.2
Faisalabad	12.7	85,000	12.95
Sukkur	8	80,000	7.68
Quetta	10	65,000	7.8
Total			50.09

Source: Author's computations.

According to the estimates based on the rental-based model, the potential revenue is PKR 50 million. The rental model assumed that the spare capacity of a regional campus may be utilised for rental purposes with a third party. For this purpose, private schools, colleges, or sub-campuses of local universities may be contacted to utilise the building optimally on market-based rent. As these regional campuses are constructed to work as educational institutes, the ideal rental partners can be the educational bodies. However, the option of working as a sub-campus of a professional body or as a training centre of a private firm may also be considered.

Assumptions of Rental Model

i. The process of renting the building is completed fairly and transparently.

ii. The revenues from the rental model are reported and shared with the main campus.

iii. Fixed costs remain the same and variable costs (utilities, etc.) are covered by the rent received.

Pay-As-You-Go (PAYG) Model

Another possibility is to develop a pay-as-you-go pricing model which charges a specific fee for utilising a particular service on the regional campuses. This model requires attaching pricing tags to different facilities (classrooms, lecture halls, e-classrooms, libraries, auditoria, computer labs, offices, etc.) available on the regional campuses. The users may utilise the facility against specified charges. This model can be suitable for, for example, guest lectures, conducting entry tests, training workshops, computer-based courses, and performing arts.

Table 12: Estimated Revenues from the PAYG Model

	Classroom	Lecture Hall	Auditorium	Computer Lab	Meeting Room	Seminar Room	Total
Rate per Hour (PKR)	3,000	5,000	10,000	6,000	5,000	8,000	...
Peshawar (PKR Million)	12.96	7.2	2.52	2.16	5.4	0.48	30.72
Mirpur (PKR Million)	12.96	7.2	1.44	1.51	3.6	0.576	27.29
Multan (PKR Million)	10.08	10.8	2.88	1.3	5.4	0.96	31.42
Faisalabad (PKR Million)	5.76	10.8	2.16	1.08	5.4	0.864	26.06
Sukkur (PKR Million)	8.64	7.2	1.8	0.86	5.4	0.48	24.38
Quetta (PKR Million)	10.8	0.6	1.44	1.3	3.24	0.48	17.86
Total (PKR Million)	61.2	43.8	12.24	8.208	28.44	3.84	186.17

Source: Author's computations.

This model attached the monetary value to the different sub-parts of the buildings at the regional campuses for their usage by the public or institutions. We developed these estimates based on an average usage of 20 days for classes and 4–6 days for lecture halls, auditoriums/seminar rooms/labs in a month for a prespecified fee. This model assumes that the ownership and control of the building will rest with the local administration of the AIOU and proposes a flexible model based on the usage of different resources in the building. However, this model requires active management on the part of the team of the regional campus and responsive staff to respond timely to the requests for booking of these facilities by the private sector.

Assumptions of PAYG Model

i. The supportive staff of AIOU collaborates actively with the private sector for the booking of available facilities.

ii. The usage of spare capacity by the private sector does not involve extra costs except for routine operational costs.

iii. There is a clear pricing system for accessing facilities at the regional campus for the private sector.

Box 2 Emerging Trends in Open and Distance Learning

Rise of Online Learning Platforms: Many online learning platforms like Coursera, Udemy, edX, Skillshare, Masterclass, Khan Academy, and Future Learn have emerged in the last ten years offering courses in different fields such as business, social sciences, computer sciences, art, and humanities. Some of these online learning platforms have enrolments exceeding 100,000 in a single course. These online portals offer some courses for free but charge a fee for other courses. For this purpose, these online learning portals have developed partnerships with leading universities of the world and teachers are hired to conduct the course in the online mode. The prerecorded lectures are shared with students on a daily or weekly basis along with the study material. The assessment is made through MCQs and short questions, based on which certificates are awarded.

Online Learning Branches of Traditional Universities: Many universities have started to develop their online branches to offer online courses worldwide. Some high-ranking American universities, like

Harvard, MIT, and Stanford, have developed an online presence by offering courses in many subjects. These courses are offered to worldwide audiences with fees starting from USD 20. Prerecorded lectures are shared with the students through a dedicated portal along with learning materials and online discussion forums. The assessment is usually made through MCQs or short questions. These online branches of traditional universities are attempting to market their unique courses and learning pedagogy online.

Government-Backed Digital Learning Portals: Different countries and organisations have developed online learning portals for people of all ages. Some examples of these portals include CampusIL of Israel, NPTEL of India, Learning Passport of Zambia, and iEN of Saudi Arabia. These digital portals offer market-driven courses in science, technology, business and humanities to a vast section of the population through the integration of audio/video lectures, study materials, and assessment components. Both public and private sector bodies are developing MOOCs (Massive Open Online Courses) to educate the general public on health, sciences, IT, business, social sciences, and arts to develop their employable skills.

Table 13 presents a consolidated view of the revenues that can be generated from the three models discussed above. As every model has its advantages and disadvantages, the higher management of the AIOU should select the revenue generation model based on its legal framework, relevance to the community at the regional campus level, and appropriate training to the staff members for efficiently using the facilities in the regional campus. Another useful aspect that needs to be considered is that collaboration with the private sector at the regional level is required for successfully executing the revenue generation model.

Table 13: Estimated Revenues Based on the Three Models (PKR Million)

RC	Campus Model	Rental Model	PAYG Model
Peshawar	24.00	5.76	30.72
Mirpur	30.00	2.70	27.29
Multan	51.20	13.20	31.42
Faisalabad	43.40	12.95	26.06
Sukkur	25.00	7.68	24.38
Quetta	26.40	7.80	17.86
Total	200.00	50.09	186.17

Source: Author's computations.

9. CHALLENGES FOR IMPLEMENTATION OF WORKING MODELS

Different challenges at the time of implementation for each proposed working model. A potential list of challenges is given below with the proposed solutions that might make it easier to implement the models as discussed above.

Legal Aspects

The most important aspect for a public sector entity is to comply with the legal framework within which it is

mandated to perform its functions. Subsection 4 of Section 3 of the AIOU Act 1974 states that:

"The University shall be competent to acquire and hold property, both movable and immovable, and to lease, sell or otherwise transfer any movable and immovable property which may have become vested in or been acquired by it." (GOP, 1974).

Since this subsection grants powers to the AIOU for acquiring, leasing, and selling properties, it is safe to assume the working of the rental model and PAYG model for efficiently utilising the university resources within the existing legal framework. To decide on the functional use of the university properties, the AIOU Act 1974 has entrusted these powers to the university authorities vide Section 4, Clause (v):

"To receive and manage property transferred and grants, bequests, trusts, gifts, donations, endowments and other contributions made to the University and to invest any fund representing such property, grants, bequests, trusts, gifts, donations, endowments or contributions and to convert one kind of property into another, in such manner at it may deem fit."

Thus, the clause grants the right to the university authorities to decide the appropriate use of the university properties. This right may be exercised through a decision by the Executive Council of the AIOU which is empowered by the AIOU Act 1974 to make such decisions. Section 19, Subsection 2 and Clause (h) of the AIOU grants powers to the Executive Council for such property-related decisions:

"To receive and manage any property transferred and grants, bequests, trusts, gifts, donations, endowments and other contributions made to the University, and to administer any funds placed at the disposal of the University for specified purposes."

Here again, the law empowers the Executive Council of the AIOU to manage the property in the best possible manner for a specified purpose. Therefore, it is safe to assume that the AIOU Act 1974 does not explicitly ban the change in the operational use of the AIOU regional campuses as all three models of alternate usage conform with the overall educational purposes.

Operational Restructuring

Another requirement for effectively applying the campus-based model or PAYG model is to make some operational changes in the working of the regional campuses. At present, these regional campuses have only administration-related staff without any faculty members. To effectively conduct classes, faculty members can be hired on a contract or visiting basis and the conduct of classes may be made with the collaboration of local faculty and staff. Along with that, a dynamic reception desk for dealing with students and private sector organisations is necessary for efficiently responding to their requests. Similarly, the method to deposit fees and other charges in local banks or through online mode may be specified. Lastly, the regional campus may be empowered to make decisions in administration and financial matters to effectively manage the operational aspects.

Human Resource Development

The success of any operational plan depends on the quality of staff implementing it. The proposed working models require the training of existing staff to understand the changes and development of professional behaviour and attitudes among them. A shift from the traditional public sector model to the vibrant models discussed above will require a complete change in the working attitude and behaviour of the regional campus staff. The staff may be trained in offering educational programmes, dealing with private sector clients, students queries, classroom management, responsive feedback system, and software and related IT aspects. This training may be of short duration (3 to 4 weeks) and may be conducted in the concerned regional campus. The objective

of this training should be to create awareness among employees of expected changes in the working model of the regional campuses. Along with that, speakers from the private sector may be hired to guide the staff in adopting the necessary work attitude towards new operational models.

Marketing Plan

To efficiently use the available resources and generate maximum revenues, a dynamic marketing plan is necessary for every organisation. Likewise, the efficient use of the resources at the regional campuses of the AIOU requires a strong marketing plan for communicating the offering of different courses and available space at the regional campus to the relevant stakeholders. Especially, in the case of the PAYG model, the availability of resources within the regional campus and offering them to the entrepreneurs, educational institutes, businesses, NGOs, and other bodies require a dedicated marketing manager for attracting the potential clients for utilising the available resources. A good marketing manager needs to be hired for each regional campus who should seek collaboration with the major private sector bodies in the concerned area, NGOs, private educational institutes, SMEDA, chambers of commerce, and religious organisations among others for offering mutually beneficial educational programmes and short training.

10. PUBLIC POLICY RELEVANCE

This research study seeks to provide a framework for determining the capacity utilisation of public sector assets, valuation of public sector assets, and developing a viable financial model for the alternate use of the existing physical capital. Specifically, this case study aimed to develop models to determine the market value of the physical assets of a public sector higher educational institute and explore the profitable opportunities that exist in the localised environment by deploying these physical assets. Based on the field visits and discussions with the relevant authorities, this study proposes alternate uses of the existing assets that can be developed as per the regional socioeconomic outlook of a given area. The key objective of this study was to provide a set of recommendations to the higher education institutes to generate higher revenues and minimise costs by utilising the existing assets/infrastructure.

Based on the above discussion, we can draw the following lessons for public policy.

Centralised Record of Spare Capacity

The basic policy lesson that emerges from this study is to develop a centralised record of spare capacity or capacity utilisation rate in each public sector entity. This record will enable the policymakers to understand the available space and concerned facilities for future planning. In the case of educational institutes, capacity utilisation of the physical infrastructure can be enhanced by developing flexible timetables for classes and resource sharing for multiple groups. There should be a complete readily available record of the utilisation rate of classrooms, computer labs, playgrounds, labs, seminar rooms, auditoriums, offices, and other facilities.

Monetisation Plans for Buildings

The second important policy recommendation is the development of a monetisation plan for each building owned by the public sector entities. The monetisation plan will attach market-based price tags to each facility installed within the building, i.e., classrooms, computer labs, seminar rooms, offices, and other spaces. This monetisation of resources will help the public sector organisations to offer their spare spaces to the private sector bodies and entrepreneurs for their tasks. The development of this monetisation plan should be a careful exercise involving representatives from both public and private sector bodies for setting mutually agreed upon rates and

schedules. This will enable the private sector to utilise the extra space available in the public sector buildings and save costs on developing their brick-and-mortar structures.

Management of Physical Infrastructure

The real issue is the management of the physical infrastructure of the existing educational institutes in Pakistan. There is an abundance of buildings for government schools and colleges in Pakistan and we need to develop a policy for optimising their usage. At present, the management of physical infrastructure is skewed towards only government users. There is a lot of potential for offering these extra spaces to the private sector, especially in the case of education where a lot of entrepreneurial talent is emerging that lacks resources to access large-sized classrooms and lecture halls. A separate Assets Management Unit (AMU) should be established in every city that should manage access to these physical assets to both the public and private sectors at market rates.

Development of Supportive Legal Framework

The existing legal framework for the use of physical assets of public sector bodies is heavily biased towards public sector organisations. Existing laws and regulations are designed for singular use by the government bodies and no regulatory provisions exist for alternate usage of physical assets. The legal framework should be revised and it should accommodate players from the private sector for accessing and using the buildings and other physical assets of the public sector bodies. This will require dynamic support from the government sector and the provision of an enabling environment in the form of creating a flexible pricing plan and responsive booking procedures for physical assets installed in the government bodies.

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UNLOCKING PAKISTAN RAILWAYS' DEAD CAPITAL

Azwar Muhammad Aslam

ABSTRACT

Pakistan Railways (PR) has landholdings throughout the major cities in the country at the most lucrative spots. The study tried to present PR landholdings according to different classifications and uses. Most of these land holdings with enormous revenue potential via commercialisation are being grossly underutilised constituting dead capital. This study looked into the legal structure that governs PR, more specifically, its land holdings to identify the impediments in the utilisation of the railway land for commercial use. The analysis was carried out by reviewing, ordinances, and statutory regulatory orders (S.R.O.s). The analysis was complemented with insights from relevant case law analysis, including judgments of the Supreme Court and high courts of Pakistan on land, enriched with insights from key stakeholders. The study identifies, non-provision of commercialisation in acts and ordinances, frequent changes in statutes related to commercialisation, title disputes between the federal and provincial governments, rules for disposal and implications of the provisions of land acquisition acts to be significant hurdles causing gross underutilisation of the PR land. Lastly, the study presented comprehensive evidence on the redevelopment of railways from around the globe, specifically of stations, to identify the arrangements that led to their successful completion.

1. INTRODUCTION

State-owned entities are developed with a vision to provide necessary services with an objective of society-wide inclusion in a manner that is appreciative of resource efficiency. As a society evolves, so do its needs, and to cater to those needs these entities must also evolve accordingly to keep a balance between the cost incurred and the benefit provided. These entities, normally, are substantial in size and over time become resistant to change for various reasons which makes them either under-perform or be under-utilised or both. As a result, they tend to quickly become a burden on the taxpayer, hampering overall growth.

Within the landscape of state-owned assets in Pakistan, the Pakistan Railways (PR) stands out owing to its substantial landholdings that are scattered across the country. Despite having considerable potential, these landholdings suffer from gross underutilisation, resulting in significant financial losses. DeSoto (2000) terms such unproductive assets as 'dead capital', i.e., those assets from which the state is unable to extract sufficient benefit as the intrinsic value and opportunity of such assets are high compared to their utilisation. The debate at the heart of this argument revolves around the peculiar nature of these assets which hinders their convertibility into other forms of more usable capital. Thus, most of these assets are seen from the perspective of their physical attributes rather than the potential they hold in terms of their value addition in the economic process. Haque (2015) and (2021) argues that the state-owned land in Pakistan fits the definition of 'dead capital' carrying sizable potential which, if tapped into, can provide substantial gains for the economy, providing opportunities for innovation, entrepreneurship, and community.

Even though the status of landholdings of the PR has been defined to a certain extent in its governing laws along with the context in which it can be used, this has not evolved to cater for the needs and opportunities that this land presents as property. Also, most of the constructed and unconstructed portions of the properties have not become a source of revenue for PR because most of them are lying idle, not fit for use and have not been upgraded for ages. For this inability to generate any revenues from its properties and inadequate revenues from its legacy functions, i.e., commuters and freight, PR is already in a dismal state. This makes PR a perfect case of dead capital and unlocking that dead capital through effective commercial utilisation will provide much-needed financial support and economic activity.

Most of the railway's infrastructure and its governing laws in Pakistan have been inherited from the British Empire. Surprisingly, seven decades after independence, much of that infrastructure and laws still stand without little to no upgrades except for a minor administrative amendment. British constructed most railway stations strategically within the cities to serve military and commercial purposes for which a substantial amount of land was used. As cities have expanded over time due to growing population, these vast spaces around railway stations present an opportunity for investment in various ways adding to those for which they were initially built.

The study aims to achieve the following objectives, first is the identification of the PR land in the major cities, second is finding out legal impediments to the commercialization of railway land. Lastly study presents literature review of redevelopment along with a test case of an alternative use through a case study on a parcel of railway land. The study is organized as follow Section two provides an overview of the railway land acquisition, followed by PR land statistics. Section three provides the literature review on redevelopment in the context of railways. Section four presents the case studies on dead capital and section five provide a comprehensive analysis of law and ordinances complemented by case law and key informant interview analysis.

2. RAILWAYS & LAND

In 1849, the British Empire authorised the building of railways after about a decade of promotional activities. The first short track materialised just after five years in 1853. For the next five decades, the Government of India built a railway network that spread over the route of 24,000 miles along with many stations, mainly either for security[1] or as symbols of power and pride[2] (Kerr, 2003). By 1908, Indian Railways had become the single largest investment project of the British Empire which was about 80 percent of their total industrial investment (Sweeney, 2009) and the fourth biggest railways network in the world (Bogart & Chaudhary, 2013).

The decision to build a railway network in the subcontinent was embedded in the political, security, and economic concerns of the British Empire that were strongly argued by Dalhousie (Thorner, 1951). Given the sheer land mass of the subcontinent, building a project meant connecting all major markets and economically viable destinations, serving the political interests of the empire and keeping the threats at its border manageable (Satya, 2008).

The construction of railways in British India can be divided into four phases (Thorner, 1951). In the initial phase that lasted about twenty years from 1849-69, the biggest challenge was to attract investment that was big enough to finance a project of this scale, the era of a guaranteed–interest system. The British Empire encouraged the public to invest in the stocks of private railway construction companies by promising them a 5 percent guaranteed return on their investments (Bogart & Chaudhary, 2012). This meant that all the profits of the railway companies would go back to the shareholders but all losses were to be borne by the taxpayers. That was a classic case of private investment at public risk (Satya, 2008).

In the second phase, which lasted for ten years from 1870 to 1880, the government also started to construct and operate side by side with the private railway operators. The third phase of the railway construction, which stretched from 1880 to 1924, brought about big changes in terms of how the railway was envisioned to operate in the subcontinent. The British Empire modified the guarantee percentage from 5 percent down to 4 percent (Thorner, 1951), bought out all but 20 percent of the shareholders of the private railway companies and became the owner of the largest stake in the railway in the subcontinent. This happened primarily because of the poor performance of the private railway companies. The fourth phase started around 1924, with the complete buyout of the East India Railway and complete state ownership and management. Post-partition, this policy of state management stayed in India as well as Pakistan.

The investment needed to build railways in the subcontinent was massive but so was the amount of land that was required to build it on. While guaranteeing dividends on shareholding in private companies was debated, there was an understanding on the part of the government that they had to be the provider of land for the construction of railways because it was argued to be in the favour of the government without being a financial burden (Bogart & Chaudhary, 2013; Sarkar 2010).

The availability of land and its possession with the private railway companies was the prerequisite for starting railway construction. As the government had to provide land, it soon realised that the Land Acquisition Act (1824) Regulation-I did not provide enough support for the acquisition of land by the government for this purpose because railway construction was not designated as the 'public works' (Shankar, 2018) and the acquired land could not be transferred to private railways for construction (Sarkar, 2010). The government could still acquire the land but the terms of acquisition could be challenged. Subsequent changes in the Land Acquisition Act (1824) allowed for the government to not only take possession of the land but also to value it and do both of them

[1] Lahore Railway Station was built in 1862 in a fortified style with security concerns in mind after the mutiny of 1857.

[2] Bombay Victoria Terminus was constructed in 1887 in a very luxurious fashion that was to serve as the symbol of class, power, and pride of the British rule.

separately. This enabled the government to acquire land for railway construction quickly and transfer it to private railway companies. By the 1870s, the government was given unrestrained powers to acquire land and only its valuation aspect could be contested.

As for the acquisition of land, railways officers were not authorised to acquire land for construction purposes rather the revenue officials (Mukerji & Sharma, 1990). Railway engineers classified their land plans separately for permanent and temporary land as temporary land was to be handed back to the revenue authority after use. The revenue authority, however, classified land into four distinct categories (Sarkar, 2010):

- Category A – to be used for permanent structures such as railway lines, stations, bridges etc.
- Category B – to be used for the execution of works e.g., ancillary structures.
- Category C – to be used for the preparation of materials such as bricks or storing materials
- Category D - to be used for roads and workshops away from the railway station but leading to it.

In return for the provision of land free of cost to the private railway companies (Mukherjee, 1966), the government reserved the right to buy back these companies and their assets after the end of either twenty-five or fifty years. After the construction of railways, the government always exercised this right mainly due to the poor performance of the private companies and by 1908 owned the largest share in railways in the subcontinent. The mode in which these companies were overtaken was that they were paid equal to the accumulated capital they had invested in constructing their part of the railways.

Railway Land Statistics

Pakistan Railways (PR) owns 169,128 acres of land across Pakistan, out of which half is situated in Punjab, while the rest of it is in Sindh, Balochistan, and Khyber Pakhtunkhwa (KP). A percentage-wise distribution of the PR land in provinces is presented in Table 1.

Table 1 PR Land Holding Across Provinces

Punjab	**49.30%**
Sindh	27.10%
Balochistan	14.00%
Khyber Pakhtunkhwa	9.70%
Total	**100.00%**

Source: GOP (2021).

PR landholdings are, primarily, designated for 'operational use[3]', which exists by design as reflected by PR's business strategy. Lands held for operational purposes, such as railway tracks, stations, etc. make up around 80 percent of PR's total land mass and are the backbone of PR's core business of transporting passengers and goods it has been earning approximately 90 percent of its total income for the past few years. The rest of the 20 percent of landholding is tied to PR's income from its non-core business, e.g., land leases, rent for hire, stalls, manufacturing, etc.

[3] The land that is held for operational use includes land for right of way, and land required for the core operations of Pakistan Railways.

Table 2 PR Revenue from Business (Rs in Billion)

Description	2019-20	2020-21	2021-22
Core Business	43.7	44.3	54.981
Non-Core Business	3.89	4.37	5.111

Sources: GOP (2020 & 2022).

PR's revenue from its non-core business has been rising steadily. However, the land held for non-operational uses, which is further employed to raise structures to facilitate operations and for other minor uses, such as agriculture, stacking, parking etc., holds substantial revenue potential for PR but has not been prioritised for revenue generation. Big portions of this land are situated in and near the city centres in districts all over Pakistan with significant economic potential. To paint a clear picture of the PR land holdings and its revenue potential, the study presents statistics on land classified by use and possession at the Pakistan, Rawalpindi Division, Rawalpindi District, Sargodha District, and Jhelum District levels.

As mentioned earlier, approximately 80 percent of the PR land mass is used for operational purposes, which is 136,431 acres across Pakistan, and roughly 7 percent of the land is classified as built-up in land use. Approximately 10 percent of PR's total landholding is situated in the Rawalpindi Division, which is one of the largest in Punjab in terms of area. Nine percent of this area is held for non-operational purposes classified by use as shown in Table 3 below.

Table 3 PR land Use Classification (values in Acres)

	Operational	Built-up	Agriculture	Other		
				Stacking	Parking	Misc
Pakistan	136,431	11,513	16,862	144	34	3,722
Rawalpindi Division	14,610	771	673	13	4	406

Source: Based on data provided by Pakistan Railways, Rawalpindi Division.

The true picture of this land held for the purposes classified as built-up, agriculture, stacking, parking, or miscellaneous in terms of its ability to generate revenues for PR is revealed when looked at it in the context of possession of this land. Looking at PR's land classification with respect to possession is also important from the context of redevelopment. PR owns 83.3 percent of its land across Pakistan out of which approximately 80.7 percent is for operational use and 2.6 percent for official buildings. PR land that is encroached upon out of the total is 5.9 percent (9,985 acres) and almost 6.4 percent is leased across Pakistan indicating the extent of underutilisation and forgone revenues due to encroachments. A significant portion of PR land, i.e., 4.1 percent across Pakistan is in the possession of other government departments. Our analysis revealed that even though PR owns 90 percent of its land in the Rawalpindi Division. A substantial 10 percent of it is either leased out at suboptimal rates or taken over by other government departments, encroached upon or held by katchi abadis. Statistics show that 12 percent of non-operational land in the Rawalpindi Division is currently encroached upon resulting in continued revenue loss. Moreover, approximately one-fourth of the total non-operational land is in the possession of various government departments at the national, divisional, and district levels. Only one-third of this land overall and one-half in the Rawalpindi Division is leased out to private parties. Details are given in Table 4 below.

Table 4 PR Land Holdings by Possession (values in Acres)

	Pakistan	Rawalpindi Division
a. Operational	136,431	14,610
b. Official Buildings	4,446	416
Railways (a+b)	140,877	15,026
Lease	10,750	857
Encroachment	9,985	180
Other Gov. Dep	6,954	405
Katchi Abadi	562	9
Total PR Land	**169,128**	**16,477**

Source: Based on data provided by Pakistan Railways, Rawalpindi Division.

In the context of its revenue-generating capabilities, the discussion on the classification of PR land for its use and possession largely revolves around leased and encroached areas. A close inspection of the distribution of PR land between leased and encroached land according to use is presented in Table 5 below. Data suggests that agriculture remains the biggest attraction for land leased by PR and also for encroachment with about 55 percent of the total encroached land falling in the agriculture category. There is much less leasing for commercial and residential uses. However, encroachment of PR's residential and commercial property remains alarmingly high. In the Rawalpindi Division, PR leasing follows the same pattern as at the national level, i.e., there is much more encroachment of the residential property compared to agriculture or commercial properties.

Table 5 Lease and Encroachment by Type

PR Land Under Lease & Encroachment			*Values in Acres*	
	Pakistan		Rawalpindi Division	
	Leased	Encroached	Leased	Encroached
Agriculture	9279	5526	659	13
Residential	955	3310	114	93
Commercial	233	770	52	56
Other	283	379	32	17
Total	**10750**	**9985**	**857**	**179**

Source: Based on data provided by Pakistan Railways, Rawalpindi Division.

For a deeper look at the land statistics, the study also looked at the data at the individual district levels to see whether PR's land classification patterns hold or not. District-level data on landholdings provide a more detailed picture of its use classification where operational purposes remain the primary and the largest use of PR land. In non-operational uses, Rawalpindi District has a comparatively higher ratio of built-up structures whereas Sargodha has a higher ratio of agriculture-related activities. The data is presented in Table 5 below:

Table 6 PR land Use in Districts (values in Acres)

	Operational	**Built-up**	**Agriculture**	**Other**		
				Stacking	Parking	Misc.
Rawalpindi District	2026	387	208	0.15	1.5	205
Sargodha District	2914	25	142	0.5	0.3	47
Jhelum District	4343	67	29	10	0.1	74

Source: Based on data provided by Pakistan Railways, Rawalpindi Division.

Data shows that out of the total PR land in Rawalpindi District, about one-fifth is held for non-operational purposes. Out of this non-operational land, 60 percent of it is leased, while approximately 14 percent of it is encroached. A significant portion of that land has also been occupied by other government departments. In comparison to the Rawalpindi District, Sargodha and Jhelum Districts hold much less land for non-operational uses but they do follow the pattern where much of that land is either leased or is occupied by other government departments, while a portion of it is encroached. This pattern becomes the basis of the argument that PR has not been able to effectively manage its land assets to the fullest to earn maximum revenues. A detailed classification of land holding by possession is given in the following table.

Table 7 PR Landholdings by Possession in Districts

PR Land Classification by Possession			*Values in Acres*
	Rawalpindi District	Sargodha District	Jhelum District
a. Operational	2026	2914	4343
b. Official Buildings	256	23	47
Railways (a+b)	2282	2937	4390
Lease	333	146	58
Encroachment	77	2	12
Other Gov. Dep	131	44	59
Katchi Abadi	5	0	4
Total PR Land	**2828**	**3129**	**4523**

Source: Based on data provided by Pakistan Railways, Rawalpindi Division.

The study further looked at the non-operational PR land in terms of possession, i.e., leased and encroached, and found some interesting patterns. Lease for agriculture remains the main use for non-operational land in Rawalpindi, Sargodha, and Jhelum Districts. However, there is an alarmingly high percentage of encroachment on non-operational land in the Rawalpindi District compared to the Sargodha and Jhelum districts. Most of that encroachment is concentrated on residential land and some on commercial land as shown in Table 8 below.

Table 8 PR Leases and Encroachments in Districts (Values in Acres)

	Rawalpindi District		**Sargodha District**		**Jhelum District**	
	Leased	Encroached	Leased	Encroached	Leased	Encroached
Agriculture	205	1.03	143	0	29	0
Residential	114	61.92	0	0.58	0	8.7
Commercial	12	9.27	2.3	0.03	16	2.6
Other	2	4.81	0.8	0.9	12.5	1
Total	**333**	**77**	**146**	**1.5**	**58**	**12**

Source: Based on data provided by Pakistan Railways, Rawalpindi Division.

Overall, the data from selected districts and the Rawalpindi Division suggests that the management of non-operational land is not a priority for PR even though it is about 10 percent of the total PR land and has a potential for a substantial revenue generation.

An effort was made to geo-locate PR land assets in the selected districts. Railway landholdings are mostly found in and near city centres. The location of the land coupled with the significant size of the landholding presents an optimal case of dead capital. Which can be unlocked through redevelopment and repurposing of the railway land and can generate significant revenue for the PR and economy. The pictorial depictions are presented in the

figures below.

Figure 1 PR Landholding in the District Rawalpind

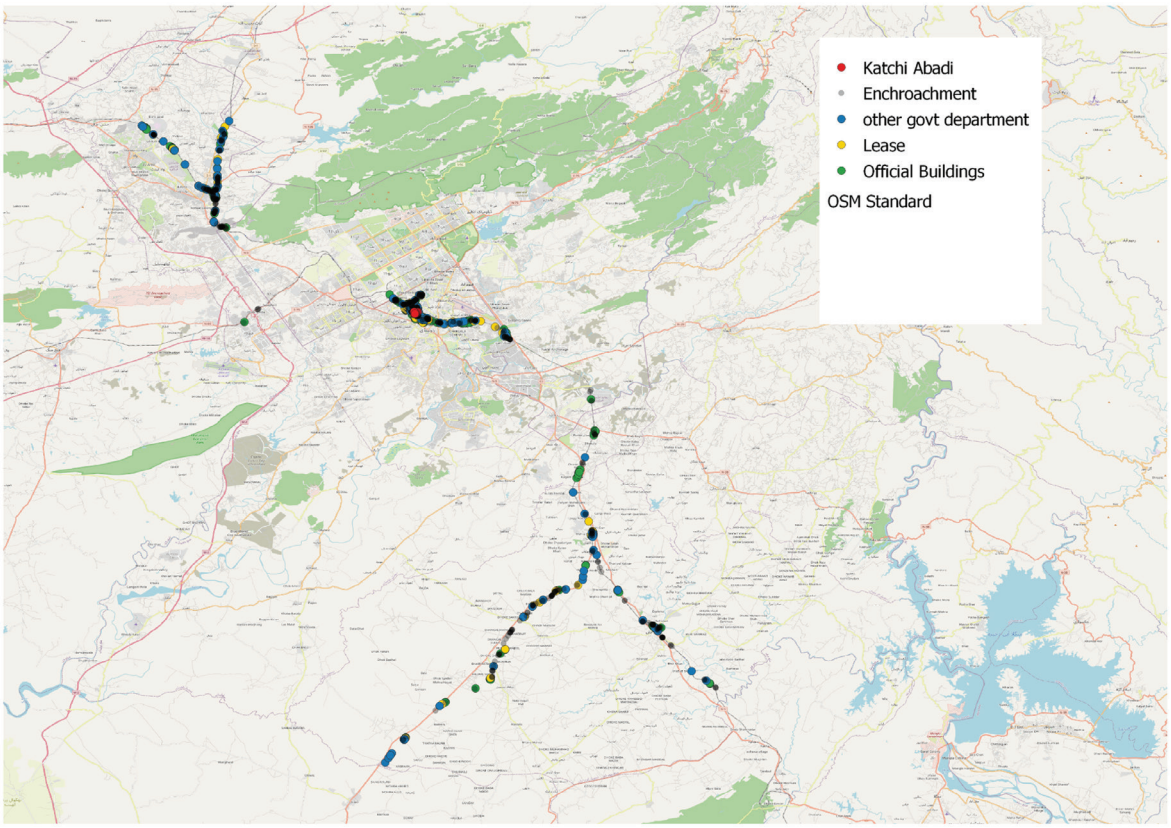


Figure 2 PR Landholding in Rawalpindi City

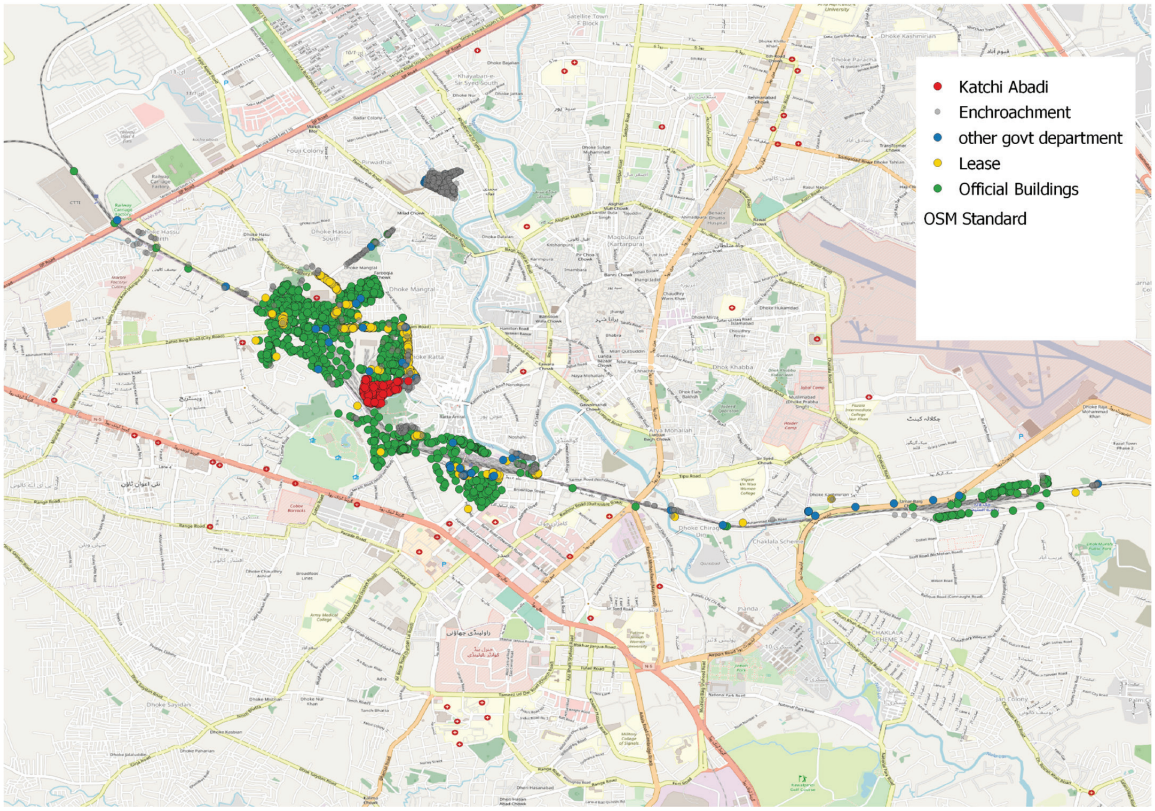


Figure 3 PR Landholding in Taxila City

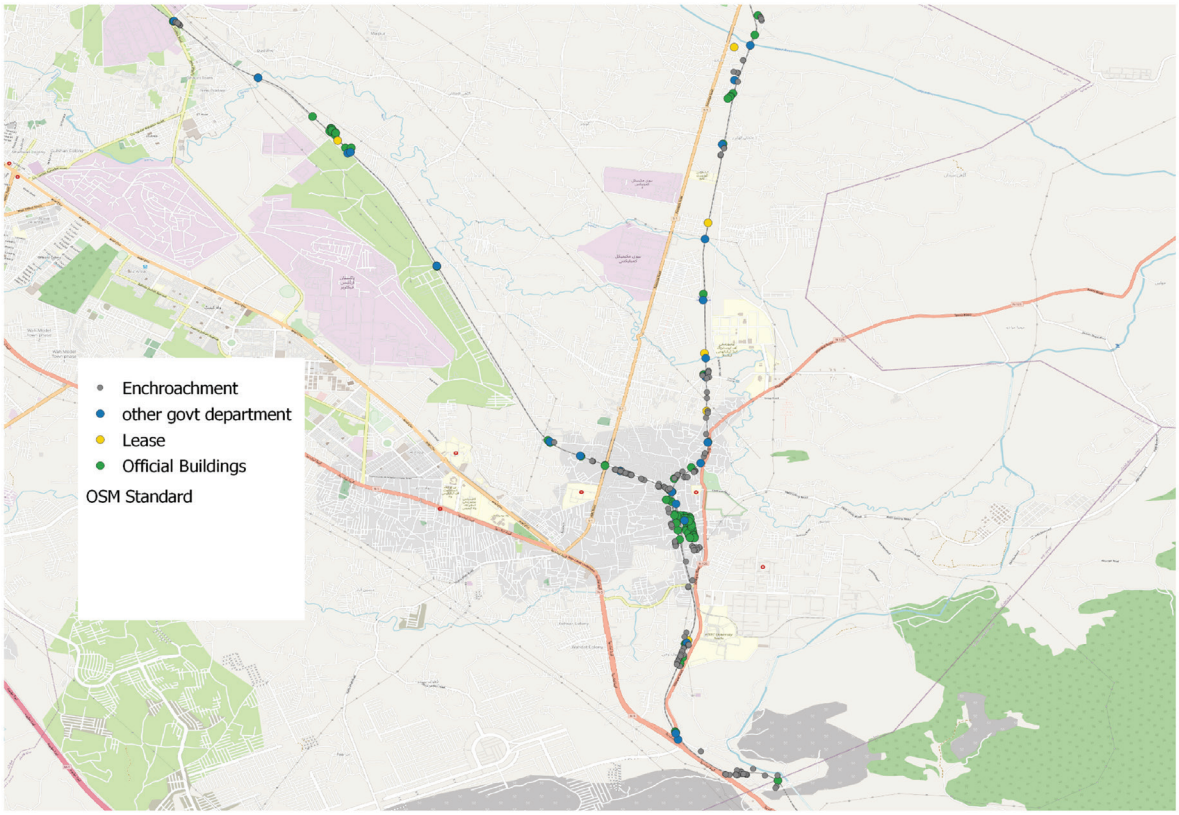


Figure 4 PR Landholdings in the District Jhelum

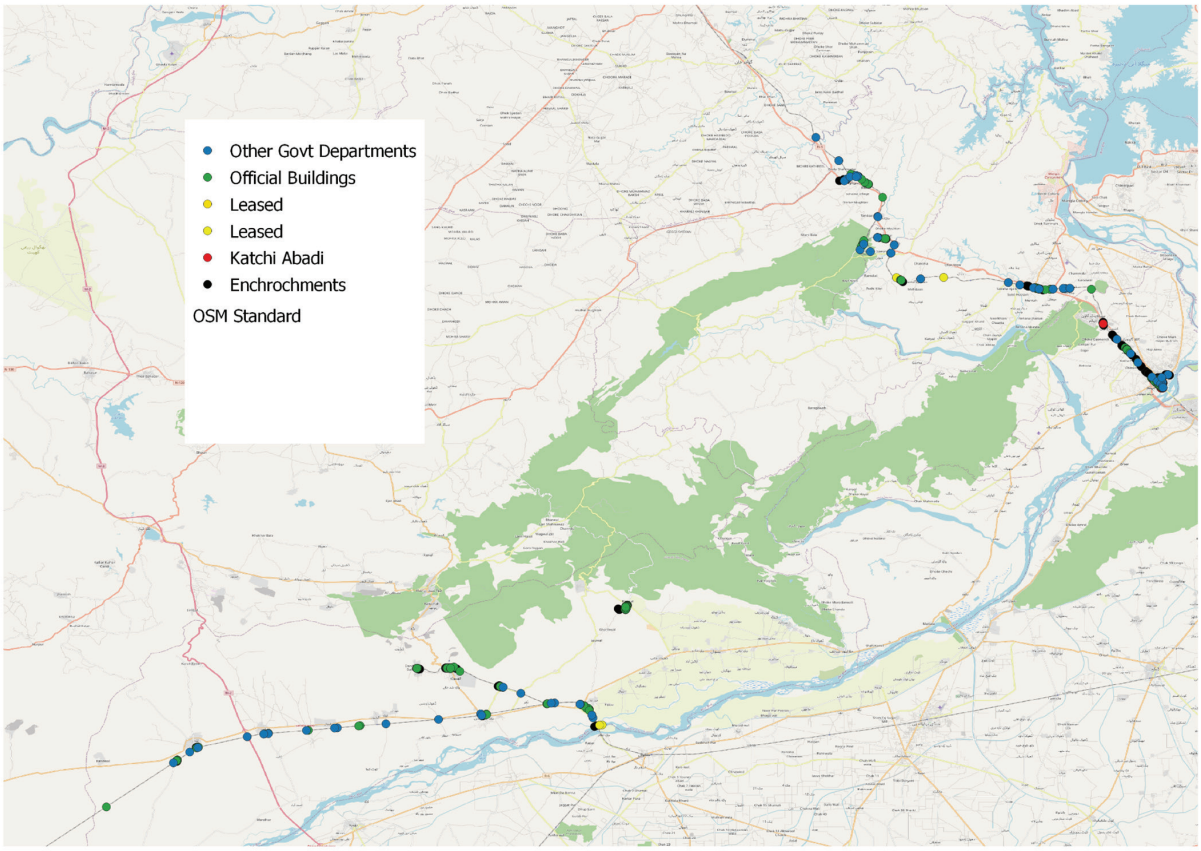


Figure 5 PR Landholdings in Jhelum City

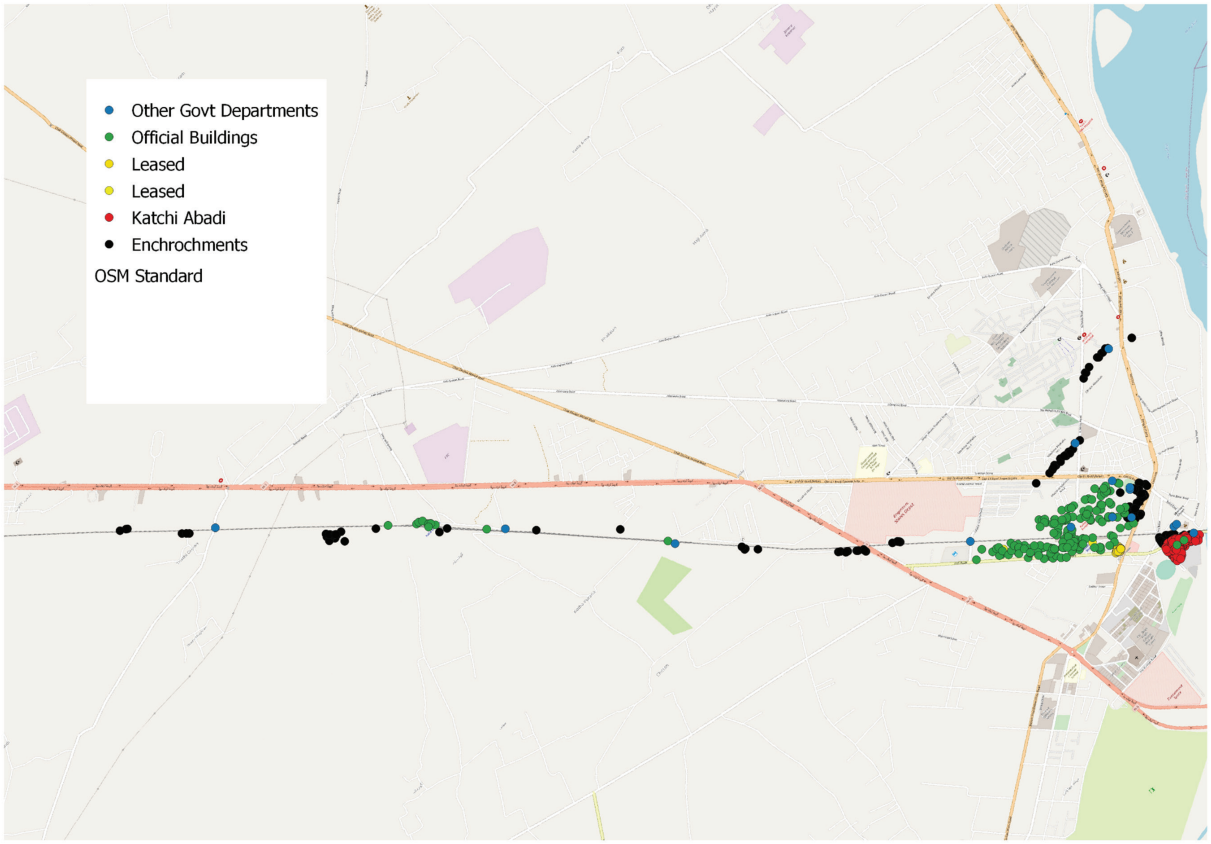


Figure 6 PR Landholdings in the Sargodha District

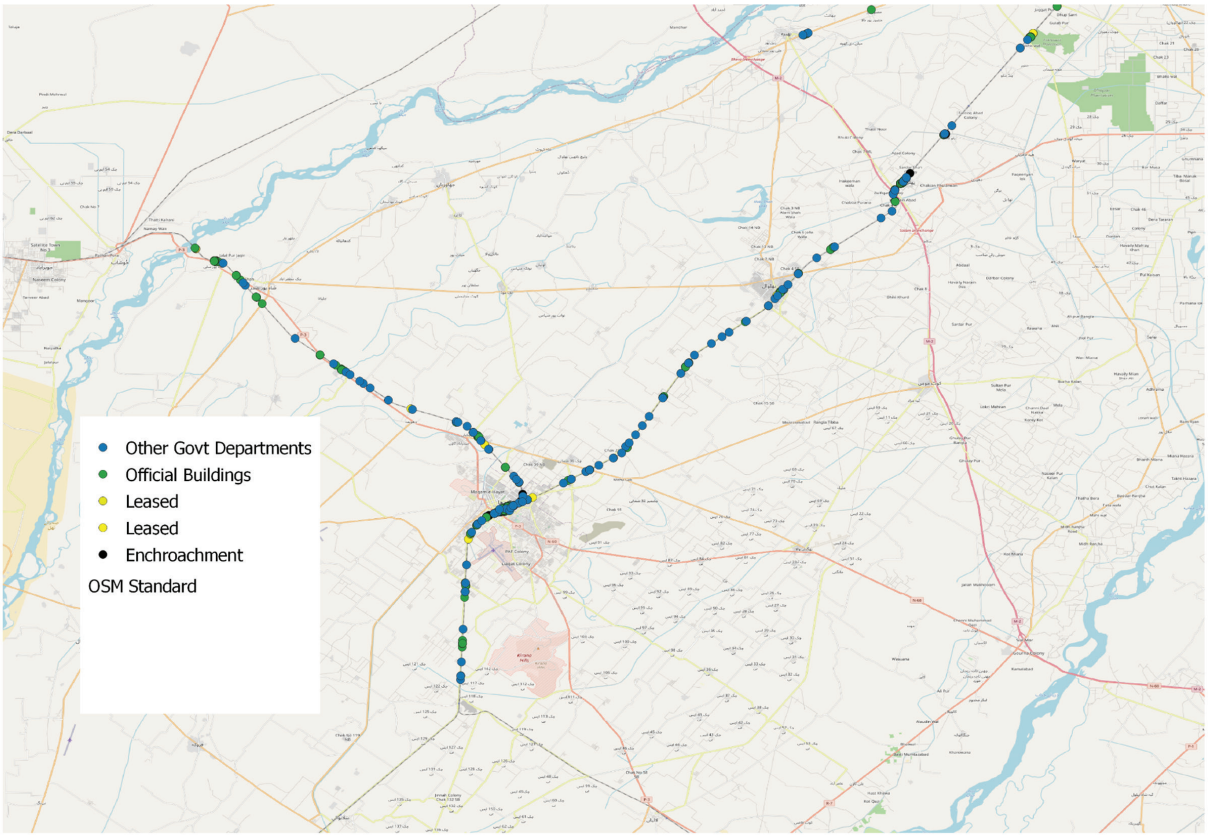
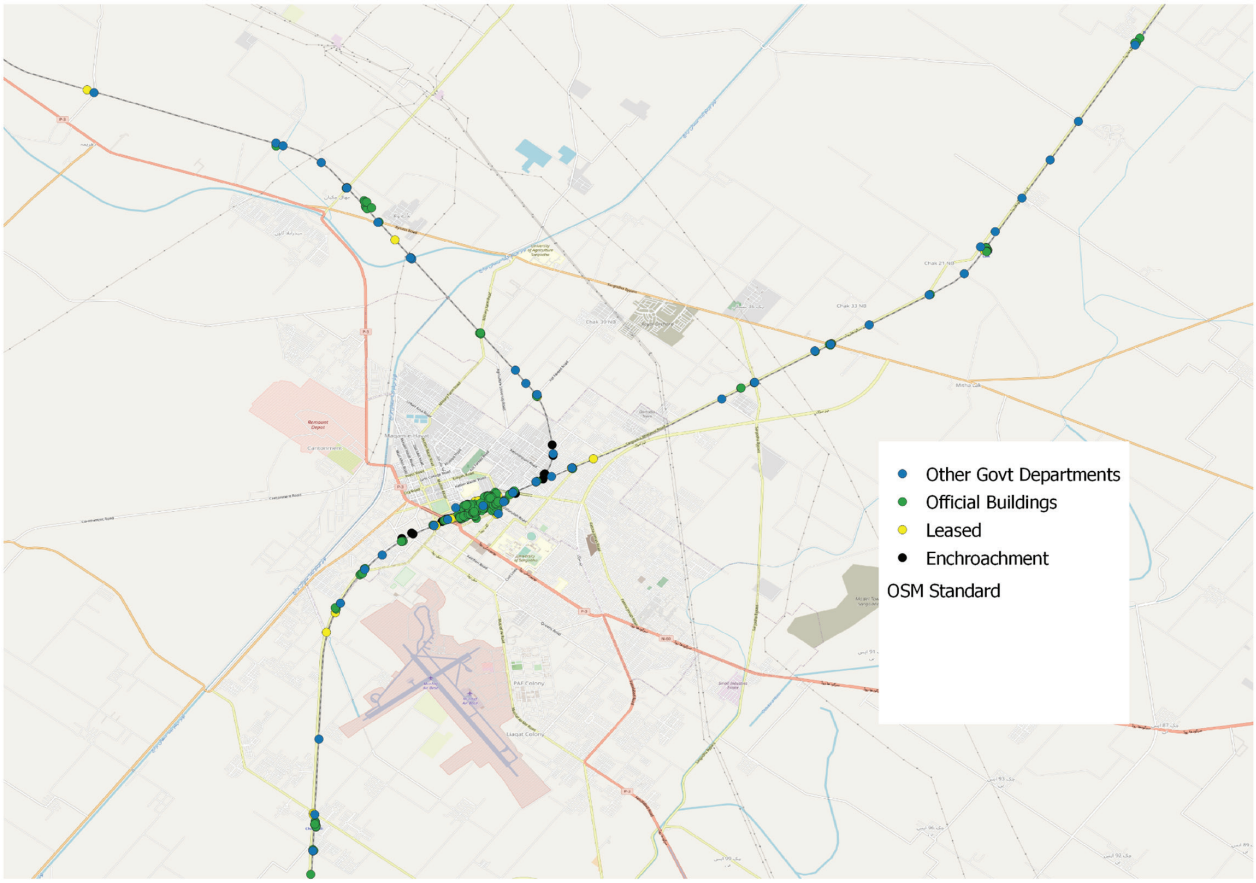


Figure 7 PR Landholdings in Sargodha City



3. REDEVELOPMENT

In real estate and urban planning, redevelopment refers to the replacement, restoration, or repurposing of existing infrastructural developments on a site that has already undergone development. PR redevelopment and reform is one of the most emphatically proposed reform agendas by public policy experts. The successful execution of a large-scale railway overhaul programme requires a detailed execution roadmap, proper organisation and governance structure, new and suitable capabilities, robust analysis and modelling, funding, and continuous interaction with many stakeholders. All of this is not practical without seeking insights from the best practices employed by successful railway redevelopment programs globally. Many Railway systems across the world have or are trying to redevelop and transform railway stations. This section examines global practices in greater detail by carrying out multiple case studies of selected railway station redevelopment projects. Through these case studies, unique considerations and variables that are not easily quantified, like project management, various modes of station development and funding models, governance, and land usage, among other factors, emerged as significant factors warranting a close and detailed inspection.

Railway redevelopment projects vary from city to city across countries by number of stations, station volumes, length of platforms, systems, train yards, facilities, number of actors and entities involved, etc. Thus, comparing projects strictly on a singular metric basis might miss important details. Therefore, information was collected on many aspects of individual projects, such as management, objectives of the project under study, execution strategies, modelling, funding, and interaction of a large number of stakeholders, economic benefits, and land usage post-redevelopment initiative; to examine these projects in greater detail. The inclusion and exclusion

criteria are presented in the table below.

Table 9 Exclusion and Inclusion Criteria of Redevelopment

Inclusion	Exclusion
Redevelopment project inly (in the context of urban redevelopment)	New construction projects
Railway station projects	Under-developed regions
Developed countries only (except for India and Hong Kong)	General TOD projects
Project evaluation studies for wider policy perspective	Any development without regard to urban redevelopment
	Practical consideration (privacy policies, access restrictions, confidentiality)

Across Different Strands of Redevelopment Approaches

Within the context of railway station redevelopment, the literature presents diverse perspectives, approaches, and ideas. There is a need for a comprehensive and integrated approach to understanding urban redevelopment processes, which considers the multiple perspectives offered by different literary strands. Thus, the examination focuses on three key aspects, namely, transit-oriented development, redevelopment in node contexts, and railway land use.

Transit-oriented Development

Transit-oriented development (TOD) has become an increasingly popular strategy in modern urban redevelopment discourse as cities seek to create more sustainable, livable, and equitable communities by focusing on building dense, mixed-use developments around public transportation infrastructure. Transit-oriented development has emerged as a promising approach to urban redevelopment, with its potential to address the challenges of urban sprawl, reduce greenhouse gas emissions, and create more livable and sustainable communities.

The process of concentrating housing development, employment sites, facilities, and services around stations, stops, and junctions on transportation routes, which Calthorpe (1993) identified as transit-oriented development (TOD), has been occurring since the mid-19th century, even though the term was coined in the late 1980s. These places are desirable and profitable for urban development due to their high accessibility (Knowles et al., 2020). The integration of transportation and land use development at railway stations is a top priority for state and local governments in cities around the globe. Constructing transit lines to connect existing and prospective areas of growth, and concentrating urban development around stations to facilitate transit use is a fundamental idea that is similar all over the globe (Curtis et al., 2009).

The TOD strategy relies on approaches used in the United States and Europe during the late 19th and early 20th centuries when the building of streetcar and metro lines was combined with urban development. After the Second World War, planners were able to direct suburban expansion into satellite suburbs along transport routes. A third generation of TOD strategies has arisen in recent years for instance, TOD has dominated the urban growth planning landscape in the United States since the 1990s (Papa & Bertolini, 2015).

Urban mega-projects are characterised by two distinct bodies of literature. On one hand, there is current research

on infrastructure mega-projects that offers sharp criticisms of reckless and ineffective public investment techniques and policies, specifically in the transportation sector (Altshuler & Luberoff 2003; Flyvbjerg et al., 2008; Flyvbjerg, 2008). However, these works largely concentrate on roads, tunnels, or train lines and discuss little about railway stations and the effects they have on urban redevelopment (Peters, 2009).

The literature on urban redevelopment, on the other hand, is vast and commonly focuses on projects like shopping malls, stadiums, urban entertainment centres, or other high-profile "starchitecture" flagship projects as typical urban interventions in globalised, postindustrial times of international locational competition. Moreover, such flagship projects frequently take place in grey and brownfield areas, which may include operating or abandoned rail yards (Peters, 2009).

Railway Stations as Catalysts for Urban Redevelopment

The development of railway stations is linked to urban development, as railway stations can serve as catalysts for urban redevelopment by attracting economic activity and creating new opportunities for commercial and residential development in the surrounding areas. The redevelopment of the railway station areas through the construction of mega-projects is an important example of planned, large-scale, strategic interventions into the modern urban fabric intended to improve connectivity and breathe new life into important inner-city areas. They represent an essential but under-examined component of urban core post-industrial transformation.

At the end of the 20th century, the growth of the railway system took a new direction. Policymaking in Europe has focused heavily on the redevelopment of rail station neighbourhoods. There are numerous instances of the redevelopment of railway station districts, such as in Liverpool (England), Euralille (France), Berlin (Germany), and Amsterdam South Axis (the Netherlands). Large sums of money are invested around the globe to upgrade the railway infrastructure, particularly through the building of high-speed rail lines. Rail becomes more competitive when the road network is congested. Additionally, a lack of capacity in the aviation network increases demand for high-speed rail connections as a substitute for feeder flights, which subsequently strengthens the position of railroads for international travel.

Rail mega-projects can drastically alter and reconstruct mobility patterns in the larger metropolitan area and beyond because they are both significant real estate developments and public infrastructure projects at the same time. However, this fact has not received sufficient attention in the literature (Peters, 2009). Combining the perspectives of several disciplines, with economics and spatial sciences being the two most significant, is essential for understanding the dynamics of the redevelopment of railway station areas.

Redevelopment projects for railway stations aim to address the lack of connectivity and interoperability between infrastructures while also enhancing the regional economy by constructing a brand-new, high-quality, multifunctional urban environment (Bruinsma et al., 2008). According to Bruinsma et al. (2008), the installation of new railway systems—the high-speed train and the light rail systems—has accelerated the redevelopment of railways as well as of their often-outdated immediate surroundings. Transit-related nodal areas, in particular inner-city railway stations, serve as hubs for urban redevelopment. However, modern urban discourse reflects that the dynamics of rail station area redevelopment is an understudied issue.

Intermobility, which is the organising principle of present-day stations, is intended to improve the complementarity between modes of travel and make different networks more interdependable. The station is a political organisation. Politics, economics, local and regional development, technology, corporate strategy, and other fields are among the relevant stakeholders participating in the inter-modality of present-day stations. The station is the centre of this "intermobility," which requires rules such that all the participants can work together to provide effective linkages, accurate, up-to-date information, integrated fares and tickets, and a unified image of the entire rail industry. OECD (2016) see the station as a crucial component of development strategy. The balance

of the townscape around the station can be redefined, reconcentrated, and densified, becoming a fundamental element in town planning strategy, by improving connections to open up specific regions and by developing new urban centres.

Railway stations have great potential to catalyse urban redevelopment, breathing new life into surrounding areas through economic activity and enhanced opportunities. In essence, the evolution of railway stations into intermodal hubs acts as a nexus of politics, economics, and technology, reshaping urban landscapes and fostering cohesion between diverse stakeholders. This multifaceted role underscores the railway station's pivotal significance within contemporary urban development strategy.

Redevelopment in the Context of Nodes

Traditionally, railway stations are defined as places where transit-related facilities and station facilities are located, and where station facilities are made into businesses, such as the neighbourhood, performance centres, conference halls, etc. The railway station concept consists of three aspects, which are: being a place of passenger boarding on transit services, acting as a switchyard where freight is loaded and unloaded, and as a signal station where trains cross and are shunted (Choi et al., 2007). Zemp et al. (2011) conducted a very thorough examination of railway stations in Switzerland and condensed the functions of the railways into the following five generic functions: (i) link catchment area and transport network; (ii) support transfer between modes of transport; (iii) facilitate commercial use of real estate; (iv) provide public space; and (v) contribute to the identity of the surrounding area.

Other researchers classify railway stations based on different aspects. For example, Juchelka (2002) classifies railway stations into three types depending on functions. The primary function, which is to serve as an interchange for multiple modes of transportation, is necessary for all stations. Medium-sized stations also serve secondary functions such as commercial, leisure, or cultural activities. Large stations have tertiary functions, such as serving as a central hub within a city. Choi et al. (2007) categorise railway stations based on several factors, including the type of operations (passenger-only, freight-only, or mixed-use), the development type (multi-storey, redevelopment, or new city section), the size (small, medium, or large), and the function (urban hub, transportation hub, or metropolitan hub).

The modern railway station is more than just a centre of travel for trains. Rather, it has emerged as a hub of business activity and contributes to the emergence of new spatial patterns in their locations. Keeping that in mind, the performance of railway station areas plays a crucial role in determining the competitiveness of cities in Europe as competitiveness is essential to attract and retain capital flows.

Railway stations act as both a node of transport connectivity and non-transport networks and a place that affects the multitude of residential, corporate, and commercial establishments in its immediate vicinity. This alludes to the various stakeholders of this compressed space of the stations and their individual, unique demands from this space (Bertolini, 1996). Meijers (2000) concludes that any national transportation policy should promote the creation of not only nodes in the physical sense but also spatial-functional, social, and institutional networks. More specifically, he stresses the importance of considering the transportation node as a potential meeting place. Policymakers consider the node-place concept useful because it helps structure the debate between land use and transport actors. This debate is essential for achieving coordinated planning around stations (Peek et al., 2006).

According to another model proposed by Peek & Louw (2008), a multitude of different actors, representing both node and place aspects, are involved in the process of station redevelopment including local and national governments, railway authorities, businesses, real estate developers, end users, etc. These actors have differing interpretations, objectives, and opportunities within the redevelopment framework, and this leads to the four different approaches in the context of railway stations. These approaches are typified as connectors,

transportation nodes, meeting places, and urban centres. They further argue that a multi-disciplinary approach, based on the collaboration between the different actors, is necessary to harmonise and coordinate the four approaches and the multi-disciplinary approach can distinguish successful projects from unsuccessful ones.

Accurate identification of physical and functional usages of nodes is essential to achieve true integration between development and a livable, safer urban environment. Integration between the railway networks and physical spaces can be better understood by identifying railway stations as an interchange of several transport networks, each with varying dynamics of urban rank and functionality, and as places which sponsor networks and host a multitude of relations. The redevelopment goals may be achieved efficiently through multi-field planning and the usage of well-designed public-private partnerships. In the case of the redevelopment of the Bologna Central Station, it was observed that coherent and shared planning allowed success in transformation control procedures and overall achievement of targets. Greater integration of the functions of the railway stations, the stakeholders involved, and the various phases of development have been identified in the literature as being prerequisites for successful railway station redevelopment (Conticelli, 2011).

Railway station redevelopment is often found to be a part of greater urban restructuring efforts, as is evident from the case of Brno, for example (Drkošová & Machalová, 2008), and thus has been tied to complex urban dynamics of the modern world. Vreeker et al. (2004) conclude that railway redevelopment projects are aimed at creating multi-purpose land usage, which integrates transit networks with business and residential land usage purposes. Most recent European city renewal plans have had railway stations as cornerstones of redevelopment efforts due to their ability to improve connectivity, provide sustainable transportation alternatives, and serve as symbols of urban sustainability.

Train/railway station area development (TSAD) has a more expansive reach and quicker connections across international borders, more prominently in Europe, after the advent of high-speed rail. A study of 136 TSAD projects in Europe concluded that the fundamental component of effective implementation of TSAD objectives is long-term political and financial backing as well as successful coordination among major public and commercial stakeholders (Peters & Novy, 2012). Train station area redevelopment projects in Europe are commonly based around the up-gradation of the transportation ability to support high-speed train systems. In this regard, de Jong (2009) conducted a thorough examination of eight HST train stations in North-western Europe and concluded that HSTs themselves are not as important to station area development as is normally assumed; rather, the key is the investment in local transport services to establish a connection to the HST station. The extent of accessibility to the HST station helps determine how successful the station area will be. The establishment of HST connections almost always leads to further developments that target regional transport in and around the station.

Japan is always regarded as a particularly good example of railway station area redevelopment due to its long history of such projects and relative success. The evolution of Japanese rail transit hubs over a century provides a good reference for planning, construction, and redevelopment efforts. The Japanese government has placed great emphasis on sustainable urban regenerative policies and enacted several laws to enforce this concept since the turn of the century (Zacharias et al., 2011). Considering the statistics from the Urban Redevelopment Law, over 60 percent of urban development programmes are associated with rail transit hubs. The work of Yang & Yao (2019) conclude that redevelopment projects work in tandem with overall urban planning policies for better traffic efficiency and overall vitality of the city. Moreover, redevelopment leads to a higher floor area ratio in the immediate vicinity (500m) of the station, the formation of multi-usage composite blocks that optimise functions, and the development of efficient vertical and horizontal multi-levelled pedestrian flow infrastructure, making inter-modal transfer much more efficient, along with promoting urban greenery and the utilisation of the three-dimensional space in stations.

In the case of Tokyo, Cao (2022) identified that the 1987 privatisation, which led to the division of operations of Japan National Railway (JNR), led to better quality and variety of train services, alongside better stations and facilities, all of which led to increased ridership levels. Crucially, JNR was legally allowed to operate non-rail

businesses (for example, department stores) and it repaid its debt by selling land for commercial use. This was the cornerstone of station area redevelopment. The key lessons for ensuring the reciprocal relations between station area redevelopment and rail transit networks include the timing of entry into the market; transit infrastructure has been utilised; and critical JR nodes have been transformed into multi-usage, high-density land usage areas that have become major commercial attractions. This, in turn, has become the source of more travel demand creating a reciprocal relationship between the node and place.

Banerjee (2022) analysed railway station redevelopment in the context of transport-oriented development in India and concluded that some expected roadblocks are firmly embedded in the country's social, economic, and political institutions, and are likely to hinder the effective execution of ambitious development schemes. These include redeveloping railway stations that are inclusive of lower-income households through the provisions of low-cost and inclusive social organisations; transportation barriers in the form of low efficiency of transport systems, weak transit infrastructure and limited supply; accommodating high-density spaces in an already saturated urban density environment of Indian cities; and problems with the implementation of PPPs, which present their own set of challenges; and the lack of political continuity, which may generate a substantial obstacle for the successful and continued execution of mega-projects.

In the context of urban redevelopment, railway stations emerge as potent nodes capable of shaping multifaceted urban landscapes. Their significance is underscored by their dual role as transit infrastructure and centres of economic and social activity. The interrelation between stations and cities goes beyond traditional roles, creating interconnected urban centres and transforming cities into economic hubs through a complex interplay of transportation networks, land use, and the vision for a dynamic urban future.

Railway Land Usage

Railways own large swathes of valuable land according to the World Bank. Globally, two major approaches are commonly followed to leverage this land:

(i) Railway Right-of-Way: The space along the railway tracks can be used for public utilities like communication lines, electricity transmission lines, and water pipes. For example, in India, RailTel, which is a subsidiary of Indian Railway, utilises railway land by setting up optic fibre cables along the tracks and selling telecommunication services to private companies. In another example, in the US, the Southern Pacific Railroad did something similar and created a telecommunications network that has now become the third-largest wireless network operator in the country (Lawrence & Ollivier, 2014).

(ii) Real Estate and land value capture mechanisms: Railways also have land around their stations, which they lease or develop for commercial purposes by partnering with private land developers and auctions. For instance, in Japan, the MTR Corporation leases space in and around its stations for retail and advertisements. They acquired the right to build residential and commercial buildings within and around the stations. This led to the development of 94,000 housing units and more than 2 million square meters of commercial space, generating a substantial operating profit of USD 1.1 billion in 2013, providing vitality to the railway's core activities. Furthermore, the developments around the MTR stations also contribute to increased metro ridership by generating additional metro trips. This model is now being explored for implementation in metros across China.

In Japan, land value capture mechanisms have been extensively applied alongside other funding arrangements for railway development. This approach varies based on location and stakeholders involved. Notably, private railways in Japan have successfully executed land readjustment projects around stations by acquiring land reserved for new town development and internalising real estate capital gains to fund railway investments. Additionally, they have collaborated with private developers and building owners to share the costs, exemplified by the case of the Yokohama MM21 Line. The strategic transfer and sale of former rail yards in central Tokyo

through public auctions and other transactions have been instrumental in mitigating the debt burden arising from the network expansion.

The effective utilisation of railway land assets through partnerships, joint ventures for development, and value capture mechanisms demonstrates the railway's capacity to unlock hidden potential while fostering economic growth and supporting operational activities. The case study of railway land use in Windsor, Canada, shows that railway land adjacent to railway lines represents a broad range of non-railway land uses. These are primarily divided and clustered into residential and institutional land use; commercial and industrial land use; and a mix of uses and open space (Lawrence & Ollivier, 2014).[4] With the development of railway infrastructure, the land near the stations becomes more valuable due to accessibility. However, it is important to note that unless the railway investment attracts new private capital and investment into the region, the impact on land value is mostly just moving money around without creating new value (Cervero, 2020).

When railways are built or operated, the value of the land around them often goes up. This increase in land value results in higher property tax revenue for the government. However, this indirect way of generating income is not entirely reliable for railway companies and public transit operators because the property tax money usually goes to the city's funds and not directly to paying off the debt incurred in building the railways (Cervero, 2020). To have a more dependable source of income for the railways, other strategies can be used to capture the increased value of land (Cervero, 2020). These strategies fall into four main categories:

i. Special assessments and betterment taxes: Special assessments and betterment taxes are ways to raise funds for certain urban improvements, such as sewer, water, and sidewalk projects. These have been used in the US to co-finance additional improvements, like underground utilities and road expansion, around railways and bus malls. For example, Los Angeles levied assessments on commercial properties near railways, generating around USD 180 million, and Portland used betterment taxes to pay for 20 percent of the downtown streetcar's construction costs.

ii. Tax increment financing & impact fees: Tax increment financing (TIF) is another funding method where increased property tax revenue resulting from railway investments is used to revitalise distressed neighbourhoods. Impact fees are charges applied to new developments to cover the cost of expanding public services, and they have been used in San Francisco and Broward County to support transit operations.

iii. Joint development: Joint development is a value capture approach where a public transit agency partners with a private developer to build a real estate project on transit-owned land. The transit agency receives revenue or cost-sharing in return, making it a "win-win" arrangement.

All these methods have different benefits and limitations, and their suitability depends on the availability of land, the scale of the project, and the specific goals of the transit agency and the region.

The earnings of Indian Railways from its core business of running freight and passenger trains have been declining due to a decrease in freight and passenger traffic. To fund its capital expenditure, Indian Railways rely on budgetary support from the government and external borrowings (Kataraki, 2020). To overcome this financial challenge, the railways aim to increase their non-fare revenue (revenue from sources other than fares) from 5 percent to 20 percent of total earnings. For this purpose, a new non-fare revenue policy was introduced in 2017, proposing to monetise various assets, such as trains, passengers, station platforms, buildings, land, and tickets.

Indian Railways has a significant amount of vacant land (approximately 43,000 hectares) which is not needed for operational purposes soon (GOI, n.d.). Indian Railways has planned to monetise this land by handing it over to the

[4] Non-Railway Uses of Railway Land-City of Windsor.

Rail Land Development Authority (RLDA) for commercial development. This will enable Indian Railways to earn non-tariff earnings without any cost through upfront lease premiums or by creating assets like railway colonies and railway stations. RLDA's business model involves developing railway colonies and multi-functional complexes (MFCs). They have already started redeveloping 84 railway colonies and approximately 25,000 staff quarters. The revenue generated from leasing out these properties will be a significant source of earnings for Indian Railways. Furthermore, RLDA is redeveloping 51 railway stations on a public-private partnership (PPP) model, leveraging commercial development of spare railway land and airspace around the stations. The MFCs being developed at various railway stations will provide facilities like shopping, food stalls, book stalls, ATMs, budget hotels, parking spaces, and other amenities for rail users, further contributing to the railway's earnings.

Japan Railways, (JR East) achieved significant growth in non-transportation business by creating dedicated subsidiaries to manage retail, real estate, hotels, and IT businesses. They also collaborated with the government on station development projects using the land value capture model of financing (Kataraki, 2020).

Hong Kong and Tokyo represent the examples of land value capture model of financing. In both cities, private railway companies have been involved in building urban rail systems and generating profits through property development directly, instead of relying on deals with private land developers.

Hong Kong's public transport system, operated by the MTR Corporation, is profitable because of its "Rail+Property" programme (R+P). The programme involves capturing the increased land value near railway stations by purchasing development rights for land and generating profits through property development. MTRC is a private corporation that sells shares on the stock market and operates on commercial principles. It finances and operates railway services with income from both fare revenue and real estate development (Cervero, 2020).

MTRC's involvement in property development has contributed significantly to its revenue, even more than income from train fares. The company has improved station-area environments by creating high-quality, pedestrian-friendly transit-oriented developments (TODs). This proactive approach has led to sustainable urbanism and better financial returns for the R+P projects. The benefits of these pedestrian-friendly projects have been reflected in higher land prices (Cervero, 2020).

Bon (2021) has shown that there exists a global trend where public land reserves are being turned into commodities. Urban authorities are seeking to maximise the value of land and unlock its profit potential. The process of turning public land into private property is complex and involves both possession and dispossession. The way land is commodified varies and is not simply about private property taking over from local communities. The land is seen as an investment and is treated as a resource with different values and relations. The process of commodification does not always lead to full privatisation, as central administrations, like Indian Railways, still maintain some control despite external pressure.

Public-Private Partnership and Redevelopment

Long-term development is centred on sustainable means of transportation, and many nations and urban centres have realised that the future is in developing attractive, multifunctional, and generally car-free environments surrounding transportation hubs. Public investment can be financed by commercial gain through means like business rate supplements and developer contributions by capturing the growing property prices resulting from the synergies of effective placemaking (Lambert, 2017). Worldwide, many railway systems have or are attempting to redevelop and transform their stations through PPPs. Redeveloped stations not only improve the passenger experience but also increase revenue. Up to 20 percent of the overall revenues in many railway systems come from ancillary sources (Garg & Chaudary, 2017).

A PPP railroad project is considered a wise strategy for boosting the economy and performance, especially in light of the absence of financial support for the railway infrastructure in underdeveloped nations (Park & Jinsu, 2014).

With over 2,700 acres of encroachment-free land available for commercial development, Indian Railways has ambitious plans to renovate 400 stations across 100 towns under PPP (Garg & Chaudary, 2017). Indian railway stations are far less capable of handling commuters than stations in Europe. There are inconsistencies in the utilisation of land resources that are available for the construction of infrastructure. Anand & Gupta (2017) suggest that air space over stations be used to create commercial or mixed-use developments based on a PPP mode to capture value.

Countries can benefit from the Japanese redevelopment approach. The Japanese train stations display a very effective land-use strategy that makes the most of the area beneath, above, and adjacent to the stations. Due to the restricted land resources available, the necessary facility concentration turned into one of the redevelopment's best qualities. Japanese Interest is focused on the development's future stage through PPPs. The transformation of the station into a significant hub of production and exchange provides an appealing model for the construction of transportation hubs elsewhere with the usage of the PPP mode of financing.

Summarisation and Evidence Analysis

The study compares and contrasts the different redevelopment projects across the globe, making it easier to identify commonalities and differences among them. Based on the information provided in the table, the data is analysed, and several key variables were identified related to the redevelopment of railway stations across different countries. These variables include station size, objectives of redevelopment, model of financing, land use post-redevelopment, actors involved in decision-making, and economic gains or outcomes of the redevelopment projects. The following are some key findings.

Station Size

The size of the stations varies significantly, ranging from smaller stations – for example, Bijwasan, Swansea, Corby and Burnham on Crouch railway stations, and several other smaller railway stations in the UK, which are very small and localised with a limited number of platforms – to huge multi-modal transportation hub stations with multiple platforms and extensive areas – such as Tokyo Station, the West Kowloon and New York Grand Central. It can be inferred that station size is dependent on the nature of urban agglomerations and the demand for passenger rail service given the overall urban design and transit needs.

Objectives of Redevelopment

The objectives of the redeveloping railway stations are as diverse as improving transit efficiency, increasing revenues, enhancing the retail and commercial spaces, creating multi-modal transit hubs, promoting sustainable growth, or simply aiming for futuristic landmarks of architecture and design and developing technologically advanced public amenities. One such example of a futuristic approach to redevelopment is West Kowloon and Tokyo Station, which can be hailed as the world's most technologically advanced railway station. The design of the train station, especially that of the platform itself, influences pedestrian movements. The objectives of redevelopment are also strictly dependent on the specific challenges faced by the station in terms of capacity, passenger service, and revenue generation.

Model of Financing

The financing models used for the redevelopment projects differ across countries and stations, such as PPPs, which are commonly employed. In our selected sample, it was found that some stations were government-funded, while others were joint ventures or compete-and-cooperate models. The financing models depend on the local development agendas and forms of government. In India, for example, the new wave of redeveloping railway stations by Indian Railways has shunned PPPs due to their less efficient outcomes. Indian

authorities are employing the EPC and other variations of PPP models preferably over PPP modes of financing (Garg & Choudary, 2017). While in some of the mega railway stations of the world, such as West Kowloon, Melbourne Southern Cross, and Incheon Airport Railroad Express, the mode of financing was predominantly PPP. The PPP is successful for assets that have high commercial viability (Garg & Choudary, 2017). However, some railway investments were least attractive to private businesses, such as Germany's Dresden Hauptbahnhof, Osaka Station, and Cardiff railway station due to their surrounding urban landscape and commercial ecosystem.

The size of a station influences the choice of financing model for redevelopment. Larger stations with extensive infrastructure requirements and higher costs may necessitate more substantial financial resources. PPPs are often considered for large-scale redevelopment projects as they allow for private-sector investment and expertise. Smaller stations may rely on government funding or simpler financing models due to their relatively lower costs. The choice of financing model is influenced by the financial feasibility and the need to attract private investment based on the size and potential revenue-generating capacity of the station.

Land Use Post Redevelopment

The land use post-redevelopment varies depending on the specific station and its objectives set out for redevelopment. Examples include integrated bus terminals, office districts, commercial spaces, retail hubs, urban centres, and public entertainment spaces including art studios, museums, theatres, cinemas, and shopping malls. From the cases under examination, it is evident that world railway stations now have become a lot more than regular passenger rail activity, i.e., they are being used beyond transportation. Modern rail stations perform a diversity of functions and serve better integration in the urban landscape by offering inter-modal connectivity, multi-dimensionality, and sustainability. The efficient use of space above stations, the construction of skywalks, and the construction of buildings involving mixed-use and multiple uses of land is the need of the day owing to the increasing demand for space in urban centres.

Actors Involved

Various actors are involved in the redevelopment projects, including government entities, railway authorities, private sector companies, property developers, architects, and transportation corporations. The specific actors and their roles differ across stations and countries depending on the governance and administrative systems. Each stakeholder is important in such a programme and knowing their point of view can be helpful for the right design and successful execution. The key takeaway is that a mix of both private and public actors is required to redevelop railway stations because railway stations across the globe remain a public good to date.

Economic Gains or Outcomes

The economic gains and outcomes of the redevelopment projects are diverse across stations, but they generally aim to increase revenues, attract investments, create employment opportunities, enhance the attractiveness of retail spaces, improve transit services, and contribute to the overall growth and development of the surrounding areas.

It was found that the choice of financing model can impact the post-redevelopment land use and economic gains. When private sector participation is involved through financing models like PPPs, there is often an emphasis on revenue generation and commercial viability. This can lead to the inclusion of more commercial and retail spaces in the post-redevelopment plan. Private investors typically seek to maximise their returns on investment through the development of retail hubs, office spaces, and other revenue-generating activities within the station area. Certain financing models prioritise mixed-use development around stations. This approach integrates various land uses, including residential, commercial, and recreational, in the post-redevelopment plan. The financing model may incentivise the inclusion of diverse land uses to create vibrant and sustainable station areas that cater to the needs of the community.

Key Takeaways

The key lessons drawn from these twenty-five case studies and many other experiences across the world include the following:

- Investment in station development needs to be undertaken in a planned and integrated manner. It takes time to develop the overall assets.
- Customer interest is kept foremost in any design and redevelopment project.
- A mix of public and private funding is required to redevelop the overall portfolio of stations—railways remain a public good.
- A strong institutional setup with a dedicated organization to maintain and manage station development is a global norm.
- The creation of separate and specific entities assists in simplifying the transaction and making it attractive for private players.
- The PPP is successful for assets which have high commercial viability.
- Dispute resolution mechanisms and frameworks should be actively incorporated in agreements.

Redevelopment of Pakistan Railways

To extract lessons specifically for the redevelopment of PR, we need to consider the unique context and challenges faced by the railway system in Pakistan. However, based on the findings of the comparative analysis of the case studies, it is recommended to:

i. Define clear objectives for the redevelopment of railway stations in Pakistan, considering the capacity constraints, passenger service improvements, revenue generation needs, and local development agendas.

ii. Assess various financing models such as PPPs or joint ventures, to determine the most suitable model for the redevelopment projects in Pakistan. Consider the local development context, financial viability, and potential private sector participation. Engaging the private sector in the redevelopment of railways is the need of the day as it can provide significant financial resources for railway redevelopment projects. This will relieve the burden on the already drying up public budget of PR and will allow for the timely implementation of redevelopment plans. Furthermore, private investment often brings efficiency and innovation, while at the same time allowing for the sharing of risks between the public and private entities to railway redevelopment projects.

iii. There is a need to shift focus on efficient land use above and around railway stations in Pakistan to accommodate mixed-use and multiple-use development. Large swathes of railway land in Pakistan are lying idle. Emphasise the integration of different functions such as commercial, retail, office spaces, public amenities, and cultural facilities to create vibrant and sustainable urban centres. The ideas of 'smart stations for smart cities' need to be put into practice now.

iv. Engage relevant stakeholders, including government entities, private sector companies, architects, transportation corporations, and local communities, in the decision-making process. Encourage collaboration and partnerships to ensure the successful execution of redevelopment projects.

By considering these lessons and tailoring them to the specific needs and priorities of PR, it is possible to drive successful redevelopment initiatives that improve transit services, promote sustainable city growth, and enhance the overall urban landscape in Pakistan.

4. DEAD CAPITAL

Government land in its current underutilised state is dead capital. However, it presents an opportunity to revive the economy by unleashing its untapped potential (Haque, 2015, 2017 & 2021). The underutilisation of land through unproductive use despite having potential for productive activities turns it into dead capital (De Soto, 2000; Haque, 2017) and governments around the world are mostly inefficient in the utilisation of state-owned assets. The governments treat these assets from a budgetary point of view, which seems cheap since the opportunity cost is not part of the budgetary cost (Tanzi & Prakash, 2000). Furthermore, the traditional approaches to the valuation of public land ensure the misuse of public assets (Detter & Folster, 2016). Only Professional management of the public assets and balance sheet can ensure gains for the state (Mehmood, 2022).

Similarly, the present state of PR landholding portrays a grim picture because the management of land is not efficient and the purpose for which land is utilised is not productive. The PR land is found at prime locations with high market value, and in some cases is found at the centres of the cities. However, most of the PR land in cities is used for providing housing to its employees at locations with the potential for significant commercial activities.

Railway stations around the globe are now treated as the catalyst for change and keeping in view the land around the stations is being redeveloped to cater to the needs of growing cities. This provides significant revenue for the state and railways through commercial utilisation, along with promoting economic activity. However, this is not the case in Pakistan, as presented in Figure 8 below, which depicts the railway station and its surroundings.

Figure 8 PR Housing for Railway Employees

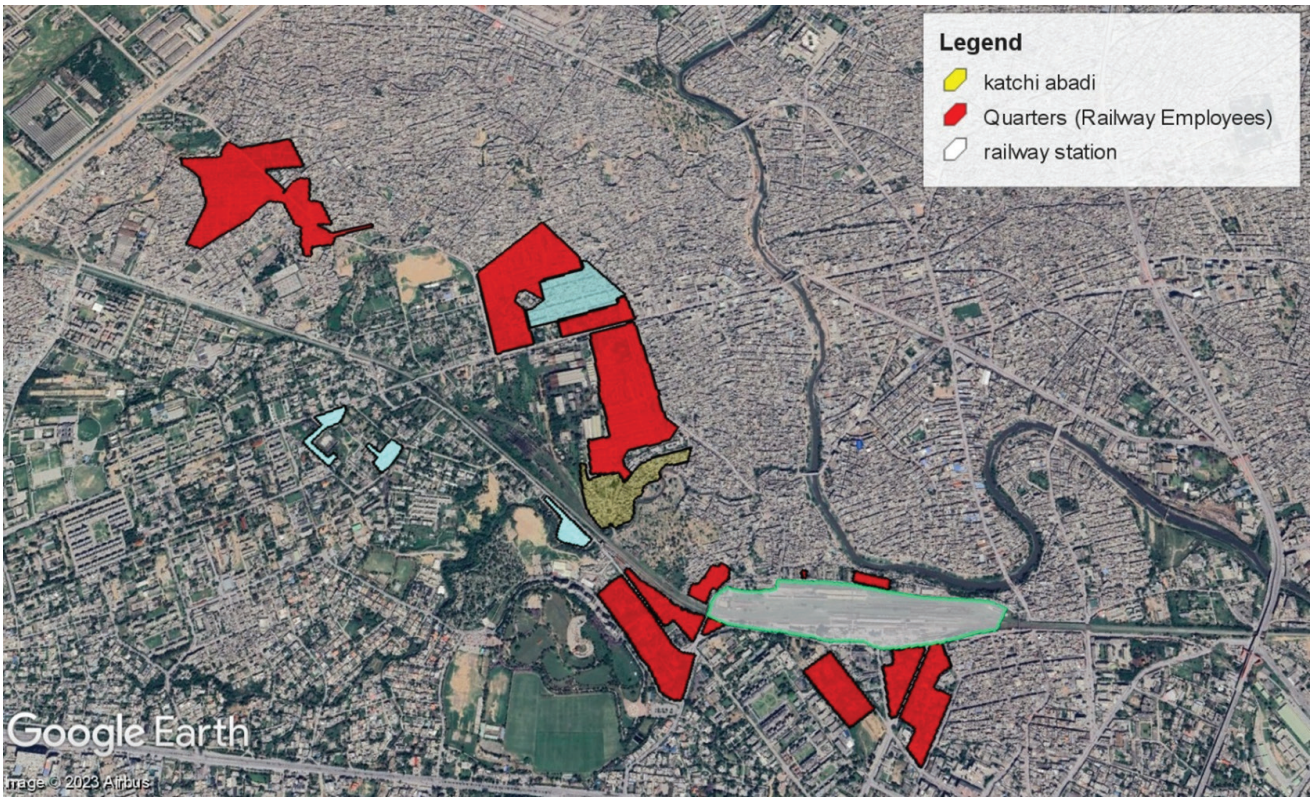


Figure 8 above shows highlighted areas in red, white, and yellow. The white highlighted area in the middle is the Rawalpindi railway station. The area highlighted in red is under the possession of PR, which instead of being put to productive use given its central location and commercial surroundings is solely used to provide housing to its employees. Which, as per estimates, is approximately 160 acres. Such land use constitutes gross underutilisation of state-owned land (Haque, 2015 & 2017), the land can be freed up by monetising the employees (Haque et al., 2021). The freed-up land can be utilised for dense high-rise mixed-use purposes prioritising commerce, which can give rise to commercial activity and generate significant revenue and employment (Haque, 2006) thus unlocking dead capital. That demands either the land be released to the private sector or entrusted to a professional management entity for redevelopment and commercial exploitation.

In Rawalpindi, 66 percent of the PR land under the land possession category of official buildings, which falls under the operational use umbrella, is used for residential purposes, and that too for providing housing to its employees at prime locations. The land that is under the possession of offices and other services is only 45 percent. The land under the possession of PR for operational purposes in Rawalpindi is presented in Table 10 below.

Table 10 PR Land Holdings in Rawalpindi City

Type	**Percentage**
Residential	66%
Services (Offices)	11%
Services (Public Use)	1%
Shed/store/workshop	2%
Welfare	7%
Others	13%
Total	**100%**

Source: Based on data provided by Pakistan Railways, Rawalpindi division.

The land that is used for accommodating railway employees is categorised under the operational use of PR. The classification of residential land under operational use neither allows its redevelopment nor allows its use on commercial lines. For the utilisation and redevelopment of such residential land held by PR at prime locations, it needs to be reclassified so that it can be excluded from the ambit of rules and statutes of operational use.

Housing Societies

The present state of PR demands effective utilisation of its land considering its financial health and given the location of PR landholding in the city, i.e., in and near the centres, with high market value demands professional land management. PR auctioned its land at prime locations on a long-term lease for cooperative housing schemes. There are eight railway cooperative housing societies, which are registered under the Co-operative Act of 1925 across Pakistan. Among all the societies, 550 acres of land is leased to schemes in Karachi, followed by 195 acres in Lahore. The city-wise area and number of projects are presented in Table 11 below.

Table 11 PR Land on lease for housing Co-operative societies

Name of Society	No. of projects	City	Area (in acres)
LARECHS	24	Lahore	195
FRECHS	9	Faisalabad	147
RIRECH	3	Rawalpindi	116
PRECHs	2	Peshawar	26
QRECHS	3	Quetta	55
KRECHS	15	Karachi	550
HRECHS	8	Hyderabad	41
MRECHS	1	Mirpurkhas	19
Total			**1150**

Source: National Assembly of Pakistan (2011).

Pakistan Railways, as per the Railway Act of 1890, is not permitted to use its land for private societies, and there are clear guidelines from the Supreme Court of Pakistan regarding the construction of private housing societies and allotment of land to railway employees. As per the directions[5] of the Supreme Court, PR cannot lease out its land for private housing societies and cannot allot land to its employees. Despite the Supreme Court's directions, 1,150 acres of high-value Railway land across Pakistan remains in the possession of cooperative housing schemes.

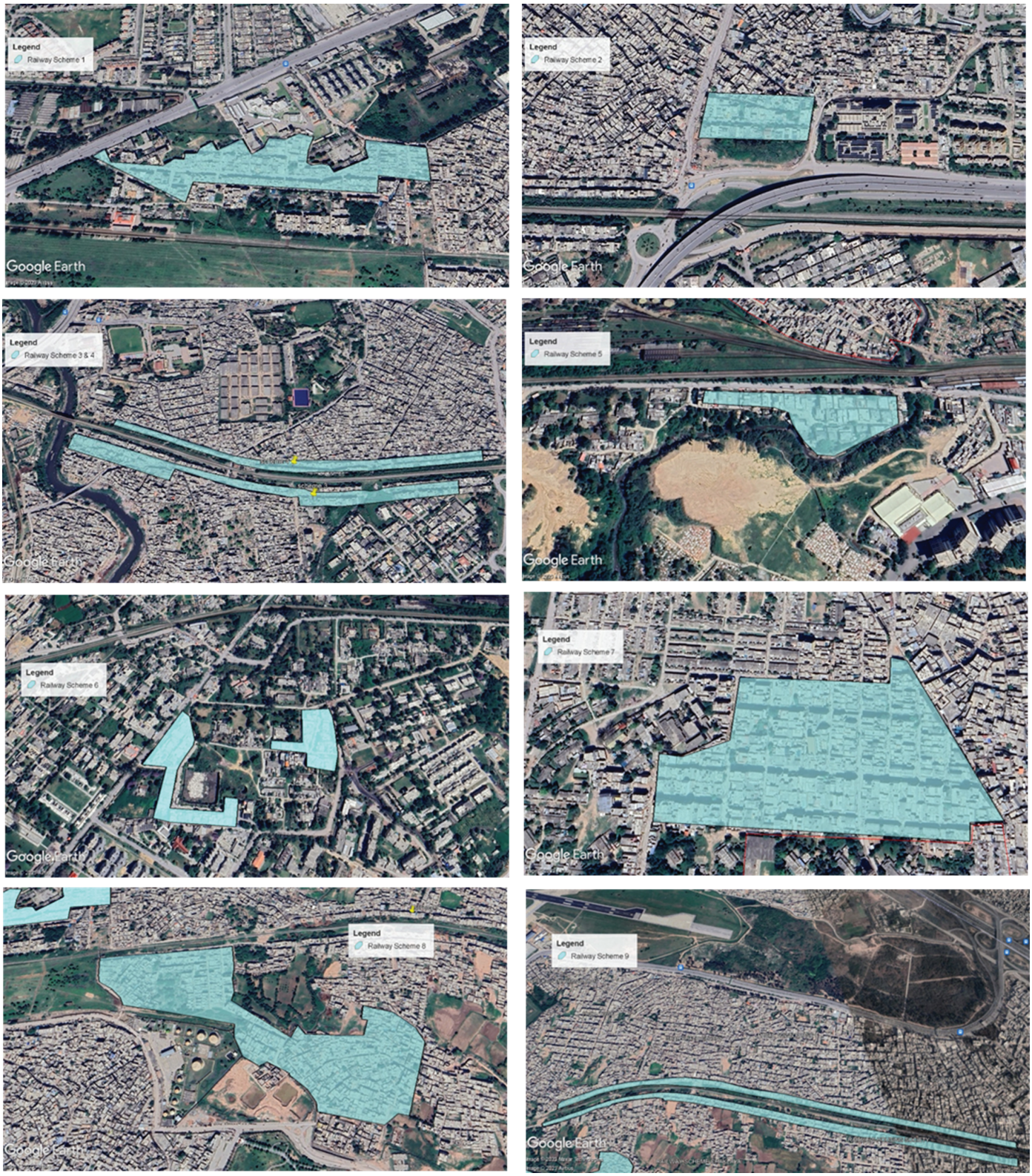
Only in Rawalpindi, the yearly rent on average that PR receives from the lease of land for cooperative housing societies is approximately Rs 11,000. The total area under the possession of cooperative housing societies in Rawalpindi is 116 acres, which is at a prime location and possesses the potential for alternative activities. Considering the area occupied, location and the revenue PR is getting out of it, it constitutes gross underutilisation of PR land.

Through repurposing the land even for residential purposes, PR can generate a revenue of PKR 37,480 million[6] through auction, which can be even higher given the competitive nature of the auctions. As per estimates, the land has the potential to host 27 high-rise buildings for residential purposes, with a total number of 17,640 apartments. The investment that will be generated as a result of construction activity will be PKR 90.9 billion, which will contribute significantly to economic growth and employment generation.

[5] 2020 SCMR 622, Supreme Court of Pakistan.

[6] 2020 SCMR 622, Supreme Court of Pakistan.

Figure 9 Pakistan Railway Cooperative Housing Schemes Rawalpindi



5. LEGAL REVIEW

The commercialisation of railway land in Pakistan is a complex issue, that is plagued by the legal structure governing railway and its land. Despite having significant land holdings railway is unable to unlock its dead capital, and generate revenue alongside the up-gradation and modernization of railway infrastructure. Therefore, the examination of railway law is important to identify the factors impeding the potential of railway land.

This section aims to identify the issues about the commercialisation of railway land that lead to its underutilisation. Acts, statutory regulatory orders (S.R.O.s), ordinances, and rules that are approved from time to time are reviewed to examine the law regarding the commercialisation and disposal of railway land. All this is supplemented by the analysis of case law (key judgments of high courts and the Supreme Court of Pakistan related to land). The criteria for the selection of case law are presented in Table 12 below.

Table 12 Exclusion and Inclusion Criteria for Case Law Analysis

Inclusion and Exclusion Criteria of Selection of the Cases	
Inclusion	**Exclusion**
Land Disputes	Pension Related Cases
Cases Related to Lease	Promotion related Cases
Case Related to Allotment	Recruitment/hiring Related Cases
Cases Related to Land Auction	Cases related to the Procurement and Transportation of Goods and Machinery
Cases related to Encroachment	Cases related to Outsourcing (Dining, catering, booking agency, wagons etc.)

Lastly, key stakeholders were interviewed, including railway officials and legal experts, to get rich qualitative data. This helped in capturing the perspectives, experiences, and insights of these stakeholders regarding the challenges faced by PR regarding land commercialisation and redevelopment. This approach resulted in a holistic understanding of the issues faced by PR and facilitated a deeper exploration of the underlying issues, perspectives, and potential solutions.

The following sections present an analysis and discussion of a review of the legal framework of PR. In the following sections, only the discussion relevant to the objectives of the study is presented. Similarly, the case law analysis is presented in the following sections.

Land Ownership: Provincial vs Federal Jurisdictions

Railway land was regularised under the Land Acquisition Act of 1894. These lands, however, were not transferred to the centralised railways; rather, they remained in the ownership of the British Crown. The Indian Act of 1935, Article 172 later, explicitly classified all the railway assets to be under the ownership of the central government, which were previously vested in the crown. In 1947, the partition of the subcontinent into Pakistan and India also resulted in the partition of railways assets previously held by the British Crown. These assets were transferred into the ownership of the federal government to be held for the use of railways, as Pakistan's provisional constitution order of 1947 adopted Article 172 of the Indian Act of 1935.

The newly formed State of Pakistan gave its first constitution for its subjects in 1956, which specified the 'One Unit' scheme whereby the whole territory was divided into two provinces, i.e., West Pakistan and East Pakistan (now Bangladesh). The Fifth Schedule of the Constitution included railways as a provincial subject and Chapter V of the Constitutional Bill 1956 had a provision for the provincialisation of railways. However, the decision was not according to the provincial demands. Subsequently, Section 7(a) of Presidential Order No. 33/1962 divided PR land, along with other assets, into Eastern Railways and Western Railways to be held for railways by the respective governments of these provinces. Provinces had financial autonomy and PR land records were transferred[7] to the provinces and some of them remained with the federal government, but railways remained the user of these lands in every case. Presidential Order No. 33/1962 was repealed by Presidential Order No 1&2/1970, and under Section 37 of this order, railway lands were rendered as the subject of the President of Pakistan for the new province[8]. Since PR has substantial land under its control, the need to generate revenue from the land that was more than its operational needs was felt in 1990 and, subsequently, an S.R.O was issued in that respect.[9]

Article 274 of the 1973 Constitution maintained the same position as P.O. 1 of 1970 concerning railway land. As the West Pakistan unit dissolved and old provinces were reinstated in 1975, the federal government maintains that railway land was to be handed back to the federal government, but that transition never occurred in revenue records, in most cases. The federal government also contests that railway land and other assets are its property because the land was acquired at a fair market value pre-partition by the crown and was handed over to the federal government of Pakistan post-partition. Since none of that land has ever been 'surrendered' or 'abandoned', provinces cannot assume ownership of such land unless the federal government chooses to abandon it or puts it up for sale. Even in the case of a sale of such land, provinces can acquire such land only by paying a fair market value. The federal government, in its capacity as the owner of such lands, can, however, classify such lands as available for alternate uses as it deems fit.

Figure 10 Railway Land Ownership

[7] Circular No.109 of Board of Revenue of West Pakistan stated that the title of railway land shall be transferred in the name of the province.

Land Commercialisation

Railway land was meant to be used for operational purposes when it was acquired in the sub-continent. The land at that time was acquired for public works to facilitate railway operations and future expansion. Since commercial utilisation of land was not envisioned at that time, the Railway Act of 1890 and ordinances, which were enacted afterwards, do not provide any provisions for the commercial utilisation of the Railway land. The Railway Act of 1890 also does not explicitly restrain PR from commercial utilisation of already acquired land. Changing dynamics and role of stations, and for utilising large landholdings for revenue, different S.R.Os. and notifications were issued for commercial utilisation of land.

The first guideline for railway land commercial utilisation is in the Pakistan government's Railway Code for Engineering Department (PGRC) 1962, which are the rules set under the provision of the Railway Act (1890). Therein, item number 807 of PGRC, 1962 states the commercial utilisation of the available PR land for revenue generation purposes. Later, S.R.O. 692 (1) /90 gives the general manager the power to acquire, lease, and dispose of land, but the S.R.O. does not provide any guidelines or provision for the commercial utilisation of railway land. The legal standings for the utilisation of PR land for commercial purposes were given through S.R.O No 693(1)/90. It allowed PR to use its land for commercial purposes by setting up a property development and management unit as a separate entity. It also provided directions for the identification of land for commercial utilisation along with commercial exploitation of railway land in line with PPRA rules and guidelines. The leasing of railway land was to be conducted under the rules set out in the PGRC 1962, which were framed under the provision of the Railway Act of 1890.

The provision to dispose of railway land that was surplus to its need was also provided through a cabinet and National Security Council Notification No. 3/JM/99-D. It allows PR to release its land by sale which is not required for the operations of PR and is surplus to its needs.

PR was using its land for commercial utilisation based on the above-mentioned legal provisions until the Supreme Court barred PR from leasing its land for not more than a period of five years. In a subsequent judgement,[10] the Supreme Court barred PR completely from selling, leasing, and transferring its land on the grounds that the railway land can only be used for operational purposes[11] of railways. PR land was severely affected by the Supreme Court decision. The leases that were about to end or ended after the decision, were not renewed, leading to encroachments on land and land lying idle. Even though the land was underutilised, the sub-optimal revenue it was generating decreased.

In a recent judgement,[12] the Supreme Court allowed PR to lease out its land for up to 5 years and directed PR to get a legislative framework approved by the cabinet or national assembly for the utilisation of land on commercial lines. This led to the approval of S.R.O 768(I) 2023 to provide legal standing to leases, licensing, and concessioning of railway land.

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[8] Section 172 of the Government of India Act (1935) was added to the Pakistan Railways Engineering Code (1962) that expressly mentions that all land buildings vested in his Majesty before April 1937 and were then used for purposes which thereafter became purposes of the Central Government. In post-independence Pakistan, same status of these assets stood vested with the Federal Government.

[9] S.R.O.No.693(I)/90 dated 27.06.1990 calls for surplus operational land to be used for commercial purposes through its 'Property Development Management'.

[10] 2022 SCMR 105, Supreme Court of Pakistan.

[11] As directed in Railway Act 1890.

[12] C.M.A 7139/2019.

Railway Land and Property Rules

Through S.R.O 768(I)2023, the federal government approved "Railway Land and Property Rules, 2023" to govern PR land for revenue generation purposes and to ensure the safety of its land from encroachers. The rules have explicitly barred PR from selling its land. The land is only to be leased through short-term, medium-term, and long-term leasing, licensing and concessions.

Lease Period: Short-term leases will only be for periods of up to 5 years, medium-term for up to 21 years, and long-term will for up to 33 years. The period against the land type is less than what is required in most cases as establishment and operations by the lessee require more time to get returns from the activities carried out on the leased land. Leases for such a duration are not sufficient enough to attract huge investments and discourage the development of PR infrastructure.

Sludge: The new rules empower the divisional superintendent for approvals of site plans and the execution of bids. The procedure laid out regarding the process demands approval, at least in the case of short-term leases, from the directorate of land management after the identification of the site by the divisional superintendent. The execution of the agreement by the divisional superintendent will also be subject to the approval of the competent authority. All these processes will add up to the friction that already exists in the system, leading to sludge.

Valuation: The new rules state the valuation for a benchmark for the auction of land to be an average between the market rate and the deputy commissioner (DC) rate. The evaluation based on the DC rate for setting the benchmark is a flawed approach because in most cases instead of the market value of the land the undervalued DC rate will be used. This will not only decrease the revenue from the commercialisation of PR assets but will also understate the price of the land, eventually leading to its underutilisation. The evaluation for all the cases must be based on the market value of the asset, ensuring maximum revenue generation.

Railway Land Disposal

The railways is required to use all of its available[13] lands for commercial purposes and is directed to release the land that is not required by it. The directions[14] are to limit its landholding to its actual requirements, however, so far PR has been unable to reduce its landholding. At present, PR land that is not used for its core operations and is either lying idle or is leased against low returns

The guiding rules state that the land that is not required for the effective discharge of its duties also includes the "Land and buildings in the possession of railways but lying idle and not actually required for railway purposes in the near future" and "Lands and buildings rented out for the purposes unconnected with the working of railways". Going by the stated criteria, the leased-out land to the private sector is better disposed of if not utilised to its true potential leading to suboptimal returns. The procedure laid out in the PGRC, 1962 rules for disposal of land is such that it discourages efficient disposal of the railway land. The step-by-step procedure for disposal is stated below.

1) Firstly, the land should be offered to any department possessing land in the vicinity of the land to be disposed of.

2) If the land to be disposed of is not in the vicinity of any central government department or is not accepted by any central government department when offered, in this case, it shall be offered to the provincial government.

[13] According to Item No. 807 of PGRC, 1962, the railway land that is not eligible for disposal and is lying idle is termed as available land.

[14] According to Item No. 823 of PGRC,1962, the railway administration is required to limit its landholding and justify the retention of the land under its possession; if unable to do so, shall dispose of its land.

3) In case central government departments and provincial government departments decline the offer then the land is to be disposed of in the best way possible[15]. If this is the case, the procedure for disposal adopted by Pakistan Railways as mentioned in Item No. 827 is:

   a) In the first place, asking the provincial government to undertake the process of disposal and railway is to just be in agreement with the agreed upon terms.

   b) If the process of sale negotiations is not undertaken by the provincial government, then Pakistan Railways should undertake the process and request the provincial government to conduct the final transaction upon arranged terms.

   c) If the provincial governments decline to undertake the sale for negotiations or even carry out the transaction, then the railway administration should undertake the whole process.

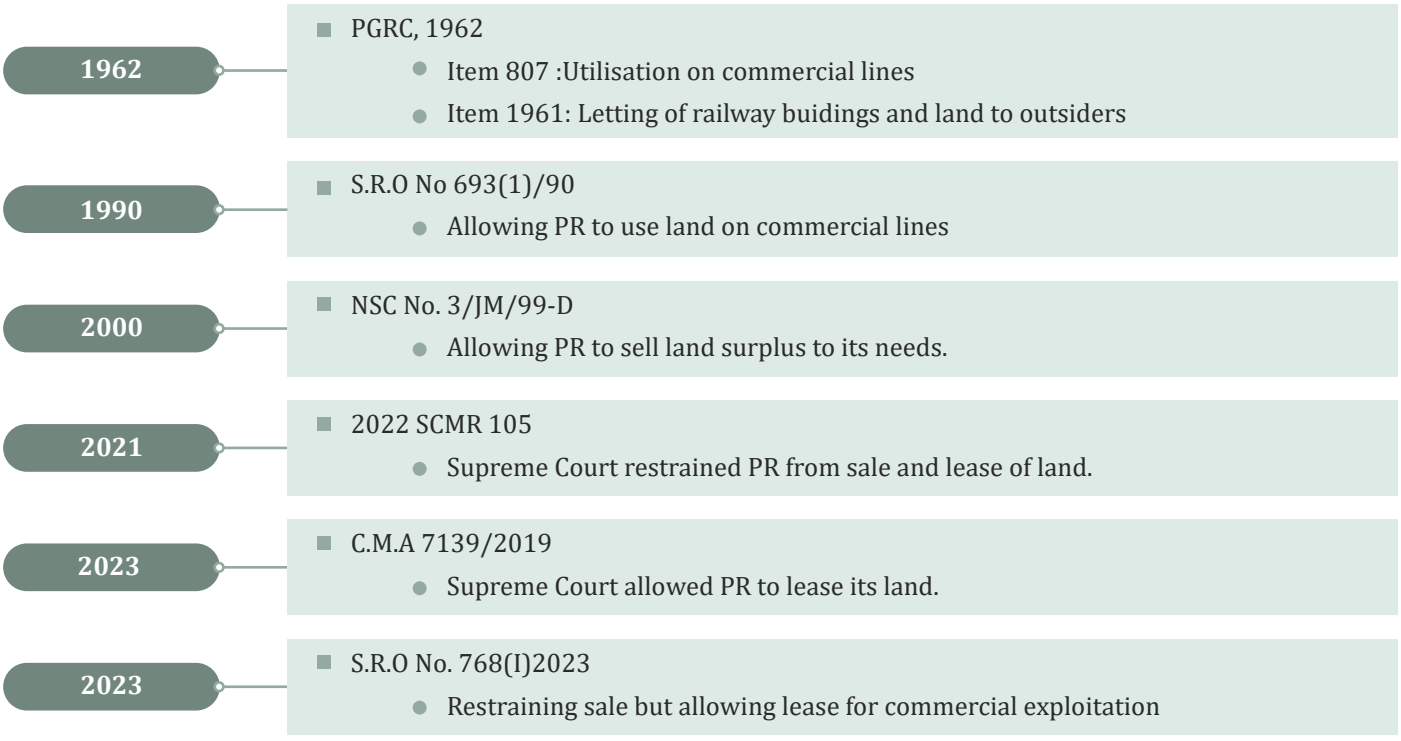
However, in case the agricultural and pastoral lands that are to be disposed of were acquired previously, then the rule follows the provisions laid down under the Land Acquisition Act and the way it is to be disposed of is as follows:

1) At first offering to the persons from whom the land was acquired or their legal heirs if discoverable.

2) Offering to the owner of the adjacent land in case the plot size and dimensions are such that they are only of value to the adjacent land owner.

How PR is to sell its land is cumbersome, lengthy, and not feasible, ultimately discouraging PR from disposing of its land, and its continued retention in an underutilised state.

Figure 11 Commercial Utilisation

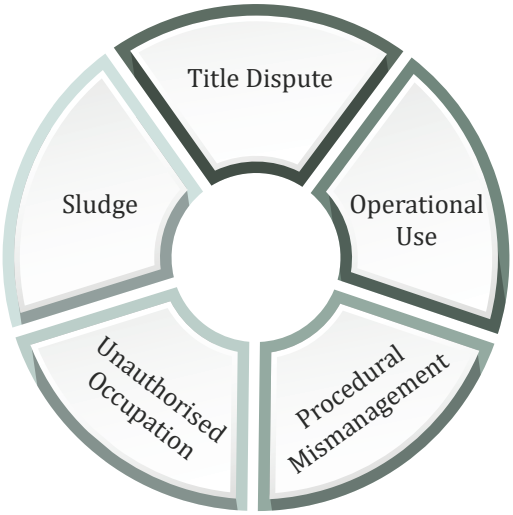


[15] If no reasonable offer is received, then according to Item no. 826 of PGRC, 1962, the land must be retained and managed by the railway administration.

Case Law Analysis: Impediments, Issues, and Practices

The case law pertaining to various land and other assets-related issues under PR gives us useful insights into the nature of matters surrounding PR land and the legalities around it. Upon careful and in-depth review of selected case law, these disputes are categorised into main themes that correlate with the issue under discussion in this report.

Figure 12 Themes Case Law Analysis



Title Disputes Between the Federal Government and Provinces

Perhaps the most glaring disputes on the PR land are between the federal government and provincial governments, both claiming rights to the land in their respective jurisdictions. The federal government has long maintained that all land held for PR falls under its jurisdiction therefore any matter related to its lease, transfer, sale, declaration, etc. also, naturally, falls under its purview. However, after the dissolution of the 'one unit', provincial governments were to transfer possession of all the land held for PR back to the federal government, which after the passage of several decades has not yet been completed. The mutation of railway land has also not reverted back to PR in revenue records by the provinces, which was due after the dissolution of one unit, leading to unnecessary litigation and encroachments.

Since the ownership of the PR land claimed by provinces is contested by the federal government, any use of it, for example, leasing or disposal as well as revenues arising thereof is also contested.[16] There is a recurring pattern of the use of the PR land for housing schemes and katchi abadis by provinces that have a self-claimed[17] right to this land. Thus, in matters related to lease, transfer, sale or declaration of these lands, the federal government and Provincial Governments are often in dispute with each other.[18,19] Also, at times, development authorities and other provincial departments have also disputed the ownership of land by PR and have proceeded to occupy, auction/utilise[20] the land as they have seen fit. It is, therefore, not too rash to argue that this title dispute often

[16] P.L.D 1991 Karachi 359.

[17] 2006 YLR 1556.

[18] 2001 YLR 2131.

[19] 1987 MLD 1402.

[20] 2003 SCMR 563.

leads to the opportunity for parties to either encroach on the PR land or occupy it without reasonable compensation.

Citing these issues, any attempt by provincial governments or other parties to unilaterally declare the land held under PR for purposes other than that specified by PR[21] has been disputed by the federal government where the honourable courts have noted that no party other than the federal government holds absolute ownership of the lands under PR and, thus, have no power to declare such lands for alternative uses. The honourable Supreme Court notes that:

> *"18. ... The land in question admittedly stood acquired and vested in Pakistan Railways/Federal Government. Under what authority of the law were the provincial authorities undertaking allotments/sub-divisions of the same and issuing NOCs and approvals remains a mystery..." (2022 SCMR 785)*

Commercial Utilisation

One of the biggest legal hurdles in the commercialisation of the PR land is a very narrow classification of the 'allowed' land use only for railway operations. This makes it very hard, if not impossible, for authorities to repurpose the PR land for commercial purposes to unlock its potential and earn revenues. Since acts and ordinances do not provide any provision for the commercial utilisation of the railway land, it has prompted courts to restrain PR from utilising its land for commercial purposes.

> *"22. ...Not an inch of Railways' land shall be sold, transferred, leased or by any means, given to any private person or to any of its employees. All Railways land is required to be used for Railways operational purposes and for no other purposes. We, therefore, direct that no Railways land shall be sold by the Pakistan Railways or transferred, leased, or allowed to be occupied by any person and shall be used only for Railways' operational purposes." (2022 SCMR 105)*

The important point to be noted here is that even though the Railway Act of 1890 does not allow for commercial use of the PR land, it also does not expressly prohibit any such use. Thus, a pattern of the provision of commercial utilisation and welfare housing through an S.R.O. and cabinet notifications can be seen from time to time but not in acts and ordinances. The rules governing the PR land, however, allow for the 'surplus assets' to be either leased out or given under license for use.[22] However, since commercial utilisation of the PR land does not have an air-tight legal cover, it easily becomes the target of subsequent litigation. In a subsequent judgement, the Supreme Court allowed PR to lease its land for up to 5 years and directed PR to get an appropriate legal framework approved by the cabinet or parliament if needed.

Housing Societies

PR's land that is located in prime and lucrative positions with significant economic potential is either encroached upon by individuals outside PR or is illegally used to build unauthorised private employee housing societies. There are even instances where the land was allotted by PR to its employees for which there were no provisions available in the law. The gravity of the issue is noted in Karachi, where a substantial portion of land is either allowed to be encroached upon or converted into housing societies. The misuse of the courts has further complicated the issue as at times courts are misinformed[23] by employee housing authorities to get interim orders.

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[21] 2006 YLR 1556.

[22] See 2020 SCMR 1001.

[23] 2020 SCMR 622.

An observation by the Supreme Court highlights the legal standing of the issue at hand, which is produced below.

> *"9. ... We have gone through the Railway Act, 1890, Railway Board Ordinance, 1959 and also the Railway Regulatory Authority Ordinance, 2002 and have not been able to find any provision in them where the Railway can allow any of its land or infrastructure to be converted into that of a private housing society. There is no provision in these laws, where the Railway may have been allowed to acquire land for making of a private housing society for its employees. If there is any provision for acquiring of a land, the same has to be for the purpose of Railways, its operations, and infrastructure and nothing beyond that." (2020 SCMR 622)*

The land use classification in the legal framework is important. The absence of provision for commercial utilisation of railway land in the acts turns railway land into dead capital. Similarly, non-commercial utilisation of the railway land by constructing housing societies at prime locations also results in the land's unproductive use.

Procedural Mismanagement

A substantial portion of the case law related to land issues of PR is indicative of the fact that most disputes could have been avoided had the correct procedural requirements been followed in these matters. The commercialisation of the railway land is greatly affected by the actions of the administration where the due procedure is not followed and the terms of the agreement are not determined[24] and honoured[25].

It has been noted several times in judgments of the honourable courts that PR officials failed to observe established rules and regulations. The failures spanned various domains, including the formation of review committees.[26] Instances abound where officers allowed unauthorised occupation and issued NOCs without possessing the requisite authority.[27] Additionally, arbitrary and unilateral decisions have been issued without notice,[28,29] sidestepping the principles of fairness and transparency.

Even the fundamental process of allotment for residential quarters[30] is subject to irregularities. In some cases, the allotment of land is made merely by oral arrangements.[31] As a result of such procedural oversights, inquiry into the validity of the claim by parties takes a back seat to the inquiry into the insufficiency of the procedural requirements.

Unauthorised Occupation

The issue of illegal occupation continues to plague PR and its operations. Illegal occupation of the residential units and lands held for use under license[32] even after the expiry of the agreement and license is a major issue highlighted in the case law. The situation arises as individuals have forcefully occupied PR residential units

[24] PLD 1971 Karachi 35.

[25] 2017 CLC Note 42.

[26] See 1983 PLC 399.

[27] 2014 CLC (C.S.) 356.

[28] See 1988 CLC 1525.

[29] See 2003 CLC 331.

[30] See 2020 SCMR 1001

[31] See 2021 CLC 1771

[32] See PLD 1982 Quetta 134

without proper authorisation,[33,34,35] by using fake documents,[36] or illegitimate claims of inheritance.[37] The involvement of PR employees, both as occupiers and facilitators, has further complicated the matters.

The issue is further compounded by how illegal occupation is dealt with. In most cases, PR refrains from eviction from the occupied property from encroachers and occupiers before repurposing initiatives. The matter triggers court cases leading to stay orders against repurposing of land and halting the initiatives. Consequently, the land which could have otherwise contributed to PR growth, remains locked in legal battles as dead capital.

Sludge

Even in those matters in which PR has taken the initiative to repurpose its 'acquired' surplus land for commercial purposes, it has been noted that the law does not allow a completely clean authority to transfer the title to such land without prejudice,[38] i.e, the provision of the Land Acquisition Act, which are activated once the land is excluded from the ambit of operational use. The disputes arising because of this discourages initiatives by PR for the commercialisation of its land.

The sludge that arises due to NOCs demanded by district authorities and the delay at PR's end cause a loss of interest and engagement by stakeholders in the commercialisation process.[39] The friction created due to sludge is also seriously affecting the function of PR in matters that involve financing.[40] It was also noted by the Supreme Court, as quoted below.

> *".....Pakistan Railways seems to have unending paperwork that needs to be done, including that of financing, before it actually starts working on the KCR..... " (2020 SCMR 622)*

The complexities stemming from the legal and bureaucratic bottlenecks affect the overall operational efficiency and vitality of PR, casting a shadow over the initiatives aimed at the utilisation of available land for commercial purposes.

Key Insights from Stakeholders

During and after the analysis of PR's dead capital, key personnel from within the Railways Department, academic scholars who have worked on issues related to PR, professionals who have worked in this field, and legal experts for their opinions on a wide range of topics concerning PR's redevelopments, impediments, and a way forward were interviewed. Interview questions were designed keeping in mind certain themes based on the objectives of this study and we have taken the liberty of summarising the views and opinions of the participants under each theme for the reader.

[33] See 1983 PLC 118

[34] 1983 PLC 399

[35] 2003 SCMR 1957

[36] See 2012 CLD 706

[37] See 2020 MLD 1310

[38] See 2001 YLR 2856

[39] 2017 CLC Note 42

[40] 2020 SCMR 622

Figure 12 Themes Case Law Analysis

Railway Land Management

PR's land assets have a peculiar history that predates the creation of Pakistan. Crown-owned land of the railways network in the subcontinent was envisioned and designated for the purposes that served its core functionalities, e.g., transport of passengers and goods. But modern railways all over the world today have come a long way since the British era. Railways in any economy typically hold large chunks of land for their operations, and now do not only serve to transport but have appropriate uses for their land holdings to provide a host of services for its customers such as hotels, shopping malls, lodgings, etc. In Pakistan, even though there are vast chunks of land under PR's management, it has failed to reimagine its use to provide a wide range of services to its customers and generate revenue for its overall betterment.

Participants of interviews unanimously acknowledge the fact that reimagining the use of the PR's land has been a major failure. With many reasons that impede PR's redevelopment, poor management of its assets has come up over and again in the discussions. The fact of the matter is that while PR is an entity whose core function is to transport passengers and goods, it lacks the professional understanding and expertise for asset management in the modern age. Over time, there have been multiple suggestions from academia and professionals to reform PR's land management by either completely privatising, entrusting this job with a PPP, or creating independent specialised departments to perform this function rather than keeping the ownership and experimenting with half-cooked policies.

PR has not been very receptive to ideas that lead to complete privatisation of its landholding. Technically, since longer-term leases of land in Pakistan are synonymous with outright sales, PR is more interested in leasing out its property for the long term but keeping the title with them. In a recent policy, PR has increased the maximum duration of the lease to 33 years extendable to successive terms. However, to ensure a suitable and stable revenue stream, PR has to adopt practices to ensure only market values are considered in land-related transactions instead of benchmark or DC rates.

PR, historically, has managed land either through its land directorate or very recently through REDAMCO, which is a land management subsidiary of the Ministry of Railways. However, the subpar performance of REDAMCO in recent years has raised questions on whether PR should manage its assets through a private asset management group, PPP, or itself.

Sludge

The centralisation of PR's administrative structure has its roots in the British Raj. A vertical administrative system with many layers not only tends to concentrate decision-making power at the top but also makes timely decisions an impossibility due to the unnecessary inclusion of administrative layers with none of them having enough authority to resolve the matter. If a matter of approval for a 'khokha' on the PR land has to hop several administrative layers to get a decision, then it is clear that the whole system is administratively inefficient.

Participants have over and again stressed that due to the centralised nature of decision-making at PR, matters that require urgent attention are often neglected and result in a pileup of unresolved issues and a loss of revenue for PR. There is, thus, an urgent need for an overhaul of the administrative setup from a top-down approach to a setup that has devolved authority at the department level for speedy decisions on matters and to ensure that operations run smoothly.

Legal Hurdles

The basic legal code that governs PR today is the Railways Act of 1890. Though there have been some changes and amendments to this act, the core of this act has not changed which represents the vision and the purpose of railways. The needs and functionalities of PR have, however, evolved and the need for a comprehensive code that deals with matters of modern railways is felt the most.

In most matters regarding land issues, PR has been on the back foot because the current state of legislation around railways tends to provide loopholes for parties to exploit agreements with PR or outright abuse stipulations of the law to their advantage. Our participants from the railway department stressed the need for a comprehensive overhaul of the legal aspect of these matters where courts provide stay orders on land issues to parties against PR delaying the resolution when the Recovery of Possession Ordinance,1965, Section 10 provisions states that no stay can be provided in matters relating to federal lands. Other loopholes are exploited based on practices that have benefited people such as katchi abadis and their subsequent regularisation by the government. It makes the job of PR many times harder because of the loopholes in the law that strengthen the case for parties against PR in disputes.

Analysis Paralysis

The government's footprint on Pakistan's economy is substantial. Whether the government contesting the marketspace with private entities is efficient or not is a separate debate, but the sheer size of this intervention has been responded to with calls for a reduction in the size of the government. The reason for the calls for a reduction in the size of the government is in the context of regulations where the government tends to overregulate operations. A similar situation unfolds at PR.

Our interviews suggest that PR's decisions and actions regarding commercialisation and redevelopment are overly scrutinised. Due to their partly political nature, changing regimes target and shuffle decision-making structures. This leads to two kinds of issues. First, it stalls the decision-making process because an initiative needs to be vetted for approval by any number of regulatory agencies. Second, it deters the decision-makers from making any decision at all for fear of pushback. PR has struggled in this regard for the interviews give this indication that many decisions are not made for the simple reason that there might be pushback from regulatory agencies like NAB, etc. The way forward in this regard is to liberate the decision-making structure from unnecessary regulatory pressure.

Human Resource and Efficiency

Since 1947, PR has mainly been a service provider, i.e., transporting goods and carrying passengers. The evolution of PR in terms of commercialisation and redevelopment has brought PR's human capital under a great deal of stress. Opinions from interviews suggest that this evolution has caused confusion in PR about whether it should see itself as a commercial entity or a service provider as both entail very different mindsets and decisions. It is also a matter of concern whether PR in its current state has the capacity in terms of its human capital to take matters, such as commercialisation, redevelopment, management of assets, etc., that are not part of its core operations. Opinions in this regard indicate a deficiency of both efficiency and vision. The efficiency of the whole administrative structure is very low, which is exacerbated because of the lack of vision of what a modern railway should look like. PR, for the most part, despite consistently making losses for the past 40-plus years, has been trying only enough to keep its operations running rather than trying to reimagine and reform railways for it to prove itself an entity worthy to be called a railway of the 21st century. The way forward can be either to improve PR's human capital and skill development or PR can consider delegating the non-core functions to a more specialised third party for management.

6. CONCLUSION

PR owns 169,128 acres of land of which approximately 17 percent is used for its various non-core operations. Despite classifying a substantial portion of land for activities such as rent, lease, etc., most of this land is dead capital. The majority of the land is in and around city centres and has a significant potential for commercial activity. There is a surprising lack of structured efforts towards commercialisation for the realisation of competitive/market-based revenue streams. Thus, most of the land, if utilised, is being used either for agricultural purposes, is leased at rates far below market rates, or leased to other government departments taking away PR's potential to generate substantial income.

The classification of land use has also contributed to the railway land becoming dead capital as the land under the operational use category is not available for any commercial activity. Under the operational use umbrella, the land classified as official buildings also includes the land under the possession of railway employees for residential purposes, i.e., quarters, bungalows, etc. The share of residential land within the official buildings category is 66 percent only in Rawalpindi, representing a huge dead capital.

The legal construct around this land, both internal (policies and practices) and external (acts, rules, and procedures), pose the biggest hurdle in the commercialisation and redevelopment of PR assets due to various issues. Externally, the rigidity of the laws governing PR, e.g., acts and rules, poses a challenge to the PR land's potential evolution towards commercialisation and redevelopment. The rules and laws governing the disposal of land are cumbersome, time-consuming and non-competitive, ultimately discouraging PR from commercialisation of its land. The implication of the Land Acquisition Act also acts as an impediment as it discourages PR from declaring any of its land for commercial purposes, both for disposal or commercialisation by lease, etc. The acts and ordinances surrounding PR do not provide any explicit provision to guide the commercialisation of railway assets. Rather than properly legislating a way forward, rules are notified through statutes from time to time. These statutes have created uncertainty, which is evident from frequent changes in stance on the commercialisation of the PR land over the years.

The dispute of title between PR and provinces/provincial departments is another issue that hampers the utilisation of land on commercial lines, and, at times, leads to litigation. The legal structure also makes the commercialisation of land harder as stays are granted and litigation continues for years. Owing to the litigations, the land remains under unauthorised occupation or unproductive for years.

Internally, PR has been a victim of the unprofessional conduct of its administrative staff, who indulge in procedural misconduct leading to unfavourable eventualities. In other instances, PR's inability to protect its land from encroachment and unauthorised occupation is a glaring example of the incapacity of its operations. On top of all that, PR reinforces and protects a top-down style of management with several unnecessary administrative layers which increase sludge and discourages timely and effective decision-making.

Globally, modernised railways use their lands to build a consumer-centric ecosystem, which becomes the key tool for economic growth. In Pakistan, however, most of the land surrounding key operational facilities, such as stations and rails, is either converted into residential areas (housing for railway employees) or leased out at surprisingly low rates for residential purposes. The case of Rawalpindi railway station is no different as it is surrounded by approximately 160 acres of land that is used for hosting PR employees. Another 1,150 acres of PR land across Pakistan is leased out to cooperative housing schemes for railway employees at suboptimal rates. In Rawalpindi, PR has leased 116 acres of land to cooperative housing societies at 11,000 average rents, which is gross underutilisation of the land. This land can generate a revenue of PKR 37,480 million for PR through auction and possesses the potential to host 27 high-rise residential buildings, generating economic activity of PKR 90.9 billion through construction.

It is hard to find a reason for PR to hold and manage land that does not come under the use of its core-operations for the simple reason that PR is not an asset management company and, thus, lacks the vision, the will, and the expertise to use the land to its full potential. Even when there is a will, the decision-makers do not feel confident to take the next step simply because changing regimes come with changed priorities. If PR is to be successful in achieving this feat of evolving into a commercial entity or the modern, an overhaul of the legal construct surrounding it is of the utmost importance along with a complete overhaul of its human resources.

7. POLICY RECOMMENDATIONS

Modern railway infrastructure has come a long way from just carrying goods and passengers. The transport of goods and passengers is still the core function but has evolved even further to provide a commercial user experience by building an ecosystem of amenities. This vision for the evolution of railways places it at the heart of the industrial and commercial growth of any economy.

PR infrastructure and its governing laws, even after more than seven decades, have shown little change, at least in its vision and operations. This somewhat rigid attitude has left PR unable to meet the needs of the modern economic setup, uncompetitive, and a loss-making entity. There is, thus, an urgent need to reimagine and reform PR for it to enable Pakistan's economy to realise its economic and geo-political potential. But there is no magic wand or any quick fixes as the evolution of PR requires a comprehensive multifaceted approach for its revival. Below, a few policy avenues and recommendations that are informed by the analysis in this report are discussed.

Provisions for commercialisation/redevelopment through amendments to acts/ordinances

The main law that governs PR is the Railways Act of 1890. Though it has been amended from time to time, it lacks in covering certain aspects of modern needs due to the underlying vision with which it was made. One glaring example of it is that though the Railways Act does not prohibit commercialisation and redevelopment, it does not provide explicit provisions to enable the commercialisation and redevelopment of PR land, which makes it necessary to amend the law to allow for such activities so that PR could earn suitable revenues from its assets. This will also add certainty concerning the commercial utilisation of land.

Land Acquisition Act provisions

Moreover, the land acquisition act that oversees the acquisition and disposal of PR land presents a substantial challenge to repurposing the railway land according to best market practices, both for disposal and lease. For PR to earn market-based revenues from the disposal and lease of its surplus and available land, rules need amendments primarily to repurpose any parcel of land without any prejudice to its authority, ownership, or claim. Secondly, explicit provisions need to be added to make the whole process market-based and competitive.

Enforcing mutation of railway land titles

The mutation of the railway land should be enforced by the provinces so that the railway land that is under the ownership of provinces in the record of rights is reverted to PR.

Reclassification of land use

The land under operational use cannot be used for any commercial activity and is considered to be used only for core operations of railways. Therefore, the railway needs to reclassify its land use and exclude the residential land for railway employees from the operational use category, and make it available for commercial utilisation and redevelopment afterwards. The majority of such land is near the railway stations and has the potential for commercial activity it will help PR to generate much-needed revenues.

Repurposing of the land

PR land that is leased out to the cooperative housing societies must be repurposed as it is causing significant revenue losses to PR and is without any legal standings. Repurposing all such land will help PR to put this land to profitable use.

Increasing the lease period

At present, the rules laid down for leasing/licensing do not provide enough time to build trust with the lessee to attract sizeable investment. Thus, the period of short- and medium-term leases needs to be increased.

Decreasing administrative sludge

PR administrative structure at present is very centralised. Certain functions and responsibilities that should ideally be decentralised at a much lower level in the administrative hierarchy are still bound to a centralised file culture. Thus, forcing the decision-making process to unnecessarily travel through several administrative layers not only increases the decision time but also causes inefficiencies. Delegation of function and responsibilities with the appropriate level of authority is the way to improve this administrative sludge in PR.

Staff capacity enhancement

The very conception of PR as a state-owned public good provider has over the years caused it to be an entity that has become complacent in the face of global standards of competitiveness and efficiency. This complacency is reflected in the state of PR's human capital as well. PR, over the years, has had to suffer at the hands of the unprofessional conduct of its employees either due to lack of education, training, or violation of rules. There is a need to train PR's staff on an urgent basis to build up their capacity to carry out their designated functions properly.

Redevelopment through clear goals and PPP

The study of a few noticeable test cases reveals that clarity in goals from development and enabling ownership of the public are two of the most important aspects of its success. PR, despite having substantial assets under ownership, has been unable to reimagine and justify its existence as a 21st-century service provider. There is, thus, a dire need to visualise PR's central importance in Pakistan's growth prospects and redevelop it by joining hands with the private sector.

Policies consistency

The basic set of rules that governs PR to this day is the Railways Act of 1890. However, the goals with which this Act was promulgated to regulate railways in the subcontinent were much different from the set of PR's needs today. Rather than completely overhauling the Act according to the modern needs of PR, there has been a persistent culture of temporary legal arrangements. This not only creates confusion as to the direction in which PR needs to move but also the credibility of these arrangements. Consistency in policies is imperative regarding PR land utilisation and management and overall governance.

Perhaps the most contentious issue concerning PR's land is settling on a potential land management model. Suggestions from the academic and professional circles range anywhere from a railway subsidiary-owned centralised management model to a completely privatised management model in the form of a railway endowment fund. In between these two extremes, a management model based on a PPP or management through a third-party asset management company could be explored. The present study indicates that both extremes are not suitable for land management. However, a complete privatisation can hurt PR's future expansion concerns and centralised management leads to poor management and revenue generation. It is, therefore, recommended that PR stands to gain from entrusting its land management to a third-party asset management company that has expertise and vision for PR's commercialisation while also keeping intact the ownership of PR.

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PART II

SLUDGE & DEAD CAPITAL

Policy Briefs

CRITICAL APPRAISAL OF THE LEGAL-INSTITUTIONAL STRUCTURE OF REVENUE COURTS IN PAKISTAN: MINIMISING SLUDGE IN AGRICULTURAL PROPERTY CASES

Saad S. Khan, Ambreen Ashfq, and Mahrukh Imtiaz

INTRODUCTION

The revenue court system of Pakistan is arguably a neglected segment of the country's justice system. As opposed to the civil courts, which deal with civil disputes involving (mostly urban) property, the revenue court has been defined as "[a] *Court having jurisdiction under any local law to entertain suits or other proceedings relating to the rent, revenue or profits of land used for agricultural purposes.*" These courts and their procedures are governed by the West Pakistan Land Revenue Act of 1967 having exclusive jurisdiction on matters of mutation, partition, inheritance and those pertaining to the production of agricultural land. These courts are presided upon by civil servants from administrative services. Starting from the tehsildar to the assistant commissioner, the route in a revenue court goes up to the commissioner and finally to the Board of Revenue (BoR), which is the final authority in each province.

Land is the most expensive—and probably the most important—asset for the people, especially in the rural areas, of Pakistan. This is depicted by the fact that not only 60%-70% of the civil litigation in the country pertains to landed property but 40%-50% of criminal litigation is also invariably due to land-related matters. These agricultural land and irrigation water-related cases ordinarily take decades to be adjudged. This delay is caused, among other things, by what the famous economist Sunstein calls "sludge".

"Sludge" is any excessive friction that makes it harder for people to do what they want to do. In economic terms, sludge costs are calculated by measuring avoidable costs that the litigants have to endure such as direct expenses, like court fees, indirect costs, such as travelling, and, finally, the psychological due to the stress and strain of the prolonged litigation. On the macro level, the collective costs of the sludge in revenue courts were calculated to ascertain how much of a drag it is on the GDP.

The study on which this policy brief is based found out that if a person gets involved in litigation related to agricultural property, it may cost up to four-fifths of his annual income in litigation-related costs at least in the year the case was instituted. More often than not, both parties might not be able to use their land to productive use due to it being a subject of litigation. This might inhibit productivity thereby resulting in a loss of economic growth (hence lower GDP) for the country. The value of disputed land held up in litigation comes to nearly one-sixth of the rural GDP in Pakistan. Much of this sludge is avoidable through smart governance such as digitization initiatives as we shall discuss in the findings section below.

METHODOLOGY

A three-tier approach was formulated that involved (i) conducting a sludge audit of the revenue courts of Pakistan through surveys of the litigants; (ii) conducting specific interviews of revenue officers regarding the functioning of the revenue courts, and (iii) proposing fresh legal reforms or supporting existing ones to help simplify the procedures.

Based on their proximity with the provincial capitals and the quantum of revenue cases pending in their courts, the study identified four districts, namely, Kasur and Toba Tek Singh in Punjab, and Mardan and

Dera Ismail Khan in Khyber Pakhtunkhwa, for conducting field research. The questionnaires were administered digitally in Punjab and manually (paper-based) in KP.

Relying on a mixed method approach, both quantitative and qualitative data were collected, collated, and analysed. The questions asked from the litigants included the nature of their cases in revenue courts, the duration since the case was first instituted, the direct and indirect costs they had to incur etc. In the analysis, all issues that make it difficult for litigants to achieve early adjudication and secure property rights were quantified. Finally, given the enormous literature available around to show that secure property rights and efficient judicial systems are significant contributing factors to higher economic growth, the drag on the GDP due to judicial inefficiencies was calculated.

FINDINGS AND CONCLUSIONS

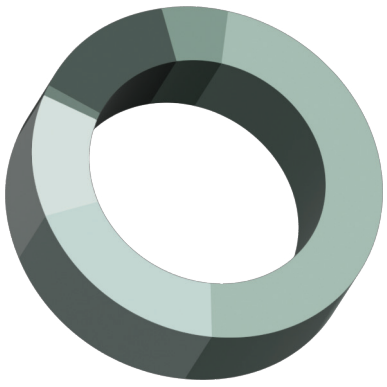
Fundamentally, there is a serious crisis regarding the security of property titles in Pakistan. The prolonged litigation on property matters enhances this insecurity.

One of the first steps a litigant goes through in their revenue court case is that of gathering information, which, on average, wastes 2.38 months. Then, a litigant spends eight months on average in collecting documents. The average sludge in terms of rupees for document collection comes out to around PKR 44,581. Unlike document collection, which is a singular task, court hearings can happen all year round. Therefore, a yearly figure for sludge due to hearings was also calculated which amounts to PKR 71,195. Hearings set for the entire case are 50 on average, much above the estimated optimal figure of 5. Out of these 50 hearings, cases are heard about seven times on the date they were set, the rest get adjourned due to various causes such as the judge being on leave or lawyers' strikes, among other things.

Ideally, a litigant should only have to meet a revenue officer once but they end up meeting ROs at least 16 times a year with an average waiting time in the office for these meetings being 2.86 hours. This, coupled with 6 hours of travel time per visit, means a sludge figure for total time wasted on RO meetings of 258 hours (equivalent to PKR 58,000 in terms of a monetised value) in the past year. Finally, a litigant can bear another PKR 144,000 in sludge in what is categorised as "other expenses," like money spent on lawyers, revenue court staff (speed money), food etc. These expenses are over and above the government fees and stamp duties which are not included in the sludge category.

What are the major types of Litigation cases?

There are six major types of Litigration cases with the following percentages

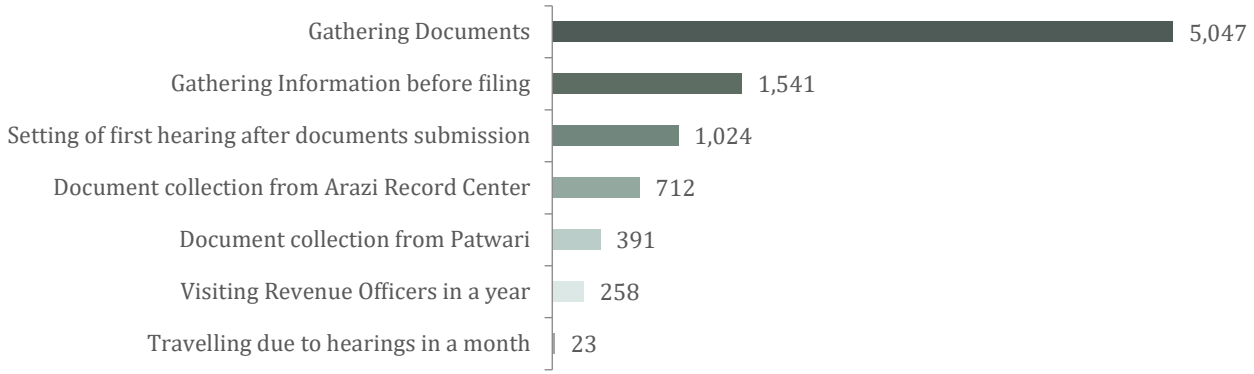


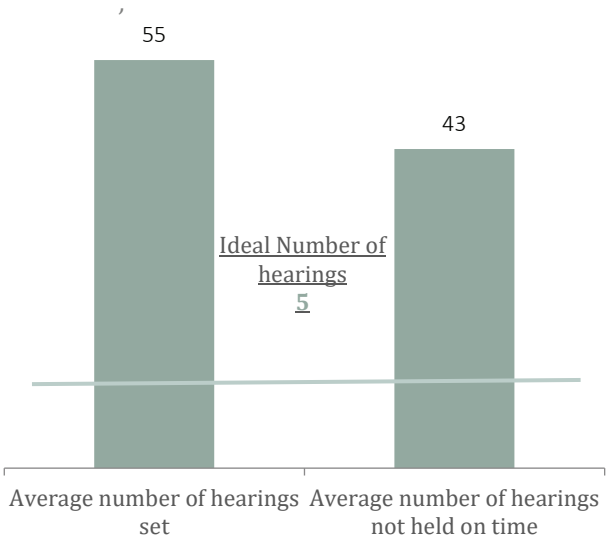
91% of Litigants are males

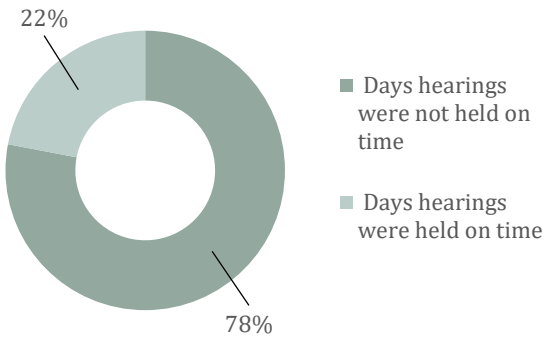
15% of Litigants are respondents, rest are plantiffs

48%
Partition of Land

- Partition of Land (48%)
- Mutation (19%)
- Eviction (12%)
- Correction of Record (1%)
- Inheritance (14%)
- Demarcation (6%)







A distinction between document collection from the *patwari* versus document collection from the digitized Arazi Record Centres (ARCs) was also made. When asked which was more accessible, 62% of litigants thought the ARC was more accessible compared to only 11.6% who said the same about the *Patwari* office. There is also a sizable difference in the amount of money spent on average: PKR 20,124 for Patwari versus PKR 5,463 for ARC. There is, therefore, merit to the idea of phasing out the role of the Patwari by making whole land records digitally accessible.

On a per-year basis, the total sludge cost of all the aforementioned steps is about PKR 250,487 for Punjab and Rs. 306,834 in KPk. We also looked at sludge as a percentage of people's income and it turns out that if a person has to go through all steps in a year, it takes up about 84% of their income in Punjab and about 79% of their income in KP, which is untenable. The cases may last twenty years or more and can be carried on by the next generation. In some cases, the total costs to the parties involved over the lifetime of a case exceed the value of the disputed property.

Lastly, sludge as a percentage of rural GDP was also calculated which comes out to be 0.741%. Moreover, the value of the disputed territory as a percentage of GDP was also looked at, which turned out to be 15.68%, or nearly one-sixth, of Punjab's rural (i.e., agricultural) GDP. The disputed land's value as a percentage of real estate GDP for Punjab is 33.85%, which is quite high. These are the avoidable costs that should not have occurred in the first place had the land management system in the country been efficient.

However, it is not all doom and gloom in Pakistan's land revenue administration. On the contrary, many outstanding civil servants have made meaningful contributions to the reform and improvement of rural land administration. The imperative need is to have a

political will to stand behind those laudable initiatives.

POLICY RECOMMENDATIONS

The analysis shows that it makes strong moral, legal, and economic sense for a state to ensure that property titles are secure, any disputes arising out of land are settled expeditiously, and proper legal and technical infrastructure is in place to achieve the preceding two ends. The obvious first step would be "sludge reduction." It can be through changes in policy design, the simplification of procedures, or changes at the implementation level. Hence, the following recommendations are put forth:

- Punjab has digitised 91% of rural land records. The digitisation of 100% of land records all across Pakistan with a time-bound target for the completion of digitisation by 2030 is imperative.

- The position of *Patwari* and manual record offices may be eliminated within the above timeframe. All documents may be made downloadable on smartphones through available apps and be accessible through ATM-like machines in banks and municipality offices.

- All land and agricultural taxes may be assessable and payable through the digital interventions suggested in 1 and 2 above.

- Given the general lack of awareness about the available digital services on land records, there is a need to give them wide publicity through sustained electronic, print and social media campaigns.

- At least a year-long pre-service training for the lower judiciary (civil judges) followed by regular in-service training at each level of career progression is required coupled with a strong reward-and-punishment system against interfering in the jurisdiction of another stream of courts.

- The career progression (PERs) of the administrative officers should be benchmarked based on the timely disposal of cases pending with them in their judicial jurisdiction.

- Every commissioner must ensure that a certain number of additional DCs/ACs in their division are spared full time from administrative work to concentrate on court work only.

- Based on the Korean KLIS model, the security of titles should be ensured by linking land ownership with each citizen's identity and tax profile.

ALTERNATE USE OF PUBLIC ASSETS: A CASE STUDY OF AIOU

Moazzam Ali

INTRODUCTION

The Allama Iqbal Open University (AIOU) was established in 1974 through an act of parliament to adopt distance learning as a tool for mass education. It was the first open university in Asia and the second one in the world established under the theme of distance education. The philosophy of distance learning was gaining momentum at that time with the establishment of the UK Open University in the 1960s. The idea of distance education was to design and offer educational programmes to those who were unable to join the existing educational institutions for a variety of reasons such as age, disability, poverty, job nature, etc. For this purpose, the AIOU established a network of regional campuses/offices across Pakistan to provide education services to the students.

In 2018, the digitalisation of AIOU was started to streamline the various operational and academic activities. Digitalisation has enabled the AIOU to conduct its operations in online mode from the main campus in Islamabad. It includes organising online classes, online submission of assignments, online admission forms, e-coursebooks, course assignments, fee collection, and other related matters. This digitalisation has decreased the functions of the regional campuses established across 42 different cities in Pakistan.

These regional centres/campuses have classrooms, seminar halls, offices, computer labs, spaces for parking, gardens, etc. A large majority of these regional campuses are in small cities across the four provinces and GB/AJK. Since the ownership and management of these regional campuses rests with the AIOU, the operational and maintenance expenditures are also being borne by the AIOU. This case study deals with assessing the future of these regional campuses of the AIOU and devising plans for enhancing their utility by building a vibrant operational model.

The case study on which this policy brief is based considered the following research questions:

i. What is the capacity utilisation of the regional campuses of the AIOU?

ii. What is the economic potential of the regional campuses' assets of the AIOU?

iii. How financial inflows can be generated through the optimal use of regional assets of AIOU?

RESEARCH METHODOLOGY

A mixed-method approach was used, combining desk study and field study methods. In the first step, the six regional campuses of the AIOU (Peshawar, Faisalabad, Multan, Quetta, Sukkur, and Mirpur) were visited to know the extent of the under-utilised assets along with the capacity utilisation as per their locality and structure. The reason for selecting these regional campuses out of around 30 regional campuses/centres of the AIOU was to give a broader representation to each area/province. In the second step, the market-based valuation of these under-utilised assets was conducted using the

replacement cost methodology. After the valuation of these assets, alternate revenue generation strategies were developed based on the local factors, i.e., the population of a given area, nearby industry clusters, the capacity of the regional offices and the skills deficiency, offerings, industry partnerships, etc.) to optimise the use of these assets at the regional offices.

FINDINGS

Based on the field visits of regional centres of the AIOU and the discussion with the staff, management, and other stakeholders, the following facilities and resources are found to be available in the buildings of regional campuses:

Based on a complete survey of resources and facilities at the regional campuses of the AIOU, a market valuation of these assets is given below.

Land valuation is based on the price of land in the vicinity of the regional campus in each city. The estimates for land pricing are obtained from Zameen.com.

RECOMMENDATIONS

Based on the survey of resources and facilities at the regional campuses and discussion with the relevant stakeholders, three models for generating maximum revenues from the existing resources are developed.

Campus-Based Model

This model works on the assumption that the AIOU decentralises its academic activities to the regional centres for starting the academic activities based on local demand for different certificates, diplomas, and degrees. For this purpose, each regional campus may start BS-level programmes and PGD diplomas to meet the needs of the local economy and industry.

Nature	Peshawar	Mirpur	Multan	Sukkur	Quetta	Faisalabad
Offices	5	8	9	8	7	3
Classrooms	4	6	19	2	4	4
Multipurpose Halls	3	3	3	2	4	3
Computer Lab	1	1	2	1	1	1
Library	1	1	1	1	1	1
E-Conference Room	1	1	1	1	1	1
Guest Room	1	2	2	5	2	2
Vehicles	1	1	1	1	1	1
Seminar Room	1	1	1	1	1	1
Record Room	1	1	1	1	1	1

Market Valuation of Assets at Regional Campuses

Regional Campuses	Total Area (Kanals) (Land+ Building)	Market Price of Land (PKR Million) (A)	Constructed Covered Area (Square feet)	Cost of Construction (PKR Million)	Market Value* (PKR Million) (B)	Total market value (A)+(B) (PKR Million)
Peshawar	4	72	21,900	17.47	175.20	247.2
Mirpur	4.5	56	24,700	12.79	197	253
Faisalabad	12.7	203.2	29,800	29.44	238	441
Sukkur	8	96	23,500	202.33	255	351
Multan	10	140	32,600	92.24	260	400
Quetta	10	110	27,500	18.74	200	310

**This valuation is based on the replacement cost method that incorporates the present cost of different factors for developing a similar asset of the same size. The present (2022-2023) cost of construction per square foot for similar buildings is approximately PKR 8,000.*

Estimated Revenues from Campus-Based Model

City	Programmes (Numbers)	Estimated Enrolment (Numbers)	Fees Per Semester (PKR)	Total Revenues (PKR)
Peshawar	5	1,000	24,000	24,000,000
Mirpur	5	1,000	30,000	30,000,000
Multan	8	1,600	32,000	51,200,000
Faisalabad	7	1,400	31,000	43,400,000
Sukkur	5	1,000	25,000	25,000,000
Quetta	6	1,200	22,000	26,400,000
Total				200,000,000

Estimated Revenues from the Rental Model

Regional Campus	Area (Kanal)	Market Rent Per Kanal	Estimated Rent (PKR)
Peshawar	4	120,000	5,760,000
Mirpur	4.5	50,000	2,700,000
Multan	10	110,000	13,200,000
Faisalabad	12.7	85,000	12,954,000
Sukkur	8	80,000	7,680,000
Quetta	10	65,000	7,800,000
Total			50,094,000

As the above work shows, starting academic programmes in the regional campuses can potentially generate PKR 200 million per semester.

Rental Model

The rental model assumes that qualified private sector entities may use the extra capacity of the regional campus for their academic activities. For rental income purposes, private schools, colleges, and sub-campus of major universities may be invited to use the spare capacity of the regional campus against a fair market rent.

Pay-as-You-Go (PAYG) Model

This model can be suitable for guest speakers lectures, conducting entry tests, training workshops, computer-based courses, performing arts etc. by charging specified fees.

These estimates were developed based on an average usage of 20 days for classes and lecture halls with 4 to 6 days for auditorium/seminar rooms/laboratories in a month against a pre-defined fee.

PUBLIC POLICY RELEVANCE

Based on the analysis and discussion, the following lessons for public policy can be drawn.

Ownership of Physical Infrastructure

The development of physical infrastructure for higher educational institutes should be planned by keeping in view the requirements of both the public and private sectors. The ownership of physical assets should be separated from the operational aspects of these institutions. There should be a central authority for retaining the ownership of government buildings and management. A single school building may be used as a school in the morning and as a college or training centre in the evening. By adopting this

method, the government can generate maximum revenues and ensure the optimal utilisation of the assets.

Management of Physical Infrastructure

The real issue is the management of the physical infrastructure of existing educational institutes in Pakistan. There are abundant buildings for government schools and colleges in Pakistan and we need to develop a policy for optimising their usage. At present, the management of physical infrastructure is skewed towards only government users. There is a lot of potential for offering these extra spaces to the private sector, especially in the case of education where a lot of entrepreneurial talent is emerging who lacks resources to access large-size classrooms and lecture halls. A separate Assets Management Unit (AMU) should be established in every city that should manage access to these physical assets to both the public and private sectors on market rates.

Monetisation of Usage of Physical Infrastructure

There should be a monetised value for each segment of the physical infrastructure of educational institutes. For example, a classroom may have a daily rent of PKR 1,000 to enable the private sector to utilise the building as and when needed. Similarly, playgrounds, auditoriums, e-classrooms, lecture halls, etc. may be assigned monetary rental value for generating the maximum revenues by optimally using the physical facility. Such monetisation will enable the efficient management of the physical assets of educational institutes and will help both the public and private sectors to access the facility.

Revenue Generation Model

For each type of physical infrastructure, the government should develop a revenue generation model by collaborating with the private sector and the surrounding community. There exist opportunities where the private sector can utilise the building for training of employees, research and development, back-office operations, guest lectures, research labs, assessment centres, exhibitions, product display units, book shops, etc. against a specified fee. Along with this, strong collaboration with the private sector in the surroundings can be built to ensure maximum facility utilisation.

Estimated Revenues from the PAYG Model (PKR)

	Class Room	Lecture Hall	Auditorium	Computer Lab	Meeting Room	Seminar Room	Total
Rate per Hour	3,000	5,000	10,000	6,000	5,000	8,000	
Peshawar	12,960,000	7,200,000	2,520,000	2,160,000	5,400,000	480,000	30,720,000
Mirpur	12,960,000	7,200,000	1,440,000	1,512,000	3,600,000	576,000	27,288,000
Multan	10,080,000	10,800,000	2,880,000	1,296,000	5,400,000	960,000	31,416,000
Faisalabad	5,760,000	10,800,000	2,160,000	1,080,000	5,400,000	864,000	26,064,000
Sukkur	8,640,000	7,200,000	1,800,000	864,000	5,400,000	480,000	24,384,000
Quetta	10,800,000	600,000	1,440,000	1,296,000	3,240,000	480,000	17,856,000
Total	61,200,000	43,800,000	12,240,000	8,208,000	28,440,000	3,840,000	186,168,000

UNLOCKING PAKISTAN RAILWAYS DEAD CAPITAL

Azwar Muhammad Aslam

INTRODUCTION

Pakistan Railways (PR) has significant landholding throughout major cities in the country at the most lucrative spots. Despite having considerable potential, the landholding suffers from gross underutilisation, resulting in significant financial losses. The state-owned land in Pakistan fits the definition of 'dead capital': it carries sizeable potential, which, if tapped into, can provide substantial gains for the economy, providing opportunities for innovation, entrepreneurship, and community. It is necessary to 'unlock' dead capital by allowing it to evolve and enable its convertibility into productive capital.

The study analysed PR landholding in terms of various classifications and uses. It also looked into the legal structure that governs the PR, more specifically, its landholding to identify the impediments in the utilisation of railway land on commercial lines. The analysis was carried out by reviewing acts, ordinances and S.R.O.s, complemented with the insights from relevant case law analysis including judgments of the Supreme Court and high courts of Pakistan about land enriched with insights from key stakeholders. Lastly, comprehensive evidence on the redevelopment of railways from around the globe was presented, specifically of stations, to identify the arrangements that led to their successful completion. The key lessons from the report are presented below.

RAILWAY LAND

Pakistan Railways (PR) owns 169,128 acres of land of which approximately 17% is employed in its various non-core operations. Despite classifying a substantial portion of land for activities such as rent and lease, most of this land is dead capital. The majority of the land is in and around city centres, with significant potential for commercial activity. There is a surprising lack of structured efforts towards commercialisation for the realisation of competitive/market-based revenue streams. Because of this, most of this land, even if it is utilised, is being used either for agricultural purposes or leased at rates far below market rates or leased to other government departments taking away PR's potential to generate a substantial income.

The classification of land use also preserves the railway land state of dead capital, as the land under the operational use category cannot be considered available for any commercial activity. Under the operational use umbrella, the land classified as official buildings also includes the land under the possession of railway employees for residential purposes, i.e., quarters, bungalows, etc. The share of residential land within the official buildings category is 66% only in Rawalpindi, representing a huge dead capital.

Legal Constraints

The legal construct around this land, both internal (policies and practices) and external (acts, rules and procedures), poses the biggest hurdle in the commercialisation and redevelopment of PR assets. Externally, the rigidity of the laws governing PR, e.g., acts and rules, poses a challenge to its potential evolution concerning the commercialisation and redevelopment of railway land. The rules and laws governing the disposal of land are cumbersome, time-consuming and non-competitive, ultimately

discouraging PR from commercialising its land. The Land Acquisition Act also impedes as it discourages PR from using any of its lands for commercial purposes, both for disposal or commercialisation by lease, etc. The acts and ordinances surrounding PR do not provide any explicit provision to guide the commercialisation of railway assets. Rather than properly legislating a way forward, rules are notified through statutes from time to time. These statutes have created uncertainty, which is evident from frequent changes in stance on the commercialisation of PR land over the years. The dispute of title between PR and provinces/provincial departments is another issue that hampers the utilisation of land for commercial purposes, and at times it leads to litigation. Alongside it, the legal structure as a whole also makes the commercialisation of land harder as stays are granted and land remains under dispute ultimately remaining in unauthorised occupation or unproductive use.

Infractions

Internally, PR has been a victim of the unprofessional conduct of its administrative staff indulging in procedural misconduct leading to unfavourable outcomes. PR's inability to protect its land from encroachment and unauthorised occupation is a glaring example of the incapacity of its operations. On top of all that, PR reinforces and protects a top-down style of management with several unnecessary administrative layers, which increases sludge and discourages timely and effective decision-making.

Grossly Underutilised Land

Globally, modernised railways use their lands to build a consumer-centric eco-system that becomes the key tool for economic growth. In Pakistan, however, most of the land surrounding key operational facilities such as stations and rails is either converted into residential areas - housing for railway employees - or leased out at surprisingly low rates for residential purposes. The case for Rawalpindi railway station is no different as it is surrounded by approximately 160 acres of land that is used for hosting PR employees. Another 1,150 acres of PR land across Pakistan is leased out to cooperative housing schemes for railway employees at suboptimal rates. In Rawalpindi, PR has leased 116 acres of land to cooperative housing societies at PKR 11,000 average rent, which is gross underutilisation of land. This land can generate a revenue of PKR 37.48 billion for PR through auction and possesses the potential to host 27 high-rise residential buildings, generating economic activity of PKR 90.9 billion through construction.

Ideally, it is hard to find a reason for PR to hold and manage land that does not come under the use of its core operations for the simple reason that PR is not an asset management company and, thus, lacks the vision, the will, and expertise to bring its use to its full potential. Even when there is a will, the decision-makers do not feel confident to take the next step simply because a new regime comes with changed priorities. If PR is to be successful in achieving this feat of evolution into a commercial entity or the modern age, an overhaul of its human resources and the legal construct surrounding it is of the utmost importance.

POLICY RECOMMENDATIONS

Modern railway infrastructure has come a long way from just carrying goods and passengers. The transport of goods and passengers remains the core function but has evolved even further to provide a commercial user experience by building an eco-system of amenities. This vision for the evolution of railways places it at the heart of the industrial and commercial growth of any economy.

PR infrastructure and its governing laws, after more than seven decades, have shown little change, at least in its vision and operations. This somewhat rigid attitude has left PR unable to meet the needs of the modern economic setup, uncompetitive and a loss-making entity. There is, thus, an urgent need to reimagine and reform PR for it to enable Pakistan's economy to realise its economic and geo-political potential. Below, a few policy avenues and recommendations are given.

- The main law that governs PR is the Railways Act of 1890 does not provide explicit provisions to enable the commercialisation and redevelopment of PR land, which makes it necessary to amend the law to allow for such activity.

- Amendment is needed to exclude PR land from the provision of the Land Acquisition Act, primarily to repurpose any parcel of land without any prejudice to its authority, ownership or claim. Secondly, explicit provisions need to be added to make the whole process market-based and competitive.

- The mutation of railway land should be enforced by the provinces so that the railway land that is under the ownership of provinces in the record of rights is reverted to PR.

- PR needs to reclassify its land use and exclude the residential land for railway employees from the operational use category, making it available for commercial utilisation and redevelopment afterwards.

- PR land that is leased out to cooperative housing societies must be repurposed for optimal use as it is causing significant revenue losses to PR and is without any legal standings.

- The period of short- and medium-term leases as approved in the rules for leasing railway land should be increased.

- The delegation of functions and responsibilities with an appropriate level of authority is the way to improve the administrative sludge in PR related to land utilisation.

- PR, over the years, had to suffer at the hands of the unprofessional conduct of its employees either due to lack of education, training, or violation of rules. There is a need to train PR's staff on an urgent basis to build up their capacity to carry out their designated functions properly.

- Consistency in policies is imperative regarding PR land utilisation and management and an improvement in the overall governance.

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