



PAPER • OPEN ACCESS

Challenges In Land Title Issuance for Water Assets in The Restructured Water Services Industry

To cite this article: Azizul Abd Ghani *et al* 2023 *IOP Conf. Ser.: Earth Environ. Sci.* **1274** 012032

View the [article online](#) for updates and enhancements.

You may also like

- [Green bonds for the Paris agreement and sustainable development goals](#)
Clarence Tolliver, Alexander Ryota Keeley and Shunsuke Managi
- [A comparative analysis of green financial policy output in OECD countries](#)
Bjarne Steffen
- [Shades of green: life cycle assessment of renewable energy projects financed through green bonds](#)
Thomas Gibon, Ioana-tefania Popescu, Claudia Hitaj et al.

ECS The Electrochemical Society
Advancing solid state & electrochemical science & technology

247th ECS Meeting
Montréal, Canada
May 18-22, 2025
Palais des Congrès de Montréal

Showcase your science!

Abstracts due December 6th

Challenges In Land Title Issuance for Water Assets in The Restructured Water Services Industry

Azizul Abd Ghani*¹, Norhidayah Md. Yunus¹, Anis Syazwani Sukereman²

¹ Department of Real Estate, Faculty of Built Environment and Surveying, Universiti Teknologi Malaysia, 81310 UTM Johor Bahru, Johor, Malaysia

² Real Estate Studies, School of Real Estate & Building Surveying, College of Built Environment, Universiti Teknologi MARA, 40450 Shah Alam, Selangor, Malaysia.

E-mail: azizulag83@gmail.com

Abstract. The restructuring of Malaysia's water services industry, initiated by the Federal Government in 2008, aimed to establish a comprehensive regulatory framework encompassing both water supply and sewerage services. In line with this initiative, Pengurusan Aset Air Berhad (PAAB) undertook the acquisition of water assets from the state, as part of the National Water Services Industry Restructuring Initiative. The acquisition was conducted based on the one-time book value of the state's water assets, aligned with their corresponding liabilities. However, this common practice faced technical challenges owing to constraints encountered by the land office, leading to unapproved land alienation applications and subsequent delays in the issuance of titles for the acquired water assets. Despite the significance of the matter, the discourse surrounding water assets, particularly concerning land alienation and title issuance, has received insufficient attention in the existing literature. This research seeks to address the challenges faced by the land office in issuing land titles for water assets within the restructured water services industry. Engaging a qualitative mode of inquiry, content document analysis was employed, utilizing the READ approach, to scrutinize pertinent statutes, acts, policies, and procedures of the land office. The study's outcomes disclose the existence of fifteen (15) challenges spanning diverse aspects such as government policies, administrative procedures, and the pivotal engagement of land office personnel. Conversely, these challenges also pertain to the activities and contributions of applicants and stakeholders, albeit through indirect channels. By identifying these challenges, key stakeholders, especially the land office and PAAB, can better address problematic applications, expedite the process of land ownership for water assets, and significantly contribute to the overall enhancement of the national initiative restructuring Malaysia's water supply service industry.

1. Introduction

Water, an indispensable commodity crucial for sustaining life and supporting economies globally, has witnessed a surge in demand owing to increasing population growth and economic activities in recent years [1]. Projections by UN DESA [2] indicate that the urban population is expected to surpass 6 billion by 2050, potentially exceeding these estimates [3]. Such rapid population growth will undoubtedly lead to a substantial increase in water demand, necessitated by the economy's agriculture, industry, and domestic sectors [4].



Furthermore, the relentless expansion of cities and urban landscapes poses multiple challenges and concerns regarding the sustainability of urban ecosystems [5][6][7]. Addressing these challenges requires not only efficient water management but also promoting good governance within the water sector, achieved through a clear separation between policy, regulation, and service delivery [8][9].

To attain these objectives, the Malaysia Federal Government initiated a comprehensive restructuring of the water services industry in 2008. This restructuring entailed centralizing water management at the state level and establishing regulatory bodies such as SPAN (Suruhanjaya Perkhidmatan Air Negara) and Pengurusan Aset Air Berhad (PAAB) [10]. PAAB played a vital role in achieving the Government's aim of enhancing efficiency, quality, and sustainability in the water services industry.

Underpinning the water industry's restructuring is the aspiration for holistic regulation that encompasses both water supply and sewerage services, as outlined in the National Policy Objectives for the Water Services Industry. The primary focus of this reform is to optimize efficiency within the water services sector, ultimately benefiting the populace while ensuring the preservation of this invaluable resource.

While several states, including Malacca, Negeri Sembilan, and Johor, were among the earliest to embrace water service industry restructuring in 2008 and 2009, challenges have emerged during the land alienation process for water assets. According to The National Audit Report [11], PAAB's agreement mandated the transfer of water supply site lands on a leasehold basis from the State Government to PAAB, aligned with the value of the loan taken over by the latter. However, as of December 2020, only 83.1% of the 1,598 land sites had been transferred, with 10.5% still pending, and 6.4% facing problematic applications spanning four to twelve years [11].

While various studies have explored different aspects of the water service industry, comprehensive research focusing on the challenges in issuing land titles faced by the land office for water assets remains scarce. To address this gap, the current study seeks to delve into the intricacies of the land alienation process, with the aim of facilitating the smooth issuance of land titles. Subsequently, these titles will be leased to water operators, ensuring a seamless and efficient integration of the acquired assets within the restructured water services industry.

Through qualitative analysis and content document examination, this research endeavors to identify and address the challenges encountered by the land office, shedding light on the complexities associated with water asset land alienation. By gaining a deeper understanding of these issues, we aim to propose viable solutions that can expedite the land title issuance process, fostering improved efficiency and sustainability within the restructured water services industry

2. Registration System for Issuance of Land Title

The current registration system for the issuance of land titles in our country demands urgent critical evaluation and improvement. While it serves as a fundamental mechanism for documenting land ownership, the existing system faces numerous inefficiencies and challenges that hinder seamless and transparent land transactions. It is imperative for policymakers and authorities to reexamine the entire process, incorporating modern technologies and streamlining procedures to ensure a robust, reliable, and equitable land registration system. Addressing these shortcomings and embracing progressive reforms can pave the way for a more efficient and trustworthy system that safeguards property rights and fosters sustainable economic development.

The Torrens system, named after Sir Robert Torrens and introduced in South Australia in 1858, is perhaps the best-known title registration system [12]. Introducing a Torrens system in Malaysia was a slow and complex process spreading over a long period of time [13]. Initially, the concept of indefeasibility under the registration of the title system was well-received in Malaysia as it purported to bring certainty to land transactions [14].

Land registration systems are used worldwide to store information on ownership, rights attached to it, and burdens affecting it [15]. Dealings recognised under the National Land Code [16] may be divided into those capable of registration like transfers, charges, leases and easements and those which

are not capable of registration including tenancies exempted from registration, statutory liens and lien holder's caveat [13].

Notably, a land registration system is implemented throughout the nation in order to ensure the rights and restrictions on land [17]. As stated in the Federal Constitution of Malaysia; Schedule 9 indicates that land matters fall under the state list which is administrated inclusively by the state government.

2.1. Restructuring Water Services Industry

The process of restructuring the water services industry in Malaysia warrants deep critical evaluation to address its current shortcomings effectively. While the initiative aimed to enhance efficiency, quality, and sustainability, it has encountered various challenges that hinder its intended outcomes. As scholars and policymakers, we must take a persuasive stance to advocate for the comprehensive review of existing policies, regulations, and implementation strategies. The National Water Service Commission (SPAN) was established as the national regulatory agency for the water sector, starting work in January 2008 when the new law came into force [18]. The goal of restructuring water services is to advance water supply services and sewerage services for the benefit of consumers and the environment [19].

Figure 1 shows the implementation of the water supply industry after restructuring the regime through WSIA 2006, including State and Federal Assets. Implementing the restructuring of the water service industry also involves the ownership of water supply assets through state water operators. In the master agreement involving the Federal Government and the State Government, it has been agreed that the treated water assets belonging to the state government together with the land will be handed over to PAAB.

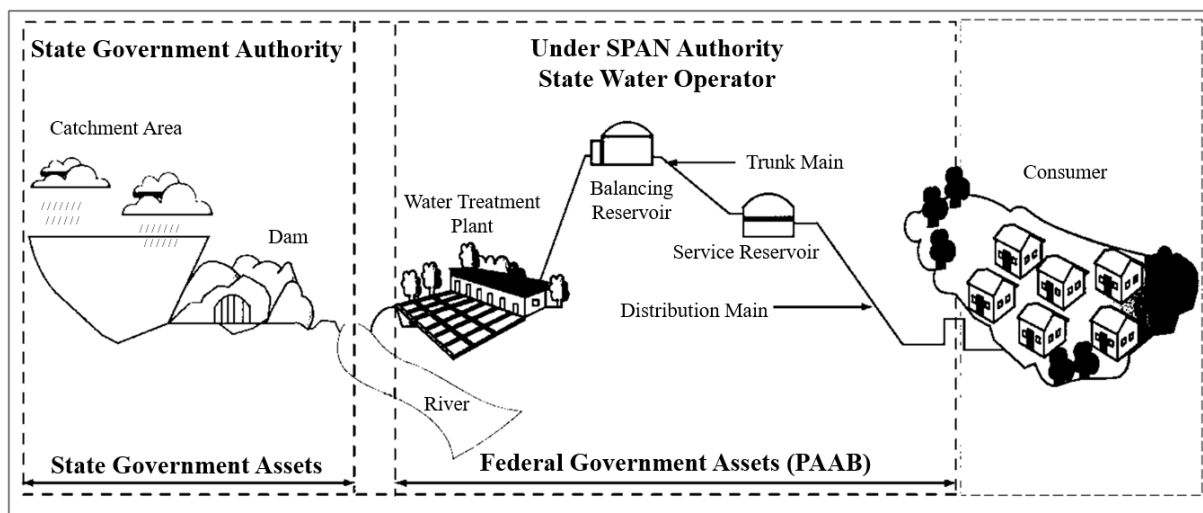


Figure 1. Implementation of Water Supply Industry after restructuring regime through WSIA 2006 (Act 655)

Source: [11]

Based on Figure 1, Federal Government Assets are referred to as PAAB structures such as the water treatment plant, balancing reservoir, services reservoir, pump house, and pipelines. These assets need to apply for alienation and issuance of the land title for water assets. Land registration is the process of recording rights in land either in the form of Deed or title registration [20]. On the other hand, the registration of land title provides security of title.

2.2. Responsibilities and Legislation in Water Supply Services

The responsibilities and legislation governing water supply services demand meticulous scrutiny and bold reevaluation. While the existing framework outlines certain roles and obligations, it often lacks clarity, leading to ambiguous accountability and suboptimal service delivery. As academics and policymakers, we must advocate for comprehensive reforms that clearly define the roles of various stakeholders, empower regulatory bodies, and establish robust mechanisms for monitoring and enforcing compliance. Emphasizing the persuasive need for evidence-based legislation, we can shape a transformative landscape for water supply services, ensuring equitable access, sustainable management, and a reliable water supply for the nation's well-being.

As of 2020, ten states have participated in the Migration Scheme, namely Negeri Sembilan, Melaka, Johor, Pulau Pinang, Perak, Kelantan, Selangor, Pahang, Perlis, and Kedah [11]. The Migration Scheme involves multiple stakeholders, including the Federal Government, State Government, SPAN, and State Water Operators. The Federal Government, represented by KASA, plays a pivotal role as the policy maker and regulator of the national water service industry. SPAN is responsible for regulating the water service industry based on the license conditions set for State Water Operators. Furthermore, the State Water Operators are entrusted with the responsibility of treating and supplying treated water to customers. Refer to Table 1 for further details

Table 1. Responsibilities and Role of The Parties Involved Under the Migration Scheme

Entity	Responsibilities	Roles
Federal Government	<ul style="list-style-type: none"> • Policy makers • Regulate the service industry national water 	Ensure sustainable environmental and water conservation through policy formulation and legal compliance in line with international standards and practices.
State Government	<ul style="list-style-type: none"> • Distribution of treated water 	Ensure adequate water supply in the state concerned.
SPAN	<ul style="list-style-type: none"> • Regulate the water service industry through the implementation of the Water Service Industry Act 2006 	Regulate water operators based on the license conditions set and regulations related to the water service industry that need to be followed based on the resolution of the Federal Government.
PAAB	<ul style="list-style-type: none"> • Water Assets Development • Build water supply infrastructure facilities throughout the country for the long term 	Build, renew, improve and upgrade the water infrastructure system.
State Water Operate	<ul style="list-style-type: none"> • Water Assets Control 	Carry out, provide, operate and maintain treated water supply services.

Souces: [11]

In early 2003, the Federal Government intensified its efforts to reform the water services industry, aiming to benefit all stakeholders, including the Federal Government, consumers, and the State Government [21]. As a federal country, the Federal Constitution extensively outlines the division of legislative powers between the Federal Government and the State Government [22]. For a comprehensive understanding of the jurisdiction and legislation involved in the issuance of land titles for water assets, refer to Table 2.

Table 2. Jurisdiction and Legislation in Water Supply Services and Issuance Land Titles

Law / Act	Responsibilities
Constitution of Malaysia 1957	Water supply and service management was also one of the items in the State List, the Ninth Schedule, the Federal Constitution before it was transferred to the Joint List (except Sabah and Sarawak) on February 10, 2005.
National Land Code (Revised 2020) (Act 828)	In the definition of land under Section 5, NLC also states that land also means land covered with water. Chapter 1-3: Part Five: Disposal by Alienation
Suruhanjaya Perkhidmatan Air Negara Act 2006 (Act 654)	Act 654 an Act to provide for the establishment of the SPAN with power to supervise and regulate water supply services and sewerage and to enforce the water supply and sewerage laws and for related matters.
Water Services Industry Act 2006 (Act 655)	This Act aims to establish a licensing and regulatory framework for regulatory intervention to promote the national policy objectives for the water supply services and sewerage services industry.
Water Act 1920 (Act 418)	The use of raw water sources must be regulated by the State Government as enshrined in the Water Act 1920. Each state has its own Water Enactment and Water Supply Enactment.

Sources: Own Research (2023) based on [10][11][16][19][21][22]

The jurisdiction and legislation governing water supply services necessitate rigorous critical examination and persuasive advocacy for comprehensive reforms. The current regulatory landscape often suffers from fragmented authority and unclear boundaries, leading to inefficiencies and challenges in managing water supply effectively. As scholars and policymakers, we must advocate for a unified and coherent jurisdictional framework that empowers regulatory bodies and streamlines decision-making processes.

2.3. Land Title for Water Assets

The issuance of land titles for water assets within the restructuring water services industry demands profound scrutiny and immediate action. This critical aspect of the industry is marred by bureaucratic hurdles, delays, and inefficiencies, jeopardizing the timely and effective integration of water assets. As stakeholders, we must push for comprehensive reforms, including the establishment of streamlined processes, clear regulations, and enhanced coordination between relevant authorities.

Under the National Land Code [16] and the respective State Land Rules, any individual, organization, or Government Agency can apply for state land [23]. Once the State Authority approves the application, the land will be alienated, and a land title will be issued to the applicant. Typically, the State Government issues a leasehold title for 60 or 99 years, with or without express conditions in the title. The applicant must pay a premium to the State Authority before the title is issued.

According to PAAB, the transfer of ownership of 103 land sites could not be fully implemented due to irregular land records at the state level [11]. Additionally, there are instances where the State Government grants the right to use water assets to the State Water Operator without proper land documentation. This problem arises because the State Government does not entirely own the land status in the agreement, leading to a lack of due diligence before signing the agreement, absence of border signs, and the full renovation of the loan to PAAB upon agreement signing, resulting in no follow-up action taken by the State Government [11].

Land alienation in Malaysia is a crucial element in the governance related to the National Land Code (Act 828) [24]. The process of State land alienation in any district begins with the submission of an application by individuals, commercial enterprises, corporate entities, or government bodies for the

land to be alienated [25]. However, the alienation process falls under the exclusive jurisdiction of the state authority and often takes an extended period, including resolving the requirements of Form 5A [24]. Therefore, this paper focuses on the challenges arising from the constraints faced by the land office, leading to issues in the approval process of land alienation applications and delays in the issuance of land titles for water assets.

3. Methodology

As the study aims to identify the challenges faced by the land office in issuing land titles for water assets within the restructured water services industry, qualitative research methodology and document analysis were adopted to interpret the in-text related documents using the Ready Materials, Extraction, Analysing, and Distilling findings (READ) approach as guidance. The READ approach in document analysis is a systematic procedure for collecting and analysing documents, providing a step-by-step guide to conducting qualitative policy research [26]. The study was tailored to align with the research question and the nature of the documents through four steps of the READ approach as outlined by [26]:

3.1 Step 1: Ready Materials

The preparatory phase involves delineating the types of documents to be encompassed or excluded in this study, a process undertaken to define the scope of information aligned with the research question and objectives. Hence, for this investigation, documents pertinent to the land alienation procedure, extending from the initial stages to the eventual issuance of land titles, were diligently sought as primary sources. Cognizant of document classification, it is notable that Sarah et al. delineated seven document categories for consultation in scholarly endeavors [26]. However, this study specifically centers on land alienation procedures within the land office context, thus concentrating solely on three categories: official documents, implementation records, and legal documents. Notably, meticulous ethical considerations were upheld, ensuring the acquisition of requisite permissions to access the documents while upholding data privacy protocols.

3.2 Step 2: Extraction of Data

During this phase, meticulous inclusion criteria were established to align with the data search and subsequent analysis, aimed at procuring pertinent documents and extracting data for synthesis. The three selected documents were subject to comprehensive data extraction, meticulously organized into a data matrix (Table 3). This process adhered to categorization by document type, indicator scope or process, and the ensuing interpretations drawn from the extracted documents.

3.3 Step 3: Analysing the Data

In line with the READ Approach, this phase involves meticulous analysis of the amassed data [26]. Employing content analysis, the extracted information is systematically scrutinized, unveiling patterns, correlations, and causal relationships within the identified challenges. This rigorous process underpins the generation of robust conclusions, enhancing our understanding of the complexities influencing water asset land title issuance in the restructured water services industry.

3.4 Step 4: Distilling Finding Materials

The investigation reveals that challenges encompass diverse dimensions, including the influence of government policies shaping the regulatory framework, the operational intricacies of administrative procedures, and the pivotal roles of land office personnel. Furthermore, challenges illuminate the activities and contributions of applicants and stakeholders, operating indirectly but significantly impacting the land title issuance process. Distilling findings entails extracting essential insights from the meticulous analysis of these challenges, resulting in a synthesized understanding of the complex dynamics influencing land title issuance.

Figure 2 below illustrates the qualitative method using the READ approach to identify the challenges faced by the land office in issuing land titles. This qualitative method was conducted through document analysis, specifically focusing on the land alienation application process from its initiation to the issuance of land titles.

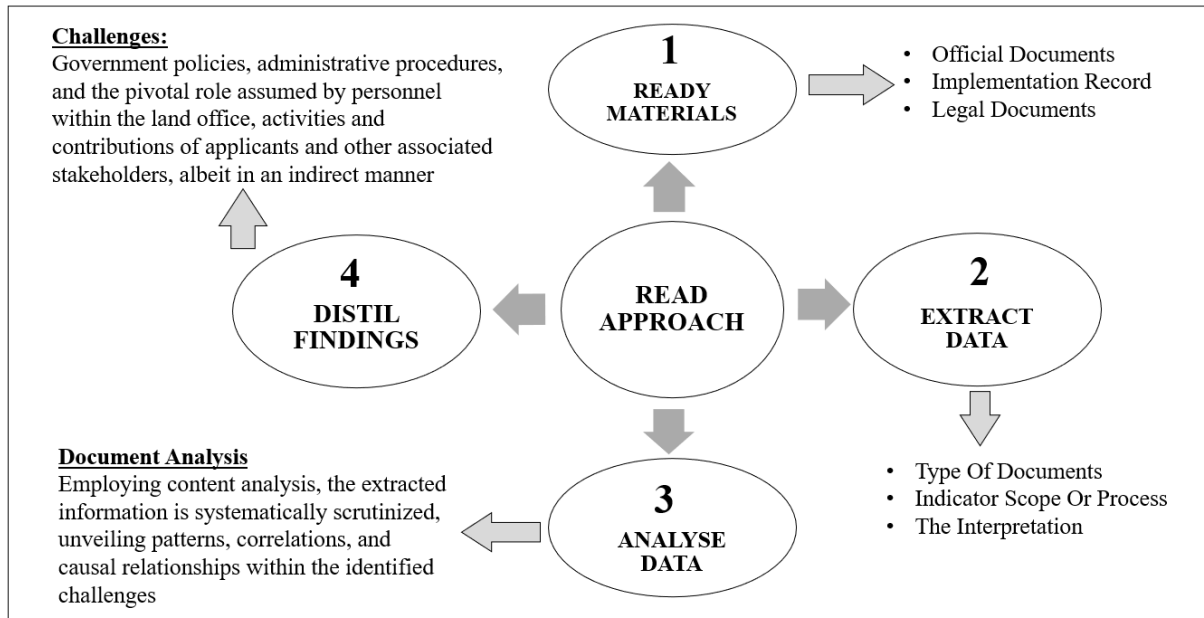


Figure 2. Methodology of Study by Using READ Approach

Source: Own Research (2023) based on [26]

The application of quantitative methods, particularly the utilization of the READ approach, to investigate the land office's challenges in issuing land titles, demands critical attention and persuasive advocacy. While quantitative research offers valuable insights into the patterns and trends of these challenges, it is imperative to recognize the complexities involved in the land title issuance process. The importance of rigorous data collection, methodological precision, and robust analysis in extracting meaningful conclusions must be emphasized by researchers. By persuasively advocating for the incorporation of quantitative data alongside qualitative insights, we can offer a comprehensive understanding of the challenges faced by the land office and inform evidence-based solutions for optimizing land title issuance processes within the broader context of the water services industry.

4. Main Result

This section of the study presents in-depth qualitative findings elucidating the encountered challenges in the process of issuing land titles for water assets at the land office. The emphasis lies in the comprehensive exploration of both challenges that are denoted as No. 1-9 span an array of dimensions, including government policies, administrative procedures, and the pivotal role assumed by personnel within the land office. In contrast, challenges numbered No. 10-15 are linked to the actions and contributions of applicants and other relevant stakeholders, albeit in an indirect manner. The qualitative approach employed, namely Document Analysis, meticulously pinpointed and examined fifteen distinct challenges, thoughtfully categorized as nine challenges of one category and six of another.

Through this diligent scrutiny, a lucid comprehension emerged regarding the intricacies and dynamics that shape the issuance of land titles for water assets, offering valuable insights to guide policy formulation, inform the activities of land office personnel, and engage all stakeholders vested in this critical domain. Table 3 comprehensively presents the exhaustive list of identified challenges,

providing a comprehensive synopsis of the multifaceted issues exerting influence on the efficient issuance of land titles within the context of water assets.

Table 3. Qualitative Data Matrix: Challenges in Issuing Land Titles for Water Assets in the Land Office

No	Category	Types	Title Of Document	Indicator Scope / Process	Interpretation on Challenges
1	Legal Document	SOP Land Alienation	<i>Pekeliling Ketua Pengarah Tanah dan Galian Persekutuan Bilangan 1/2013</i>	Charting Endorsed Land Report Technical Input	High duty burden of Assistant Land Officer
2	Implementation Record	Site Visit Report	Limited Vehicles	Land Report and Site Verification	Lack of vehicles to go site visits to prepare a land report
3	Legal Document	SOP Land Alienation	<i>Pekeliling Ketua Pengarah Tanah dan Galian Persekutuan Bilangan 1/2013</i>	Land Report Technical Input Site verification	A large and growing backlog of applications (Increasing number of applications)
4	Official Document	Job Description (My Portfolio)	Daily Works and Meetings	Prepared Report and Meeting	Time constraints of the officer on duty (Ad-hoc duties)
5	Legal Document	SOP Land Alienation	<i>Pekeliling Ketua Pengarah Tanah dan Galian Persekutuan Bilangan 1/2013</i>	In-house process and respond from the technical department	The flowchart procedures include too many levels and stages (Varying instructions and procedures)
6	Legal Document	SOP Land Alienation	Land Alienation Process and Flow Charts	In-house process	Lack of knowledge among staff
7	Legal Document	SOP Land Alienation	Approval Papers	MMKN Approval (reschedule)	Involvement and postponement of decisions of the District Land Committee & MMKN
8	Legal Document	SOP Land Alienation	<i>Pekeliling Ketua Pengarah Tanah dan Galian Persekutuan Bilangan 1/2013</i>	No Expertise and In-house Process Disrupted	Lack of staff especially technical staff in the respective unit
9	Legal Document	SOP Land Alienation	Land Alienation Process and Flow Charts	Other officers forget to return back the file	File Missing and File Not Found
10	Legal Document	SOP Land Alienation	<i>Pekeliling Ketua Pengarah Tanah dan Galian Persekutuan Bilangan 1/2013</i>	Document Submission Not Complete	Incomplete Application
11	Legal Document	SOP Land Alienation	<i>Pekeliling Ketua Pengarah Tanah dan Galian Persekutuan Bilangan 1/2013</i>	Technical Department Not Reply Within 14 Days	Delay in receiving feedback from the other parties (applicant, technical department)

12	Official Document	Job Description (My Portfolio)	Daily Works and Too Much Application	Officers Vacant	Change of officers / Moving staff to another unit/section
13	Official Document	Job Description (My Portfolio)	Daily Works, Meetings and Too Much Application	Land Report, Meeting and Site Verification	High task load with others tasks and full of the meeting schedule
14	Legal Document	SOP Land Alienation	<i>Pekeliling Ketua Pengarah Tanah dan Galian Persekutuan Bilangan 13/2021</i>	Applicants have not received any letter from Land Office	Changing of applicant's address
15	Legal Document	SOP Land Alienation	<i>Pekeliling Ketua Pengarah Tanah dan Galian Persekutuan Bilangan 1/2013</i>	In-house process	The application was rejected due to land status (resubmit)

Source: Own Research (2023) based on [26][29][30][26]

In the year 2004, a significant collaboration between The Malaysian Administrative Modernisation and Management Planning Unit (MAMPU) and JKPTG resulted in the issuance of a Certificate and Guidelines for the implementation of key processes in land administration. The primary objective of these guidelines was to enhance the efficiency and effectiveness of the service delivery system in matters related to land administration [29]. In line with this initiative, in 2013, JKPTG also issued a circular on the Guide to Process Application for Land Alienation. These strategic moves aimed to tackle existing challenges and streamline the land alienation processes. Our study delved into the identified challenges, revealing that certain issues contribute to delays in processing applications for land alienation, as documented in Table 3 [29].

These challenges remained at the core of our investigation, and the guidelines issued by JKPTG and the Certificate and Guidelines issued by MAMPU sought to mitigate these challenges. Despite such dedicated efforts, delays persist, illuminating the intricate complexities inherent in the land administration process. By recognizing and comprehending these challenges, relevant stakeholders can take further actions to expedite the processing of land alienation applications and usher in enhancements in the overall land administration system.

Based on the findings from Table 3, we have identified various challenges that can impede the approval of Form 5A and the issuance of land titles at the land office. The process of land application, including the purpose of land ownership, has revealed the complexity arising from numerous regulations and the involvement of multiple parties [24].

To overcome these challenges and enhance application processes, we propose several solutions. Firstly, applications must be diligently completed, and the status of the land should be promptly confirmed as state-owned. Following JKPTG's [29] recommendation, checklists can facilitate application reviews, and incomplete forms should be returned to the applicants. Active follow-ups with relevant parties, particularly the Technical Department, within 14 days are essential to expedite reviews and feedback [29].

Effective communication within the office is crucial, and adopting a top-down approach to disseminate information about current land statuses is beneficial, especially when some officers move to different units or offices. Prioritizing training and knowledge-sharing initiatives will empower staff with the necessary expertise. Any incomplete or inaccurate land reports should be promptly returned to the Assistant Land Officer for amendment [29].

To boost efficiency, the land office should consider hiring additional staff and officers while providing the necessary facilities to address the application backlog. Critical positions like Assistant Land Officer should be filled with skilled and experienced individuals, and the State Authority must prioritize these placements [29]. Streamlining the processing of land applications and synchronizing time frames for each step of the land alienation process can improve standard procedures. JKPTG [29]

suggests conducting a review to identify opportunities for reducing or simplifying the required steps in processing applications.

Enhancing filing systems and adopting advanced technological infrastructure are crucial steps for land offices to expedite and enhance the monitoring of land alienation applications. Embracing modern ICT systems, such as the *E-Mohon* system introduced in the Terengganu State Land Administration [29], can streamline government service delivery and provide real-time tracking of application statuses. By implementing such advancements, land offices can efficiently manage applications and ensure smoother land title issuance processes.

To address the challenges causing delays in land title issuance, immediate actions must be taken at the land administration level in collaboration with state authorities. An integrated approach that involves all levels working together to achieve good governance in land administration is crucial. This collaboration ensures that challenges are tackled comprehensively and in a coordinated manner, ultimately leading to more effective and efficient land administration practices.

Furthermore, it is vital to outline practical strategies for implementing these improvements. Authorities can develop a roadmap for upgrading filing systems and integrating technology, outlining the necessary steps and timelines. Regular communication and coordination between land offices and state authorities are also essential to facilitate a seamless and efficient process. By taking these measures and fostering collaboration, land offices can overcome challenges, improve service delivery, and establish a robust land administration system that benefits all stakeholders involved.

5. Conclusion

In conclusion, the land title process has been a subject of scrutiny, unveiling the intricacies of its existing procedures, comprising numerous stages and regulations, and involving multiple stakeholders. Each application submitted to the land office undergoes a standardized process until the approval of Notice 5A and subsequent issuance of the land title upon payment. However, this process has encountered various challenges, such as application rejections, delays, and difficulties in issuing land titles. This study has meticulously identified the challenges within the land office's handling of land alienation applications.

To effectively address these challenges, integrated cooperation among all parties involved, particularly in the Water Supply Industry, is of paramount importance to ensure the seamless management of water asset ownership. Moreover, further research is imperative to ensure the appropriate lease of all land titles to the state water operator for a period of 45 years. This arrangement would involve PAAB taking over ownership of existing water assets in the States, transforming state water operators into asset-light entities that include the land titles. Consequently, the state water operators (Service License) would lease these assets back from PAAB (Facilities Licensee) for operation and maintenance.

In light of these considerations, conducting additional investigations becomes essential to explore the lease endorsement process within the land title for water assets thoroughly. Further research is needed to ensure appropriate lease endorsement for state water operators, optimizing the efficiency and sustainability of the water services industry. A comprehensive understanding of lease endorsement mechanisms will aid in informed decision-making and enhance the land title issuance process, fostering a resilient water services industry for the collective benefit. By delving deeper into this aspect, stakeholders can make informed decisions to optimize the land title issuance process and foster a more resilient water services industry for the benefit of all.

References

- [1] Economic Planning Unit 2022 Water Sector Transformation, Water As An Economic Sector (WES) (Volume IX). Academy of Sciences Malaysia. Kuala Lumpur, Malaysia
- [2] UN DESA 2018 United Nations, Department of Economic and Social Affairs, Population Division. In: World Urbanization Prospects: The 2018 Revision, Online Edition.

- [3] Balaji Etikala, Sughosh Madhav and Srinivasa gowd Somagouni 2022 *Urban Water Systems: An Overview*. Department of Geology, Sri Venkateswara University, Tirupati, Andhra Pradesh, India
- [4] Tengku Ahmad Farid Bin Tengku Azzlan, Boon Cheong Chew and Keng Liang Lau 2016 *Sustainable Water Management For Water Supply Efficiency: A Case Study at Syarikat Air Melaka Berhad*. Universiti Teknikal Malaysia Melaka, Hang Tuah Jaya, Malaysia
- [5] Li P, Qian H and Wu J 2014 *Accelerate research on land creation*. Nature 510 (7503), 29–31.
- [6] Wakode H B, Baier K, Jha R and Azzam R 2018 *Impact of Urbanization on Groundwater Recharge and Urban Water Balance for The City Of Hyderabad, India*. Int. Soil Water Conserv. Res. 6 (1), 51–62.
- [7] Balaji E, Veeraswamy G, Peiyue L, SiddiRaju R 2019 *Deciphering Groundwater Potential Zones Using MIF Technique and GIS: A Study From Tirupati area, Chittoor District, Andhra Pradesh, India*. In: HydroResearch, pp. 1–7.
- [8] Ancarani A and Capaldo G 2001 *Management of Standardized Public Services: A Comprehensive Approach To Quality Assessment*. Managing Service Quality, 11(5): 331-341.
- [9] Rouse M 2007 *Institutional Governance and Regulation of Water Services: The Essential Elements*. London, UK: IWA Publishing.
- [10] Nariman Mohd Saad and Azhar Harun 2017 *Restructuring to Improve Water Services in Malaysia*. Institutions and Economics Journal. Vol. 9, No. 3, July 2017, pp 21-49
- [11] Head of The National Audit Report 2019 Laporan Ketua Audit Negara Siri 2, Pengurusan Syarikat Kerajaan Persekutuan, Jabatan Audit Negara Malaysia. Putrajaya
- [12] Willoughby PG and Wilkinson RM 1995 *Registration of Titles in Hong Kong*. Hong Kong: (Butterworths: Hong Kong). LexisNexis
- [13] Teo Keang Sood and Khaw Lake Tee 2008. *Land Law in Malaysia: Cases and Commentary*, (2nd Ed), Butterworths Asia: Selangor.
- [14] Richard Wu and Mohd Yazid Zul Kepli 2011 *Implementation of Land Title Registration System In Malaysia: Lessons For Hong Kong*. Faculty of Law. The University of Hong Kong. Malayan Law Journal Articles Volume 1. [2011] 1 MLJ lxvi
- [15] Jan Goscinski and Artur D Kubacki 2020 *Land Registration Concepts in Translation*. Pedagogical University of Kraków, Kraków, Poland. Springer. Int J Semiot Law (2021) 34:1451–1482
- [16] National Land Code 2020 Kanun Tanah Negara. Pindaan 2020 (Akta 828). Pesuruhjaya Semakan Undang-Undang Malaysia. Di Bawah Kuasa Akta Semakan Undang-Undang 1968 Percetakan Nasional Malaysia Berhad (PNMB). Chan Sow Lin, 50554 Kuala Lumpur. Malaysia
- [17] Azmi Rohani Amirul Haffiz Ariff Mohd Halim Hasbullah Suhailizan Suliman Mohd Shahrizan Sahid; Salfarina Samsudin and Robiah Suratman 2019 *Land Registration Innovation and Decentralised Administrative Reform: Success Stories from The State of Johor, Malaysia*. Catalyzing Innovation. Annual World Bank Conference on Land and Poverty. Washington DC. March 25-29, 2019
- [18] Phang Wai Leng Chan Ngai Weng and Lariyah Mohd Sidek 2016 *Pengurusan Penawaran Air dan Pengurusan Permintaan Air Di Malaysia: Peranan Kerajaan, Organisasi Bukan Kerajaan Dan Orang Awam*. Prosiding Seminar Antarabangsa Ke-6 Ekologi, Habitat Manusia & Perubahan Persekitaran di Alam Melayu
- [19] SPAN 2019 Suruhanjaya Perkhidmatan Air Negara. Laporan Tahunan SPAN 2010. Cyberjaya, Malaysia. Retrieved in: www.span.gov.my
- [20] Ahiakwo Grace Abraham 2023 *Land Title Perfection and Legal Issues and Challenges of Land Registration in Nigeria*. Rivers State University of Nigeria. International Journal of Research and Innovation in Social Science (IJRISS). Volume VII Issue II February 2023. pp 899-916

- [21] PAAB 2023 National Water Services Industry Restructuring Initiatives. Pengurusan Aset Air Berhad Website. Retrieved in: <https://www.paab.my/reform-in-water-services-industry/>
- [22] Nor Asiah Mohamad 2013 Kedudukan Tanah Dan Sumber Hasil Menurut Perlembagaan Persekutuan Malaysia. Malakah KANUN. Kuliyyah Undang-undang Ahmad Ibrahim. Universiti Islam Antarabangsa Malaysia.
- [23] JPPH 2023 Alienation Of Land. Jabatan Penilaian dan Perkhidmatan Harta Website. Retrieved in: <https://www.jp-ph.gov.my/v3/en/jpph-business/valuation-and-property-services-activity/alienation-of-land/>
- [24] A M Hakim S Samsudin and A A Haffiz 2021 *Land Alienation in The Johor Bahru District Area: The Factors Of Unsuccessful Response of Form 5A, National Land Code 1965*. International Geography Seminar 2019. IOP Conf. Series: Earth and Environmental Science 683 (2021) 012013
- [25] ECD-CAB (2001). Environmental Conservation Department Project (ECD-CAB). An overview of the administrative procedures for land alienation & development plan applications in the District of Penampang, Sabah. Background paper. The Capacity Building of the Environmental Conservation Department Project (ECD-CAB), Sabah, Malaysia. April 2001
- [26] Sarah L Dalglish Hina Khalid and Shannon A McMahon 2020 *Document Analysis in Health Policy Research: The READ Approach*. Health Policy and Planning, Volume 35, Issue 10, December 2020, Pages 1424–1431
- [27] Bowen Glenn A 2009. *Document Analysis as a Qualitative Research Method*. Western Carolina University. Qualitative Research Journal, vol. 9, no. 2, pp. 27-40.
- [28] Hani Morgan 2021 *Conducting a Qualitative Document Analysis*. University of Southern Mississippi, Hattiesburg, Mississippi, USA. The Qualitative Report 2021 Volume 27, Number 1, pp 64-77
- [29] JKPTG 2013 Pekeliling Ketua Pengarah Tanah dan Galian Persekutuan Bilangan 1/2013. Panduan Memproses Permohonan Pemberimilikan Tanah. No. Fail JKPTG-950/100-1/7/1 bertarikh 20 Disember 2013
- [30] JKPTG 2021 Pekeliling Ketua Pengarah Tanah dan Galian Persekutuan Bilangan 13/2021. Keperluan Memaklumkan Keputusan Pihak Berkuasa Negeri Dalam Permohonan Pemberimilikan Kepada Pemohon. No. Fail JKPTG-950/100-1/7/1 Jld.6 (16) bertarikh 31 Disember 2021